MEETING DATE: **1/28/13**

AGENDA ITEM: **Introduction of an Ordinance Amending the Culver City Zoning Map, as Referenced in Title 17, Zoning, of the Culver City Municipal Code, Section 17.200.015, Establishing Planned Development Zone No. 12 Zoning Code Map Amendment (ZCMA P-2012118) and Approving a Comprehensive Plan (CP P-2012116) to Allow a Mixed Used Development Consisting of Approximately 31,240 Square Feet of Commercial Uses and 115 Residential Units Located at 8770 Washington Boulevard.**

ATTACHMENTS

		Pages
1.	Proposed Ordinance and Exhibit A, Zone Change Map and Exhibit B, Conditions of Approval.	1- 47
2.	Planning Commission Resolution No. 2012-P013 (without attachments).	48-55
3.	December 12, 2012, Planning Commission Staff Report (without attachments).	56-74
4.	Initial Study/Mitigated Negative Declaration dated October 24, 2012.	75-118
5.	Traffic Analysis prepared by Hirsch/Green Transportation Consulting, Inc. dated July 10, 2010 and supplemented on June 19, 2012.	119-731
6.	Proposed Comprehensive Plan dated January 28, 2013.	732-802

ORDINANCE NO. 2013-_____

AN ORDINANCE OF THE CITY OF CULVER CITY, CALIFORNIA, AMENDING THE CULVER CITY ZONING MAP, AS REFERENCED IN TITLE 17, ZONING, OF THE CULVER CITY MUNICIPAL CODE, SECTION 17.200.015, ESTABLISHING PLANNED DEVELOPMENT ZONE NO. 12 AND APPROVING COMPREHENSIVE PLAN, CP-P2012116, CONSISTING OF A MIXED USE DEVELOPMENT CONSISTING OF APPROXIMATELY 31,240 SQUARE FEET OF RETAIL AND RESTAURANT USES AND 115 RESIDENTIAL DWELLING UNITS LOCATED AT 8770 WASHINGTON BOULEVARD IN THE EAST WASHINGTON OVERLAY (EWO), COMMERCIAL GENERAL (CG) AND INDUSTRIAL GENERAL (IG) ZONE, AND RELATED ZONING CODE MAP AMENDMENT, ZCMA P-2012118.

(ZCMA P-2012118 AND CP-P2012116)

WHEREAS, on August 9, 2012, Legado Companies and Legado Crossing, LP, as the applicant and property owner (the "Applicant") of 8770 Washington Boulevard, filed an application for a Comprehensive Plan and Zoning Code Map Amendment for Planned Development District No. 12, consisting of a 5-story mixed use transit oriented development of approximately 31,240 square feet of ground floor commercial uses, and 115 residential dwelling units, providing a total of 344 parking spaces in two levels of subterranean parking (the "Project"), the Project site described more fully as Lots 2 through 15 of Tract No. 3772, in the City of Culver City, County of Los Angeles, State of California; and,

WHEREAS, in order to implement the proposed Project, approval of the following applications is required:

1. Zoning Code Map Amendment: For consistency between land use designation and zoning, specifically the zone change of the Project site from the East Washington Overlay (EWO), Commercial General (CG) Zone, and Industrial General (IG) Zone to a Planned Development (PD) Zone: and

2. Comprehensive Plan: To ensure the Project is in compliance with all required standards and City ordinances and establish all onsite and offsite conditions of approval to reflect the site features and compatibility of the proposed Project with the uses on adjoining properties.

WHEREAS, on December 12, 2012, after conducting a duly noticed public hearing on the subject applications, including full consideration of the application, plans, staff report, environmental information and all testimony presented, the Planning Commission (i) adopted a Mitigated Negative Declaration, in accordance with the California Environmental Quality Act (CEQA), finding the Project, as mitigated, will not result in significant adverse environmental impacts; and (ii) adopted Resolution No. 2012-P013 recommending to the City Council, approval of Zoning Code Map Amendment, ZCMA P-2012118 and Comprehensive Plan, CP-P2012116, (the adopted Mitigated Negative Declaration and Resolution No. 2012-P013 are incorporated by this reference as though fully set forth herein); and,

WHEREAS, on January 28, 2013, after conducting a duly noticed public hearing on the subject application, including full consideration of the application, plans, staff report, environmental information, Planning Commission recommendation, and all testimony presented, the City Council (i) by a vote of ___ to ___, determined that no new information has become available and no changes in the proposed Project have been made since the Planning Commission adopted the Mitigated Negative Declaration and, therefore, no additional environmental analysis is required; and (ii) by a vote of ___ to ____ approved Zoning Code Map Amendment, ZCMA P-2012118, for Planned Development Zone No. 12, and Comprehensive Plan, CP-P2012116, as set forth herein below.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF CULVER CITY, CALIFORNIA, RESOLVES AS FOLLOWS:

SECTION 1. Pursuant to the foregoing recitations and the provisions of Culver City Municipal Code (CCMC), the following findings are hereby made:

Zoning Code Map Amendment for Planned Development Zone No. 12:

As outlined in CCMC Title 17, Section 17.620.030.A, the following required findings for a Zoning Code Map Amendment are hereby made:

1. **The proposed amendment ensures and maintains internal consistency with the goals, policies and strategies of all elements of the General Plan and will not create any inconsistencies with this Title, in the case of a Zoning Code Amendment.**

   The proposed Zoning Code Map Amendment ensures and maintains internal consistency with the goals, policies and strategies of the General Plan. Specifically, the Zoning Code Map Amendment will change the zoning of the Site from the EWO, CG and IG zones to a PD zone and will make the Site consistent with the General Plan Land Use "General Corridor" designation.

   The proposed zone change will allow for the development of the Site for a Transit Oriented Development (TOD) comprised of a mix of compatible land uses including retail, restaurant, and residential, adjacent to the Expo Transit Station. The proposed zone change furthers Objectives 2, 4, 5, 6, 8, 10 and 12 of the General Plan Land Use Element by establishing development standards that would provide additional housing, quality living and pedestrian environments, promote economic vitality with neighborhood serving retail and restaurants, revitalize the commercial corridors adjacent to the TOD area which are currently undeveloped or vacant, and enhance visual quality by utilizing sustainable urban design principles and provide streetscape improvements along commercial corridors. The proposed Zoning Code Map Amendment will not result in inconsistency with the General Plan.

2. **The proposed amendment would not be detrimental to the public interest, health, safety, convenience or welfare of the City.**

   The proposed Zoning Code Map Amendment is not detrimental to the public interest, health, safety, convenience or welfare of the City. The proposed zone change from EWO, CG, and IG to Planned Development Zone No. 12 with related development and land use standards, will implement a mixed used TOD on the Site through a Comprehensive Plan while mitigating any potentially significant development impacts. The PD zoning designation will create a unique, pedestrian oriented development that fits within surrounding commercial and residential neighborhoods and is consistent with redevelopment goals for the area. Further, the PD zoning is intended to ensure harmonious Site development within Culver City as well as nearby Los Angeles as a

sustainable mixed use project that effectively brings housing, shopping and employment together with transit in order to promote important goals of improved air quality, regional mobility, and multi-modal approaches to transit. The PD zoning will focus the types of uses and development standards consistent with the goals and objectives of a mixed use TOD area. No health or safety hazards have been identified in the review of the proposed zone change.

3. The proposed amendment is in compliance with the provisions of the California Environmental Quality Act (CEQA).

The proposed Zoning Code Map Amendment is in compliance with CEQA as more fully detailed in the Project's environmental documentation, including, but not limited to, the Initial Study, Mitigated Negative Declaration and Project traffic study. Potential impacts to various environmental factors such as cultural resources, geology and soils, noise, traffic, and utilities, as reviewed in the Initial Study will be mitigated. Further mitigation of Project impacts will be achieved through various green building methods that include, where feasible, use of local manufactured products, high rated building insulation, and filtration of rain water from the roof into planters prior to discharging into the public storm drain system to reduce storm water run-off. Other sustainable development practices will include photovoltaic electricity generation, low flow fixtures and low consumption urinals, drought tolerant vegetation, dual low emissivity glazing, and façade shading elements to reduce solar heat gain. In accordance with CEQA, the Project's greenhouse gas emission impacts were reviewed and found to have a less than significant environmental impact on the surrounding area. Carbon emission reduction procedures have been incorporated into the Project, which include bicycle racks spread throughout the site and bicycle facilities including lockable areas, and preferred parking for low emission vehicles, and sourcing products from local manufacturers when possible.

As outlined in CCMC Title 17, Section 17.620.030.B, the following additional required finding for a Zoning Code Map Amendment is hereby made:

4. The sites are physically suitable (including access, provision of utilities, compatibility with adjoining land uses and absence of physical constraints) for the requested zoning designation(s) and anticipated land use development.

A complete review by City staff has determined that the Project site as conditioned, is in compliance with all applicable design standards and all public services can be provided; therefore, the site is physically suitable (including access, provision of utilities, compatibility with adjoining land uses and absence of physical constraints) for the requested zoning designation and anticipated land use development as outlined in the Comprehensive Plan.

The mixed use development project has been sited and designed to be integral to the TOD area and will create a transition from the Exposition Light Rail Transit station, other planned TOD projects nearby and commercial retail and restaurant uses further

east toward the Helms Bakery Complex and Arts District area. Commercial retail and restaurant uses are located on Washington Boulevard while commercial service and creative office uses are located along Wesley Street. Residential neighborhoods are east of the Site both south and north of Washington Boulevard. The proposed mixed use development will fit within this fabric of multiple and varied types of land uses while providing local market, retail, and restaurant opportunities for local residents that will be a part of this and other planned TOD mixed use projects nearby. The height of the proposed structures and existing structures to remain do not exceed the 56 foot height limit and comply with Zoning Code setback and parking requirements. Vehicular access to the Project site has been located at physically suitable locations on Washington Boulevard and Wesley Street.

In sum, the proposed use of residential, retail, and restaurants is compatible with existing land uses. The site occupies corner to corner parcels with frontages on Washington Boulevard as well as National Boulevard and Wesley Street. The Washington Boulevard frontage makes the site ideal for a pedestrian facing retail project. The existing and proposed utility services such as water, sewer, and gas line are adequate for the proposed uses.

Comprehensive Plan for Planned Development Zoning District No. 12:

As outlined in CCMC Title 17, Section 17.560.020, the following required findings for a Comprehensive Plan are hereby made:

A. The proposed Comprehensive Plan can be substantially completed within four years.

According to the Applicant, the proposed Project is planned and scheduled to be complete within four years (most likely within two years). The Applicant owns the land and has the capital to build the entire Project at one time and not in phases. Construction is expected to begin in mid/end-2013 with substantial completion by mid/end 2014, provided approval of the requested entitlement is granted.

B. The proposed development is capable of creating an environment of sustained desirability and stability or adequate assurance will be provided such objective will be attained.

The proposed development will create an environment of sustained desirability and stability by providing the neighborhood with residential and commercial uses that will serve the surrounding business and residential neighbors. The Hayden Tract, Helms Bakery Complex, and East Washington areas have flourishing office and retail populations, residential communities and dynamic art, food, and design establishments. The proposed Project, consisting of residential, retail, and dining and a community public open space area tie all of these various uses together assuring this area's continued success. The proposed Project will enhance and sustain the desirability and stability of the entire neighborhood. Further, Project amenities such

as public parking and open space; private open spaces for the residential component; and proximity to multi transit opportunities such as the Expo Light Rail line, local bus lines, bike lanes, and conventional street and freeway infrastructures will assist in establishing a stable commercial and residential neighborhood.

C. The proposed uses will not be substantially detrimental to present and potential surrounding uses but will have a beneficial effect.

A mix of transportation, light industrial and commercial uses currently surround the Project site, including the Exposition Light Rail Transit station, Helms Bakery Complex, restaurant supply store, warehousing and distribution facilities, and various retail and office establishments. The proposed Project uses of residential, retail, and restaurants will be compatible with the surrounding areas. The Project site is currently vacant and empty with a paved surface parking lot previously occupied by a lumber supply company. The proposed Project will have a beneficial effect by developing the site with active uses, new housing, retail and restaurant opportunities, pedestrian friendly public open spaces and a vibrant and enhanced streetscape.

D. The streets and thoroughfares serving the development are suitable and adequate to carry anticipated traffic and the development will not generate traffic that will overload the adjacent street network.

A comprehensive traffic study for the Project was prepared in 2010 and updated in 2012. The traffic study identified improvements to be made in order to limit traffic impacts to less than significant. Sufficient improvements to the roadways and other public rights-of-way have been included in the Project design and incorporated into the conditions of approval for the Project, ensuring that the surrounding roadways will be suitable and adequate to carry the anticipated traffic created by the Project.

E. The proposed development is compatible with the surrounding area.

The surrounding area is comprised of commercial, retail and light industrial buildings. Residential neighborhoods are located further south and east of the Project site. The proposed development is a mixed use development containing both residential and commercial retail and restaurant uses and is therefore compatible with the surrounding uses.

F. The types and locations of any proposed commercial development can be economically justified.

The Project incorporates 31,240 square feet of leasable commercial (retail and restaurant) space. The commercial uses are designed to serve the residents of the residential units within the Project itself, as well as the surrounding existing and proposed office, residential and commercial development. The proposed development density of the area along with existing adjacent commercial and

residential areas will provide an adequate consumer base for the proposed commercial uses.

G. The Comprehensive Plan is in conformance with the General Plan, or a concurrent General Plan amendment is in process.

The proposed Comprehensive Plan is in conformance with the goals, policies and strategies of the General Plan. Specifically, the Comprehensive Plan will make the site consistent with its General Plan Land Use "General Corridor" commercial designation. The proposed mix of uses proposed as part of the Comprehensive Plan are more consistent with the site's general plan commercial designation than with the current East Washington Overlay and Industrial General zoning. The Comprehensive Plan will allow for a mixed use TOD consisting of pedestrian oriented ground floor retail and restaurants with outdoor dining; residential uses above the retail and/or restaurant spaces; and pedestrian friendly public open space; as well as enhancements to the streetscape along Washington Boulevard, National Boulevard and Wesley Street, and will further the goals and objectives as outlined in Objectives 2, 5 through 8, 10, and 12 of the General Plan Land Use Element. The proposed Project will provide new housing supply consistent with the City Mixed Use Development Standards and encourage reinvestment in this area thereby improving economic vitality, visual quality, and the pedestrian environment.

H. Any exception from the standards and requirements of this Title is warranted by the design and amenities incorporated in the Comprehensive Plan and is desired by the Council.

No exceptions to the standards and requirements of the City's Zoning Code have been requested for this Project. The increase in residential density is in compliance with the Mixed Use Development Standards and Community Benefit required by the City, represented by the public open space area being provided at the intersection of Washington Boulevard and National Boulevard.

I. Existing and proposed utility services are adequate for the proposed uses.

Review of the Project by the City's Public Works Department has determined that the proposed utility services and existing utilities that will serve the site are adequate for the proposed uses.

J. The Comprehensive Plan has complied with all applicable City requirements.

The Comprehensive Plan has been prepared in conformance with the Culver City Municipal Code, including the Zoning and Building Codes. This includes submission and review of a proposed site plan and uses; preliminary building plans; landscaping, and lighting; and civil engineering plans. Review by City departments of these plans has determined that the Comprehensive Plan is in compliance with all applicable City requirements.

SECTION 2. Pursuant to the foregoing recitations and findings, the City Council of the City of Culver City, California, hereby adopts Comprehensive Plan, CP-P2012116 and Zoning Code Map Amendment, ZCMA P-2012118, establishing Planned Development Zone No. 12, as set forth in Exhibit A, Zone Change Map, attached hereto, and subject to the conditions of approval as set forth in Exhibit B attached hereto and incorporated herein by this reference.

SECTION 3. Pursuant to Section 619 of the City Charter, this Ordinance shall take effect thirty (30) days after the date of its adoption. Pursuant to Sections 616 and 621 of the City Charter, prior to the expiration of fifteen days after the adoption, the City Clerk shall cause this Ordinance, or a summary thereof, to be published in the Culver City News and shall post this Ordinance or a summary thereof in at least three places within the City.

SECTION 4. The City Council hereby declares that, if any provision, section, subsection, paragraph, sentence, phrase or word of this ordinance is rendered or declared invalid or unconstitutional by any final action in a court of competent jurisdiction or by reason of any preemptive legislation, then the City Council would have independently adopted the remaining provisions, sections, subsections, paragraphs, sentences, phrases or words of this ordinance and as such they shall remain in full force and effect.

/ / /

/ / /

/ / /

/ / /

/ / /

APPROVED and ADOPTED this _____ day of _____, 2013.

_____

ANDREW WEISSMAN, MAYOR
City of Culver City, California

ATTESTED BY:

_____
MARTIN R. COLE, City Clerk

APPROVED AS TO FORM:

_____
CAROL A. SCHWAB, City Attorney

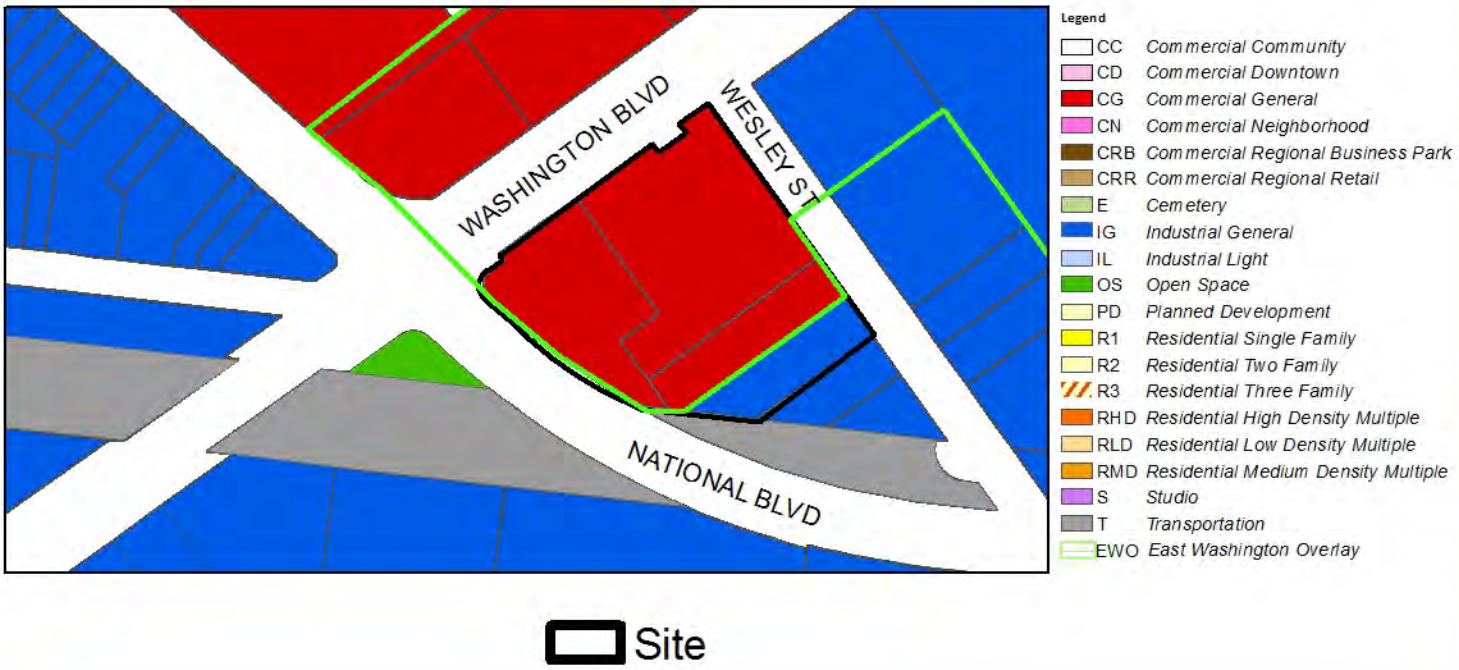
A13-00003

EXHIBIT A

Ordinance No. _____

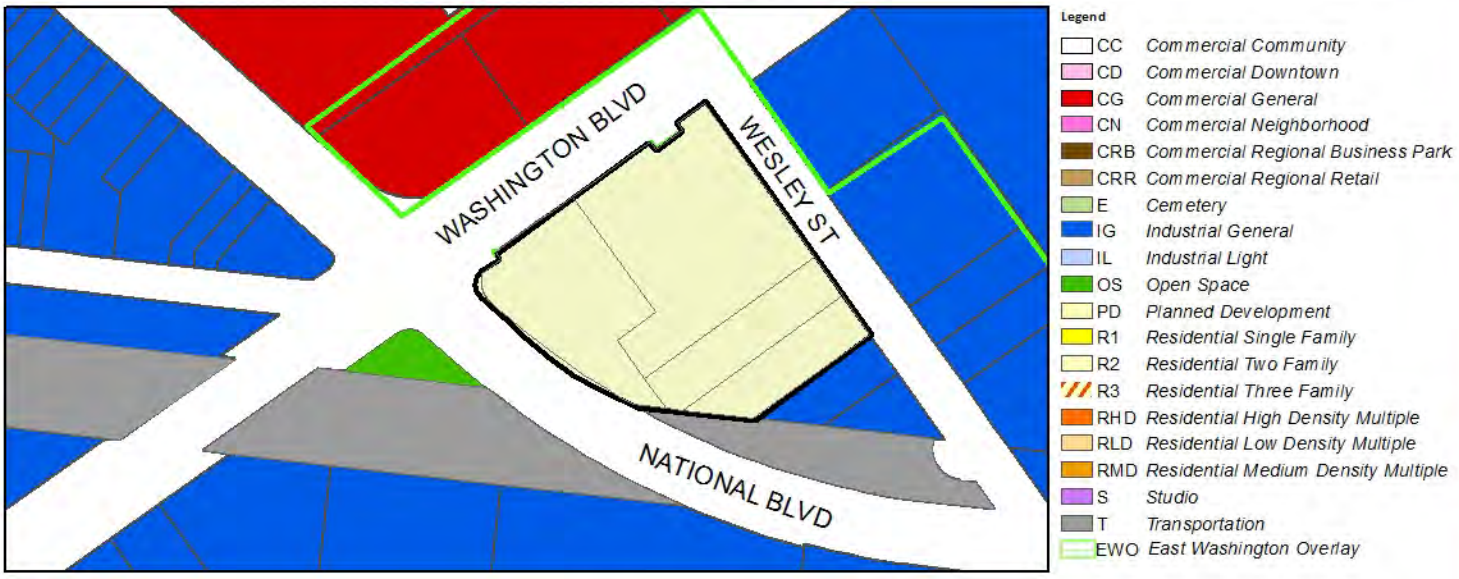
Zoning Code Map Amendment
(ZCMA P - 2012118)
8770 Washington Boulevard

Existing Zoning (East Washington Overlay, Commercial General, and Industrial General)



Site

Proposed Zoning (Planned Development)



Site

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	GENERAL			
1.	These Conditions of Approval are being imposed on Legado Planned Development and Comprehensive Plan, a mixed use development of 31,240 square feet of retail and restaurant floor area, 115 residential units, and two levels of subterranean parking providing a total of 344 parking spaces and a 7,198 square foot Public Open Space area in exchange for increased residential density of an additional 53 units (the "Project"), for the property located at 8770 Washington Boulevard (the "Property").	All	Standard	
2.	A copy of the Resolution approving the Project, and a copy of these Conditions of Approval, shall be printed on the plans submitted as part of any building permit application for the Project.	Planning	Standard	
3.	All building permit applications for the Project shall include sufficient information and detail to clearly reflect compliance with all applicable requirements of the Culver City Municipal Code (the "CCMC") and with these Conditions of Approval.	Planning	Standard	
4.	The land use permit to which these Conditions of Approval apply (the "Land Use Permit') shall expire four years from the date of final approval of said Land Use Permit, if the use has not been exercised. As provided in CCMC Section 15.595.030 –"Time Limits and Extensions", an applicant may request an extension of said expiration date by filing a written request with the Planning Division prior to the expiration of the land use permit.	Planning	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	GENERAL			
5.	Pursuant to CCMC Section 17.630.010.C.4 – "Posted Notice", the public notification sign(s) installed in accordance with the public notification requirements for the Land Use Permit shall be removed within ten days after the end of the appeal period or the final decision by the City Council on the Land Use Permit, whichever occurs last.	Planning	Standard	
6.	The Project shall be developed pursuant to CCMC Chapter 17.300 – "General Property Development and Use Standards".	Planning	Standard	
7.	All planted areas on the Property shall be landscaped and irrigated pursuant to CCMC Chapter 17.310 - "Landscaping".	Planning	Standard	
8.	All parking areas on the Property shall be developed pursuant to CCMC Chapter 17.320 - "Off-Street Parking and Loading".	Planning	Standard	
9.	Signs proposed for the Project shall meet all applicable requirements of CCMC Chapter 17.330 - "Signs". All signs require a separate permit and approval.	Planning	Standard	
10.	All permits and licenses required in connection with the development or use of the Project shall be applied for and obtained separately.	All	Standard	
11.	All work within the public right-of-way (including but not limited to curb, gutter, sidewalk, and driveways) shall be designed and completed to the satisfaction of the City Engineer.	Public Works	Standard	
12.	Drainage devices, concrete curbs and gutters, sidewalks, drive approaches, and roadway pavement shall be designed in conformity with all provisions of the latest edition of the American Public Works Association Standard Plans ("APWA Standards").	Public Works	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	GENERAL			
13.	At the sole cost and expense of the Property Owner, any broken or damaged curbs, gutters, sidewalks, and street pavement resulting from construction of the Project shall be repaired and reconstructed in conformity with APWA Standards.	Public Works	Standard	
14.	Trash enclosures shall be provided and shall each have a minimum inside dimension of 10 feet x 12 feet, a gated opening that is at least 8 feet wide, and a 6 inch high by 6 inch wide concrete curb along the inside perimeter wall. Each enclosure shall also have at least a 6 inch thick concrete slab that drains at a one percent gradient out of the enclosure. Final approval for the size, location, and type of equipment needed for the adequate storage and disposal of all solid and recyclable waste generated by the Project shall be obtained from the City's Environmental Programs and Operations Manager. A fire suppression sprinkler system shall be provided within any covered trash enclosure area as required by the Fire Marshal. All refuse containers assigned to or otherwise used by the Project shall be stored on-site in the trash enclosures.	Public Works/ Fire/ Planning	Standard	
15.	All Project related solid and recyclable waste material handling shall be in accordance with CCMC Section 5.01.010 – "Solid Waste Management", which outlines the Sanitation Division's exclusive franchise for this service.	Public Works	Standard	
16.	The Project shall meet all provisions of CCMC Section 7.05.015 -"Transportation Demand and Trip Reduction Measures".	Trans.	Standard	
17.	All buildings and structures to be constructed as part of the Project shall be designed and constructed in accordance with all applicable regulations and standards of the City's Building Code, Fire Code and any related codes as determined by the Building Official and Fire Marshal; and all other applicable provisions of the CCMC which are adopted and in effect at the time of issuance of a building permit.	Building/ Fire	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	GENERAL			
18.	Any new utilities shall be placed underground or enclosed within the building construction; no new overhead utilities shall be permitted.	Building/ Planning	Standard	
19.	The Project shall comply with all applicable requirement of the Culver City Green Building Program as set forth in CCMC Section 15.02.1100, et.seq.	Building	Standard	
20.	The Project shall comply with the all applicable requirements relating to solar photovoltaic requirements as set forth in CCMC Section 15.02.100, et. seq.	Building	Standard	
21.	Changes to the Project or use approved as part of the Land Use Permit may only be made in accordance with the provisions of CCMC Section 17.595.035 – "Changes to an Approved Project".	Planning	Standard	
22.	**The Project shall comply with CCMC Section 17.400.065 - "Mixed Use Development Standards".**	**Planning**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
23.	A covenant and agreement, on a form provided by the Planning Division and in form and substance acceptable to the City Attorney, acknowledging and agreeing to comply with all terms and conditions established herein, shall be signed by the Property Owner and recorded in the County Recorder's Office. The covenant and agreement shall run with the land and shall be binding on any subsequent owners, and tenants or occupants of the Property. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Planning Division.	Planning/ City Attorney	Standard	
24.	The Applicant and Property Owner shall indemnify and agree to defend (at the Applicant's and Property Owner's sole expense, with legal counsel approved by the City) and hold harmless the City, and its elected and appointed officials, officers, employees, agents, contractors and consultants from and against any and all loss, damages, injuries, costs, expenses, liabilities, claims, demands, lawsuits, attorneys' fees and judgments, arising from or in any manner connected to any third party challenge to the City's approval of the Project. The obligations required by this Condition shall be set forth in a written instrument in form and substance acceptable to the City Attorney and signed by the Applicant and the Property Owner.	City Attorney	Standard	
25.	A minimum of three sets of final landscaping and irrigation plans (separate from the plans submitted for the building permit) shall be submitted to the Planning Division for review and approval.	Planning/ Parks & Rec.	Standard	
26.	Payment of New Development Impact Fees pursuant to CCMC Section 15.06.005 et. seq. shall be submitted.	Planning/ Building	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
27.	A Construction Management Plan prepared by the construction contractor, which identifies the areas of construction staging, temporary power, portable toilet, and trash and material storage locations, shall be submitted to and approved by the Building Official. Prior to commencement of work the construction contractor shall advise the Public Works Inspector and the Building Inspector ('Inspectors") of the construction schedule and shall meet with the Inspectors.	Building/ Public Works	Standard	
28.	A Pedestrian Protection Plan shall be submitted to and approved by the Building Official. Such plan shall identify all areas of pedestrian protection and indicate the method of pedestrian protection or pedestrian diversion when required. When pedestrian diversion is required, the Pedestrian Protection Plan must also be approved by the Public Works Director.	Building/ Public Works	Standard	
29.	Plans submitted as part of the building permit application shall include a schedule of the special inspections anticipated, the firm proposed for the special inspections, and the resumes of all proposed special inspectors. The Building Official reserves the right to reject any special inspector at any time for the duration of the Project. All special inspection reports shall be made available to the Building Official and to any Culver City Building Safety inspector as required by the Building Official No work shall be covered without a Culver City Building Safety inspection, whether or not a special inspection was performed on such work.	Building	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
30.	A Construction Traffic Management Plan shall be prepared by a traffic or civil engineer registered in the State of California. The Construction Traffic Management Plan shall be submitted to the City Engineer and Planning Manager for review and approval prior to the issuance of any Project demolition, grading, or excavation permit. The Construction Traffic Management Plan shall also be reviewed and approved by the City's Fire and Police Departments. The City Engineer and Planning Manager reserve the right to reject any engineer at any time and to require that the Plan be prepared by a different engineer. The Construction Traffic Management Plan shall contain, but not be limited to, the following: A. The name and telephone number of a contact person who can be reached 24 hours a day regarding construction traffic complaints or emergency situations. B. An up-to-date list of local police, fire, and emergency response organizations and procedures for the continuous coordination of construction activity, potential delays, and any alerts related to unanticipated road conditions or delays, with local police, fire, and emergency response agencies. Coordination shall include the assessment of any alternative access routes that might be required through the Property, and maps showing access to and within the Property and to adjacent properties. C. Procedures for the training and certification of the flag persons used in implementation of the Construction Traffic Management Plan. D. The location, times, and estimated duration of any roadway closures, traffic detours, use of protective devices, warning signs, and staging or queuing areas. E. The location and travel routes of off-site staging and parking locations.	Planning/ Public Works	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
31.	Reasonable efforts shall be used to reuse and recycle construction and demolition debris, to use environmentally friendly materials, and to provide energy efficient buildings, equipment and systems. A Demolition Debris Recycling Plan that indicates where select demolition debris is to be sent shall be provided to the Building Official prior to the issuance of a demolition permit. The Plan shall list the material to be recycled and the name, address, and phone number of the facility of organization accepting the materials.	Building	Standard	
32.	A vector/pest control abatement plan prepared by a pest control specialist licensed or certified by the State of California shall be submitted for review and approval by the Planning Manager and the Building Official. Said plan shall outline all steps to be taken prior to the commencement of any demolition or construction activity in order to ensure that any and all pests (including, but not limited to, rodents, bees, ants and mosquitoes) that may populate the Property do not relocate to or impact adjoining properties.	Building/ Planning	Standard	
33.	Prior to issuance of a building permit, notice of the Project construction schedule shall be provided to all abutting property owners and occupants. Evidence of such notification shall be provided to the Building Division. The notice shall identify the commencement date and proposed timing for all construction phases (demolition, grading, excavation/shoring, foundation, rough frame, plumbing, roofing, mechanical and electrical, and exterior finish).	Building	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
34.	**An Archaeologist and Paleontologist professional approved by the City shall monitor all phases of excavation for the project site in order to identify and recover where feasible, the presence of archaeological and/or paleontological resources. Should such resources be identified established Federal and State rules and guidelines for the cataloging and final disposition of such resources shall be applied and followed. This shall include but not be limited to halting of construction activities in the work area where the resources are identified, notifying the Los Angeles County Coroner and the appropriate Native American organization of such resources, and notifying the Los Angeles County Natural History and Page museums. Final disposition of Native American remains shall follow Federal and State rules and guidelines for such remains. Identified paleontological resources shall be donated to the Los Angeles County Natural History/Page museums or some other museum as deemed appropriate by the Paleontologist. A final report or reports cataloging all findings shall be submitted to the City by the Archaeologist and/or Paleontologist professional within one year of issuance of the Certificate of Occupancy.**	**Planning/ Building**	**Mitigation Measure**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	PRIOR TO BUILDING PERMIT ISSUANCE			
35.	**A Lot Assembly Covenant and Agreement, on a form provided by the Planning Division and in form and substance acceptable to the City Attorney, agreeing to hold lot numbers 2 through 15 of Track No. 3772 as one parcel, shall be executed by the Property Owner and recorded in the County Recorder's office. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Planning Division.**	**Planning/ Public Works/ City Attorney**	**Special**	
36.	**A Public Open Space Covenant and Agreement, on a form provided by the Planning Division and in form and substance acceptable to the City Attorney and Community Development Director, requiring the Project Community Benefit public open space to be maintained in a clean and sanitary condition and open and available to the public during normal public park operation hours as determined by the City for the life of the Project shall be executed by the Applicant/Property Owner and recorded in the County Recorder's office. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Planning Division.**	**Planning/ City Attorney**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
37.	**A Public Replacement Parking Easement Agreement, on a form provided by the Planning Division and in form and substance acceptable to the City Attorney and Community Development Director, by which the Applicant/Property Owner shall grant the City an easement for 15 public parking spaces available during normal Project business hours (minimum 10 hours per day) in the Project's Public Parking area, providing ingress and egress for parking enforcement, parking meter maintenance and revenue collection shall be executed by the Applicant/Property Owner and recorded in the County Recorder's office. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Planning Division.**	**Planning/ City Attorney**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
38.	**An Affidavit for Acceptance of Community Benefit Conditions, on a form provided by the Planning Division and in form and substance acceptable to the City Attorney and Community Development Director, shall be signed by the Applicant/Property Owner certifying agreement to provide the required Community Benefit as part of the Project approval. Project approval shall not be effective if the Applicant/Property Owner fails to sign the affidavit and the Land Use Permit granting increased density shall be null and void. By signing the Affidavit, the Applicant/Property Owner agrees to construct the public open space pursuant to Project plans approved by the Planning Commission on December 12, 2012. Minor changes to the public open space plan may be approved by the Community Development Director relative to the placement of public art and benches. If the Applicant/Property Owner fails to provide or maintain the required Community Benefit pursuant to the Affidavit, then the Land Use Permit granted by the City as part of the Project shall be referred to the Planning Commission for revocation pursuant to Chapter 17.660 of the Zoning Code and the matter may be referred to the City Attorney for enforcement pursuant to Chapter 17.650 of the Zoning Code.**	**Planning/ City Attorney**	**Special**	
39.	**Two (2) sets of on-site improvement plans prepared by a civil engineer registered in the State of California shall be submitted to the Engineering Division for review, approval and permitting. Among other things, the on-site improvement plans shall include detailed on-site drainage and grading of the site indicated by topographical lines and spot elevations. This plan shall be approved for on-site construction only.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
40.	**Two (2) sets of off-site improvement plans prepared by a civil engineer registered in the State of California shall be submitted to the Engineering Division for review, approval and permitting for all proposed improvements within the public right-of-way. Separate plans for street improvements, street light improvements, and sewer improvements shall be prepared. Landscape plans for the public parkway area and storm drain plans for the relocation of existing catch basins shall be included in the street improvement plans.**	**Public Works**	**Special**	
41.	**The off-site improvement plans shall demonstrate streetscape improvements in accordance with the City's Transit Oriented Development District Streetscape Plan including but not limited to street trees and other landscaping, concrete sidewalks, and street furniture (benches, trash receptacles, and bicycle racks.) These streetscape improvements shall be installed along the project's Washington Boulevard, National Boulevard and Wesley Street frontage as determined by the Community Development Director and Public Works Director.**	**Public Works**	**Special**	
42.	**Prior to the issuance of Grading or Building Permits, the Applicant shall obtain a General Construction Activities NPDES Permit from the State Water Resources Control Board via a Waste Discharger Identification (WDID) number. This will include the filing of a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) with the State. A copy of the SWPPP and WDID shall be provided to the Engineering Division prior to the approval of the Local Stormwater Pollution Prevention Plan (LSWPPP).**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
43.	**Concurrent with the submittal of the on-site improvement plan, a Standard Urban Stormwater Mitigation Plan (SUSMP) shall be submitted for review and approval by the City Engineer as outlined in CCMC Chapter 5.05. The SUSMP shall be developed and implemented in accordance with the requirements of the Los Angeles County Municipal Stormwater National Pollution Discharge Elimination System (NPDES) Permit No. CAS614001 (Order No. 01-182). The SUSMP shall provide Best Management Practices (BMP's) that adequately address the pollutants generated during the post-construction stage and shall be designed for filtration, infiltration and retention for the first three-quarter inch (3/4") of rainfall. The site improvement plans shall note the contractor shall comply with the "California Stormwater Best Management Practice Handbooks". The Site Improvement Plans shall not be accepted for review unless the SUSMP is included in the submittal package, including the plan check fee associated with the SUSMP. Said SUSMP shall be used to guide the "Conceptual – Not For Construction" Post Development Hydrology / SUSMP Map. The approval of the SUSMP is required prior to issuance of the Site Improvement Plan. The SUSMP shall cover the new building and parking lot. The Site Improvement Plans shall not be accepted for review unless the SUSMP is included in the submittal package, including the plan check fee associated with the SUSMP.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
44.	**Concurrent with the submittal of the on-site improvement plan, a Local Storm Water Pollution Prevention Plan (LSWPPP) shall be submitted for review and approval by the City Engineer. The erosion control plan shall be developed and implemented in accordance with the requirements of the Los Angeles County Stormwater Quality Management Program, NPDES Permit No. CAS614001. The plan shall include the design and placement of recommended Best Management Practices (BMPs) to effectively prohibit the entry of pollutants from the construction site into the public street or storm drain system. The improvement plans shall note that the contractor shall comply with the "California Storm Water Best Management Practice Handbooks." Prior to the start of design of these plans and of necessary reports, the applicant's Civil Engineer shall meet with the City's Stormwater Program Manager to obtain information on the City-specific and LSWPPP requirements. The Storm Water Pollution Prevention Plan shall be submitted to the Engineering Division prior to any permit issuance. The Site Improvement Plans shall not be accepted for review unless the LSWPPP is included in the submittal package, including the plan check fee associated with the LSWPPP.**	**Public Works**	**Special**	
45.	**Foundation design shall follow the recommendations of the project's geotechnical report, which include, but are not limited to a mat foundation design, continuous and/or pad footings, and a reinforced foundation. Final foundation design and inspection shall be determined and approved by the structural and geotechnical engineer.**	**Building**	**Mitigation Measure**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	PRIOR TO BUILDING PERMIT ISSUANCE			
46.	**The following mitigation package has been designed to ensure that the City's 45 dBA interior noise standard is not exceeded in the Project. These or equivalent measures shall be implemented at the Applicants expense and provided to the satisfaction of the Building Official prior to issuance of building permits and/or final inspection, as appropriate.** **(A) Roof ceiling construction shall be roofing on plywood. Batt insulation shall be installed in joist spaces. The ceilings shall be one layer of gypboard nailed direct.** **(B) All exterior walls shall be 2x4 studs 16" on center with batt insulation in the stud spaces. Exteriors shall be exterior plaster or stucco. The interiors shall be gypboard.** **(C) The following window design and glazing shall be incorporated into the design of the building with the applicable Sound Transmission Class (STC) rating and verified by the City Building Official prior to building permit issuance and final inspection. These requirements are only applicable to windows facing the perimeter of the project site and not windows facing the interior of the project site. The glazing supplier shall be required to submit a test report documenting the required STC rating for windows required to be STC 32 or greater, which shall be prepared in an independent, accredited testing laboratory in accordance with ASTM E-90.** **o STC rating of 34 on the south side of the building** **o STC rating of 32 on the northwest side of the building** **o STC rating of 22 on the northeast side of the building** **o STC rating of 32 on the southeast side of the building.** **(D) All entry doors shall be 1-¾" solid core flush wood doors with vinyl bulb weather stripping on the sides and top.** **(E) There shall be no mail slots in the entry doors.** **(F) There shall be no ventilation openings in the exterior walls or roof/ceilings without approved acoustical baffles.**	**Building/ Planning**	**Mitigation Measure**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO BUILDING PERMIT ISSUANCE				
47.	**The Project plans shall be submitted to the Southern California Gas Company for review and approval prior to excavation and shoring.**	**Building**	**Special**	
DURING CONSTRUCTION				
48.	During all phases of construction, a "Construction Rules Sign" that includes contact names and telephone numbers of the Applicant, Property Owner, construction contractor(s), and the City, shall be posted on the Property in a location that is visible to the public. These names and telephone numbers shall also be made available to adjacent property owners and occupants to the satisfaction of the Planning Manager and Building Official.	Building/ Planning	Standard	
49.	The Property shall be maintained daily so that it is free of trash and litter.	Building	Standard	
50.	During construction, dust shall be controlled by regular watering or other methods as determined by the Building inspector.	Building	Standard	
51.	The Building Division may apply administrative assessments and/ or post general stop work notices for any violations of the Conditions of Approval for the Project, and any violations of the CCMC.	Building	Standard	
52.	During all phases of construction, best efforts shall be used to ensure that all construction workers, contractors and others involved with the Project park on the Property or at designated offsite locations approved by the City, and not in the surrounding neighborhood.	Building	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	DURING CONSTRUCTION			
53.	When foundation shoring and/or foundation piles will be part of the Project, the engineer of record shall use noise dampening measures such as the drilling of shoring supports and piles as determined by the Building Official and Planning Manager.	Building/ Planning	Standard	
54.	Prior to the commencement of any excavation, a temporary construction fence shall be installed around the site. The height and fence material is subject to approval by the City Engineer and the Planning Manager.	Building/ Planning/ Public Works	Standard	
55.	Hours of construction shall be limited to the following: 8:00 AM to 8:00 PM Monday through Friday; 9:00 AM to 7:00 PM Saturday; and 10:00 AM to 7:00 PM Sunday and National holidays. Dirt hauling and construction material deliveries or removal are prohibited during the morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak traffic periods. All construction workers shall be respectful of the surrounding neighborhood and keep non-construction related noise to a minimum prior to, during, and after permissible construction hours.	Building/ Public Works	Standard	
56.	All staging and storage of construction equipment and materials, including the construction dumpster, shall be on-site only. The Property Owner must obtain written permission from adjacent property owners for any construction staging occurring on adjacent property.	Building/ Public Works	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	DURING CONSTRUCTION			
57.	Compliance with the following noise standards shall be required with at all times: A. No construction equipment shall be operated without an exhaust muffler, and all such equipment shall have mufflers and sound control devices (i.e., intake silencers and noise shrouds) that are no less effective than those provided on the original equipment; B. All construction equipment shall be properly maintained to minimize noise emissions; C. If any construction vehicles are serviced at a location onsite, the vehicle(s) shall be setback from any street and other property lines so as to maintain the greatest distance from the public right-of-way and from Noise Sensitive Receptors; D. Noise impacts from stationary sources (i.e., mechanical equipment, ventilators, and air conditioning units) shall be minimized by proper selection of equipment and the installation of acoustical shielding as approved by the Planning Manager and the Building Official in order to comply with the City's Noise Regulations and Standards as set forth in CCMC Chapter 9.07; and E. Stationary source equipment (i.e., compressors) shall be located so as to maintain the greatest distance from the public right-of-way and from Noise Sensitive Receptors.	Building/ Planning	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	DURING CONSTRUCTION			
58.	In the event three citations are issued in connection with the Project for violations of these Conditions of Approval or for other violations of the CCMC, Project construction shall be stopped until such time that it is determined to the satisfaction of the Community Development Director, that causes of such violations have been eliminated or corrected and that the Project will be able to proceed in full compliance with these Conditions of Approval and the CCMC.	Building/ Planning	Standard	
59.	Flag persons with certified training shall be provided for work site traffic control to minimize impacts to traffic flow and to ensure the safe movement of vehicles into and out of the Property.	Building/ Public Works	Standard	
60.`	During construction, trucks and other vehicles in loading and unloading queues must be parked with their engines off to reduce vehicle emissions. Construction deliveries shall be phased and scheduled to avoid emissions peaks as determined by the Building Official and discontinued during second-stage smog alerts.	Building	Standard	
61.	Construction vehicles shall not be permitted to stage or queue where they would interfere with vehicular and pedestrian traffic or block access to adjacent properties. Off-site staging shall be at locations approved by the City Engineer and shall be of sufficient length to accommodate large trucks without being unduly disruptive to traffic operations. The drivers of these trucks shall be in radio or phone communication with on-site personnel who shall advise the drivers when to proceed from the staging location to the Property. Construction-related vehicles shall not be permitted to park on public streets.	Building/ Public Works	Standard	
62.	**Project shoring piles shall be bored, not driven.**	**Building**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
63.	All provisions, and requirements set forth in these Conditions of Approval, in the Resolution approving the project, in the CCMC, or in any applicable written comments as provided by City representatives at the September 27, 2012 Project Review Committee meeting (or from updates from the City thereafter) on the Land Use Permit application, shall be fulfilled and satisfied to the satisfaction of all City departments before the use may be established or the Project occupied.	All	Standard	
64.	All requirements of the City's Residential Development Park Dedication and In Lieu Parkland Fees, as set forth in CCMC Section 15.06.300, et. seq., shall be fully satisfied prior to the issuance of a certificate of occupancy; provided, that if such requirements will be satisfied by the payment of the in-lieu parkland fee, the same shall be paid prior to the issuance of a building permit.	Planning/ Parks	Standard	
65.	All requirements of the City's Art in Public Places Program, as set forth in CCMC Section 15.06.100, et. seq., shall be fully satisfied prior to the issuance of a certificate of occupancy; provided, that if such requirements will be satisfied by the payment of the public art in-lieu fee, the same shall be paid prior to the issuance of a building permit.	Cultural Affairs	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
66.	All onsite and offsite improvements and all conditions of approval except those which are deferred pursuant to a bond or letter of credit as determined and approved by the Building Official, Fire Marshal, Planning Manager, and/or City Engineer shall be completed prior to issuance of any certificate of occupancy. Prior to issuance of any certificate of occupancy the following shall be provided to and approved by the City: A. Five full sets of as-built plans that shall include at a minimum the site plan, grading and utility plan, landscape and irrigation plan, floor plan for each level of the Project, parking structure plan, roof plan with all mechanical equipment identified as to purpose and source and all offsite improvements; and B. One set of as-built plans as described above in a digital format compatible with the City's computer system.	All	Standard	
67.	**A Mixed Use Covenant and Agreement, on a form provided by the Planning Division and in form and substance acceptable to the City Attorney, related to the occupancy by residents of a mixed use development pursuant to Culver City Municipal Code Section 17.400.065.D.4 shall be executed by the Property Owner and recorded in the County Recorder's office. The covenant and agreement shall run with the land and shall be binding on any subsequent owners, and tenants or occupants of the Property. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Planning Division. The Property Owner shall provide a copy of the recorded Mixed Use Covenant and Agreement to each residential occupant of the Project.**	**Planning**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
68.	**Transit Oriented Development Streetscape Plan (TODSP) - Street trees, tree wells, tree grates, planters, special paving, landscape irrigation, way finding signs and other streetscape improvements shall be installed along the Project frontage of Washington Boulevard, National Boulevard and Wesley Street in accordance with the TODSP. The Applicant shall submit a separate landscape and irrigation plan coordinated with the TODSP to the Planning Division and Engineering Division for review, approval, and permitting. Irrigation within the public right-of-way shall be connected to the private on-site irrigation system. All existing street trees along the project's frontage, including both sides of Wesley Street, shall be removed. The tree surrounds on Washington Boulevard shall be salvaged and delivered to the City's maintenance yard.**	**Planning / Public Works**	**Special**	
69.	**Secure bicycle parking shall be provided to accommodate fifty (50) bicycles. The bicycle parking shall be provided to accommodate twenty-four (24) long-term and twenty-six (26) short-term parking positions. The long-term spaces shall be provided in individual bike lockers or bike racks in a secure locking fenced enclosure, accessible only to residential bike owners, on the lower level of the project's parking garage. The short-term spaces shall be provided at grade both on-site and on the adjacent public sidewalk right-of-way, using thirteen (13) City approved "Inverted - U" Bicycle Racks meeting the minimum standards specified in the City's Bicycle and Pedestrian Master Plan Design Guide, Section 1.8.2., page 34. Each inverted U-Shape rack provides 2 spaces. Exact location of the Bicycle Racks in the public right-of-way shall be approved by the City Engineer.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
70.	**Wesley Street shall be widened to provide a curb-to-curb width of thirty-six (36) feet. This widening shall be accomplished within the existing street right-of-way by narrowing the existing sidewalks from ten feet to seven feet and shall extend from Washington Boulevard southerly to the reconstructed cul-de-sac.**	**Public Works**	**Special**	
71.	**Wesley Street shall be fully reconstructed within the required area to be widened. This reconstruction shall include, but not be limited to, new sidewalks, curbs and gutters, drive approaches, street trees, tree wells, and the full replacement of the existing asphaltic concrete (AC) pavement and base. The new pavement structural section shall be based on an R-Value test and a Traffic Index of ten as performed and recommended by the applicant's geotechnical engineer and as approved by the City Engineer. The minimum structural section shall be 4-inches of AC pavement on 6-inches of crushed aggregate base (CAB).**	**Public Works**	**Special**	
72.	**Wesley Street shall be striped to provide for a 12-foot wide southbound lane, a 12-foot wide northbound left turn lane, and a 12-foot wide northbound right turn lane at the intersection with Washington Boulevard. During final design of the construction plans, City Traffic Engineering staff will thoroughly review the restriping of this street and determine the number of parking spaces that can be retained. All other non-parking areas along Wesley Street shall be signed as "No Parking" or be provided with red curb. This striping shall be designed to the satisfaction of the City Engineer.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
73.	**The drive approach on Washington Boulevard shall be designed per the City's High Speed Drive Approach Standard or a curb return type drive approach having an adequate curb radius as determined by the City Engineer. All proposed drive approaches shall be ADA accessible.**	**Public Works**	**Special**	
74.	**The existing curb and gutter and sidewalk of Washington Boulevard along the project's frontage shall be removed and reconstructed. The new curb height shall match existing, but not be less than 6-inches.**	**Public Works**	**Special**	
75.	**The existing asphalt paving of Washington Boulevard shall be reconstructed by milling a minimum of two-inches and inlaying with new asphalt pavement. The limits of the new paving shall be from the southerly edge of gutter to the centerline of the street and extend from the westerly edge of the crosswalk at National Boulevard to just easterly of Wesley Street to the join of any new work caused by the reconstruction of the southeasterly curb return at this intersection. Any striping removed by this work shall be replaced with thermoplastic paint to the satisfaction of the City Engineer.**	**Public Works**	**Special**	
76.	**Existing parking along the Washington Boulevard frontage shall be eliminated and the existing parking meter heads and posts shall be salvaged and delivered to the City maintenance yard. Red curb shall be painted along this reach of Washington Boulevard.**	**Public Works**	**Special**	
77.	**A dedication to the City for the necessary street right-of-way along Washington between National Boulevard and Wesley Street to create a uniform 100 foot street right-of-way and a twelve-foot wide sidewalk shall be provided.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
78.	**The north and south side of Washington Boulevard shall be restriped to provide for a five foot bike lane between National Boulevard and Wesley Street. The existing parking along the north side of Washington Boulevard shall be maintained. The required striping and signage shall be reflected in the signing and striping plan as part of the project's street improvement plans.**	**Public Works**	**Special**	
79.	**The proposed driveway on Washington Boulevard shall be signed and restricted to right turns in and right turns out.**	**Public Works**	**Special**	
80.	**A 12-foot wide sidewalk shall be installed along the project's frontage with National Boulevard.**	**Public Works**	**Special**	
81.	**The existing asphalt paving of National Boulevard shall be reconstructed by milling a minimum of two-inches and inlaying with new asphalt pavement. The limits of the new paving shall be from the easterly edge of gutter to the centerline of the street and extend from the northerly edge of the crosswalk at National Boulevard southerly to the new asphalt paving recently installed by the MTA. The crosswalk across National Boulevard at this side of the intersection shall be restriped and any traffic loops removed due to the pavement reconstruction shall be replaced. All striping and pavement markers that are required for this portion of National Boulevard shall be installed with thermoplastic paint. This work shall be designed and installed to the satisfaction of the City Engineer.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
82.	**All concrete used in the public right-of-way shall have a minimum strength of 3250 psi.**	**Public Works**	**Special**	
83.	**A signing and striping plan for National Boulevard, Washington Boulevard, and Wesley Street shall be submitted to the Engineering Division for review, approval, and permitting. All signs, striping, legends, and markers shall conform to the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD) and as approved by the City Engineer. All striping and legends shall be installed with thermoplastic paint.**	**Public Works**	**Special**	
84.	**The existing street light system along the project's frontage with National Boulevard and Washington Boulevard shall be converted to low voltage induction type lighting. The existing street light on the east side of Wesley Street shall be removed and new street lights shall be installed on the west side of the street from Washington Boulevard southerly to the cul-de-sac. New street light conduit, wiring, pull boxes, light fixtures, and ballast shall be required. A separate street lighting plan shall be submitted to the Engineering Division for review, approval, and permitting.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
85.	**A new minimum 10-inch diameter sewer main shall be constructed to accommodate the project's sewerage discharge. This main shall also be designed to allow for the collection of the future sewerage discharge from the approximate 5 acre Washington National TOD project located at the northwest corner of the Washington National Boulevard intersection. A diversion manhole shall be installed in the existing 10-inch sewer main located on the north side of Washington Boulevard at Wesley Street. This manhole shall be designed to divert the future sewerage discharge volume from the Washington/National TOD project south in Wesley Street. The new 10-inch diameter sewer main shall extend from the diversion manhole in Washington Boulevard south in Wesley Street across the MTA right-of-way and National Boulevard and connect to the first manhole in Wesley Street south of National Boulevard. Prior to the issuance of a building permit, a separate offsite sewer plan shall be submitted to the Engineering Division for review, approval, and permitting.**	**Public Works**	**Mitigation Measure**	
86.	**The westbound approach of Venice Boulevard to Robertson Boulevard shall be restriped to provide for an exclusive right turn only lane. The design and installation of this work shall be completed to the satisfaction of the City of Los Angeles.**	**Public Works**	**Mitigation Measure**	
87.	**The southbound approach of National Boulevard to Venice Boulevard shall be restriped to provide for an exclusive right turn only lane. The design and installation of this work shall be completed to the satisfaction of the City of Los Angeles.**	**Public Works**	**Mitigation Measure**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
88.	**An 11-foot wide right turn lane shall be installed on National Boulevard for the northbound approach to Washington Boulevard. The right turn lane shall be 60 feet in length and have a 40-foot transition for a total length of 100 feet. Minor modifications to the width of the northbound through lanes on National Boulevard may be made in order to reduce the amount of street dedication needed to install this right turn lane. These modifications shall require the approval of the City Engineer.**	**Public Works**	**Mitigation Measure**	
89.	**A traffic signal shall be installed at the intersection of Washington Boulevard and Wesley Street. A new crosswalk across Washington Boulevard shall be installed, consistent with the City's Transit Oriented Development Streetscape Plan, at the east side of this intersection. Audible signal devices, LED countdown pedestrian heads, and "Bulldog" type pedestrian push buttons shall be installed on all signal poles that control pedestrian crosswalks at this intersection. A westbound left-turn signal phase on Washington Boulevard shall also be required. This new signal shall be synchronized with the adjacent signals on Washington Boulevard. Any other ancillary work required to accomplish the above described work, including but not limited to installation of new signal poles, mast arms, fire preemption, street lights, new service and controller cabinets shall be included. New signal poles shall be designed for 100 mph winds per CALTRANS standards. This work shall be shown on a traffic signal plan prepared by a civil or traffic engineer registered in the State of California and shall be submitted to the Engineering Division for review, approval, and permitting. Separate**	**Public Works**	**Mitigation Measure**	

	signal timing charts shall be submitted for review.			
NO.	**CONDITIONS OF APPROVAL**	**Agency**	**Source**	**Compliance Verification**
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
90.	**City of Los Angeles Department of Transportation (LADOT) requires additional improvements at several intersections within the City of Los Angeles to augment the intersection restriping improvements. As required by the City of Los Angeles Department of Transportation (LADOT), installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Fairfax Avenue and Venice Boulevard; and installation of traffic signal controller upgrades at the following eight intersections identified by LADOT, shall be designed and approved to the satisfaction of the City of Los Angeles:** **1. Exposition Blvd., Robertson Blvd., and Venice Blvd.;** **2. Helms Ave. and Venice Blvd.;** **3. Cattaraugus Ave and Venice Blvd.;** **4. Cadillac Ave and Robertson Blvd.;** **5. Kincardine Ave, I-10 Fwy Westbound Off-Ramp and Robertson Blvd.;** **6. National Blvd., and Robertson Blvd.;** **7. Culver Blvd., and Venice Blvd.; and** **8. Fairfax Ave and Venice Blvd.**	**Public Works**	**Mitigation Measure**	

NO.	**CONDITIONS OF APPROVAL**	**Agency**	**Source**	**Compliance Verification**
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
91.	**The existing raised median on Washington Boulevard at Cattaragus Avenue shall be modified to provide an east bound left turn lane, designed and installed to the satisfaction of the City Engineer. The raised median shall maintain as much landscaping as feasible while accommodating left turn auto storage. The median shall be re-landscaped to the satisfaction of the City's Landscape Architect.**	**Public Works**	**Mitigation Measure**	
92.	**A new traffic signal shall be designed at the intersection of Washington Boulevard and Cattaragus Avenue. The applicant shall be responsible for 100% of the cost of this design and shall contribute 25% of the cost of the installation of this signal. This contribution shall be in the form of the installation of the required underground conduits or other ancillary work that will offset the required 25% cost. This work shall be performed at the same time as the new left turn lane is installed. The design and installation of this work shall be to the satisfaction of the City Engineer.**	**Public Works**	**Mitigation Measure**	
93.	**The existing curb return at the intersection of Washington Boulevard and National Boulevard, adjacent to the project site, shall be reconstructed to a curb return radius of 35 feet. The new curb return shall have a curb ramp designed to current APWA standards and shall include truncated domes (red brick in color). The existing cross walk serving this side of the intersection shall be restriped to match the new location of the curb ramp. The existing traffic signal poles at this corner shall be upgraded and relocated to an approved location based on the reconstructed curb return. If new signal poles are required due to longer mast arms, the new poles shall be designed for 100 mph**	**Public Works**	**Special**	

	winds per CALTRANS standards. A corner cut-off shall be dedicated to the City for street purposes to the satisfaction of the City Engineer.			
NO.	**CONDITIONS OF APPROVAL**	**Agency**	**Source**	**Compliance Verification**
PRIOR TO CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION				
94.	**The existing curb return at the southwest corner of Washington Boulevard and Wesley Street, adjacent to the project site, shall be reconstructed to a curb return radius of 35 feet. The new curb return shall have a curb ramp designed to current APWA standards and shall include truncated domes (red brick in color). A corner cut-off shall be dedicated to the City for street purposes to the satisfaction of the City Engineer.**	**Public Works**	**Special**	
95.	**At the southeast corner of Washington Boulevard and Wesley Street the Applicant shall be required to acquire, dedicate and construct a curb return with a 25-foot radius and curb ramp designed to current APWA standards which shall include truncated domes (red brick in color). Adequate street right-of-way shall be obtained from the adjacent owner of this corner to provide for the installation of this new curb return and curb ramp.**	**Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	ON-GOING			
96.	The use and development of the Property shall be in substantial conformance with the plans and materials submitted with the application for the Land Use Permit as reviewed by the Planning Commission at its meeting on **December 12, 2012**, and the City Council at its meeting on **January 28, 2013**, excepted as modified by these Conditions of Approval.	Planning	Standard	
97.	Pursuant to CCMC Section 17.650.020 - "Inspection", the Property Owner and Applicant shall allow authorized City officials, or their designees, access to the Property where there is reasonable cause to believe the Property is not in compliance with these Conditions of Approval or other requirements of the CCMC.	All	Standard	
98.	The use and development of the Property shall comply with these Conditions of Approval and all applicable local, special district or authority, county, state and federal statutes, codes, standards, and regulations including, but not limited to, Building Division, Fire Department, Planning Division and Public Works Department requirements, and shall comply with all applicable CCMC requirements and all comments made during the City's building permit plan check review process. Failure to comply with said Conditions, statutes, codes, standards, and regulations may result in reconstruction work, demolition, stop work orders, withholding of certificate of occupancy, revocation of land use permit approval and/or any other lawful action the City might deem reasonable and appropriate to bring about compliance.	All	Standard	
99.	All graffiti shall be removed from the Property within 48 hours of its application.	Building/ Planning/ Public Works	Standard	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	ON-GOING			
100.	The Property Owner shall maintain all street trees along the property frontage at his/her sole cost and expense.	Public Works	Standard	
101.	All mitigation measures set forth in any environmental document relating to the Project (including any reports of the type contemplated by the California Environmental Quality Act) shall be completed as specified therein.	Planning	Standard	
102.	**Follow-up Inspection After Project Commencement - Six months after full operation of the Project has commenced, as set forth in this Condition, the Director, or his or her designee, shall conduct follow-up inspections on the design, operation and maintenance of the Project. A report on the Project traffic mitigations, on-site circulation, parking, project design, maintenance and operation shall be reviewed by the Planning Commission one year after occupancy of the Project. In the event the Project is not in full compliance with the approved Project plans, conditions of approval and approved Comprehensive Plan, the matter shall be set for public hearing pursuant to CCMC Chapter 17.660 – Revocations and Modifications.**	**Planning**	**Special**	
103.	**Changes or Alterations to the Comprehensive Plan – Changes to approved plans shall be considered major (and therefore shall not be subject to administrative approval pursuant to CCMC Section 17.560.025) if they will:** **a) Alter the exterior appearance of the project;** **b) Alter the materials being used on the exterior of the project unless, as determined by the Director, the new materials are of equal or better quality to the materials on the approved Project materials board; or** **c) Alter the floor plans in any material way, or increase the size of any one or more of the following areas: retail, restaurant, and/or outdoor dining.**	**Planning**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	ON-GOING			
104.	**Total Retail and Restaurant Floor Area - The total floor area of retail and restaurant (including bars and nightclubs) uses shall not exceed 31,240 square feet. Restaurants (including bars and nightclubs) shall not exceed 25% of the overall retail/restaurant floor area.**	**Planning**	**Special**	
105.	**On-Site Parking Requirements – (Residential Parking) - A total of 199 spaces are required for the 115 residential units. The parking for residential uses shall include 24 spaces (19 spaces for the residential units and 5 residential guest spaces) in the upper subterranean level and 177 spaces (154 for the residential units and 23 residential guest spaces) located in the second subterranean level. Six accessible spaces parking shall be provided in two subterranean parking levels. (Commercial Parking) – A total of 143 spaces shall be provided for the commercial uses including the outdoor dining square footage.**	**Planning**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	ON-GOING			
106.	**Follow-up Parking Operations Inspections - Inspections of the on-site parking operations shall be conducted by the Director or his or her designee and the City's Traffic Engineer at 6-month, 12-month, and 24-month periods after full operation of the Project. Thereafter, follow-up inspections shall be conducted as necessary by the City. If the follow-up parking operation inspections determine (i) that the number of on-site parking spaces is insufficient to satisfy parking demand; or (ii) that the Project's parking facilities or operations are in any other way not fully and adequately serving the customers, patrons, residents, employees, suppliers and contractors of the Project then additional methods to provide adequate on-site parking shall be devised. Such additional parking supply shall be identified in a revised on-site parking plan acceptable to the City and said plan shall be promptly and fully implemented. If adequate parking cannot be provided by the above methods or consistent with the Alternative Parking Provisions of Section 17.320.025 of the Zoning Code, the demand for parking at the Project shall be reduced in a manner considered acceptable to the City (e.g. reducing the amount of outdoor dining area or other uses commensurate with the parking need).**	**Planning /Public Works**	**Special**	

NO.	CONDITIONS OF APPROVAL	Agency	Source	Compliance Verification
	ON-GOING			
107.	**Community Benefit Contribution - The Applicant is requesting to exceed the base density for the property (35 units per acre) and has elected to provide public open space as the Community Benefit for the Project in order to qualify for a base density of 65 units per acre. Pursuant to Community Benefit Resolution No. 2008-R015 the minimum required open space is 5,000 sq. ft. The Applicant has chosen to provide public open space totaling 7,198 square feet (4,304 square feet on the ground level and a second level open space comprised of benches, fountain, and landscape planters (2,894 square feet) which also serves as a commercial plaza for a small café with outdoor dining not to exceed 500 square feet and access to an adjacent private pool deck. The Community Benefit contribution is $1,311,574 consistent with the allocation formula established in Community Benefit Resolution No. 2008-R015. The use and operation of the public open space shall be governed by all applicable covenant requirements contained herein.**	**Planning**	**Special**	
108.	**Upon 85% occupancy of the Project's residential units, the Property Owner shall purchase a 1-year Metro pass pursuant Metro's Pass Program as follows: one pass required per each studio and one bedroom unit; two passes required for each two or three bedroom units. The passes shall be offered free of charge to residential tenants as outlined above. Unused passes shall be made available to residential tenants who have asked for additional passes, pursuant to Metro's Pass Program. The Property Owner shall provide a written affidavit to the Planning Division certifying that Metro Passes have been distributed as required by this condition. In addition, the Property Owner shall encourage the Project's commercial tenants to participate Metro's Business Transit Access Pass (B-Tap) Program.**	**Planning**	**Special**	

RESOLUTION NO. 2012-P013

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF CULVER CITY, CALIFORNIA, RECOMMENDING TO THE CITY COUNCIL APPROVAL OF AN AMENDMENT TO THE CULVER CITY ZONING MAP, AS REFERENCED IN TITLE 17, ZONING, OF THE CULVER CITY MUNICIPAL CODE, SECTION 17.200.015, ESTABLISHING PLANNED DEVELOPMENT ZONE NO. 12, ZONING CODE MAP AMENDMENT, ZCMA P-2012118 AND COMPREHENSIVE PLAN, CP-P2012116, FOR PLANNED DEVELOPMENT ZONE NO. 12, CONSISTING OF A MIXED USE DEVELOPMENT OF APPROXIMATELY 31,240 SQUARE FEET OF GROUND FLOOR RETAIL AND RESTAURANT USES AND 115 RESIDENTIAL UNITS LOCATED AT 8770 WASHINGTON BOULEVARD

(CP-P2012116 AND ZCMA P-2012118)

WHEREAS, on August 9, 2012, Legado Companies and Legado Crossing, LP, as the applicant and property owner (the "Applicant") of 8770 Washington Boulevard, filed an application for a Comprehensive Plan and Zoning Code Map Amendment for Planned Development District No. 12, consisting of a 5-story mixed use transit oriented development of approximately 31,240 square feet of ground floor commercial uses, and 115 residential dwelling units, providing a total of 344 parking spaces in two levels of subterranean parking (the "Project"), the Project site described more fully as Lots 2 through 15 of Tract No. 3772, in the City of Culver City, County of Los Angeles, State of California; and,

WHEREAS, in order to implement the proposed Project, approval of the following applications are required:

1. Zoning Code Map Amendment: For consistency between land use designation and zoning, specifically the zone change of the Project site from the East Washington Overlay (EWO), Commercial General (CG), and Industrial General (IG) Zone to a Planned Development (PD) Zone: and

2. Comprehensive Plan: To ensure the Project is in compliance with all required standards and City ordinances and establish all onsite and offsite conditions of approval to

reflect the site features and compatibility of the proposed Project with the uses on adjoining properties.

WHEREAS, on December 12, 2012, after conducting a duly noticed public hearing on the subject applications, including full consideration of the applications, plans, staff report, environmental information and all testimony presented, the Planning Commission (i) by a vote of ___ to ____, adopted a Mitigated Negative Declaration, in accordance with the California Environmental Quality Act (CEQA), finding the Project, as mitigated, will not result in significant adverse environmental impacts; and (ii) by a vote of ___ to ____, recommended to the City Council approval of Comprehensive Plan, CP-P2012116 and Zoning Code Map Amendment, ZCMA P-2012118, for Planned Development Zone No. 12, as set forth herein below.

NOW, THEREFORE, THE PLANNING COMMISSION OF THE CITY OF CULVER CITY, CALIFORNIA, RESOLVES AS FOLLOWS:

SECTION 1. Pursuant to the foregoing recitations and the provisions of Culver City Municipal Code (CCMC), the following findings are hereby made:

Zoning Code Map Amendment for Planned Development Zone No. 12:

As outlined in CCMC Title 17, Section 17.620.030.A, the following required findings for a Zoning Code Map Amendment are hereby made:

1. The proposed amendment ensures and maintains internal consistency with the goals, policies and strategies of all elements of the General Plan and will not create any inconsistencies with this Title, in the case of a Zoning Code Amendment.

The proposed Zoning Code Map Amendment ensures and maintains internal consistency with the goals, policies and strategies of the General Plan. Specifically, the Zoning Code Map Amendment will change the zoning of the Site from the EWO, CG and IG zones to a PD zone and will make the Site consistent with the General Plan Land Use “General Corridor” designation.

The proposed zone change will allow for the development of the Site for a Transit Oriented Development (TOD) comprised of a mix of compatible land uses including retail, restaurant, and residential, adjacent to the Expo Transit Station. The proposed zone change furthers Objectives 2, 4, 5, 6, 8, 10 and 12 of the General Plan Land Use Element by establishing development standards that would provide additional housing, quality living and pedestrian environments, promote economic vitality with neighborhood serving retail and restaurants, revitalize the commercial corridors adjacent to the TOD area which are currently undeveloped or vacant, and enhance visual quality by utilizing sustainable urban design principles and provide streetscape improvements along commercial corridors. The proposed Zoning Code Map Amendment will not result in inconsistency with the General Plan.

2. The proposed amendment would not be detrimental to the public interest, health, safety, convenience or welfare of the City.

The proposed Zoning Code Map Amendment is not detrimental to the public interest, health, safety, convenience or welfare of the City. The proposed zone change from EWO, CG, and IG to Planned Development Zone No. 12 with related development and land use standards, will implement a mixed used TOD on the Site through a Comprehensive Plan while mitigating any potentially significant development impacts. The PD zoning designation will create a unique, pedestrian oriented development that fits within surrounding commercial and residential neighborhoods and is consistent with redevelopment goals for the area. Further, the PD zoning is intended to ensure harmonious Site development within Culver City as well as nearby Los Angeles as a sustainable mixed use project that effectively brings housing, shopping and employment together with transit in order to promote important goals of improved air quality, regional mobility, and multi-modal approaches to transit. The PD zoning will focus the types of uses and development standards consistent with the goals and objectives of a mixed use TOD area. No health or safety hazards have been identified in the review of the proposed zone change.

3. The proposed amendment is in compliance with the provisions of the California Environmental Quality Act (CEQA).

The proposed Zoning Code Map Amendment is in compliance with CEQA as more fully detailed in the Project's environmental documentation, including, but not limited to, the Initial Study, Mitigated Negative Declaration and Project traffic study. Potential impacts to various environmental factors such as cultural resources, geology and soils, noise, traffic, and utilities, as reviewed in the Initial Study will be mitigated. Further mitigation of Project impacts will be achieved through various green building methods that include, where feasible, use of local manufactured products, high rated building insulation, and filtration of rain water from the roof into planters prior to discharging into the public storm drain system to reduce storm water run-off. Other sustainable development practices will include photovoltaic electricity generation, low flow fixtures and low consumption urinals, drought tolerant vegetation, dual low emissivity glazing, and façade shading elements to reduce solar heat gain. In

accordance with CEQA, the Project's greenhouse gas emission impacts were reviewed and found to have a less than significant environmental impact on the surrounding area. Carbon emission reduction procedures have been incorporated into the Project, which include bicycle racks spread throughout the site and bicycle facilities including lockable areas, and preferred parking for low emission vehicles, and sourcing products from local manufacturers when possible.

As outlined in CCMC Title 17, Section 17.620.030.B, the following additional required finding for a Zoning Code Map Amendment is hereby made:

4. The sites are physically suitable (including access, provision of utilities, compatibility with adjoining land uses and absence of physical constraints) for the requested zoning designation(s) and anticipated land use development.

A complete review by City staff has determined that the Project site as conditioned, is in compliance with all applicable design standards and all public services can be provided; therefore, the site is physically suitable (including access, provision of utilities, compatibility with adjoining land uses and absence of physical constraints) for the requested zoning designation and anticipated land use development as outlined in the Comprehensive Plan.

The mixed use development project has been sited and designed to be integral to the TOD area and will create a transition from the Exposition Light Rail Transit station, other planned TOD projects nearby and commercial retail and restaurant uses further east toward the Helms Bakery Complex and Arts District area. Commercial retail and restaurant uses are located on Washington Boulevard while commercial service and creative office uses are located along Wesley Street. Residential neighborhoods are east of the Site both south and north of Washington Boulevard. The proposed mixed use development will fit within this fabric of multiple and varied types of land uses while providing local market, retail, and restaurant opportunities for local residents that will be a part of this and other planned TOD mixed use projects nearby. The height of the proposed structures and existing structures to remain do not exceed the 56 foot height limit and comply with Zoning Code setback and parking requirements. Vehicular access to the Project site has been located at physically suitable locations on Washington Boulevard and Wesley Street.

In sum, the proposed use of residential, retail, and restaurants is compatible with existing land uses. The site occupies corner to corner parcels with frontages on Washington Boulevard as well as National Boulevard and Wesley Street. The Washington Boulevard frontage makes the site ideal for a pedestrian facing retail project. The existing and proposed utility services such as water, sewer, and gas line are adequate for the proposed uses.

Comprehensive Plan for Planned Development Zoning District No. 12:

As outlined in CCMC Title 17, Section 17.560.020, the following required findings for a Comprehensive Plan are hereby made:

A. The proposed Comprehensive Plan can be substantially completed within four years.

According to the Applicant, the proposed Project is planned and scheduled to be complete within four years (most likely within two years). The Applicant owns the land and has the capital to build the entire Project at one time and not in phases. Construction is expected to begin in mid/end-2013 with substantial completion by mid/end 2014, provided approval of the requested entitlement is granted.

B. The proposed development is capable of creating an environment of sustained desirability and stability or adequate assurance will be provided such objective will be attained.

The proposed development will create an environment of sustained desirability and stability by providing the neighborhood with residential and commercial uses that will serve the surrounding business and residential neighbors. The Hayden Tract, Helms Bakery Complex, and East Washington areas have flourishing office and retail populations, residential communities and dynamic art, food, and design establishments. The proposed Project, consisting of residential, retail, and dining and a community public open space area tie all of these various uses together assuring this area's continued success. The proposed Project will enhance and sustain the desirability and stability of the entire neighborhood. Further, Project amenities such as public parking and open space; private open spaces for the residential component; and proximity to multi transit opportunities such as the Expo Light Rail line, local bus lines, bike lanes, and conventional street and freeway infrastructures will assist in establishing a stable commercial and residential neighborhood.

C. The proposed uses will not be substantially detrimental to present and potential surrounding uses but will have a beneficial effect.

A mix of transportation, light industrial and commercial uses currently surround the Project site, including the Exposition Light Rail Transit station, Helms Bakery Complex, restaurant supply store, warehousing and distribution facilities, and various retail and office establishments. The proposed Project uses of residential, retail, and restaurants will be compatible with the surrounding areas. The Project site is currently vacant and empty with a paved surface parking lot previously occupied by a lumber supply company. The proposed Project will have a beneficial effect by developing the site with active uses, new housing, retail and restaurant opportunities, pedestrian friendly public open spaces and a vibrant and enhanced streetscape.

D. The streets and thoroughfares serving the development are suitable and adequate to carry anticipated traffic and the development will not generate traffic that will overload the adjacent street network.

A comprehensive traffic study for the Project was prepared in 2010 and updated in 2012. The traffic study identified improvements to be made in order to limit traffic impacts to less than significant. Sufficient improvements to the roadways and other public rights-of-way have been included in the Project design and incorporated into the conditions of approval for the Project, ensuring that the surrounding roadways will be suitable and adequate to carry the anticipated traffic created by the Project.

E. The proposed development is compatible with the surrounding area.

The surrounding area is comprised of commercial, retail and light industrial buildings. Residential neighborhoods are located further south and east of the Project site. The proposed development is a mixed use development containing both residential and commercial retail and restaurant uses and is therefore compatible with the surrounding uses.

F. The types and locations of any proposed commercial development can be economically justified.

The Project incorporates 31,240 square feet of leasable commercial (retail and restaurant) space. The commercial uses are designed to serve the residents of the residential units within the Project itself, as well as the surrounding existing and proposed office, residential and commercial development. The proposed development density of the area along with existing adjacent commercial and residential areas will provide an adequate consumer base for the proposed commercial uses.

G. The Comprehensive Plan is in conformance with the General Plan, or a concurrent General Plan amendment is in process.

The proposed Comprehensive Plan is in conformance with the goals, policies and strategies of the General Plan. Specifically, the Comprehensive Plan will make the site consistent with its General Plan Land Use "General Corridor" commercial designation. The proposed mix of uses proposed as part of the Comprehensive Plan are more consistent with the site's general plan commercial designation than with the current East Washington Overlay and Industrial General zoning. The Comprehensive Plan will allow for a mixed use TOD consisting of pedestrian oriented ground floor retail and restaurants with outdoor dining; residential uses above the retail and/or restaurant spaces; and pedestrian friendly public open space; as well as enhancements to the streetscape along Washington Boulevard, National Boulevard and Wesley Street, and will further the goals and objectives as outlined in Objectives 2, 5 through 8, 10, and 12 of the General Plan Land Use Element. The proposed Project will provide new housing supply consistent with the City Mixed Use

Development Standards and encourage reinvestment in this area thereby improving economic vitality, visual quality, and the pedestrian environment.

H. Any exception from the standards and requirements of this Title is warranted by the design and amenities incorporated in the Comprehensive Plan and is desired by the Council.

No exceptions to the standards and requirements of the City's Zoning Code have been requested for this Project. The increase in residential density is in compliance with the Mixed Use Development Standards and Community Benefit required by the City, represented by the public open space area being provided at the intersection of Washington Boulevard and National Boulevard.

I. Existing and proposed utility services are adequate for the proposed uses.

Review of the Project by the City's Public Works Department has determined that the proposed utility services and existing utilities that will serve the site are adequate for the proposed uses.

J. The Comprehensive Plan has complied with all applicable City requirements.

The Comprehensive Plan has been prepared in conformance with the Culver City Municipal Code, including the Zoning and Building Codes. This includes submission and review of a proposed site plan and uses; preliminary building plans; landscaping, and lighting; and civil engineering plans. Review by City departments of these plans has determined that the Comprehensive Plan is in compliance with all applicable City requirements.

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

SECTION 2. Pursuant to the foregoing recitations and findings, the Planning Commission of the City of Culver City, California, hereby recommends to the City Council approval of Comprehensive Plan, CP-P2012116, and Zoning Code Map Amendment, ZCMA P-2012118, Planned Development No. 12, as set forth as Exhibit "A", Zone Change Map attached hereto, and subject to the conditions of approval as set forth in Exhibit B attached hereto and incorporated herein by this reference.

APPROVED and ADOPTED this 12th day of December 2012.

SCOTT WYANT, CHAIRPERSON
PLANNING COMMISSION
CITY OF CULVER CITY, CALIFORNIA

Attested by:

Yvonne Hunt
Administrative Secretary

City of Culver City, California

Planning Commission Agenda Item Report

Meeting Date: December 12, 2012	Item Number: PH-1
AGENDA ITEM: Proposed Zoning Code Map Amendment (ZCMA- P2012118) to establish a Planned Development Zone and a Comprehensive Plan (CP-P2012116) to allow a mixed use development consisting of 31,240 square feet of commercial uses and 115 residential dwelling units located at 8770 Washington Boulevard.	
Contact Person/Dept.: Susan Yun, Senior Planner	Phone Number: (310) 253-5755
Public Hearing: [X] Action Item: [] Attachments: [X]	
Public Notification: On November 20, 2012, a notice was posted on the site and was mailed to all the property owners and occupants beyond a 1,000 foot radius of the site (approximately 1,900 recipients) and emailed to the Master Notification List. The notice was mailed to East Culver City Neighborhood Alliance Homeowners Association, the Chamber of Commerce and Downtown Business Association. The notice was also published in the Culver City News on November 23rd and November 29th, 2012.	
Planning Approval: Thomas Gorham, Planning Manager	Department Approval: Sol Blumenfeld, Community Development Director

RECOMMENDATION:

That the Planning Commission:

1. Adopt a Mitigated Negative Declaration (MND) based on the Initial Study finding that the project, with mitigation measures incorporated, will not have a significant adverse impact on the environment (Attachment No. 2); and

2. Recommend Approval to the City Council of Zoning Code Map Amendment, ZCMA P-2012118, and Comprehensive Plan, CP P-2012116, subject to the Conditions of Approval as stated in Resolution No. 2012-P013 (Attachment No. 1).

PROCEDURES:

1. Chair calls on staff for a staff report and Commission poses questions to staff as desired.
2. Chair opens the public hearing, providing the applicant the first opportunity to speak, followed by the general public.
3. Chair seeks a motion to close the public hearing after all testimony has been presented.
4. Commission discusses the matter and arrives at its decision.

BACKGROUND:

Request

The proposed request is to establish a Planned Development (PD) Zone through a Zoning Code Map Amendment (ZCMA) and a Comprehensive Plan (CP) to develop a 5-story, 56 foot high maximum, mixed-use project consisting of approximately 31,240 square feet of ground floor commercial space (retail and restaurant) and a total of 115 residential dwelling units above (the Project). The project site (the "Site") is located at southeast corner of Washington Boulevard and National Boulevard at 8770 Washington Boulevard, near the recently completed Exposition Light Rail Transit (Expo LRT) line, Culver City Expo LRT station and within the City's Washington National Transit Oriented Development (TOD) District.

Existing Conditions

The 1.78 acre Site was previously occupied by a roofing supply company that contained warehousing and storage structures. The Site was cleared in April 2012 and is currently vacant and secured with perimeter fencing.

The surrounding area is characterized by light industrial/warehouse, commercial service and retail uses. The Expo LRT abuts the Site and the Culver City Expo LRT station is located to the northwest. The Expo LRT bike path terminates at the Site near National Boulevard. A City owned parkette is located directly across National Boulevard, west of the project site. Further west, along Washington Boulevard is the proposed Platform commercial development project (currently a vacated car dealership). Immediately to the northwest is the City owned property currently used as a temporary Expo parking lot which is to be developed with a 5.2 acre transit oriented development project. Directly north of the Site are commercial retail uses, including the Helms Bakery complex and the Surfas restaurant supply store. To the east, along Wesley Street are light industrial, service and creative office uses that include an auto body / repair shop, dog kennel, architecture office and photography studio.

The Site is located within the East Washington Overlay (EWO) Zone with underlying zoning of Commercial General (CG) and Industrial General (IG). The General Plan land use designation is General Corridor.

Project Description

The Project is one of several new TODs that are proposed for the area surrounding the Culver City Expo LRT station. The proposed 5-story, 56-foot high maximum, mixed use development contains 31,240 square feet of ground floor commercial space and a total of 115 rental residential units on the second through fifth stories.

A total of 344 parking spaces will be provided for the Project. 31 spaces will be provided at ground level, 136 spaces in the upper level garage, and 177 spaces in the lower level garage. 15 public parking spaces are provided as part of the overall parking provided on-site. Access will be provided for residential and commercial uses on Washington Boulevard and on Wesley Street. Truck access for onsite loading and unloading will utilize a separate service driveway on Wesley Street.

The residential component is proposed as apartments varying in size and number of bedrooms. The Project includes 3 studio units and 56 one bedroom units ranging from 607 square feet to 762 square feet, 46 two bedroom units ranging from 1,104 square feet to 1,289 square feet and 10 three bedroom units ranging from 1,758 square feet to 1,844 square feet. Several two-story units are proposed with the two and three bedroom unit types.

The Project will provide a number of on-site amenities for residential tenants including a recreation room and fitness center, and a large interior central courtyard with a swimming pool, shade structures, BBQ area, and bench seating and tables. Private balconies are provided on some of the units. All of the residential units include a laundry area.

The project offsite improvements include new sidewalks, street furniture and street trees adjacent to the site as well as various operational and circulation improvements at the adjacent intersections of Washington Boulevard, National Boulevard and Wesley Street. New crosswalks are proposed on Washington and National Boulevards and at Washington Boulevard and Wesley Street. These improvements must comport with a TOD District Streetscape Plan that will be prepared for the area. Installation of a bike lane along the project's Washington Boulevard street frontage as well as the north side of Washington Boulevard is also included as part of the Project.

The Project is designed to be a pedestrian friendly and sustainable mixed-use TOD by providing ample open plazas, pedestrian setbacks and pedestrian serving uses. The Project includes outdoor dining along the 15 foot pedestrian setback on Washington Boulevard and a public open space area

at the corner of Washington and National Boulevards that communicates directly with the emerging TOD neighborhood.

The mix of commercial spaces proposed includes a 13,900 square foot retail space and an 11,800 square foot retail space; a 2,300 square foot restaurant space and 3,240 square foot restaurant space. The retail and restaurant components are designed for direct street and sidewalk access. Potential Project tenants will be transit and neighborhood serving and may include a grocery store, pharmacy and restaurants.

ANALYSIS:

A Zoning Code Map Amendment and Comprehensive Plan are required for the Project pursuant to Zoning Code Section 17.240, Planned Development Zoning Districts and Section 17.560, Comprehensive Plans. The proposed Zoning Code Map Amendment includes re-zoning the project site from East Washington Overlay, Commercial General (CG) and Industrial General (IG) to Planned Development (PD) (see Attachment No. 1, Exhibit A). The proposed Comprehensive Plan includes the development standards and allowed land uses established for the PD Zone which has been refined to reflect the transit related character of the Project. The intent of a Comprehensive Plan is to allow for flexibility in the application of the Zoning Code standards for large scaled developments. A Comprehensive Plan considers innovation in site planning in order to more effectively respond to site features, uses on adjoining properties, and other impacts that the Zoning Code may not be able to adequately address. The PD zoning district is implemented with the Comprehensive Plan.

Comprehensive Plan

The project has been designed to conform to all applicable Zoning Code provisions of the Comprehensive Plan. The Comprehensive Plan document (Attachment No. 7) includes all the relevant land use and development standards for the Project including setbacks, height, parking, and permitted uses; as well as the site plan, floor plans, building elevations and renderings, building materials and colors, landscaping, public open space, infrastructure, and sustainability provisions.

1. ***TOD/Mixed Use Development Standards:*** The Site is developed as a vertically integrated mixed use transit oriented development. The proposed development is consistent with the maximum applicable density permitted under Zoning Code Section 17.400.065–Mixed Use

Development Standards with a Community Benefit, the requirements of the height district and the development standards defined therein[1].

The base density of 35 dwelling units per acre permits 62 dwelling units on the site. The proposed 115 residential dwelling units conforms to the maximum applicable density of 65 dwelling units per acre allowed with a Community Benefit pursuant to density requirements of the Mixed Use Development Standards Zoning Code Section 17.400.065.E.3. An extensive public open space area, totaling a minimum of 5,000 square feet is provided as the project's Community Benefit contribution.[2] (See below Section 8, Community Benefit Contribution).

Consistent with the Mixed Use Development Standards and the pedestrian orientation of the Transit Oriented Development District, the project includes significant retail, restaurant and café space primarily located on the ground floor. A small 240 square foot café is located at the second level where additional public open space is located. The commercial uses front Washington Boulevard and Wesley Street. Pedestrian access to the commercial uses is primarily from Washington Boulevard and from the at-grade parking located at the interior behind ground level retail use. The Project meets the minimum 30 foot commercial depth and the commercial floor area requirements of the Mixed Use Development Standards.[3]

Residential units are accessed by elevators and stairs located in the subterranean residential parking levels or through the lobby area off of the Washington Boulevard sidewalk entrance. Vehicular access for commercial and residential uses is provided from Washington Boulevard and Wesley Street. Residential tenant parking and guest parking are separated from commercial parking in the upper level and in the lower level garage with security access.

2. ***Height:*** The PD Zone as well as the Commercial General Zone (Chapter 17.220 and 17.240 of the Zoning Code) allows a maximum 56' foot building height. The proposed building height varies to 5-stories with a stepped roof line; however no part of the building, excluding roof mounted building equipment and screening, exceeds 56 feet.

3. ***Setbacks*:** Building setbacks are consistent with the applicable setback requirements of the Zoning Code Section 17.400.065 – Mixed Use Development Standards. The project design incorporates a stepped building elevation at the second and third levels along the Washington Boulevard street frontage.

4. ***Pedestrian Setbacks:*** The Comprehensive Plan requires a 15 foot Pedestrian Setback at grade along the Washington Boulevard street frontage in order to accommodate pedestrian improvements (outdoor dining, landscaped planters, benches, building canopies, trellises and other similar improvements).

5. ***General Land Use Provisions****:* The permitted commercial uses in the Comprehensive Plan are primarily retail, restaurant and personal service uses that reflect the General Plan, General Corridor Land Use designation and the emerging transit orientation of the area. The recommended uses support community serving needs that are compatible with adjacent residential neighborhoods and the TOD area. Certain uses permitted under the EWO and CG zoning district such as auto related or auto repair facilities, warehousing or distributing facilities, offices have been eliminated in the proposed PD zone since they are inconsistent with a pedestrian orientation.

    a. *Restaurant Uses*
    In order to encourage more retail and broaden the types of project uses, the Comprehensive Plan contains a provision to limit restaurant uses to no more than 25% of the commercial floor area.

6. ***Architectural Design:*** The architectural design of the Project was inspired by Culver City's Hayden Tract where industrial warehouses have transitioned into uniquely designed creative office facilities. The Project building materials, forms and colors reflect this industrial image. Metal canopy roofs, metal cladding, rectangular forms and large windows are part of the industrial metaphor in the project and are intended to complement the surrounding area. The buildings are comprised primarily of metal and stucco finishes in seven different colors accented by standing seam metal siding in two colors and corrugated metal siding. Signage will be provided to identify ground floor commercial uses as well as for directional and other identification purposes.

7. ***Sustainability and Green Building****:* Sustainable building design is integrated into the building layout and through the selection of materials, landscape design, and use of energy efficient building and mechanical systems. Green building features include natural lighting, heating and cooling. Proximity to the Expo Station and a pedestrian orientation is expected encourage walkability and alternative modes of transit to help reduce Project Global Greenhouse Gas Emissions. The Project will also meet the City's Green Building requirements as set forth in the Culver City Municipal Code and Cal Green requirements. Further, the project aims to

obtain Gold Certification under the provisions of the Leadership in Energy and Environmental Design (LEED) program.

In addition, the developer is considering offering one annual metro pass for the residential leases in the project as a way to encourage use of the Expo Line and as a marketing incentive.

8. Community Benefit Contribution – (Open Space Design, Operation and Maintenance): The intent of the Community Benefit provision of the Mixed Use Development Standards is to help mitigate project impacts consistent with expressed community needs. Resolution No. 2008-R015 (Attachment No. 3) establishes the requirements for providing Community Benefits under the Mixed Use Development Standards and provides that each community benefit is approved on an area wide basis by Council resolution. On July 28, 2008, the City Council conducted a Community Benefit hearing for the Washington National TOD District and approved Resolution No. 2008-R053 with the following as eligible community benefits (Attachment No. 4, Community Benefits for Washington National Area):

- Public Parking;
- Pocket Parks and Public Open Space;
- Streetscape Improvements;
- Funding for a City Shuttle Service.

The developer has elected to provide public open space as the community benefit. Pursuant to Community Benefit Resolution No. 2008-R015 the minimum required open space is 5,000 sq. ft. The developer has elected to provide public open space totaling 7,198 square feet (4,304 square feet on the ground level and 2,894 square feet at the second level.) The second level open space is comprised of benches, a fountain and landscape planters, and also serves as a commercial plaza with small café and outdoor dining and provides access to an adjacent private pool deck. The Community Benefit contribution is $1,311,574, consistent with the allocation formula identified in the Community Benefit Incentive Program (Attachment No. 3, Community Benefit Incentive Program, Resolution No.2008-R015).

<u>Design</u>

The developer originally submitted three design options for the Project Community Benefit ground level open space plan and selected one that contained a central fountain with a circular design, more hardscape and less landscape and functioned more like a commercial plaza than a small

park. Working with staff, the developer has refined the ground level open space to be more park-like (consistent with the Community Benefit requirements) and less like a commercial plaza. The revised plan includes more usable open space, a water feature (which is proposed for the project public art piece as required under the Art in Public Places Ordinance), more planting (including large trees planted on grade) and stylized bench seating. The elevation of the park at Washington and National Boulevards is resolved at the building line with a series stepped plazas and planters. Overall, the redesigned public open space community benefit will provide an attractive and much needed park amenity for the area with little capital cost to the City.

The second level open space overlooks the park below and is comprised of benches, a water feature and landscape planters and includes an outdoor dining area adjacent to the second level café space.

Operation & Maintenance

The City will require a covenant stipulating that the required public open space is open and available for public use during public park operating hours. Prior to issuance building permit, the City will require that the developer record the covenant and enter into a license agreement to ensure public access and use of the dedicated public open space. The covenant and license agreement will require maintenance of the space by the developer consistent with the City's standards for public parks.

9. ***TOD District Streetscape Plan:*** The City is developing a streetscape plan for the TOD District (see Attachment No. 5, TOD Area Map). The project is required to comply with the streetscape program for the area which is to be funded on a pro rata basis by area developments. Streetscape improvements will include new street trees, planters, tree grates, way-finding signs, benches, trash receptacles, bicycle racks, and other street furniture. The confluence of City property and new TOD developments proposed around the intersection of Washington and National Boulevards provides a unique opportunity to develop that intersection with special design features that may include special crosswalk and street paving, lighting and/or public art. The City will work with area developers on planning, design, construction and maintenance of the streetscape improvements.

10. ***Public Art*****:** The project will comply with the requirements in the City's Art in Public Places Ordinance incorporating a proposed water feature in the public open space at Washington and National Boulevards.

11. Parking: The project will provide a total of 344 parking spaces (31 surface parking spaces for the commercial uses and public parking, 136 spaces in the first subterranean level for the commercial and residential uses, and 177 parking spaces in the second subterranean level for the residential use). A total of 342 parking spaces are required for both the commercial and residential components of the Project. The applicant is providing two additional spaces beyond Code requirements. Commercial patrons who park on the ground floor will enter through a garage ticket entry gate and pay for parking via a garage pay station. Those parking on the ground level or subterranean level will either receive a validation from a merchant or pay a charge for using the parking.

Restaurant, Retail and Outdoor Dining Parking

Numerical Parking Requirements: Parking for the project site is provided at a ratio of 1 stall per 250 square feet of retail and restaurant floor area consistent with the Zoning Code parking requirements for shopping centers. The total restaurant space (18%) proposed is under the 25% limit of combined retail and restaurant floor area (31,240 square feet).

The Zoning Code provides that the first 250 square feet of outdoor dining is permitted without requiring parking. The Project proposes an additional credit of 250 square feet (500 square feet total). Without the additional parking credit six additional parking spaces are required. The parking requirements are summarized in the following table:

Land Use	Parking Factor
Retail Shopping center)	1 stall per 250 sf
Restaurant (Up to 25% combined retail /restaurant floor area.)	1 stall per 250 sf
Outdoor Dining Areas (Area in excess of 500 square feet per restaurant space.)	1 stall per 250 sf

The Project contains a total of 25,700 square feet of retail spaces and 5,540 square feet of restaurant spaces. The Project Summary Table on Page 15 of the Comprehensive Plan provides detailed building square footage breakdown for each of the proposed uses.

Outdoor Dining Parking

The Project proposes a total of 2,220 square feet of outdoor dining. This includes area identified along public sidewalks adjacent to Washington Boulevard (one area totals 900 square feet and another area totals 900

square feet) and in the open space on the 2nd floor level (420 square feet). This parking has been calculated in the project parking supply table on Page 14 of the Comprehensive Plan. The Project also includes an outdoor dining parking credit as noted above.

The outdoor dining parking credit is justified by the proximity of the Project to transit as part of the Transit Oriented Development (TOD) district. There will not be a significant parking impact as result of outdoor dining given that project is expected to be draw customers and will generally include local office workers from the site and employees and residents from the adjacent Hayden Tract and other nearby TODs planned within the area. It is expected that many site users will be arriving by alternative modes of travel such as walking, bicycling, or by taking the bus or train to the site. Further, the project does not take any parking credit or discount as could be allowed as a TOD project.

Commercial Parking

Based on the proposed commercial uses (including the outdoor dining square footage) and parking ratios the following summarizes the Project commercial parking requirements:

Land Use	Area s.f.	Parking Ratio	Total Parking
Retail	25,700	1:250 sf	103
Restaurant	5,540	1:250 sf	22
Outdoor Dining (Area in excess of 500 square feet per restaurant space.)	800 sf	1:250 sf	3
Total			**143**

Residential Parking

A total of 199 spaces are required for the 115 residential units as follows:

Residential Unit	No. Units	Stalls/Unit	Parking Stalls
Studio	3	1	3
One Bedroom	56	1	56
Two Bedroom	46	2	92
Three Bedroom	10	2	20
Residential Guest	115 units	1 per every 4 units	28
Total			**199**

The parking for the residential component includes 24 spaces (19 spaces for the residential units and 5 residential guest spaces) in the upper subterranean level and 177 spaces (154 for the residential units and 23 residential guest spaces) located in the second subterranean level. Six accessible spaces parking are provided in two subterranean parking levels.

Bicycle parking is also provided both on-site and along the sidewalk. Long term bicycle parking (24 stalls) is being provided on-site at the lower level garage within a secured fenced area. These bicycle spaces are for the residential tenants. In addition, short term bike racks (14 stalls) are provided along Washington Boulevard in the public right of way. Additional short term bicycle parking (12 stalls) is provided on-site in the ground level parking area.

Public Replacement Parking

In addition to the required commercial parking described above 15 additional, un-gated public replacement parking spaces will be provided at the ground level to offset the parking eliminated along Wesley Street as a result of the Project.[4] The replacement parking will be subject to a public parking easement for use, operation and enforcement purposes[5] and must be open and available to the public during the parking garage operating hours. A pay-station system will be installed in the garage for payment and revenue collection by the City. The City's Parking Enforcement will enforce posted parking regulations.[6]

Access: The project provides direct vehicular access from both Washington Boulevard and Wesley Street. Access from Washington Boulevard will be provided by a 24 feet 9 inches wide driveway, providing both ingress and egress for the public, commercial and residential spaces, and includes a short raised median to separate ingress and egress traffic. There will be a sentry gate/ticket dispenser located approximately 30 feet into the parking garage, allowing for automobile queuing. East or west bound traffic on Washington Boulevard will be able to turn onto Wesley Street at a new signalized intersection for vehicular access into the Project's second driveway off of Wesley Street. This driveway is 30 feet 6 inches wide, with a raised median. A sentry gate/ticket dispenser will be located beyond the public parking spaces providing access to the commercial parking and residential parking (see Page 15 of the Comprehensive Plan, Ground Level Parking Plan). Access to the residential parking will be provided through a sentry gate on the upper

level garage (P1 level) which will provide access to residential parking for tenants and their guests on the P1 and P2 levels.

Commercial deliveries will be provided via a truck loading dock along the south property line of the site. This dock has access from Wesley Street, allowing trucks access whether traveling east or west on Washington Boulevard. The dock is designed to allow for trucks with one full size trailer, as well as for smaller vans, panel trucks or other delivery vehicles. Drivers will have direct access to the retail on the ground level from the dock through appropriate corridors. Large commercial moving vans loading and unloading furniture and goods for residents as they move in or out will access the residential units through the truck dock. Residents who use small residential vans, pickup trucks and panel trucks for moving in or out will either use the truck dock or have access to the units from the secured residential parking areas on either the upper or lower levels. Because all residential move-in and out deliveries will be from either the truck dock or the secured residential parking areas, these vehicles will not block access to the commercial parking areas or access to any commercial or public parking spaces.

12. ***Traffic and Circulation:*** A traffic study prepared for the Project, dated July 10, 2010, and supplemented on June 19, 2012, by Hirsch Green Transportation Consulting, Inc. was reviewed and accepted by the City's Traffic Engineer. The traffic study indicated that with required mitigation measures there would be no adverse impact from the proposed Project.

    The traffic analysis evaluated thirty-four (34) intersections in the vicinity of the Site during both the AM and PM peak hours. Of the 34 intersections, 17 are located within the City of Culver City and 17 intersections within City of Los Angeles.

    In order to assess the potential impact of the Project on the local street system, and using the City's significance criteria, the traffic study compared the volume to capacity (V/C) ratio, which is a numerical measure of traffic congestion, at each study location to determine the incremental difference in V/C ratios caused by the Project. The "Critical Movement Analysis-Planning" method of intersection capacity analysis was used to determine the intersection V/C ratio and corresponding level of service (LOS), which is a letter-grade measure of traffic congestion, at each of the signalized intersections.

    Using the threshold criteria for determining significance of impacts of a Project at a specific location, the traffic analysis concluded five (5) out the

thirty four (34) analyzed intersection locations would be impacted by traffic generated by the Project unless mitigation is incorporated.

In order to address the Project's impact, the following traffic mitigations are required to improve and enhance the vehicular capacity at various intersections:

- *Venice Boulevard and Robertson Boulevard*: The westbound approach of Venice Boulevard at Robertson Boulevard, which is located within the City of Los Angeles, is required to be re-striped to provide an exclusive right-turn only lane, in addition to one left-turn lane and three through lanes.

- *Venice Boulevard and National Boulevard:* The southbound approach of National Boulevard at Venice Boulevard, which is within the City of Los Angeles, is required to be re-striped to install an exclusive right-turn only lane, in addition to one left-turn lane and two through lanes.

- *Washington Boulevard and National Boulevard:* The Project is required to construct a new 11-foot wide right-turn only lane for northbound National Boulevard. This improvement will require the project to dedicate and widen approximately 100 feet of its National Boulevard frontage by approximately nine feet to install the new right-turn lane.

- *Washington Boulevard and Wesley Street*: The Project will widen each side of Wesley Street by three feet within the existing right-of-way (resulting in sidewalk width on both sides to seven feet) to provide a total roadway width of 36 feet, and restripe the northbound approach to Washington Boulevard to provide an exclusive left-turn lane plus an exclusive right-turn only lane, plus one southbound lane. Further, the Project will install a new traffic signal at this location, to be interconnected and coordinated with the nearby signal at Washington Boulevard and National Boulevard and will be equipped with the City's current traffic signal coordination software in order to minimize traffic flow disruptions.

- *Washington Boulevard and Cattaraugus Avenue:* The Project is required to modify the existing raised median island on Washington Boulevard to provide a dedicated new eastbound left-turn lane at this location, in addition to one through lane and one shared through/right-turn lane. The Project will fund 100 percent of the cost of the design and installation of the proposed left-turn lane. Further, the project will

be responsible for 100% of the cost to design a new traffic signal at this location and shall contribute 25% of the cost of the installation of the signal.

- *Traffic Signal Cameras and Controllers:* In addition to the restriping mitigation improvements at Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard, City of Los Angeles Department of Transportation (LADOT), requires additional improvements at several intersections within the City of Los Angeles to augment the intersection restriping improvements. These traffic signal-related improvements will further reduce the potential impacts of the proposed Project and enhance general traffic flow operations within the study area. The requested additional improvements include: installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Fairfax Avenue and Venice Boulevard; and installation of traffic signal controller upgrades at eight additional intersections to be identified by LADOT.

There will also be various pedestrian and vehicular operational improvements at and near the adjacent signalized intersections of Washington Boulevard and Wesley Street and Washington Boulevard and National Boulevard (i.e., new crosswalks, larger curb radius, wider sidewalks).

- *Sidewalks and Crosswalks:* The Project is required to install a new 7' wide sidewalk along both sides of Wesley Street. The sidewalk along Washington Boulevard will be reconstructed to a 12 foot width. Also, at the new Washington/Wesley signalized intersection, a new crosswalk across Washington Boulevard at the east side of the intersection will be installed.

- *Curb Returns:* The curb return at the southeast corner of the intersection of Washington Boulevard and National Boulevard (along the project's frontage) is required to be improved to provide a minimum 35-foot radius. The curb at the southwest and southeast corner of Wesley Street and Washington Boulevard will be reconstructed to provide a larger radius and minimize the impact of the existing acute angle experienced by motorists eastbound on Washington Boulevard turning onto Wesley Street. The above changes will enhance ingress/egress for motorists on Wesley Street, particularly for larger trucks and emergency vehicle access.

13. ***Infrastructure and Community Facilities District*:** Based upon the proposed development described in the Comprehensive Plan, the Site will require sewer service improvements. It will not require major upgrades to water or gas infrastructure however, some utility relocation as well as various street and streetscape improvements will be required. The property owner/developer is responsible for all project related public improvements.

    The precise extent and costs for the infrastructure improvements will be determined prior to issuance of a building permit. These costs will generally be shared on a pro rata basis with other TOD developments, and may potentially be funded through formation of a community facilities district (CFD). CFD's provide one financial tool for commercial property owners within the TOD District to help fund public improvements through private property assessment and bond finance. Required off-site improvements which may be funded through a CFD include:

    - New Infrastructure
    - Utility Relocations
    - Streetscape Improvements
    - On-going maintenance

    Establishment of a CFD can ensure timely completion of all necessary pubic improvements. An infrastructure report has been prepared to identify the necessary improvements to support formation of the CFD consistent with Section 15.12.035 of the Culver City Municipal Code.

14. ***Community Meeting:*** Pursuant to the City's Community Outreach Guidelines, the applicant hosted community meetings on February 10, 2011 and October 23, 2012. In addition to the community meetings, Legado Companies presented their conceptual plans to various organizations such as the Culver City Chamber of Commerce and the Downtown Business Association. Further, upon the request of the East Culver City Neighborhood Alliance HOA, Legado presented their plans at their Homeowners Association meeting of March 8, 2012.

    Several questions were received during the neighborhood meetings regarding project impacts upon neighborhood traffic and parking, particularly the availability of street parking and truck operations on Wesley Street. The development addresses these issues with off-site improvements, traffic mitigations required in the Comprehensive Plan and the replacement of metered public parking on-site. Some attendees commented on the project's connection to the Expo LRT station, project size, massing and project schedule. In general the Project was well

received by the neighborhood and community groups that attended the meetings.

CONCLUSION:

Legado Crossing is one of several Transit Oriented Developments served by the Culver City Expo LRT station. Staff has worked closely with the applicant on the Legado Crossing Comprehensive Plan in order to ensure that is fitting for the area. Toward that end, the proposed PD zoning and Comprehensive plan will help advance the goals good planning for the site and achieve the City's goals for transit oriented development.

Based on the analysis contained herein staff believes the findings for a Comprehensive Plan and Zoning Code Map Amendment can be made as outlined in proposed Resolution No. 2012-P013 (Attachment No. 1) and recommends project approval.

ENVIRONMENTAL DETERMINATION:

The proposed Zoning Code Map Amendment is in compliance with CEQA as more fully detailed in the Project's environmental documentation, including, but not limited to, the Initial Study, Mitigated Negative Declaration and Project traffic study. Potential impacts to various environmental factors such as cultural resources, geology and soils, noise, traffic, and utilities, as reviewed in the Initial Study will be mitigated. Further mitigation of Project impacts will be achieved through various green building methods that include, where feasible, use of local manufactured products, high rated building insulation, and filtration of rain water from the roof into planters prior to discharging into the public storm drain system to reduce storm water run-off. Other sustainable development practices will include photovoltaic electricity generation, low flow fixtures and low consumption urinals, drought tolerant vegetation, dual low emissivity glazing, and façade shading elements to reduce solar heat gain. In accordance with CEQA, the Project's greenhouse gas emission impacts were reviewed and found to have a less than significant environmental impact on the surrounding area. Carbon emission reduction procedures have been incorporated into the Project, which include bicycle racks spread throughout the site and bicycle facilities including lockable areas, and preferred parking for low emission vehicles, and sourcing products from local manufacturers when possible.

Pursuant to the California Environmental Quality Act (CEQA) guidelines a Mitigated Negative Declaration (MND) has been prepared; the project has

been determined that with mitigation measures incorporated, it will have less than significant impacts on the community.

ALTERNATIVE OPTIONS:

The following alternative actions may be considered by the Planning Commission:

1. Approve the application with the recommended conditions of approval if the application is deemed to meet the required findings.

2. Approve the application with additional or different conditions of approval, if deemed necessary to meet the required findings and mitigate any new project impacts identified at the meeting.

3. Disapprove the application if it does not meet the required findings.

ATTACHMENTS:

1. Draft Resolution No. 2012-P013; Exhibit A, Zone Change Map and Exhibit B, Conditions of Approval.
2. Initial Study/Mitigated Negative Declaration dated October 24, 2012.
3. Community Benefit Incentive Program, Resolution No.2008-R015
4. Community Benefit for the Washington National Area, Resolution No.2008-R053.
5. Transit Oriented Development District Map
6. Traffic Analysis prepared by Hirsch/Green Transportation Consulting, Inc. dated July 10, 2010 and supplemented on June 19, 2012.
7. Comprehensive Plans dated December 12, 2012.

NOTES:

1. The Mixed Use Development Standards prescribes various mitigations to ensure compatibility between commercial and residential uses on site. Further compatibility will be achieved in the Project through the mixed use performance standards. These standards require walls, floors, and ceilings to be insulated to protect the project's residential users from potential noise impacts created by the ground floor commercial uses. The performance standards do not allow commercial uses to be operated in such a manner that they produce noise and vibrations that are detrimental to both the residential and commercial uses. Other aspects of the performance standards include security code access for elevators or separate commercial and residential elevators, cross ventilation and high quality HVAC systems for

residential units, illumination of parking areas, residential protection from commercial loading areas, and adequate sidewalk pedestrian lighting.

2. Mixed Use Community Benefit Requirements:

   (A) Density Allowances:
   35 units per acre base density, and up to 65 units per acre where the property is located within a Transit Oriented Development area.

   (B) Specific Benefits Required:
   - Streetscape improvements serving the immediate commercial area and a contribution toward related maintenance costs.
   - Pocket Parks and Public Open Space (Minimum 5,000 sq. ft.)
   - Metered Public parking serving the immediate commercial area (Minimum 10 spaces) and in excess of Code requirements.
   - Other benefits serving the neighborhood as determined by Council.

   (C) Calculating Community Benefit Contribution:

   The method for establishing the developer's contribution must be based on the proportionality of the benefit relative to the developer's profit. Unless there is proportionality, the system will be ineffective as there will be no reason to provide the benefit if the cost of providing it exceeds the revenue for the project.

   The community benefit contribution is the proportional share (50%) of the community benefit value. The community benefit is calculated as:

   Additional No. of DU's Allowed x Market Value Sales Price x .15 (Developer's Assumed Profit)
   = Total Benefit Value

   For example:
   If 10 additional new units could be developed and the market value was $700,000, the calculation would be $700,000 x 10 = $7,000,000 x .15
   = $1,050,000
   The contribution is ½ of the benefit value or $525,000.

   The community benefit contribution is met by providing it on-site. Alternately, when the project is located within a specified improvement area improvement with scheduled streetscape or utility improvements the contribution may be provided through an in-lieu payment in an amount equivalent to the required community benefit contribution.

3. The mixed use development standards require overall commercial floor area to be 10% of the projects total gross floor area or 30% of the project lot size, whichever is greater. The total gross residential and commercial floor area of the Project is 181,670 s.f. The project lot size is 77,537 s.f. 10% of the gross floor area = 18,167 s.f.; 30% of project lot size = 23,261 s.f. The project provides 31,240 s.f. of commercial floor area.

4. There are 20 legal parking spaces on both sides of Wesley Street. Based on staff's analysis, 15 out of the 20 parking spaces on both sides of Wesley Street will need to be removed by the new striping required by the project. Wesley Street will be 36 feet wide. Three 12-foot lanes are needed on Wesley Street approaching Washington Boulevard,

one in southbound and two out northbound. There will be a staging area on Wesley Street that is needed to allow a truck to back into the project site's loading dock. It would be striped in the middle of the street and leave enough roadway width for one 12-foot travel lane in each direction. The staging area would eliminate parking on the remaining portion of Wesley Street south of the project's driveway. Five metered street parking spaces will be retained. In order to replace the loss of street parking on Wesley Street, the project will provide 15 public (metered/pay station) parking spaces on the project's site. It is noted that the City has a program to install parking meters on all commercial streets in the City. Wesley Street is included in the program.

It is noted that there are five metered parking spaces and one unmetered parking space along Washington Boulevard between National Boulevard and Wesley Street. These six spaces would be eliminated as part of the City's approved Bicycle and Pedestrian Master Plan which shows bike lanes planned on Washington Boulevard along the project's frontage. The bike lanes will be installed as part of the Project's off-site improvement. Staff observations indicate these parking spaces are lightly utilized.

5. The Easement Agreement will set out the terms and conditions under which the developer will grant the easement for ingress and egress for public parking spaces which except for parking meter pay stations, must be maintained by the developer.

6. The City's parking meters currently operate from 8 a.m. to 6 p.m., Monday – Saturday. On January 23, 2012, Council approved extending the hours/days in the downtown area to 8am-11pm every day. However, they suspended this change on April 2, 2012, and it has not yet been reinstated. As with all public parking in Culver City, the maximum hours and the rate to be charged are set by City Council Resolution pursuant to Section 7.03.520 of the Culver City Municipal Code. There are several types of meters in use in the City; ten hour maximum meters for long term parking, and 30-minute meters, one hour meters and two hour meters for short term parking. Some meters are operated through a remote pay station. The current rate for meters is $1.50 per hour in the downtown area and $1.00 per hour in the rest of the City.

   The Project's ground level parking area will contain designated public parking (15 spaces) which will have ten hour maximum metered parking operated through a pay station. The spaces will be signed to indicate long-term use and enforcement provisions. The City will manage and retain parking meter revenue from the public parking spaces.

   In order to ensure enforcement of the meters and security in the parking garage the developer will be required to provide security in the parking garage as follows:
   - Legado security personnel for the garage parking to be available during business hours.
   - Legado security personnel required to help monitor the public parking in the garage and to contact PD (Business Line) during the day to identify violators until regular enforcement for the Washington National TOD district is established.

Culver CITY

(310) 253-5710
FAX (310) 253-5721

PLANNING DIVISION

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

PROPOSED MITIGATED NEGATIVE DECLARATION

Project Title and File No.: Legado Comprehensive Plan (CP- P2012116) and Zoning Code Map Amendment (ZCMA P-2012118)

Project Location: 8770 Washington Boulevard, Culver City, CA 90019.

Project Sponsor: Heather Lee, Legado Companies (Applicant/Owner)

Project Description: Proposed Comprehensive Plan and Zoning Code Map Amendment, amending the official Culver City Zoning Map, as referenced and established in Section 17.200.015, Title 17 (Zoning Code) of the Culver City Municipal Code by changing the zoning on the property located at the southeast corner of Washington Boulevard and National Boulevard from East Washington Overlay (EWO), Industrial General (IG) and Commercial General (CG) to Planned Development (PD). The Legado Comprehensive Plan and PD Zone allows for a mixed use development consisting of approximately 31,240 square feet of ground floor retail and restaurant uses and 115 residential units. There is surface parking as well as two levels of subterranean parking, located near the Culver City Exposition Light Rail Transit line and station.

Environmental Determination:

This is to advise that the City of Culver City, acting as the lead agency, has conducted an Initial Study to determine if the project may have a significant effect on the environment and is proposing this MITIGATED NEGATIVE DECLARATION based on the following finding:

☐ The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

☒ The Initial Study identified potentially significant effects, but:

1. Revisions in the project plans or proposals made by, or agreed to by the applicant before this proposed MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY was released for public review would avoid the effects or mitigate the effects or mitigate the effects to a point where clearly no significant effects would occur, and

2. There is no substantial evidence before the agency that the project as revised may have a significant effect on the environment.

A copy of the Initial Study, and any applicable mitigation measure, and any other material which constitute the record of proceedings upon which the City based its decision to adopt this MITIGATED NEGATIVE DECLARATION may be obtained at:

City of Culver City, Planning Division
9770 Culver Boulevard, Culver City, CA 90232

The public is invited to comment on the proposed MITIGATED NEGATIVE DECLARATION during the review period, which ends **December 3, 2012.**

Susan Yun, Senior Planner — October 24, 2012

ATTACHMENT 4

Culver CITY

(310) 253-5710
•
FAX (310) 253-5721

PLANNING DIVISION

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

INITIAL STUDY

ENVIRONMENTAL CHECKLIST FORM AND ENVIRONMENTAL DETERMINATION

Project Title/ Case Nos:	Legado Crossings Mixed Use TOD Comprehensive Plan (CP) - P2012116 Planned Development (PD) Zoning Code Amendment (ZCMA) - P2012118 Mitigated Negative Declaration (MND) – P2012117		
Lead Agency Name & Address:	City of Culver City, Planning Division 9770 Culver Blvd., Culver City, CA 90232		
Contact Person & Phone No.:	Susan Yun, Senior Planner (310) 253-5755		
Project Location/Address:	8770 Washington Boulevard		
Nearest Cross Street:	National Boulevard and Wesley Street	**APN:**	4312-028-020 4312-028-021 4312-028-022 4312-028-041
Project Sponsor's Name & Address:	Legado Companies 270 N. Cannon Dr., 2nd Floor Beverly Hills, CA 90210		
General Plan Designation:	General Corridor	**Zoning:**	Industrial General (IG) Commercial General (CG)
Overlay Zone/Special District:	East Washington Overlay and Transit Oriented Development Area		

Project Description and Requested Action: *(Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary)*

The project proposes a change of zoning from East Washington Overlay (EWO), Commercial General (CG), Industrial General (IG), to Planned Development (PD) and the adoption of Comprehensive Plan pursuant to Section 17.560 of the Culver City Municipal Code for a mixed-use development of one hundred fifteen (115) residential units and 31,240 square feet of commercial (retail and restaurant) uses on 1.78 acres. The project includes five stories above-grade for commercial and residential uses and two levels of below-grade parking. Commercial uses will be located on the ground level with residential uses on the second through fifth stories.

The mix of commercial spaces proposed by the applicant includes a 13,900 square foot retail space and an 11,800 square foot retail space; a 2,300 square foot restaurant space and 3,240 square foot restaurant space. The retail and restaurant components are designed for direct street and sidewalk access. Potential project tenants will be transit and neighborhood serving and may include a grocery store, pharmacy and restaurants.

The proposed 115 residential dwelling units conforms to the maximum applicable density of 65 dwelling units per acre allowed with a Community Benefit pursuant to density requirements of the Mixed Use Development Standards Zoning Code Section 17.400.065.E.3. An extensive public open space area, totaling a minimum of 5,000 square feet is provided as the project's Community Benefit contribution.

The residential component is proposed as apartments ranging in size and number of bedrooms. The Project includes (3) studio units and (56) one bedroom units ranging from 607 square feet to 762 square feet, (46) two bedroom units ranging from 1,104 square feet to 1,289 square feet and (10) three bedroom units ranging from 1,758 square feet to 1,844 square feet. Several two-story units are proposed with the two and three bedroom unit types. The project will provide a number of on-site amenities for residential tenants including a recreation room and fitness center, and a large interior central courtyard with a swimming pool, shade structures, BBQ area, and bench seating and tables. Private balconies are provided on some of the units. All of the residential units include a laundry area.

A total of 344 parking spaces will be provided for the project. 31 spaces will be provided at ground level, 136 spaces in the upper level garage, and 177 spaces in the lower level garage. 15 public parking spaces are provided as part of the overall parking provided on-site. Access will be provided for residential and commercial uses on Washington Boulevard and on Wesley Street. Truck access for onsite loading and unloading will utilize a separate service driveway on Wesley Street.

Metal canopy structures, sharp angled facades, and large windows were integrated into the Legado Crossing project to reflect a more contemporary style of architecture, and to complement the surrounding area. The building will be comprised primarily of stucco finishes in several different colors accented by standing seam metal siding and corrugated metal siding. Sustainable building design is integrated into the layout of building through the selection of materials, landscaping design, and project programming. These commitments will achieve a LEED Gold certification.

The project also includes offsite improvements including new curb, gutter, sidewalk, street furniture and street trees. It also includes new crosswalks on Washington Boulevard, National Boulevard and Wesley Street.

Existing Conditions of the Project Site:

The 1.78 acre site was previously occupied by a roofing supply company that contained warehousing and storage structures. The site was cleared in April 2012 and is currently vacant and secured with perimeter fencing. The immediate area is completely urbanized with the project site surrounded by light industrial and commercial land uses as well as the recently constructed Metro Exposition Light Rail Transit (Expo LRT) line and Culver City Expo LRT station. Minimal vegetation exists on the project site. The project site is relatively flat in topography, sloping slightly downward in a southerly direction.

Surrounding Land Uses and Setting: *(Briefly describe the project's surrounding)*
West: National Boulevard and a small City parkette, warehouse and commercial uses beyond
East: Wesley Street and commercial, creative office, auto repair, and vacant land uses beyond
North: Washington Boulevard and commercial retail, warehouse uses, Helms Bakery Complex, and Expo LRT station beyond
South: Creative office and warehouse uses and Expo LRT line beyond.

Other public agencies whose approval is required: *(e.g., permits, financing approval, or participation agreement)*
None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a 'Potentially Significant Impact' as indicated by the checklist on the following pages:

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☐ Cultural Resources
- ☐ Geology /Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology / Water Quality
- ☐ Land Use / Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population / Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation/Traffic
- ☐ Utilities / Service Systems
- ☐ Mandatory Findings of Significance

ENVIRONMENTAL DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the proposed project **MAY** have a 'potentially significant impact' or 'potentially significant unless mitigated' impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPO**RT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Susan Yun 10/24/12

Susan Yun, Senior Planner — Date

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Responses:

a) **No Impact.** The project is located in an urbanized area, with commercial and warehouse/industrial buildings in the immediate vicinity. The topography surrounding the site is relatively flat with no substantial ocean or mountain views that can be considered scenic that will be affected by the project. Although the building proposes five stories and the immediate surrounding area consists of primarily one story buildings, the proposed building would not block any scenic vista that isn't already obscured or blocked by other buildings and structures in the area. As such, the proposed project would result in no impact with respect to view of a scenic vista. No mitigation measures are necessary.

b). **Less Than Significant Impact.** There are no identified rock outcroppings or historic buildings within a state scenic highway on the site. The project site was previously developed with industrial commercial service type of use with a surface parking lot. Little to no vegetation exists on site since the demolition of the previously existing buildings. The proposed project will include enhanced landscaping onsite by providing significant planting of shade type trees in the public open space areas and various planters along the building's frontages. There are a few street trees that are randomly placed along the project's street frontage on Washington Boulevard and on Wesley Street. These trees are planned to be removed and replaced with columnar type shade trees. Streetscape or off-site enhancements include planting of new street trees with ground cover along with associated streetscape furniture such as new benches, new trash receptacles, and bike racks will provide visual uniformity and enhancements to the project's streetscape. The proposed landscaping both onsite and offsite will reduce any potential impact to a level that is less than significant. No mitigation measures are necessary.

c). **Less Than Significant Impact.** There is minimal visual character or quality of the project site as it is vacant and void of any trees or significant landscaping. A chain link security fence surrounds the perimeter of the project site that is currently vacant parcel with no structures or buildings.

The proposed project will improve the visual character and quality of the project site by constructing a new architecturally modern building making use of a variety of building materials including stucco, corrugated metal, standing seam metal, glass store fronts, metal and stucco railings. Upon project completion, the proposed building would consist of a five-story building with an open plaza for pedestrian access at the corner of Washington Boulevard and National Boulevard, vehicle and pedestrian access from a driveway on Washington Boulevard and a driveway on Wesley Street, and public sidewalk landscaping on all adjacent streets. The building height would vary due to variation in roof level; however, no part of the building, excluding roof mounted building equipment and screening, would exceed 56 feet in height. The project site is proposed to be located within the Planned Development Zone, which does have a height limit of 56 feet.

The proposed building's architecture steps back the wall placement on the second through fifth stories to accommodate balconies and roofs that visually makes the five-story building less pronounced from a pedestrian or

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

vehicle level. The architecture also breaks up the wall and roof lines of the buildings to create more visual interest compared with the standard continuous unbroken wall "box" type buildings that are typically found in the immediate area's commercial and industrial buildings. The building would have a contemporary design that would be compatible with the visual character and quality of this site and surroundings. Further, as mentioned in Section I.b. above, the project will result in enhanced and improved streetscape improvements with the addition of new street trees along the public right of way. Furthermore, the proposed project once implemented will act as a catalyst to help redevelop this section of Washington Boulevard by creating a pedestrian friendly project. Once constructed, the proposed project would represent a new urban feature within the urban corridor. Because the area currently has an urban character, the scale and modern architectural aesthetic experience associated with the proposed project would not conflict with the existing corridor character. With specified design features included, the project will have less than significant impacts on the visual character of the site and the surroundings. In conclusion, the project will not degrade the visual character of the site and will be a significant improvement for the immediate area. No mitigation measures are necessary.

d). **Less than Significant Impact.** Excessive or inappropriately directed lighting can adversely impact night-time views by reducing the ability to see the night sky and stars. Glare can be caused from unshielded or misdirected lighting sources. Reflective surfaces (i.e., polished metal) can also cause glare. Impacts associated with glare range from simple nuisance to potentially dangerous situations (i.e., if glare is directed into the eyes of motorists).

There are lighting sources adjacent to this site, including free-standing street lights, light fixtures on buildings, pole-mounted lights, traffic signals and vehicle headlights. The proposed project includes security lighting and building interior lighting. Light spillover and glare will be prevented by requiring lighting fixtures to be recessed and/or shielded and directed downward to prevent the light from shining directly onto surrounding property per the requirements of the Culver City Municipal Code. Compliance with the Municipal Code standards for lighting will ensure that lighting and glare impacts associated are less than significant.

Sources of daytime glare are typically concentrated in commercial areas containing large surface areas that may produce glare. Glare results from development and associated parking areas that contain reflective materials such as glass, highly polished surfaces, and expanses of pavement. The proposed building's exterior walls will primarily be surfaced with painted stucco, but does have corrugated galvanized steel and standing seam metal surfaces as well as windows. These metal surfaces and windows have the potential to produce glare. Substantial glare would only likely occur when the sun is low in the sky so as to reflect off of vertical surfaces onto other lower elevations. At other times, when the sun is higher in the sky, reflection would be directed immediately downwards. The windows and metal materials make up a similar percentage of the wall surface area as is typical for the area. The corrugated galvanized steel has a reflectivity rating of approximately only 30% and the curved undulating curved surface of it will prevent any substantial directed glare from occurring. In addition, the standing seam metal surfaces will be painted thus reducing the potential for glare. The materials are not placed in any manner that would create a collective glare on any other location. Given the low potential for glare from the materials in the design of the proposed building, reflective glare impacts would be less than significant.

Mitigation Measure(s): None required

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Responses:

a). **No Impact.** The proposed project will be located in a fully developed, commercial, urbanized area that does not contain agriculture or forest uses. The map of Important Farmland in California (2010) prepared by the Department of Conservation does not identify the project site as being Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. In addition, the Culver City General Plan does not identify any areas for agriculture use. Therefore, there will be no conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance to a non-agricultural use as a result of this project. No impact will occur.

b). **No Impact.** No Williamson Act contracts are active for the project site. In addition the project site is currently zoned East Washington Overlay, Commercial General and Industrial General, which do not permit agricultural uses. Therefore, there will be no conflict with existing zoning for agricultural use or a Williamson Act contract. No impact will occur.

c). **No Impact.** Public Resources Code Section 12220(g) identifies forest land as *land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.* The project site and surrounding properties are not currently being managed or used for forest land as identified in Public Resources Code Section 12220(g). The USDA Forest Service vegetation maps for the project site identify it as *urban* type, indicating that it is not capable of growing industrial wood tree species. The

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

project site has already been graded and developed with commercial uses, with no substantial vegetation onsite, with the exception of limited ornamental landscaping. Therefore, development of this project will have no impact to any timberland zoning.

d). **No Impact.** The project site is already graded land with existing development with limited ornamental landscaping; thus, there will be no loss of forest land or conversion of forest land to non-forest use as a result of this project. No impact will occur.

e). **No Impact.** The project site is a previously developed site within an urban environment. The project is surrounded by other commercial uses. None of the surrounding sites contain existing forest uses. Development of this project will not change the existing environment in a manner that will result in the conversion of forest land to a non-forest use. No impact will occur.

Mitigation Measure(s): None required

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Responses:

a). **Less Than Significant Impact.** The project site is within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Orange, Riverside, and San Bernardino counties. Air quality conditions in the Basin are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing an Air Quality Management Plan (AQMP) for the basin. The current AQMP was approved in 2007 and the Draft 2012 AQMP is expected to be adopted in at the end of 2012. Implementation of the AQMP is based on a series of control measures that vary by source type, such as stationary or mobile, as well as by the pollutant targeted. Since the AQMP (and the Draft 2012 AQMP) is based on growth projections reflected in local general plans, only new or amended general plans or projects that exceed the level of development contemplated in the general plan have the potential to conflict with the AQMP. The proposed project does not require an amendment to the General Plan land use designation of General Corridor and is consistent with expected commercial and residential development potential buildout within the Transit Oriented Development (TOD) corridor and is consistent with the Planned Development (PD) Zoning development standards. There is no conflict with the AQMP (or Draft 2012 AQMP) and no mitigation measures are necessary.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

b)-c). **Less Than Significant Impact.** Future new development in Culver City may contribute both at the project level and cumulatively to pollutant emissions over existing non-attainment conditions due to both construction and operation of individual projects. This mixed use project involves the development of one hundred fifteen (115) housing units and 31,240 square feet of neighborhood and general commercial uses on 1.78 acres. The project includes five stories above-grade for commercial and residential uses and two levels of below-grade parking. Construction of the project will take up to approximately one and a half years to complete and will require excavation for the below ground parking structure and will require approximately 64,650 cubic yards of soil export. The project also includes various offsite streetscape improvements and operational improvements to adjacent intersections of the project site.

During construction, air contaminant emissions would result from the use of construction equipment such as bulldozers, trucks, scrapers, loaders, graders, and backhoes, as well as construction workers that would be traveling to and from the project. Project related construction traffic would have a temporary effect on air quality in the vicinity of the project. Construction worker traffic and diesel powered equipment would emit nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons, and particulates. These emissions would increase local concentrations temporarily but would not be expected to increase the frequency of violations of air quality standards because the project would be subject to limits on the construction hours contained in the Municipal Code. The project will be subject to standard conditions that will reduce construction related pollutant emissions and dust emissions.

Operationally the project is also not expected to create significant air quality impacts. Based on the Traffic Study prepared for the site, the proposed project will not generate, after mitigation measure are incorporated, significant traffic impacts at any of the studied intersections and roadway segments. Thus, emissions resulting from the number of vehicles related to the proposed project in the AM and PM peak hours are not expected to be significant. Overall, construction emissions would be short-term and limited only to the time period when construction activity is taking place. Maximum daily emissions from the construction of the project could result in excessive emissions of volatile organic chemicals (identified as reactive organic gases) associated with interior and exterior coating activities. To avoid any potential for excessive VOC/ROG emission from coating activities, the project will utilize low-VOC coatings during construction activities to less than the threshold established by SCAQMD. Further, The requirement for use of low-VOC coatings is part of the City's Green Building Ordinance LEED Equivalency requirements. With use of low-VOC coatings criteria pollutants would not exceed the daily emissions thresholds established by SCAQMD. Construction impacts would be less than significant and construction emissions would not add to long-term air quality degradation. Further the proposed project will implement standard SCAGMD-approved construction procedures and will comply with applicable provisions of SCAGMD Rule 403.

d). **Less Than Significant Impact.** The proposed project will not generate toxic pollutant emissions because the proposed project is characterized as typical residential and commercial uses that do not produce such emissions. The proposed project, therefore, would have a less than significant impact on sensitive receptors relating to toxic pollutant emissions.

A carbon monoxide (CO) hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. CO hotspots have the potential to violate State and Federal CO standards at intersections, even if the broader Basin is in attainment for Federal and State levels. In general, SCAQMD and the California Department of Transportation *Project-Level Carbon Monoxide Protocol* (CO Protocol) recommend analysis of CO hotspots when a project increases traffic volumes at an intersection by more than two percent that is operating at LOS E or F. Utilizing a screening threshold of 31,600 vehicles per hour and per the project's traffic study, the project passes the screening protocol and the project would thus not result in a CO hotspot that exceeds state or federal standards. Impacts to sensitive receptors due to localized carbon monoxide emissions will be less than significant.

e). **Less Than Significant Impact.** According to the CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed project is sited within an existing primarily commercial area with some light industrial land uses, but does not include any such uses or other uses that utilize any substantial odor causing chemicals or processes. The proposed mixed-use project includes residential

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

uses that may be considered as a sensitive receptor. However, since there are no existing odor generating uses in the immediate area, the proposed residential land use would not be subject to any substantial odors. The proposed commercial or residential aspects of the development, in turn, do not produce odors that would affect a substantial number of people considering that the development will not result in the manufacturing of any products. Therefore, the proposed project would not contribute to or subject a substantial number of people to objectionable odors.

Mitigation Measure(s): None required

IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Responses:

a) **No Impact.** The project site was recently developed with industrial commercial service type of use with a surface parking lot. Little to no vegetation exists on site since the demolition of the previously existing buildings. The project site is not identified as critical habitat for Threatened and Endangered Species. Considering the highly developed nature of the project site surrounding areas, the probability of existence of designated species under the federal Endangered Species Act or California Special Concern Species is low. The proposed project would, therefore, not have a substantial adverse effect on any species identified as a candidate, sensitive, or special-status species in local or regional plans or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS). Considering the lack of habitat on the property, no impacts to wildlife species of

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

concern will occur.

b). **No Impact.** The project site is located on developed land. The site has been graded, previously developed, and has little to no vegetation. There is no riparian habitat onsite. As such, no impact to riparian habitat or other sensitive natural habitat would occur.

c). **No Impact.** According to the federal National Wetlands Inventory, the project site does not contain any wetlands and the proposed project would not disturb any offsite wetlands. There is no vegetation or on-site water features indicative of potential wetlands. No impact will occur.

d). **No Impact.** The project site was recently developed with industrial commercial service type of use and is surrounded on the north, east, south, and west by development, preventing the use of the project site and surrounding area as a wildlife corridor. Little to no vegetation exists on site since the demolition of the previously existing buildings. There are no substantial vegetated areas or waterbodies located on-site or nearby. The project site does not provide for the movement of any native resident or migratory fish or wildlife. No impact will occur.

e). **Less Than Significant.** The property to be developed itself does not contain any trees that would be removed. However, there a few street trees that are randomly placed along the project's street frontage along Washington Boulevard and Wesley Street that will be replaced. As part of the routine maintenance of the public right of way, commercial parkways and street trees are re-planted. These trees are planned to be removed and replaced with columnar type shade trees consistent with the City's TOD streetscape plan. Thus less than significant impacts are anticipated to occur.

f). **No Impact.** The proposed project site is not within the planning area of any Habitat Conservation Plan or a Natural Community Conservation Plan area, or other approved local, regional or state habitat conservation plan. No impact will occur.

Mitigation Measure(s): None required

V. CULTURAL RESOURCES – Would the project				
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Responses:

a). **No Impact.** The previously existing industrial and commercial buildings have recently been demolished. The cultural resources assessment prepared for the project determined that no historic resources exist on the site. This property does not satisfy any of the criteria for a historic resource defined in Section 15064.5 of the State CEQA Guidelines. As such, the proposed project would not cause an adverse change in the significance of a historical resource, and impacts to historic resources are not anticipated. No impact will occur.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

b)-c). **Less than Significant Impact with Mitigation Incorporated.** The project site is located in an urbanized area that has been previously disturbed and heavily affected by past activities, specifically construction of previously existing on-site structures. Given that the project site has been substantially disturbed by previous construction, any cultural resources that may have existed at one time likely have been previously unearthed or disturbed.

However, the project does propose substantial excavation of the site that could potential unearth currently unknown resources. The cultural resources assessment determined that the project site is located within an area with medium sensitivity for archaeological resources. The potential exists for resources related to Native American habitation of the area to be uncovered during excavation of the site. Further, the project site is located within an area that at relatively shallow depths there is great potential for substantial fossils to exist. Due to the excavation proposed by the project, it is possible that such paleontological resources could be discovered. No known human burials have been identified on the project site or its vicinity. However, it is possible that unknown human remains could be located on the project site, and if proper care is not taken during proposed project construction, particularly during excavation activities, damage to or destruction of these unknown remains could occur.

As such, the cultural resource assessment recommends that archaeological and paleontological monitoring occur during excavation/grading activities as well as monitoring of human remains during ground disturbing activities. This is included as Mitigation Measure C-1. Impacts to buried cultural resources, paleontological resources and human remains will be less than significant with mitigation incorporated.

Mitigation Measure(s):

C-1: An Archaeologist and Paleontologist professional approved by the City shall monitor all phases of excavation for the project site in order to identify and recover where feasible, the presence of archaeological and/or paleontological resources. Should such resources be identified established Federal and State rules and guidelines for the cataloging and final disposition of such resources shall be applied and followed. This shall include but not be limited to halting of construction activities in the work area where the resources are identified, notifying the Los Angeles County Coroner and the appropriate Native American organization of such resources, and notifying the Los Angeles County Natural History and Page museums. Final disposition of Native American remains shall follow Federal and State rules and guidelines for such remains. Identified paleontological resources shall be donated to the Los Angeles County Natural History/Page museums or some other museum as deemed appropriate by the Paleontologist. A final report or reports cataloging all findings shall be submitted to the City by the Archaeologist and/or Paleontologist professional within one year of issuance of the Certificate of Occupancy.

VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Responses:

a.i). **No Impact.** The project site is located in seismically active Southern California and the project is located approximately 1,300 feet west of a mapped surface trace of the Newport-Inglewood fault. However, the site is not located within an Alquist-Priolo Earthquake Fault Zone. No impact will occur from ground rupture due to the distance from the fault.

a.ii) **Less Than Significant Impact.** The proposed project will be subject to ground shaking impacts should a major earthquake occur in the future. Potential impacts include injury or loss of life and property damage.

The project site is subject to strong seismic ground shaking, as are virtually all properties in Southern California. The proposed building is subject to the seismic design criteria of the California Building Code (CBC) and the project-specific design requirements of the project geotechnical report based on the site seismic coefficients. The 2010 California Building Code (CBC; Title 14, California Code of Regulations, Part 2) contains seismic safety provisions with the aim of preventing building collapse during a design earthquake, so that occupants would be able to evacuate after the earthquake. A design earthquake is one with a two percent chance of exceedance in 50 years, or an average return period of 2,475 years. Adherence to these requirements and consideration of the site's seismic coefficients will reduce the potential of the building from collapsing during an earthquake, thereby minimizing injury and loss of life. Although structures may be damaged during earthquakes, adherence to seismic design requirements will minimize damage to property within the structure because the structure is designed not to collapse. The CBC is intended to provide minimum requirements to prevent major structural failure and loss of life. The recommendations of the geotechnical report will be implemented during preparation of construction drawings for review and approval by the City. Adherence to existing regulations will reduce the risk of loss, injury, and death; impacts due to strong ground shaking will be less than significant.

a.iii) **Less Than Significant Impact with Mitigation Incorporated.** Liquefaction is a phenomenon that occurs when soil undergoes transformation from a solid state to a liquefied condition due to the effects of increased pore-water pressure. This typically occurs where susceptible soils (particularly the medium sand to silt range) are located over a high groundwater table. Affected soils lose all strength during liquefaction and foundation failure can occur.

According to the project geotechnical report, based on soil borings performed on the site, soils with the potential for liquefaction do exist on the site just beneath the proposed finished floor of the subterranean parking garage. A maximum total settlement of 1.538 inches was determined based on the soil analyzed from the borings, maximum high groundwater level of 20 feet below the surface, and a magnitude 6.9 earthquake. The report recommended that penetration by the foundation system and compaction of the exposed excavation bottom would improve the three feet directly below the finished floor to reduce liquefaction and settlement to acceptable levels. These measures have been included as Mitigation Measure G-1. With the inclusion of this mitigation measure, impacts from liquefaction would be less than significant.

a.iv) **Less than Significant Impact.** Structures built below or on slopes subject to failure or landslides may expose people and structures to harm. The project site slopes gently downward in a southerly direction. The project site and surrounding area are generally flat with the closest notable area of slope approximately a half-mile to the

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

south beyond Jefferson Boulevard. Due to these existing conditions, impacts from landslide will be less than significant.

b). **Less Than Significant Impact.** Topsoil is used to cover surface areas for the establishment and maintenance of vegetation due to its high concentrations of organic matter and microorganisms. Little, if any, native topsoil is likely to occur on site since the site is covered with paving and structures. The underlying soils consist of approximately two feet of fill and/or disturbed alluvium across some of the top layers of soil on the site that is slightly moist and dense silty sand. Beneath this alluvium is found up to 25 to 32 feet beneath the surface with older alluvium further below. The alluvium and older alluvium is generally composed of slightly moist to saturated and medium dense to very dense sand, silty sand, clayey sand, and gravelly sand. The site will be over excavated to accommodate the underground parking structure. The project has the potential to expose surficial soils to wind and water erosion during construction activities. Wind erosion will be minimized through soil stabilization measures required by South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust), such as daily watering. Water erosion will be prevented through the City's standard erosion control practices required pursuant to the California Building Code and the National Pollution Discharge Elimination System (NPDES), such as silt fencing or sandbags. Following project construction, the site would be covered completely by paving, structures, and landscaping. Impacts due to erosion of topsoil will be less than significant with implementation of existing regulations.

c). **Less Than Significant Impact.** Impacts related to liquefaction and landslides are discussed above in Section VI.a. Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The downslope movement is due to the combination of gravity and earthquake shaking. Such movement can occur on slope gradients of as little as one degree. Lateral spreading typically damages pipelines, utilities, bridges, and structures.

Lateral spreading of the ground surface during a seismic activity usually occurs along the weak shear zones within a liquefiable soil layer and has been observed to generally take place toward a free face (i.e. retaining wall, slope, or channel) and to lesser extent on ground surfaces with a very gentle slope. Despite the potential for liquefaction on the site, due to the absence of any channel, slope, or river within or near the subject site, the potential for lateral spread occurring on or off the site is considered to be negligible. The project-specific geotechnical report concludes that site soils would be capable of supporting proposed structures with the recommended foundation design measures. The project is required to be constructed in accordance with the CBC and the requirements of the project geotechnical report. The CBC includes a requirement that any City-approved recommendations contained in the soil report be made conditions of the building permit. Compliance with existing CBC regulations would limit hazard impacts arising from unstable soils to less than significant.

d). **No Impact.** Expansive soils shrink and swell in response to moisture due to high percentages of clay. The project soils report indicates that underlying soils consist of alluvium, with approximately three percent clay. These soils are not expansive; no impact could occur.

e). **No Impact.** The project site is served by a fully functional municipal sewer system. The project will connect to this system and will not require use of septic tanks. No impact will occur.

Mitigation Measure(s):

G-1: Foundation design shall follow the recommendations of the project's geotechnical report, which include, but are not limited to a mat foundation design, continuous and/or pad footings, and a reinforced foundation. Final foundation design and inspection shall be determined and approved by the structural and geotechnical engineer.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS –Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Responses:

a). **Less Than Significant Impact.** Climate change is the distinct change in measures of climate for a long period of time. Climate change is the result of numerous, cumulative sources of greenhouse gas emissions all over the world. Natural changes in climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of greenhouse gases (GHG) and changes to the planet's surface. Human activities that produce GHGs are the burning of fossil fuels (coal, oil and natural gas for heating and electricity, gasoline and diesel for transportation); methane from landfill wastes and raising livestock, deforestation activities; and some agricultural practices.

Greenhouse gases differ from other emissions in that they contribute to the "greenhouse effect." The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it warms the planet by approximately 60° Fahrenheit. Emissions from human activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature. Greenhouse gases occur naturally and from human activities. Greenhouse gases produced by human activities include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydro fluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). Since 1750, it is estimated that the concentrations of carbon dioxide, methane, and nitrous oxide in the atmosphere have increased over 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity. Emissions of greenhouse gases affect the atmosphere directly by changing its chemical composition while changes to the land surface indirectly affect the atmosphere by changing the way the Earth absorbs gases from the atmosphere.

A GHG Study was conducted for the project and GHG emissions for the project were quantified utilizing the California Emissions Estimator Model (CalEEMod) version 2011.1.1 to determine if the project could have a cumulatively considerable impact related to greenhouse gas emissions. The emissions inventory accounts for GHG emissions from construction activities and operational activities.

Operation emissions associated with the proposed project would include GHG emissions from mobile sources (transportation), energy, water use and treatment, waste disposal, and area sources. GHG emissions from electricity use are indirect GHG emissions from the energy (purchased energy) that is produced offsite. Area sources are owned or controlled by the project (e.g., natural gas combustion, boilers, and furnaces) and produced onsite. Construction activities are short term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. Because of this difference, SCAQMD recommends amortizing construction emissions over a 30-year operational lifetime. This normalizes construction emissions so that they can be grouped with operational emissions in order to generate a precise project-based GHG inventory.

The GHG Study determined that the project's long-term greenhouse gas emissions would be 3,046.64 MTCO2E per year. The emissions data is presented as metric tons of carbon dioxide equivalent (MTCO2E) meaning that all

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

emissions have been weighted based on their Global Warming Potential (GWP) (a metric ton is equal to 1.102 US short tons). Mobile sources are based on annual vehicle miles traveled (VMT) based on daily trip generation identified in the project traffic study. Natural gas usage, electricity usage, water/wastewater demand, and solid waste disposal are based on default demand figures utilized in CalEEMod. The project proposes approximately thirty new hardwood type trees to be planted that will collect, or sequester, carbon as they grow. The credit for sequestration of carbon from these trees is 24.22 MTCO2E/Yr and the total generation of MTCO2E/Yr is reduced to 3,022.42 MTCO2E/Yr.

The project site recently was developed with light industrial uses that were demolished as a result of the proposed project. Greenhouse gas emissions from the previous on-site development as summarized in the GHG Study is 845.06 MTCO2E/Yr. Previous on-site development includes a conservative assumption that buildings were used for general industrial purposes that have a relatively low traffic generation rate. The net increase in greenhouse gas emissions that the proposed project would generate after considering previous on-site is 2177.36 MTCO2E/Yr which is a net reduction in emissions. The overall inventory that takes into account the amortized construction and long-term operational emissions is 2,202.38 MTCO2E/Yr.

A numerical threshold for determining the significance of greenhouse gas emissions in the South Coast Air Basin (Basin) has not officially been adopted by the SCAQMD. As an interim threshold based on guidance provided in the CAPCOA CEQA and Climate Change white paper, a non-zero threshold based on Approach 2 of the handbook will be used. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this method is 3,000 MTCO2E/Yr for mixed-use projects. This threshold is based on the review of 711 CEQA projects. Greenhouse gas emissions associated with the proposed project would not exceed the 3,000 MTCO2E/Yr threshold; therefore, impacts will be less than significant.

b). **No Impact.** Although the City does not currently have a Climate Action Plan, the City does have standard code required conditions of approval to help reduce greenhouse gas emissions and the project will be subject to the City's Mandatory Green Building Program and Solar Photovoltaic requirement. The project will also meet the design standards of the U.S. Green Building Council (USGBC)'s and equivalent Leadership in Energy Environmental Design (LEED).

Mitigation Measure(s): None required

VIII. HAZARDS AND HAZARDOUS MATERIALS –Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Responses:

a). **Less Than Significant Impact.** The proposed project could result in a significant hazard to the public if the project includes the routine transport, use, or disposal of hazardous materials or places housing near a facility which routinely transports, uses, or disposes of hazardous materials. According the EPA, the proposed project is located within approximately a quarter mile of one facility that have reported air pollutant releases, four facilities that have reported toxic releases, and twenty-nine facilities that have reported hazardous waste activities. No facilities that utilize radioactive materials or discharge to surface water bodies are located within approximately one-quarter mile of the project site.

Hazardous facilities are subject to applicable federal and state emissions thresholds for reporting and mitigation when necessary. Handling and transporting of materials by these facilities is also subject to pertinent regulations to minimize the potential for accidental releases and to specify a response procedure if an accident occurs. With these facilities following existing regulations for reporting, emitting, and handling of hazardous materials, impacts to the future residents and visitors to the project would be less than significant.

During construction, there would be a minor level of transport, use, and disposal of hazardous materials and wastes that are typical of construction projects. This would include fuels and lubricants for construction machinery, coating materials, etc. Routine construction control measures and best management practices for hazardous materials storage, application, waste disposal, accident prevention and clean-up, etc. would be sufficient to reduce potential impacts to a less than significant level.

The proposed commercial and residential project will not engage in the routine transport, use, or disposal of hazardous materials or wastes. Widely used hazardous materials common at any retail commercial or residential land use include paints and other solvents, cleaners, automobile fluids, and pesticides. The remnants of these and other products are disposed of as household hazardous waste (HHW) that includes used motor oil, dead batteries, electronic wastes, and other wastes that are prohibited or discouraged from being disposed of at local landfills. Use of common household hazardous materials and their disposal does not present a substantial health risk to the community. Impacts associated with the routine transport, use of hazardous materials or wastes will be less than significant.

b). **Less Than Significant Impact.** Construction of the proposed project will require the use and transport of hazardous materials such as asphalt, paints, and other solvents. Construction activities could also produce hazardous wastes associated with the use of such products. Construction of the proposed project requires ordinary construction activities and will not require a substantial or uncommon amount of hazardous materials to complete. All hazardous materials are required to be utilized and transported in accordance with their labeling pursuant to federal and state law. Routine construction practices include good housekeeping measures to

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

prevent/contain/clean-up spills and contamination from fuels, solvents, concrete wastes and other waste materials.

A Phase I Environmental Site Assessment (ESA) was conducted to determine if environmental health hazards exist on the project site. The Phase I ESA also determined that due to the age of the building, pre-demolition surveys for asbestos containing building materials (ACBMs) and lead based paints (LBP) be performed to determine potential exposure during demolition and proper handling and disposal procedures in accordance with federal and state guidelines. These buildings have subsequently been demolished with these measures implemented. The Phase I ESA determined based on historical and current records and site investigation that no other hazards exist on or near the project site that could impact the proposed project. Potential impacts due to risk of upset will be less than significant.

c). **Less than Significant Impact.** There are two schools located within a quarter mile of the project site; Turning Point School is located approximately 0.07 miles from the project site to the southeast and Park Century School is located approximately 0.12 miles from the project site to the southwest. Operation of the proposed project—a mixed use retail/residential development—would not generate substantial hazardous emissions, and storage, handling, production or disposal of acutely hazardous materials is not required or proposed for any aspect of this project. Existing regulations address potential off-site construction-related hazards associated with demolition of the previously existing onsite structures having already occurred. Impact would be less than significant with implementation of existing regulations.

d). **No Impact.** The proposed project is not located on a site listed on the State *Cortese List*, a compilation of various sites throughout the state that have been compromised due to soil or groundwater contamination from past uses. Based upon review of the *Cortese List*, the project site is not:

- listed as a hazardous waste and substance site by the Department of Toxic Substances Control (DTSC),
- listed as a leaking underground storage tank (LUST) site by the State Water Resources Control Board (SWRCB),
- listed as a hazardous solid waste disposal site by the SWRCB,
- currently subject to a Cease and Desist Order (CDO) or a Cleanup and Abatement Order (CAO) as issued by the SWRCB, or
- developed with a hazardous waste facility subject to corrective action by the DTSC.

e-f). **No Impact.** There are no public airports or private airstrips within two miles of the project site. The nearest airports are Santa Monica Municipal Airport located approximately three miles to the west, and Los Angeles International Airport located approximately five miles to the west. No impact will occur.

g). **Less Than Significant Impact.** The proposed project will increase the population in the area because of the 115 proposed residential units. In addition, the commercial component of the project will increase traffic on the surrounding roadways. The addition of the vehicles from this project on alternate roadways and on the evacuation routes will not present a significant impact to the evacuation plans for the City of Culver City.
The project site's access is located on Washington Boulevard and Wesley Street, which connects to Washington Boulevard and subsequently to National Boulevard. Washington Boulevard and National Boulevard are both major arterials that may function as evacuation routes. Also the project does not propose to close off streets or create physical obstructions that impede an emergency evacuation of the City. The current street system and infrastructure surrounding the project site is of adequate width to service an emergency evacuation incident. As is further discussed in the Transportation and Traffic section, the project will not create, interrupt, or otherwise reduce the ability of these streets to convey traffic. Therefore, the project will have a less than significant impact on emergency response and evacuation plans.

h). **No Impact.** The project site is not located within a fire hazard zone, as identified on the latest Fire Hazard Severity Zone (FHSZ) maps prepared by the California Department of Forestry and Fire Protection (CALFIRE). There are no wildland conditions in the urbanized area that the project site is located. No impact would occur.

Mitigation Measure(s): None

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Responses:

a). **Less Than Significant Impact.** Violations of water quality standards or waste discharge requirements, or degradation of water quality can result in potentially significant impacts to water quality and result in environmental damage or sickness in people. The project would result in a significant impact to water quality if water quality standards, waste discharge requirements, or degradation of water quality occurred.

Point-source pollutants can be traced to their original source. Point-source pollutants are discharged directly from pipes or spills. Raw sewage draining from a pipe directly into a stream is an example of a point-source water pollutant. The project consists of a development of 115 dwelling units and 31,240 square feet of retail/commercial uses and does not propose any uses that would generate point source pollutants. Therefore, water quality impacts due to point sources would be less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

Non-point-source pollutants (NPS) cannot be traced to a specific original source. NPS pollution is caused by rainfall or snowmelt moving over and through surface areas. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even underground sources of drinking water. These pollutants include:

- Excess fertilizers, herbicides and insecticides from agricultural lands and residential areas
- Oil, grease, and toxic chemicals from urban runoff and energy production
- Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks
- Salt from irrigation practices and acid drainage from abandoned mines
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems
- Atmospheric deposition and hydro modification

Impacts associated with water pollution include ecological disruption and injury or death to flora and fauna, increased need and cost for water purification, sickness or injury to people, and degradation or elimination of water bodies as recreational opportunities. Accidents, poor site management or negligence by property owners and tenants can result in accumulation of pollutant substances on parking lots, loading and storage areas, or result in contaminated discharges directly into the storm drain system.

Under Los Angeles County's MS4 National Pollutant Discharge Elimination System (NPDES) permit, the City is required to ensure the applicant implements all pertinent regulations of the program to control pollution discharges from new development. Compliance with the NPDES permit will be reviewed by appropriate Public Works staff during the plan check phase of the project. These regulations reduce NPS pollutant loading through the implementation of Best Management Practices (BMPs) and other control measures that minimize or eliminate pollutants from urban runoff, thereby protecting downstream water resources. BMPs implemented to address commercial pollutant sources generally involve maintenance of storm drain facilities, parking lots, vegetated areas, and dissemination of educational materials. Violations of water quality standards due to urban runoff can be prevented through the continued implementation of existing regional water quality regulations. The proposed project would not interfere with the implementation of NPDES water quality regulations and standards.

The proposed project would disturb approximately 1.78 acres of land and therefore will be subject to National Pollutant Discharge Elimination System (NPDES) permit requirements during construction activities in addition to standard NPDES operational requirements. The proposed project will require submittal to the local reviewing agency, the Los Angeles County Flood Control, a Storm Water Pollution Prevention Plan (SWPPP) that will include BMPs protects water quality during construction activities. Additionally, the City will require BMPs as listed in the California Stormwater Quality Association's California Storm Water Best Management Practice Handbooks. Specifically, the project includes landscaped infiltration areas to filter pollutants prior to discharge into 6-inch drain inlets and ultimately the City's storm drain system. Operational BMPs are identified in the project Standard Urban Stormwater Mitigation Plan (SUSMP). Impacts related to violation of water quality standards will be less than significant with implementation of existing regulations.

b). **No Impact.** The proposed building footprint area and paved parking areas would not appreciably increase impervious surface coverage on the site, thereby reducing the total amount of infiltration on site, as the proposed impervious area is relatively equivalent to existing conditions. Since this site is currently developed and is not managed for groundwater supplies, this change in infiltration would not have a significant effect on groundwater supplies or recharge. No impact will occur.

c). **No Impact.** Potentially significant impacts to the existing drainage pattern of the site or area could occur if development of the project results in substantial on- or off-site erosion or siltation. As was previously detailed in Section IX, the project site was recently developed and the proposed project will result similar amounts of impervious surfaces as currently exist. Therefore the proposed project is anticipated to generate similar levels of runoff as currently are generated by the developed site. The existing and proposed site conditions are fully developed and no exposed soils will be present to provide for any erosion potential. No impact will occur.

d-e). **Less Than Significant Impact.** No streams traverse the project site; thus, the project will not result in the alteration of any stream course. During construction, the project applicant will be required to develop and implement

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

a SWPPP; this will prevent polluted runoff from leaving the construction site.

With regard to project operation, on-site drainage will continue to function through sheet flow driveways and inlets, discharging onto the surrounding streets or directly into the existing storm drain facilities. Construction of the proposed project will not appreciably increase the net area of impermeable surfaces on the site because the site is currently covered by paving; therefore, substantially increased discharges to the City's existing storm drain system will not occur and will not impact local storm drain capacity. The project is not an industrial use and therefore will not result in substantial pollutant loading such that treatment control BMPs would be required to protect downstream water quality. Impacts will be less than significant.

f). **No Impact.** The project does not propose any uses that will have the potential to otherwise degrade water quality beyond those issues discussed in Section IX herein.

g). **No Impact.** The project does propose a portion of the development as housing units. However, the proposed project is not located within a designated 100-year flood hazard area, therefore no impact will occur.

h). **No Impact.** The proposed project is not located within a 100-year floodplain, as mapped by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. The project site is identified as Zone X, defined by FEMA as areas outside the 0.2 percent annual chance floodplain. Therefore, no rising of a flood plain will occur.

i). **Less than Significant Impact.** A large portion of Culver City, including the project site, are located within the potential inundation area of the Hollywood Reservoir and Franklin Canyon Reservoir, both of which are located over five miles from the project site. Los Angeles County's General Plan indicates that the project site is within the potential inundation area for the Franklin Canyon Reservoir dam and Hollywood Reservoir/Mulholland Dam. The project site is located approximately 6 miles away from both dams with a variety of development, hills, and terrain that would slow and limit any impacts of dam failures on the site and surrounding area. In addition, the National Dam Safety Act of 2006 authorized a program to reduce the risks to life and property from dam failure by establishing a safety and maintenance program. The program requires regular inspection of dams to reduce the risks associated with dam failures. Based on the distance of the project site from the dam and the continued maintenance of these dams, impacts due to dam inundation will be less than significant.

j). **Less than Significant Impact.** The project site is not located near any lakes or other bodies of water that would be subject to potential seiche. According to the *Tsunami* Map prepared by the Tsunami Research Center at the University of Southern California, no portion of the city is within a tsunami inundation area. The County of Los Angeles' emergency response plans as administered by the County of Los Angeles Office of Emergency Management along with mutual aid from local jurisdictions would implement their evacuation plans should such tsunamis threaten the area. Due to the distance from the ocean as well as existing emergency response plans, impacts from tsunami would be less than significant.

Mitigation Measure(s): None required

X. LAND USE AND PLANNING - Would the project				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

Responses:

a). **No Impact.** The proposed project is surrounded by light industrial and commercial uses. The proposed mixed use commercial/residential project is consistent and compatible with the surrounding land uses and will not divide an established community. The project does not propose construction of any roadway, flood control channel, or other structure that would physically divide any portion of the community. Therefore, no impact will occur.

b). **Less than Significant Impact.** The proposed project includes a change of zoning from East Washington Overlay (EWO), Commercial General (CG) and Industrial General (IG) to Planned Development (PD) and the adoption of a Comprehensive Plan pursuant to Section 17.560 of the Culver City Municipal Code. The General Plan Land Use Element designates the property as General Corridor which is a commercial designation which allows mixed use developments. After entitlement approvals, the project will be allowed to be developed as a mixed-use development with ground floor retail, restaurant, and residential units on the upper levels. These uses are more consistent with the site's general plan designation than with the current industrial zoning. The general plan guides the zoning and this project will facilitate greater compliance with the site's General Plan commercial designation that encourages retail, restaurant, and residential in such areas. The application does not include any variance or request to amend the General Plan designation.

Due to its close proximity to the Exposition Light Rail Transit line and station, the project is a critical component to the successful formation of the City's Transit Oriented Development (TOD) area which comprises several properties near and adjacent to the Expo Light Rail Transit line and station. This site along with two other key sites within the TOD area (the Platform commercial project and the Washington National TOD mixed use/hotel/open space project) will offer residential, food, retail, and public open space opportunities that will be accessed through multi-modal methods. Bike lanes, enhanced sidewalks, existing public transportation, a potential shuttle connecting the TOD area with Downtown Culver City, the Helms retail area, and the Hayden office/light industrial area will enhance the interconnectivity of the project site and further the City's goal of balanced growth and the objective of mutually compatible land use development.

Offsite improvements including bike lanes, new curb, gutter, sidewalk, street furniture and street trees, and new crosswalks on Washington Boulevard as well as National Boulevard and Wesley Street, will further a key objective of the City's Bicycle and Pedestrian Master Plan that calls for making streets more amenable and inviting to pedestrians and bicyclists.

The proposed zone change would not conflict with land use plans or programs adopted for the purpose of avoiding or mitigating an environmental impact. The proposed mixed-use project is also subject to General Plan EIR mitigation measures designed to avoid cumulative and site specific environmental impacts throughout the City, as well as other applicable regulations required to mitigate or avoid environmental impacts. Therefore, there will be no conflict between the proposed project and plans, policies, or regulations designed to avoid or mitigate environmental impacts; a less than significant impact will occur.

Additionally this project will further the goals of the City's 2010 Housing Element that includes Objective 2. Housing Supply. Policy 2.D. that calls for the City to allow mixed use residential developments in areas that allow mixed use per the Zoning Code. This Housing Element policy partially addresses the City's Regional Housing Needs Assessment (RHNA) number of planning for the potential construction of 504 housing units between 2008 and 2014. The 115 market rate units will fulfill a portion of the 211 market rate units that are a subset of the 504 housing unit RHNA number (the balance of the 504 units are affordable).

c). **No Impact**. The proposed project site and surrounding areas are not part of any habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. As such, no impact will occur.

Mitigation Measure(s): None required

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Responses:

a-b). **No Impact.** The project site and its surrounding area are currently developed with residential and commercial urban uses. Current site conditions indicate that there are no mineral resources on or within the project site and no locally important mineral resource recovery areas located in the project area. Therefore, project implementation would not result in impacts associated with the loss or availability of a known mineral resource that would be of value to the region and the residents of the state. No mitigation measures are necessary.

Mitigation Measure(s): None required

XII. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Responses:

Proposed Project Noise Conditions

The proposed project is located in a fully urbanized area, in close proximity to the Expo light rail transit line, and is surrounded by commercial uses. Existing noise conditions are representative of this environment. Traffic noise from National Boulevard, Washington Boulevard and the Expo light rail transit line are the greatest contributors to ambient noise levels near the project site. There are no discernible stationary noise sources within the area, as surrounding

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

development generally consists of retail, light industrial, and other commercial uses. There are no sensitive receptors immediately adjacent to the project limits; however, there are residential properties located further to the east and south.

Project-related construction would result in short-term increases in noise levels on and immediately surrounding the project site. Project construction is anticipated to take approximately one and a half years and is anticipated to be completed in 2014.

a). **Less Than Significant Impact with Mitigation Incorporated.** The City of Culver City General Plan has established noise compatibility standards for land uses throughout the City. Exterior and interior noise levels for sensitive receptors, such as residential uses, are considered acceptable up to 65 dBA CNEL and 45 dBA CNEL, respectively. Commercial retail and restaurant uses have an interior standard of 55 dBA CNEL with no exterior standard. Existing land uses surrounding the project site and within the project vicinity generally consists of commercial and light industrial facilities with the nearest residential area approximately 350 feet to the east and south.

A noise analysis was prepared for the project that identified existing site conditions and measured existing ambient noise levels at 59.6 dBA LDN near the southern part of the site and at 65.3 dBA LDN near the northeastern part of the site. Future (2021) noise conditions were also projected based on incremental traffic noise increases and the recently opened Expo light rail transit line and station nearby the project site. It determined that the proposed building would be subject to exterior noise levels between 62.3 dB LDN on the northeast side and 76.1 dBA LDN on the south side.

Based on these potential future conditions, the analysis determined that the proposed buildings must provide an A-weighted noise reduction of at least 31.1 dB to achieve an interior 45 dB LDN value at the peak impacted area. Typical wood frame construction with batt insulation, exterior stucco or plaster, interior gypboard and standard window glazing typically provides a noise reduction of 20 dB. Additional noise reduction can be accomplished with varying window designs for windows that face the perimeter of the project as well as other building construction measures. These measures are incorporated as Mitigation Measure N-1. With the incorporation of standard building construction, ventilation/air-conditioning, and the below mitigation, interior noise levels will not exceed 45 dBA. As stated in the City of Culver City Noise Element, multiple-family residential development may be compatible when existing exterior noise levels exceed 65 dBA CNEL up to 75 dBA CNEL with proper analysis and mitigation to reduce interior noise levels to adequate levels. In addition, the site and the surrounding area are highly urbanized and this level of noise is not uncommon in this area amongst commercial and multiple-family residential uses.

b)-d). **Less Than Significant Impact.** There are two potential sources of concern regarding noise: 1) Short-term construction-related noise increases --noise generated on adjacent properties during construction and 2) Long-term operation impacts -- noise impacts caused by the additional traffic generated by future occupants of the proposed project

A short-term noise increase during construction would be expected to occur from the use and transport of heavy constructed equipment. However, pursuant to the City's standard condition of approval, construction shall be limited to the hours of 8:00 a.m. to 8:00 p.m. Monday through Friday, 9:00 a.m. through 7:00 p.m. on Saturday, and 10:00 a.m. through 7:00 p.m. on Sundays and national holidays. Dirt hauling and construction material deliveries or removal are prohibited during the peak traffic periods; morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.). This standard condition of approval limiting the hours on construction activity would reduce potential impact from construction noise to a level that is less than significant.

A short-term increase in groundborne vibration and noise would be expected to occur during grading and construction. The size of the project and limitations on allowable hours of construction found in the City's Municipal Code as well as conditions of approval for the project would reduce this impact to a level that is less than significant.

The increases in traffic on surrounding streets would not generate a significant increase in noise levels. The project site is located in an area consisting of commercial uses, a transit station, a nearby freeway, and is located on a high traffic volume boulevard. Operational noise levels would result from vehicles entering and exiting the site and from

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

noise normally generated by commercial uses. These types of noise levels are consistent with existing surrounding ambient noise caused by existing commercial uses and noise attributed to operational activities is not expected to be significant. Further the area is already characterized by noise consistent with major arterials that experience high traffic volumes, commercial and light industrial uses each generating their own noise levels, and the noise generated by the light rail line. Noise levels are consistent with developed urban areas and this project will be complimentary to such development. No mitigation measures are necessary.

e,f). **No Impact.** No airport land use plans apply to the area, and the proposed project site is not located within two miles of an airport. The nearest airports are Santa Monica Municipal Airport located approximately three miles to the west, and Los Angeles International Airport located approximately five miles to the west. No impacts to airport land use plans or airports could occur. There are also no private airstrips in the project vicinity; there would be no impacts related to excessive noise near a private airstrip. No mitigation measures are necessary.

Mitigation Measure(s):

N-1: The following mitigation package has been designed to ensure that the City's 45 dBA interior noise standard is not exceeded in the proposed project. These or equivalent measures shall be implemented at the project proponent's expense and provided to the satisfaction of the Building Official prior to issuance of building permits and/or final inspection, as appropriate.

(A) Roof ceiling construction will be roofing on plywood. Batt insulation will be installed in joist spaces. The ceilings will be one layer of gypboard nailed direct.
(B) All exterior walls will be 2x4 studs 16" on center with batt insulation in the stud spaces. Exteriors will be exterior plaster or stucco. The interiors will be gypboard.
(C) The following window design and glazing shall be incorporated into the design of the building with the applicable Sound Transmission Class (STC) rating and verified by the City Building Official prior to building permit issuance and final inspection. These requirements are only applicable to windows facing the perimeter of the project site and not windows facing the interior of the project site. The glazing supplier should be required to submit a test report documenting the required STC rating for windows required to be STC 32 or greater, which should be prepared in an independent, accredited testing laboratory in accordance with ASTM E-90.

- STC rating of 34 on the south side of the building
- STC rating of 32 on the northwest side of the building
- STC rating of 22 on the northeast side of the building
- STC rating of 32 on the southeast side of the building.

(D) All entry doors should be 1-¾" solid core flush wood doors with vinyl bulb weather stripping on the sides and top.
(E) There should be no mail slots in the entry doors.
(F) There should be no ventilation openings in the exterior walls or roof/ceilings without approved acoustical baffles.

XIII. POPULATION AND HOUSING – Would the project				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Responses:

a) **Less Than Significant Impact.** Residential uses are included in the proposed project; therefore, this project will result in direct residential growth. The 2004 Regional Transportation Plan (RTP) growth projections were developed by the Southern California Association of Governments (SCAG) utilizing a comprehensive analysis of fertility, mortality, migration, labor force, housing units, and local policies such as land use plans. Regional growth forecasts for the RTP were updated for the 2012 RTP. Growth projections for the 2012 RTP predicted a citywide population growth between 2008 and 2035 of approximately 1,100. The City's 2010 Housing Element reported the average household size in Culver City to be 2.31 persons per household (as determined by U.S. Census data). This equates to a potential average of 266 new residents moving into the development (2.31 X 115 units). This number is within the 2012 RTP reported population growth forecast of 1,100 people. This project would accommodate additional local residents that are within the growth forecasts developed for the RTP. This potential population increase is also consistent with the potential growth expected if the City's 2010 Housing Element objective of 504 new dwelling units between 2008 and 2014 is realized. The Housing Element demonstrates that the City has substantial land appropriately zoned to accommodate the 504 units, 211 of which are market rate. The 504 units represent the City's share of the Regional Housing Needs Assessment (RHNA) approved by SCAG as a response to State mandated housing planning. The expected 266 additional residents although substantial in number, are not outside of the expected growth patterns for the City. Additionally the expected population increase does not account for population loss from other parts of the City during the same projection period (2008-2014). On average U.S. Census data and surveys indicate the City, between 1980 and 2010, has increased in population by 744 people which equates to 248 people every 10 years or approximately a 2% increase over 30 years (1980 – 38,139 people and 2010 – 38,883 people). This slow rate of growth indicates that population increase due to construction of multi-family housing has been offset by other factors such as people moving out of the City. Furthermore, the project does not include major infrastructure extension or expansion that would result in any indirect population growth. Impacts from residential population growth will be less than significant.

The project will potentially attract new businesses to the area with the proposed 31,240 square feet of commercial space. Depending on the specific type of businesses that do locate within the individual spaces, the level of employment may vary. According to the SCAG 2012 RTP, employment in the city is projected to increase by 5,000 jobs between 2008 and 2035. Project employment is within the employment growth assumptions for the City. Additional employment could potentially increase population growth with new employees locating within or near the project site. Also as noted above, the Housing Element plans for a potential of 504 new units between 2008 and 2014 which is sufficient to accommodate a potential population increase created by the new employment opportunities at the project site. Due to the urban nature of the City and surrounding area, this potential increase in population is expected to be accommodated by existing housing in the City and neighboring communities as well as within the residential component of the proposed project. Impacts on population growth from employment will be less than significant.

b)-c). **No Impact**. The proposed project is a mixed use development with residential uses. The site is currently empty and vacant containing no structures. There will be no demolition of residential uses or displacement of people. No significant reduction or displacement of population or housing is associated with the project.

Mitigation Measure(s): None required

XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	☐	☐	☒	☐

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

Responses:

a) & b) Fire and Police protection

Less Than Significant Impact. Currently the project site is an empty lot with no structures. It was previously built out with a lumber supply company use. Occasionally, the site is used as a venue for temporary special events. Although the proposed project will result in a total of 31,240 square feet of retail and restaurant uses and 115 residential units, the site previously and currently generates Fire and Police services as needed. The City's 2010 Housing Element reported the average household size in Culver City to be 2.31 persons per household (as determined by U.S. Census data). This equates to a potential average of 266 new residents moving into the development (2.31 X 115 units). This number is within the 2012 RTP reported population growth forecast of 1,100 people. Additionally the expected population increase does not account for population loss from other parts of the City during the same projection period (2008-2014). On average U.S. Census data and surveys indicate the City, between 1980 and 2010, has increased in population by 744 people which equates to 248 people every 10 years or approximately a 2% increase over 30 years (1980 – 38,139 people and 2010 – 38,883 people). This slow rate of growth indicates that population increase due to construction of multi-family housing has been offset by other factors such as people moving out of the City.

The proposed multi-tenant commercial use represents greater utilization of the potential commercial space than the previous single tenant use (roofing supply company). Implementation of standard Fire Department related requirements will address potential impacts and the inclusion of security measures such as on-site security, on-site exterior lighting, and alarm systems will assist in deterring potential criminal activity. Additionally the project is within the expected development envelope for the TOD area as reported in the City's General Plan Land Use and Housing Elements and as reported in the SCAG 2012 RTP and is no greater than what is anticipated for this land use.

The Culver City Fire Department (CCFD) maintains three stations and the closest station to the proposed site is Station No. 1 located approximately ½ mile west of the site. The proposed project will be conducted and operated in accordance with the latest CCFD codes and guidelines for construction, access, water, fire flows and hydrants. Standard conditions regarding street improvements require the preparation and implementation of traffic control plans to ensure that construction does not obstruct emergency access.

According to the adopted budget for Fiscal Year 2012 -2013, the CCFD is staffed with a total of 69 positions, including 21 firefighters and firefighters/paramedics and 5.5 positions for fire prevention. According to the CCFD standards of coverage, the desired response time parameter is five minutes for 90% of code 3 emergency response incidents. The CCFD provides technical fire prevention activities by checking building construction plans to make sure all proposed building meet appropriate safety codes prior to construction. Fire inspectors perform plan review on all proposed fire sprinkler systems, fire alarm systems, and restaurant hood extinguishing system installation. CCFD will review site plans for the proposed project as part of the City's standard review process. No new or expanded fire protection facilities will be required as a result of this project. Furthermore, the proposed project does not propose to use substantially hazardous materials or engage in hazardous activities that will require new or modified fire protection equipment to meet potential emergency demand

The Culver City Police Department (CCPD) is located approximately less than one mile southwest of the project site. According to the CCPD, the emergency response time anywhere in the City for a top priority emergency is three minutes or less. According to the adopted budget for Fiscal Year 2012 -2013, the police department is staffed with a total of 105 sworn officers and 52 other non-sworn staff. The proposed mixed-use development will not result in any unique or more extensive crime problems that cannot be addressed with the existing level of police resources. The proposed project is located within the CCPD service area. No new or expanded police facilities will be constructed as a result of this project.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

Given the overall slow rate of population growth in the City, the project's conformance to expected growth scenarios for the City, the existing number of Police and Fire staff, and the project's planned on-site security and fire prevention measures, the project is not expected to be beyond the scope of Fire and Police services. Additionally, the project's onsite security will minimize the need for police services on the project's public open space and public parking space areas.

Therefore, the project would not have a significant impact on Police and Fire response times and would not otherwise create a substantially greater need for Police and Fire protection services than already exists and construction of new facilities will not be necessitate.

c) Schools

Less Than Significant Impact. The proposed residential project will result in incremental population growth and potential associated growth in students, within the Culver City Unified School District. In accordance with California Government Code and the Culver City Unified School District, standard school facility impact fee (currently $2.97 per residential square foot and $0.47 per commercial square foot) will be paid to offset any incremental impacts of the proposed project. According to AB 2926, payment of developer fees constitutes adequate mitigation for any project-related impacts to school facilities. Impacts to the school facilities will be less than significant.

d) Parks

Less Than Significant Impact. The use of the existing neighborhood and regional parks is not expected to substantially increase due to the project's provision of on-site park like amenities for the residential tenants, employees and general public. As noted above resident and employee population increases are within expected growth patterns for the City. Impacts to recreation are further discussed in Section XV below. No new or expanded facilities will be constructed as a result of the project. Impacts will be less than significant.

e) Other Public Facilities

No Impact. Other facilities have not been identified that could be significantly impacted by the project. No mitigation measures are necessary.

Mitigation Measure(s): None required

XV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Responses:

a)-b) **Less Than Significant Impact.** As stated above in Section XIV- Parks, the use of the existing neighborhood and regional parks is not expected to substantially increase with the proposed project. The project will not require new construction or expansion of parks or recreational facilities as the project will include 1) a number of on-site amenities for residential tenants including a recreation room and fitness center, and a large interior central courtyard with a swimming pool, shade structures, BBQ area, and bench seating and tables on the second floor of the building for passive recreational activities. Private balconies are provided on some of the units; and further 2) as part of the project's requirement to provide a Community Benefit contribution under the City's Mixed Use Development

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

Standards, an extensive public open space area, totaling 7,198 square feet is provided on-site.

The City's Quimby Act Fee requires parkland dedication or payment of an in-lieu fee based on the anticipated population generated from a residential project. Since the proposed project is not directly dedicating any parkland, the project will pay an in-lieu fee. With the implementation of this fee, a less than significant impact would occur to existing residential facilities.

Although the project would incrementally increase the impact on surrounding and regional parks, the project alone does not necessitate the construction of new parks; therefore, no impacts could occur. No mitigation measures are necessary.

Mitigation Measure(s): None required

XVI. TRANSPORTATION/TRAFFIC – Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulating system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Responses:

a). **Less Than Significant Impact with Mitigation Incorporation.** A traffic study prepared for the proposed mixed-use project, dated July 2010, and supplemented on June, 2012, by Hirsch/Green Transportation Consulting, Inc. was reviewed and accepted by the City's Traffic Engineer. The traffic study indicated that with required mitigation measures there would be no adverse impact from the proposed Project.

Based on the Institute of Traffic Engineers (ITE) Trip Generation Manual, 8th edition, the traffic analysis estimated that the project would generate 2,914 net new daily vehicle trips, including 154 net trips during the AM peak hour, and 275 net trips during the PM peak hour. The estimated trip generation of the proposed project includes

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

adjustments due to its proximity to the Expo LRT and as well other standard credits that the City applies for mixed use developments such as internal capture and pass-by trips. It is noted that the project did not take credit for existing use trip reduction credit because of the amount of time the prior use (lumber supply company) was vacant.

The traffic analysis evaluated the existing (year 2010) and forecast future (year 2013) conditions (future conditions with and without the proposed project) at thirty-four (34) intersections in the vicinity of the project site during both the AM and PM peak hours. (*The supplemental analysis provided by the applicant's traffic engineer updated the current year to 2012 and the forecast future to 2014 for several key intersections surrounding the project site and concluded that no additional intersections were impacted than what was originally analyzed*). Of the 34 intersections, 17 are located within the City of Culver City and 17 intersections within City of Los Angeles.

In order to assess the potential impact of the proposed project on the local street system, and using the City's significance criteria, the traffic study compared the volume to capacity (V/C) ratio, which is a numerical measure of traffic congestion, at each study location to determine the incremental difference in V/C ratios caused by the proposed project. The "Critical Movement Analysis-Planning" method of intersection capacity analysis was used to determine the intersection V/C ratio and corresponding level of service (LOS), which is a letter-grade measure of traffic congestion, at each of the signalized intersections.

Using the threshold criteria for determining significance of impacts of a Project at a specific location, the traffic analysis concluded five (5) out the thirty four (34) analyzed intersection locations would be impacted by traffic generated by the Project unless mitigation is incorporated. In order to address the Project's impact to a less than significant level, traffic mitigations measures described below are required to improve and enhance the vehicular capacity at following intersections:

Venice Boulevard and Robertson Boulevard: The westbound approach of Venice Boulevard at Robertson Boulevard, which is located within the City of Los Angeles, is required to be re-striped to provide an exclusive right-turn only lane, in addition to one left-turn lane and three through lanes. This improvement will require the removal of six un-metered un-striped parking spaces along the north side of Venice Boulevard between Robertson Boulevard and Ellis Avenue, in order to maintain the existing westbound bicycle lane. The minimum length of the left-turn pocket shall be 120 feet (80 foot pocket with 40 foot transition area).

Venice Boulevard and National Boulevard: The southbound approach of National Boulevard at Venice Boulevard, which is within the City of Los Angeles, is required to be re-striped to install an exclusive right-turn only lane, in addition to one left-turn lane and two through lanes. This improvement will require the removal of six un-metered un-striped parking spaces on the east side of National Boulevard north of Venice Boulevard to accommodate the new right-turn lane.

Washington Boulevard and National Boulevard: The Project is required to construct a new 11-foot wide right-turn only lane for northbound National Boulevard, which is located in the City of Culver City. This improvement will require the project to dedicate and widen approximately 100 feet of its National Boulevard frontage by approximately nine feet to install the new right-turn lane.

Washington Boulevard and Wesley Street: The Project will widen each side of Wesley Street by three feet within the existing right-of-way (resulting in sidewalk width on both sides to seven feet) to provide a total roadway width of 36 feet, and restripe the northbound approach to Washington Boulevard to provide an exclusive left-turn lane plus an exclusive right-turn only lane, plus one southbound lane. Further, the project shall install a new traffic signal at this location, which shall be interconnected and coordinated with the nearby signal at Washington Boulevard and National Boulevard to minimize traffic flow disruptions, and be equipped with the City of Culver City's current traffic signal coordination software.

Washington Boulevard and Cattaraugus Avenue: The project is required to modify the existing raised median island on Washington Boulevard to provide a dedicated new eastbound left-turn lane at this location, in addition to one through lane and one shared through/right-turn lane. The project shall be responsible for 100 percent of the cost of the design and installation of the proposed left-turn lane. Further, the project shall be responsible for 100% of the cost to design a new traffic signal at this location and shall contribute 25% of the cost of the installation of the signal.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

Traffic Signal Cameras and Controllers: In addition to the restriping mitigation improvements at Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard, City of Los Angeles Department of Transportation (LADOT), requires additional improvements at several intersections within the City of Los Angeles to augment the intersection restriping improvements. These traffic signal-related improvements will further reduce the potential impacts of the proposed project and enhance general traffic flow operations within the study area. The required additional improvements include: installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Fairfax Avenue and Venice Boulevard; and installation of traffic signal controller upgrades at the following eight intersections identified by LADOT:

1. Exposition Blvd., Robertson Blvd., and Venice Blvd.,
2. Helms Ave. and Venice Blvd.,
3. Cattaraugus Ave and Venice Blvd.,
4. Cadillac Ave and Robertson Blvd.,
5. Kincardine Ave, I-10 Fwy Westbound Off-Ramp and Robertson Blvd.,
6. National Blvd., and Robertson Blvd.,
7. Culver Blvd., and Venice Blvd.,
8. Fairfax Ave and Venice Blvd.,

Other Off-Site Improvements:

In addition to the traffic related improvements described above, there will be other off-site improvements required as part of the Project. The Project will include various pedestrian and vehicular operational improvements at and near the adjacent signalized intersections of Washington Boulevard and Wesley Street and Washington Boulevard and National Boulevard (i.e., crosswalks, larger curb radius, wider sidewalks).

Curb Returns: The curb return at the southeast corner of the intersection of Washington Boulevard and National Boulevard (along the project's frontage) is required to be improved to provide a minimum 35-foot radius. The curb returns at on southwest corner of Washington Boulevard and Wesley Street are required to be improved to exhibit a 35-foot radius. The southeast corner if this intersection is to be improved with a 25-foot radius. The applicant has an agreement to purchase a portion of the property at the southeast corner of Washington and Wesley to accommodate this requirement. The larger curb radius will minimize the impact of the existing acute angle experienced by motorists eastbound on Washington Boulevard turning onto Wesley Street. These changes will enhance ingress/egress for motorists on Wesley Street, in particular for larger trucks and emergency vehicle access.

Sidewalk Reconstruction: The Project is required to install a minimum 7' wide sidewalk along both sides of Wesley Street. The sidewalk along Washington Boulevard will be reconstructed to provide a minimum 12' wide sidewalk.

Crosswalks: Also, at the new Washington/Wesley signalized intersection, a new crosswalk across Washington Boulevard at the east side of the intersection will be installed.

Streetscape Improvements: Other off-site improvements include streetscape enhancements such as new street trees and street furniture (i.e. benches, planters, trash receptacles, and bike racks) consistent with the City Transit Oriented Development District Streetscape Plan and installation of a bike lane along the project's Washington Boulevard street frontage as well as the north side of Washington Boulevard.

b). **Less than Significant Impact.** Pursuant to the Los Angeles County Metropolitan Transportation Authority Congestion Management Program (CMP), any project that adds 150 or more vehicle trips to freeway segments or 50 or more vehicle trips to roadway segments during peak hours must be examined for impact of CMP roadways and intersections.

The current CMP identifies seven arterial monitoring intersections within an approximately three-mile radius of the project site. All but two of these CMP monitoring intersection locations, Venice Boulevard and La Cienega Boulevard; and La Cienega Boulevard and Jefferson Boulevard, are outside the immediate study area, and are expected to be beyond the rang of identifiable project traffic impacts. The CMP intersections closest to the project site are located

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

within the City or County of Los Angeles, the City of Beverly Hills, or the City of Culver City, as listed below:

- Santa Monica Boulevard and Wilshire Boulevard (Beverly Hills)
- Wilshire Boulevard and La Cienega Boulevard (Beverly Hills)
- Venice Boulevard and Overland Avenue (Culver City)
- La Cienega Boulevard and Jefferson Boulevard (City of Los Angeles)
- Venice Boulevard and La Cienega Boulevard (City of Los Angeles)
- Venice Boulevard and Centinela Avenue (City of Los Angeles)
- La Cienega Boulevard and Stocker Street (Los Angeles County)

Two of these intersections, La Cienega Boulevard and Jefferson Boulevard and Venice Boulevard and La Cienega Boulevard, were included in the thirty-four intersections already addressed in the project traffic study and found to be less than significantly impacted. The proposed project is anticipated to generate 154 trips in the AM peak period and 275 trips in the PM peak period. Based on the trip distribution pattern of the traffic study, the project would not add 50 or more trips to any of these intersections. The most impacted intersections would be Venice Boulevard and Centinela Avenue and Venice Boulevard and Overland Avenue with approximately 24 new AM peak trips and 42 new PM peak trips.

To analyze the project's impacts on freeway segments, the traffic study analyzed the project's impacts on Interstate-10, which would receive the most amount of traffic from the project. The project is expected to generate far fewer than 150 directional vehicles per hour during the AM peak hour, with approximately 69 inbound and 85 outbound trips. During the PM peak hour, the project would just meet the CMP freeway directional trip threshold in one direction; with 150 inbound trips, although outbound trips would be below the threshold at only 125 outbound trips.

However, only a small percentage of the project's trips are expected to utilize the area freeways in their travel paths to and from the site, with approximately 15 percent of the project's residential component trips and 10 percent of the commercial/retail component trips using the Santa Monica Freeway both to the east and to the west of the site; most of the project trips using the Santa Monica Freeway west of the site transition onto the northbound or southbound San Diego Freeway to continue their travel route through the rest of the Los Angeles region. Based on these trip distribution assumptions, the proposed project would be expected to add a total of approximately 10 eastbound and seven westbound trips to the I-10 Freeway east of the project site, and about 11 westbound and seven eastbound trips to the I-10 Freeway west of the project site during the AM peak hour. During the PM peak hour, the project could add about 17 westbound and 14 eastbound trips to the Santa Monica Freeway east of the site, and about 17 eastbound and 14 westbound trips west of the site. These values are not only substantially less than the 150-trip analysis threshold at which a detailed analysis is required, they are also below levels at which measurable impacts to these area regional transportation facilities would occur.

The project would not, therefore, conflict with an applicable congestion management program or level of service standard established by the congestion management agency. Impacts would be less than significant.

c). **No Impact.** A significant impact would occur if the proposed project caused a change in air traffic patterns that would result in a substantial safety risk. The project site is not located within an airport land use plan and does not include any structures that would change air traffic patterns or uses that would generate air traffic. Therefore, no impacts related to a change in air traffic patterns would occur.

d). **Less Than Significant Impact.** A significant impact would occur if the proposed project substantially increased an existing hazardous design feature or introduced incompatible uses to the existing traffic pattern. Access to the project site is proposed via driveways on Washington Boulevard and Wesley Street. The previously existing development on the site included three separate driveways on Washington Boulevard and two driveways on Wesley Street. The proposed project would reduce the number of driveways on each street, thus reducing the potential hazard generated by close spacing of driveways and intersections. The design of the proposed project would comply with all applicable City regulations, including line-of-site triangles and distances. This project would result in a less than significant traffic safety hazard.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

e). **Less Than Significant Impact.** A significant impact would occur if the design of the proposed project would not satisfy emergency access requirements of the City of Culver City Fire Department or in any other way threaten the ability of emergency vehicles to access and serve the project site or adjacent uses. The proposed project would not result in inadequate emergency access. As discussed above, access to the project site is proposed via driveways on Washington Boulevard and Wesley Street. The driveways and internal drive aisles and parking area have been designed to accommodate emergency access on site. All access features are subject to and must satisfy the City of Culver City design requirements, including the Fire Department's requirements. This project would not result in adverse impacts with regard to emergency access.

f). **Less than Significant Impact.** As noted previously, the project is located near a pedestrian and bicycle path along National Boulevard that was constructed in association with the Expo light rail transit line and station nearby. The proposed project is consistent with the City's bicycle and pedestrian master plan (which is compatible to Metro's provision of a pedestrian and bicycle path along their LRT line) by providing onsite, secured, bicycle racks and offsite bicycle racks. Metropolitan Transportation Authority (Metro) provides local and regional transit service via bus and light rail and City of Culver City provides local transit bus service via in the area. Both operate existing routes located adjacent to or near the project site and have bus stops located nearby as well. The project provides adequate pedestrian access along the project frontage and onto the project site. The proposed project would result in changes to lane configuration of some surrounding roads as previously discussed. Bike lanes will be installed along the Washington Boulevard frontage and sidewalks will be enhanced with streetscape improvements such as street trees, benches, and planters. These alterations would not affect performance or safety of alternative transportation facilities. Impact would thus be less than significant.

Mitigation Measure (s):

Prior to issuance of a building permit issuance, offsite improvement plans shall be reviewed and approved by the City Engineer and shall include the following:

T-1: The westbound approach of Venice Boulevard to Robertson Boulevard shall be restriped to provide for an exclusive right turn only lane. The design and installation of this work shall be completed to the satisfaction of the City of Los Angeles.

T-2: The southbound approach of National Boulevard to Venice Boulevard shall be restriped to provide for an exclusive right turn only lane. The design and installation of this work shall be completed to the satisfaction of the City of Los Angeles.

T-3: An 11-foot wide right turn lane shall be installed on National Boulevard for the northbound approach to Washington Boulevard. This improvement will require the project to dedicate and widen approximately 100 feet of its National Boulevard frontage by approximately nine feet to install the new right-turn lane. The right turn lane shall be 60 feet in length and have a 40-foot transition for a total length of 100 feet. Minor modifications to the width of the northbound through lanes on National Boulevard may be made in order to reduce the amount of street dedication needed to install this right turn lane. These modifications shall require the approval of the City Engineer.

T-4: A traffic signal shall be installed at the intersection of Washington Boulevard and Wesley Street. A new crosswalk across Washington Boulevard shall be installed at the east side of this intersection. Audible signal devices, LED countdown pedestrian heads, and "Bulldog" type pedestrian push buttons shall be installed on all signal poles that control pedestrian crosswalks at this intersection. A westbound left-turn signal phase on Washington Boulevard shall also be required. This new signal shall be synchronized with the adjacent signals on Washington Boulevard. Any other ancillary work required to accomplish the above described work, including but not limited to installation of new signal poles, mast arms, fire preemption, street lights, new service and controller cabinets shall be included. New signal poles shall be designed for 100 mph winds per CALTRANS standards. Prior to a building permit issuance, this work shall be shown on a traffic signal plan prepared by a civil or traffic engineer registered in the State of California and shall be submitted to the Engineering Division for review, approval, and permitting. Separate signal timing charts shall be submitted for review.

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

T-5: A new traffic signal shall be designed at the intersection of Washington Boulevard and Cattaragus Avenue. The applicant shall be responsible for 100 per cent of the cost of this design and shall contribute 25 per cent of the cost of the installation of this signal. This contribution shall be in the form of the installation of the required underground conduits or other ancillary work that will offset the required 25 percent cost. This work shall be performed at the same time as the new left turn lane is installed. The design and installation of this work shall be to the satisfaction of the City Engineer. The existing raised median on Washington Boulevard at Cattaragus Avenue shall be modified to provide an east bound left turn lane. Any landscaping disturbed by this work shall be reinstalled to the satisfaction of the City's Landscape Architect. The design and installation of this work shall be to the satisfaction of the City Engineer.

T-6: In addition to the restriping mitigation improvements at Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard, City of Los Angeles Department of Transportation (LADOT), requires additional improvements at several intersections within the City of Los Angeles to augment the intersection restriping improvements. These traffic signal-related improvements will further reduce the potential impacts of the proposed project and enhance general traffic flow operations within the study area. The required additional improvements include: installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Fairfax Avenue and Venice Boulevard; and installation of traffic signal controller upgrades at the following eight intersections identified by LADOT, shall be designed and approved to the satisfaction of the City of Los Angeles:

1. Exposition Blvd., Robertson Blvd., and Venice Blvd.,
2. Helms Ave. and Venice Blvd.,
3. Cattaraugus Ave and Venice Blvd.,
4. Cadillac Ave and Robertson Blvd.,
5. Kincardine Ave, I-10 Fwy Westbound Off-Ramp and Robertson Blvd.,
6. National Blvd., and Robertson Blvd.,
7. Culver Blvd., and Venice Blvd.,
8. Fairfax Ave and Venice Blvd.

XVII. UTILITIES AND SERVICE SYSTEMS --Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☒	☐	☐

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Responses:

a, b) **Less Than Significant Impact.** Wastewater discharges from the project will be treated at the Hyperion Treatment Plant (HTP) operated by the City of Los Angeles. The HTP is a secondary treatment plant that treats approximately 312 million gallons of wastewater per day (MGD) with an ultimate design capacity of 450 MGD dry weather secondary treatment and 850 MGD wet weather peak hydraulic capacity. Wastewater discharge requirements (WDR) are issued by the Los Angeles Regional Water Quality Control Board (RWQCB) with the latest WDRs effective as of December 24, 2010 (Order R4-2010-0200). The WDRs establish standard Clean Water Act (CWA) effluent limitations and individual limitations on biochemical oxygen demand, total suspended solids, oil and grease, settleable solids, and turbidity. The HTP has two outfall points to the Pacific Ocean, one disinfected and one not. The proposed mixed-use project will result in nominal wastewater discharges consisting of black water from restrooms and gray water from residential and commercial kitchens and showers. These are common wastewater discharges and will not require special processing at the WTP. Additionally, based on Sanitation Districts of Los Angeles County (LACSD) loading factors for the proposed project, the project will discharge approximately 24,675 gallons per day (GPD) (0.025 MGD). This will not cause the HTP to exceed the treatment capacity of 450 MGD specified in the WDRs. Impacts will be less than significant.

c). **No Impact.** The project site was previously developed with light industrial structures and paving, with no landscaping and no pervious surfaces. The proposed mixed-use development includes landscaping and therefore will reduce stormwater runoff into the existing storm drain system by increasing onsite pervious services. No storm drain facilities are required to be constructed to serve the project. No impact will occur.

d). **Less than Significant Impact.** Water service to the project site is provided by GSWC. GSWC purchases water from the West Basin Municipal Water District (WBMWD). Historically, WBMWD has purchased the majority of its water from Metropolitan Water District (MWD) as imported water from the Colorado Aqueduct and State Water Project (SWP). The WBMWD UWMP recognizes that imported water, particularly SWP water, is becoming increasingly restricted due to drought and environmental rulings. By the year 2035, WBMWD will reduce imported water to approximately 35 percent (69,761 acre-feet per year (AFY)) of the total 197,275 AFY supply that is projected over the long-term. Other sources of water include groundwater, recycled water, and desalinized water. Projected water demand for the GSWC Culver City Service Area is projected at 5,993 AFY after consideration of savings through conservation. Total demand fin the West Basin Service Area is estimated at 136,261 AFY; therefore, a surplus of 61,014 AFY is projected. Based on survey data developed by the Pacific Institute of Studies in Development and Environment and the American Water Works Association Research Foundation, the project is estimated to use 34.38 AFY. There is substantial supply to meet the needs of the project and growth within the service areas; therefore, no new entitlements will need to be acquired. Impacts will be less than significant.

e). **Less than Significant Impact with Mitigation Incorporation.** The applicant is not required to upgrade any water mains to serve the project. Routine lateral connections will be required. Water service is provided by Golden State Water Company (GSWC) via an 8-inch main underlying Washington Boulevard. As discussed in Section XVII.d, adequate water supply is available to serve the project; therefore, no new treatment or other supply facilities will not be required. Unrelated to the proposed project, GSWC is in the process of improving water supply facilities and water mains throughout the city to provide better, more reliable water service.

Historically, the sewerage from the Legado project site drained to the existing 8-inch sewer in Wesley Street. The flows in this sewer eventually drain to an inverted siphon crossing under Ballona Creek near National Boulevard. This inverted syphon has overflown in the past and studies have shown that it does not have adequate capacity to accommodate any increased sewerage volume. Since the Legado project will increase the volume of sewerage from the site, a diversion of these flows is necessary. The alignment for the diversion of sewerage flows from this site is to

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact

install a new 10-inch sewer main in Wesley Street extending southerly under National Boulevard and connecting to an existing manhole on Wesley Street at National Boulevard. The sewerage flows continue southerly under Wesley Street to Lucerne Avenue and eventually discharge into the City of Los Angeles' North Outfall Sewer under Jefferson Boulevard at Duquesne Avenue. All of the sewer mains in this alignment between National Boulevard and Jefferson Boulevard were analyzed and determined to have sufficient capacity to accommodate the increased sewerage flow from the Legado Project. This measure has been included as Mitigation Measure U-1. With the inclusion of this mitigation measure, impacts from the expansion of existing wastewater facilities would be less than significant.

f). **Less than Significant Impact.** Regional landfill capacity fluctuates daily and is regularly monitored by the County Sanitation Districts of Los Angeles County to ensure there is sufficient landfill space available to dispose of municipal solid wastes. Solid waste in Culver City is primarily disposed of at Chiquita Canyon Sanitary Landfill (SLF) and secondarily at Puente Hills Landfill. Chiquita Canyon SLF is permitted to process 6,000 tons of refuse a day, has an estimated remaining capacity of 29.3 million cubic yards, and is estimated to close in November 2011. The Puente Hills Landfill is permitted to process 13,200 tons per day, has a remaining capacity of 35.2 million cubic yards, and is estimated to close in October 2013. Based on waste generation rates developed by the California Department of Resources Recycling and Recovery (CalRecycle), the project is estimated to generate 104 tons of solid waste per year (after consideration of 50 percent recycling requirements), or approximately 416 cubic yards, for a total lifetime (30 years) disposal of 12,480 cubic yards of solid waste. Considering landfills serving the project have approximately 64.5 million cubic yards of remaining capacity, sufficient capacity is available to serve the project. It should be noted that in the likely case that these landfills close within the life of the project, additional landfills are available within the County to serve the project. For example, the Sunshine Canyon Landfill has an estimated closure date of 2037 with a remaining capacity of 112.3 million cubic yards. Impacts will be less than significant.

g). **No Impact.** The primary state legislation regarding solid waste is AB939, The Integrated Waste Management Act, adopted in 1989. AB939 requires local jurisdiction to achieve a minimum 50 percent solid waste diversion rate. A minimum 50 percent diversion rate for construction demolition and debris is also required. Recently, AB341 (2011) was adopted requiring mandatory commercial recycling programs. The proposed project does not include any component that will conflict with state laws governing construction or operational solid waste diversion and will comply pursuant to local implementation requirements. No impact will occur.

Mitigation Measure(s):

U-1: A new minimum 10-inch diameter sewer main shall be constructed to accommodate the project's sewerage discharge. This main shall also be designed to allow for the collection of the future sewerage discharge from the approximate 5 acre Washington National TOD project located at the northwest corner of the Washington National Boulevard intersection. A diversion manhole shall be installed in the existing 10-inch sewer main located on the north side of Washington Boulevard at Wesley Street. This manhole shall be designed to divert the future sewerage discharge volume from the Washington/National TOD project south in Wesley Street. The new 10-inch diameter sewer main shall extend from the diversion manhole in Washington Boulevard south in Wesley Street across the MTA right-of-way and National Boulevard and connect to the first manhole in Wesley Street south of National Boulevard. Prior to issuance of a building permit, a separate offsite sewer plan shall be submitted to the Engineering Division for review, approval, and permitting.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –

a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ('Cumulatively considerable' means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Responses:

a). **Less Than Significant with Mitigation Incorporation.** The proposed project would not substantially impact any scenic vistas, scenic resources, or the visual character of the area, as discussed in Section I, and would not result in excessive light or glare. The project site is located within an urbanized area with no natural habitat. The project would not significantly impact any sensitive plants, plant communities, fish, wildlife or habitat for any sensitive species after incorporation of mitigation, as discussed in Section IV. Adverse impacts to archaeological and paleontological resources would not occur. Construction-phase procedures would be implemented in the event any important archaeological or paleontological resources are discovered during grading, consistent with Mitigation Measure C-1. This site is not known to have any association with an important example of California's history or prehistory. The environmental analysis provided in Section III concludes that impacts related to emissions of criteria pollutants and other air quality impacts will be less than significant. Sections VII and IX conclude that impacts related to climate change and hydrology and water quality will be less than significant. Based on the preceding analysis of potential impacts in the responses to items I thru XVII, no evidence is presented that this project would degrade the quality of the environment. The City hereby finds that impacts related to degradation of the environment, biological resources, and cultural resources will be less than significant with mitigation incorporation.

b). **Less Than Significant with Mitigation Incorporation.** Cumulative impacts can result from the interactions of environmental changes resulting from one proposed project with changes resulting from other past, present, and future projects that affect the same resources, utilities and infrastructure systems, public services, transportation network elements, air basin, watershed, or other physical conditions. Such impacts could be short-term and temporary, usually consisting of overlapping construction impacts, as well as long term, due to the permanent land use changes involved in the project.

The proposed project will generally result in nominal environmental impacts, as discussed herein. Short-term impacts related to noise and pollutant emissions will be at less than significant levels and therefore will not contribute substantially to any other concurrent construction programs that may be occurring in the vicinity. The project's contribution to long-term, cumulative impacts will not be substantial with implementation of the City's existing policies, programs, and regulatory requirements. Particularly, the project is subject to development impact fees and property taxes to offset project-related impacts to public services and utility systems such as fire protection services, traffic control and roadways, storm drain facilities, and other public facilities and equipment. Further where impacts have been identified, mitigation measures have been crafted and will be made a part of the Project Conditions of Approval. The City hereby finds that with mitigations the contribution of the proposed project to cumulative impacts will be less than significant.

c). **Less Than Significant with Mitigation Incorporation.** Based on the analysis of the project's impacts in the responses to items I thru XVII, there is no indication that this project could result in substantial adverse effects on human beings. While there would be a variety of temporary adverse effects during construction related to noise and criteria pollutant emission, these will be reduced to less than significant levels through mitigation and incorporation of standard requirements for air quality protection. Long-term effects would include increased vehicular traffic, traffic-related noise, periodic on-site operational noise, minor changes to on-site drainage, and changing of the visual character of the site, with a majority of these impacts affecting adjacent roadway segments and intersections. The

EVALUATION OF ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less Than Significant Impact	No Impact
analysis herein concludes that direct and indirect environmental effects will at most require mitigation to reduce to less than significant levels. Generally, environmental effects will result in less than significant impacts. Based on the analysis in this Initial Study, the City finds that direct and indirect impacts to human beings will be less than significant with mitigation incorporation. **Mitigation Measure(s):** Refer to Mitigation Monitoring Report.				

XVIII. EARLIER ANALYSES:
None

References Utilized:

1. Geotechnical Engineering Investigation prepared by GEOCON West, Inc, October 20, 2010.
2. Air Quality and Climate Change Assessment prepared by Hogle-Ireland, Inc., August, 2012.
3. Phase I Environmental Site Assessment prepared by Smith-Emery GeoServices, November 16, 2005
6. Traffic Study prepared by Hirsch/Green Transportation Consulting, Inc., July 2010 and Supplemental Update, June 2012.
7. Phase I Cultural Resources Assessment prepared by BonTerra Consulting, August 2012
8. Acoustical Analysis prepared by Davy and Associates, February 24, 2011.
9. Culver City Washington/National Sewer Study prepared by Psomas, November 2010 and amended June 2011.
10. Culver City Redevelopment Plan Amendment and Merger Program Subsequent Environmental Impact Report, November 16, 1998.
11. Culver City General Plan Update Program Environmental Impact Report, November 1995

MITIGATION MONITORING PROGRAM

The following environmental mitigation measures shall be incorporated into the project development as conditions of approval. The project applicant shall secure a signed verification for each of the mitigation measures which indicate that mitigation measures have been complied with and implemented, and fulfills the City environmental and other requirements (Public Resources Code Section 21081.6.). Final clearance shall require all applicable verification as included in the following table. The City of Culver City will have primary responsibility for monitoring and reporting the implementation of the mitigation measures unless otherwise indicated. The mitigation measures have been identified by impact category and numbered for ease of reference.

MITIGATION MONITORING PROGRAM
CP P-2012116; ZCMA P-2012118; MND P-2012117
October 24, 2012

MITIGATION MEASURE	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
Cultural Resources **C-1:** An Archaeologist and Paleontologist professional approved by the City shall monitor all phases of excavation for the project site in order to identify and recover where feasible, the presence of archaeological and/or paleontological resources. Should such resources be identified established Federal and State rules and guidelines for the cataloging and final disposition of such resources shall be applied and followed. This shall include but not be limited to halting of construction activities in the work area where the resources are identified, notifying the Los Angeles County Coroner and the appropriate Native American organization of such resources, and notifying the Los Angeles County Natural History and Page museums. Final disposition of Native American remains shall follow Federal and State rules and guidelines for such remains. Identified paleontological resources shall be donated to the Los Angeles County Natural History/Page museums or some other museum as deemed appropriate by the Paleontologist. A final report or reports cataloging all findings shall be submitted to the City by the Archaeologist and/or Paleontologist professional within one year of issuance of the Certificate of Occupancy.	Condition of Approval	Plan Check note and Field Inspection	Prior to Issuance of a Grading Permit, Building Permit and On-Going during Construction	Building Safety Division, Building Safety Inspector, Public Works, Engineering and Planning Division
Geology and Soils **G-1:** Foundation design shall follow the recommendations of the project's geotechnical report, which include, but are not limited to a mat foundation design, continuous and/or pad footings, and a reinforced foundation. Final foundation design and inspection shall be determined and approved by the structural and geotechnical engineer.	Condition of Approval	Plan Check note and Field Inspection	Prior to Issuance of a Building Permit and a Foundation Plan	Building Safety Division and Building Safety Inspector.

MITIGATION MONITORING PROGRAM
CP P-2012116; ZCMA P-2012118; MND P-2012117
October 24, 2012

MITIGATION MEASURE	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
Noise **N-1:** The following mitigation package has been designed to ensure that the City's 45 dBA interior noise standard is not exceeded in the proposed project. These or equivalent measures shall be implemented at the project proponent's expense and provided to the satisfaction of the Building Official prior to issuance of building permits and/or final inspection, as appropriate. (A) Roof ceiling construction will be roofing on plywood. Batt insulation will be installed in joist spaces. The ceilings will be one layer of gypboard nailed direct. (B) All exterior walls will be 2x4 studs 16" on center with batt insulation in the stud spaces. Exteriors will be exterior plaster or stucco. The interiors will be gypboard. (C) The following window design and glazing shall be incorporated into the design of the building with the applicable Sound Transmission Class (STC) rating and verified by the City Building Official prior to building permit issuance and final inspection. These requirements are only applicable to windows facing the perimeter of the project site and not windows facing the interior of the project site. The glazing supplier should be required to submit a test report documenting the required STC rating for windows required to be STC 32 or greater, which should be prepared in an independent, accredited testing laboratory in accordance with ASTM E-90. o STC rating of 34 on the south side of the building o STC rating of 32 on the northwest side of the building o STC rating of 22 on the northeast side of the building o STC rating of 32 on the southeast side of the building. (D) All entry doors should be 1-¾" solid core flush wood doors with vinyl bulb weather stripping on the sides and top. (E) There should be no mail slots in the entry	Condition of Approval	Plan Check note and Field Inspection	Prior to Issuance of Building Permit	Building Safety Division and Building Safety Inspector Planning Division

MITIGATION MONITORING PROGRAM
CP P-2012116; ZCMA P-2012118; MND P-2012117
October 24, 2012

MITIGATION MEASURE	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
doors. (F) There should be no ventilation openings in the exterior walls or roof/ceilings without approved acoustical baffles.				
Transportation/Traffic Prior to issuance of a building permit issuance, offsite improvement plans shall be reviewed and approved by the City Engineer and shall include the following: **T-1:** The westbound approach of Venice Boulevard to Robertson Boulevard shall be restriped to provide for an exclusive right turn only lane. The design and installation of this work shall be completed to the satisfaction of the City of Los Angeles. **T-2:** The southbound approach of National Boulevard to Venice Boulevard shall be restriped to provide for an exclusive right turn only lane. The design and installation of this work shall be completed to the satisfaction of the City of Los Angeles. **T-3:** An 11-foot wide right turn lane shall be installed on National Boulevard for the northbound approach to Washington Boulevard. This improvement will require the project to dedicate and widen approximately 100 feet of its National Boulevard frontage by approximately nine feet to install the new right-turn lane. The right turn lane shall be 60 feet in length and have a 40-foot transition for a total length of 100 feet. Minor modifications to the width of the northbound through lanes on National Boulevard may be made in order to reduce the amount of street dedication needed to install this right turn lane. These modifications shall require the approval of the City Engineer. **T-4:** A traffic signal shall be installed at the intersection of Washington Boulevard and Wesley Street. A new crosswalk across Washington Boulevard shall be installed at the east side of this intersection. Audible signal devices, LED countdown pedestrian heads, and "Bulldog" type pedestrian push buttons shall be	Condition of Approval	Plan Check note, Field Inspection, Receipt of Funds	Prior to any Certificate of Occupancy and Temporary Certificate of Occupancy	Culver City Traffic Engineering, LADOT, and Engineering/ Public Works and Planning Division

MITIGATION MONITORING PROGRAM
CP P-2012116; ZCMA P-2012118; MND P-2012117
October 24, 2012

MITIGATION MEASURE	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
installed on all signal poles that control pedestrian crosswalks at this intersection. A westbound left-turn signal phase on Washington Boulevard shall also be required. This new signal shall be synchronized with the adjacent signals on Washington Boulevard. Any other ancillary work required to accomplish the above described work, including but not limited to installation of new signal poles, mast arms, fire preemption, street lights, new service and controller cabinets shall be included. New signal poles shall be designed for 100 mph winds per CALTRANS standards. Prior to a building permit issuance, this work shall be shown on a traffic signal plan prepared by a civil or traffic engineer registered in the State of California and shall be submitted to the Engineering Division for review, approval, and permitting. Separate signal timing charts shall be submitted for review. **T-5:** A new traffic signal shall be designed at the intersection of Washington Boulevard and Cattaragus Avenue. The applicant shall be responsible for 100 per cent of the cost of this design and shall contribute 25 per cent of the cost of the installation of this signal. This contribution shall be in the form of the installation of the required underground conduits or other ancillary work that will offset the required 25 percent cost. This work shall be performed at the same time as the new left turn lane is installed. The design and installation of this work shall be to the satisfaction of the City Engineer. The existing raised median on Washington Boulevard at Cattaragus Avenue shall be modified to provide an east bound left turn lane. Any landscaping disturbed by this work shall be reinstalled to the satisfaction of the City's Landscape Architect. The design and installation of this work shall be to the satisfaction of the City Engineer. **T-6:** In addition to the restriping mitigation improvements at Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard, City of Los Angeles Department of Transportation (LADOT), requires additional improvements at several intersections				

MITIGATION MONITORING PROGRAM
CP P-2012116; ZCMA P-2012118; MND P-2012117
October 24, 2012

MITIGATION MEASURE	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
within the City of Los Angeles to augment the intersection restriping improvements. These traffic signal-related improvements will further reduce the potential impacts of the proposed project and enhance general traffic flow operations within the study area. The requested additional improvements include: installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Fairfax Avenue and Venice Boulevard; and installation of traffic signal controller upgrades at the following eight intersections identified by LADOT, shall be designed and approved to the satisfaction of the City of Los Angeles: 1. Exposition Blvd., Robertson Blvd., and Venice Blvd., 2. Helms Ave. and Venice Blvd., 3. Cattaraugus Ave and Venice Blvd., 4. Cadillac Ave and Robertson Blvd., 5. Kincardine Ave, I-10 Fwy Westbound Off-Ramp and Robertson Blvd., 6. National Blvd., and Robertson Blvd., 7. Culver Blvd., and Venice Blvd., 8. Fairfax Ave and Venice Blvd.				
<u>Utilities and Services Systems</u> **U-1:** A new minimum 10-inch diameter sewer main shall be constructed to accommodate the project's sewerage discharge. This main shall also be designed to allow for the collection of the future sewerage discharge from the approximate 5 acre Washington National TOD project located at the northwest corner of the Washington National Boulevard intersection. A diversion manhole shall be installed in the existing 10-inch sewer main located on the north side of Washington Boulevard at Wesley Street. This manhole shall be designed to divert the future sewerage discharge volume from the Washington/National TOD project south in Wesley Street. The new 10-inch diameter sewer main shall extend from the diversion manhole in Washington Boulevard south in Wesley Street across the MTA right-of-way and National Boulevard and connect to the first manhole in Wesley Street south of National Boulevard. Prior	Condition of Approval	Plan Check note and Field Inspection	Prior to any Certificate of Occupancy and Temporary Certificate of Occupancy	Engineering/ Public Works

MITIGATION MONITORING PROGRAM
CP P-2012116; ZCMA P-2012118; MND P-2012117
October 24, 2012

MITIGATION MEASURE	Implementing Action, Condition or Mechanism	Method of Verification	Timing of Verification	Responsible Persons
to issuance of a building permit, a separate offsite sewer plan shall be submitted to the Engineering Division for review, approval, and permitting.				

TRAFFIC IMPACT ANALYSIS REPORT

Proposed Mixed-Use Development
(115-Unit Residential and 31,240 Square Foot Retail)
Located at 8770 Washington Boulevard
in Culver City, California

Prepared for:

EMC Development, LLC
8383 Wilshire Boulevard, Suite 630
Beverly Hills, California 90211

Prepared by:

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.
13333 Ventura Boulevard, #204
Sherman Oaks, California 91423

REGISTERED PROFESSIONAL ENGINEER
RONALD R. HIRSCH
NO. 2318
6-30-2011
TRAFFIC
STATE OF CALIFORNIA

REVISED JULY 2010

EXECUTIVE SUMMARY

The project under consideration is a new mixed-use residential and retail/commercial mixed-use development located at 8770 Washington Boulevard, along the south side of the street between National Boulevard and Wesley Street, in the northeastern portion of the City of Culver City. The proposed project will contain a total of approximately 115 residential condominium units and 31,240 square feet of retail/commercial uses, including a 13,900 square foot supermarket, an 11,800 square foot drugstore/pharmacy, a 2,300 square foot restaurant, and a total of approximately 3,240 square feet of café area. An approximately 356-space multi-level on-site parking garage (one semi-subterranean and two subterranean levels) is also proposed as part of the project. The project site is currently developed with a number of structures formerly housing the Spartan Roofing Supply Company and its associated equipment and supply storage areas. However, these facilities have been vacant since April 2008, and the site's surface parking areas are currently utilized as long-term parking for trucks, trailers, and construction equipment, and for leased daily parking for faculty and staff of the nearby Turning Point School.

The developer retained Hirsch/Green Transportation Consulting, Inc. to prepare a traffic and parking analysis for the project. The scope of this study was discussed with City of Culver City Public Works Department and City Traffic Engineer to assure that appropriate study methodologies and assumptions were utilized. Based on those discussions, the study evaluated the existing and forecast future conditions at a total of 34 intersections in the vicinity of the project during both the AM and PM peak hours, as well as an investigation of potential project traffic impacts to eight local/residential streets adjacent to or near the project that could be anticipated to be used by project traffic as access routes to the site.

The results of the analyses contained in this report indicate that once the new development is completed and occupied, the project is expected to result in a net increase in site-related traffic of approximately 2,914 daily trips, including 154 net trips (69 in, 85 out) during the AM peak hour, and 275 net trips (150 in, 125 out) during the PM peak hour. Based on this level of net new traffic generation, the proposed project could significantly impact a total of five (5) of the 34 study intersections during one or both of the peak hours. These significantly impacted locations, all located within the immediate project vicinity, occur at Venice Boulevard and Robertson Boulevard, Venice Boulevard and National Boulevard, Washington Boulevard and National Boulevard, Washington Boulevard and Wesley Street, and Washington Boulevard and Cattaraugus Avenue. It should be noted that two of the significant impacts, at Venice Boulevard

and Robertson Boulevard, and at Venice Boulevard and National Boulevard, occur within the neighboring jurisdiction of the City of Los Angeles, which utilizes a different and more restrictive definition of "significance" regarding potential traffic impacts than the City of Culver City. If the City of Culver City impact criteria were applied to all intersections evaluated in this study, the project's impact at Venice Boulevard and National Boulevard would not be considered significant, although the impacts at Venice Boulevard and Robertson Boulevard continue to be significant during both peak hours. Conversely, if the City of Los Angeles significant impact criteria were utilized for all of the study intersections, a "new" significant impact would occur during the PM peak hour at Washington Boulevard and National Boulevard (an AM peak hour impact is already identified), and a previously unidentified significant impact would be identified at Washington Boulevard and La Cienega Boulevard during the PM peak hour.

Therefore, in order to address the project-specific traffic impacts identified in this report, the following roadway system improvements are recommended:

Venice Boulevard and Robertson Boulevard – Venice Boulevard at this location (generally from approximately 500 feet west of Robertson Boulevard to Ivy Street, two blocks east of National Boulevard) is already programmed for improvements associated with the Metropolitan Transportation Authority's ("Metro") Expo Line light rail transit station near Venice Boulevard and National Boulevard; these improvements are unrelated to the proposed Washington/National mixed-use project. The Metro Expo Line project roadway improvements will widen both sides of Venice Boulevard along the eastbound and westbound approaches to Robertson Boulevard, although the Venice Boulevard lane configurations will remain unchanged from their current conditions and operations. The proposed Washington/National project should modify the Metro Expo Line improvements by restriping the westbound approach of Venice Boulevard at Robertson Boulevard to provide an exclusive right-turn only lane, in addition to one left-turn lane and three through lanes. This measure will require the removal of approximately six unstriped/unmetered on-street parking spaces along the north side of Venice Boulevard between Robertson Boulevard and Ellis Avenue, in order to maintain the existing westbound bicycle lane. However, current utilization surveys indicate that these on-street parking spaces are not heavily utilized, and further, parking along the subject segment is already prohibited during the PM peak period on weekdays ("Tow Away No Stopping 4 – 7 PM"). As a result, the removal of these spaces is not expected to create significant "secondary" impacts to local area parking. The proposed new right-turn only lane will also require buses using the existing westbound bus

stop at Venice Boulevard and Robertson Boulevard to load and unload passengers within the new right-turn only lane. However, this condition is not unique, and it is recommended that new "Right Turn Only – Buses Exempt" signage be installed to permit such activity. The use of the new right-turn only lane to load/unload passengers is not expected to significantly affect on the operations of either the buses or the new right-turn lanes. It is important to note that, although the proposed restriping improvements occur along Venice Boulevard, which is under the jurisdiction of the City of Los Angeles, the City of Los Angeles Department of Transportation ("LADOT") has reviewed the proposed mitigation measure, and indicated that it is acceptable.

Venice Boulevard and National Boulevard – This intersection is already programmed for several improvements unrelated to the proposed Washington/National mixed-use project, including measures associated with the Metro Expo Line light rail transit station located near this intersection, as well as recommended improvements identified by the City of Culver City as part of it's ongoing redevelopment of a transit-oriented project on its "Triangle Site", located on the west side of National Boulevard between Venice Boulevard and Washington Boulevard. The Metro Expo Line project roadway improvements will widen and restripe Venice Boulevard to provide dual left-turn lanes, three through lanes, and a right-turn only lane on both the eastbound and westbound approaches. Additionally, the City of Culver City has indicated its intent to dedicate and widen the west side of National Boulevard between Venice Boulevard and Washington Boulevard by 10 feet, and to restripe National Boulevard to remove all existing on-street parking in order to accommodate the installation of new bicycle lanes along both sides of the street. In addition to these anticipated roadway improvements, the proposed Washington/National project should restripe the southbound approach of National Boulevard at this intersection (within the adjacent City of Los Angeles) to install an exclusive right-turn only lane, in addition to one left-turn lane and two through lanes. This proposed improvement will require the removal of approximately six existing unmarked/unmetered on-street parking spaces on the east side of National Boulevard north of Venice Boulevard to accommodate the new lane. However, it does not affect any of the other approaches of the intersection, and as such, is compatible with the anticipated Metro Expo Line/City of Culver City striping proposals, including maintaining the proposed new bicycle lanes. It is important to note that, although the proposed restriping improvements occur along Robertson Boulevard within the City of Los Angeles, LADOT has reviewed the proposed mitigation measure, and indicated that it is acceptable.

Washington Boulevard and National Boulevard – This intersection is also programmed for a series of improvements as part of the Metro's Expo Line light rail transit facility, including converting the existing westbound Washington Boulevard right-turn only lane to a shared through/right-turn lane, associated new dedications and widenings along the north side of Washington Boulevard west of National Boulevard to provide a new "receiving" lane for the additional westbound through traffic lane, and a new nine-foot dedication along the east side of National Boulevard between Washington Boulevard and the Expo Line right-of-way to accommodate the City's request for a 12-foot sidewalk in this area. Other programmed improvements to this intersection include the previously-described roadway dedications and widenings along the west side of National Boulevard as part of the City's "Triangle Site" project. In addition to these programmed Expo Line/City of Culver City roadway improvements, the project should construct a new 11-foot wide right-turn only lane for northbound National Boulevard. This improvement will require the project to dedicate and widen approximately 100 feet of its National Boulevard frontage by approximately nine feet to install the new right-turn lane; all other existing lane widths on the south approach of National Boulevard shall be maintained. This project-specific dedication, in addition to the nine-foot Expo Line dedication, will provide adequate roadway width for the recommended new right-turn only lane, and will maintain the City's requested 12-foot sidewalk. Finally, the curb return at the southeast corner of the intersection of Washington Boulevard and National Boulevard (along the project's frontage) should also be improved to provide a 35-foot radius.

Washington Boulevard and Wesley Street – The proposed project should widen both sides of Wesley Street by three feet within the existing right-of-way (resulting in a reduction in sidewalk width on both sides of seven feet) to provide a total roadway width of 36 feet, and restripe the northbound approach to Washington Boulevard to provide an exclusive left-turn lane plus an exclusive right-turn only lane, plus one southbound lane. The City has requested that the curb returns at both the southwest and southeast corners of Washington Boulevard and Wesley Street be improved to exhibit a 35-foot radius. However, a review of the existing rights-of-way/property lines for the southeast corner of Washington Boulevard and Wesley Street (opposite the project site) indicates that insufficient existing right-of-way exists to provide the requested 35-foot curb return radius and still maintain adequate public sidewalk widths. As such, it is recommended that the curb return at this location be improved with either a 15-foot or 25-foot radius, as deemed acceptable to the City. The existing on-street parking along both sides of Wesley Street should be removed, and a new

on-street project-related loading zone (for use both by project residents and by the proposed pharmacy) should be provided along the west side of Wesley Street, north of the proposed project driveways. Additionally, a new striped "median" island south of the project's commercial driveway should be provided as a "staging" location for inbound delivery trucks waiting to back into the supermarket loading dock on the semi-subterranean parking level, in order to minimize any traffic disruptions to Wesley Street operations.

Further, the project should install a new traffic signal at this location, which should be interconnected and coordinated with the nearby signal at Washington Boulevard and National Boulevard to minimize traffic flow disruptions, and be equipped with the City's current traffic signal coordination software; a detailed traffic signal warrant analysis for this location indicates that the intersection would meet traffic signal warrant requirements for installation of a new traffic signal once the proposed project is developed. Additionally, in order to provide adequate operational access to and from the project site, and to avoid having much of the project's exiting traffic turn right (onto eastbound Washington Boulevard), thereby creating a "around the block" travel pattern for westbound-oriented exiting vehicles and potentially "overburdening" intersections along Washington Boulevard east of the project site, the installation of a new traffic signal is considered appropriate for this project-access intersection.

Washington Boulevard and Cattaraugus Avenue – The project should modify the existing raised median island on Washington Boulevard to provide a new eastbound left-turn lane at this location, in addition to one through lane and one shared through/right-turn lane. The project shall be responsible for 100 percent of the cost of the design and installation of the proposed left-turn lane. The installation of a new traffic signal at this location was also considered as a potential measure to mitigate the 8770 Washington project's significant impacts, and a detailed analysis of the intersection indicated that it is forecast to meet the requirements for signal installation (traffic signal warrant analysis) for both the future "Without Project" and "With Project" conditions. The City has previously determined that a new traffic signal is appropriate for this location, and the analyses summarized in this report indicates that the proposed project will exacerbate the need for signalization of this intersection. As a result, a new traffic signal should be installed at this location, and the project shall be responsible for 100 percent of the cost to design the new traffic signal, and shall contribute 25 percent of the cost of installation of the signal.

In addition to the recommended restriping mitigation improvements at Venice Boulevard and Robertson Boulevard/Exposition Boulevard, and Venice Boulevard and National Boulevard, LADOT, in their preliminary review of those proposed mitigation measures, requested that the City of Culver City consider additional improvements at several intersections within the City of Los Angeles to augment the proposed intersection restriping improvements. These traffic signal-related improvements would further reduce the potential impacts of the proposed project (both significant and non-significant impacts) and enhance general traffic flow operations within the study area. The requested additional improvements include: installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Venice Boulevard and Robertson Boulevard/Exposition Boulevard; and installation of traffic signal controller upgrades at eight additional as-yet identified intersections.

The installation of a new traffic signal at the site-adjacent intersection of Washington Boulevard and Wesley Street, along with the proposed widening and restriping of Wesley Street to provide a left-turn and right-turn lane, will reduce the impacts of the proposed project at that location to less than significant levels. Additionally, this new traffic signal is expected to result in the redistribution of project-related traffic at this intersection and at several intersections in close proximity to the project site. The current STOP sign controlled approach of Wesley Street, combined with the unimpeded traffic flow of both eastbound and westbound Washington Boulevard at this location, make the exiting left-turn movement from Wesley Street to westbound Washington Boulevard difficult during peak traffic periods. As such, it is assumed that much of the project's outbound traffic would turn right at this intersection onto eastbound Washington Boulevard rather than wait for a "break" in traffic to accommodate the left-turn.

However, signalization of the intersection will facilitate this currently difficult move, resulting in more left-turning vehicles and the elimination of "around the block" travel patterns (eastbound on Washington Boulevard, north on Cattaraugus Avenue to Venice Boulevard, then west on Venice Boulevard) to reach westbound Venice Boulevard or Washington Boulevard, or northbound Robertson Boulevard. This redistribution of project traffic will also reduce, but not fully mitigate, the project's potential impacts at several of the other study intersections, including some that are not significantly impacted.

The implementation of the recommended mitigation measures at the remaining four significantly impacted locations (Venice Boulevard and Robertson Boulevard, Venice Boulevard and National Boulevard, Washington Boulevard and National Boulevard, and Washington Boulevard

and Cattaraugus Avenue) will reduce the potential traffic impacts of the proposed project to less than significant levels at each of these intersections. However, it should be noted that the recommended installation of a new northbound right-turn lane on National Boulevard at Washington Boulevard will require the project to dedicate and widen an approximately 100-foot portion of its National Boulevard frontage south of Washington Boulevard by a minimum of approximately nine feet; this dedication is in addition to an anticipated nine-foot dedication required as part of the Expo Line project's roadway improvements. If the additional dedication and widening cannot be accommodated by the project, or if for any reason the recommended right-turn lane is not installed, the project's impacts at this location would remain significant and unavoidable, unless an alternative and similarly effective improvement were to be identified.

Similarly, as noted earlier, two of the projects' significant impacts occur at intersections under the jurisdiction of the City of Los Angeles, Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard. As such, while LADOT has agreed that the proposed mitigation improvements at these locations are acceptable, the City of Culver City cannot guarantee their implementation, and therefore, if the City of Los Angeles does not implement the recommended at one or both of these intersections, the project-related traffic impacts at those locations would remain significant and unavoidable.

The analyses summarized in this report also show that the proposed project would not generate sufficient net new traffic to create significant impacts to any of the adjacent local/residential streets examined in this study, nor would the project be expected to significantly impact any of the regional arterial roadways of freeways in the vicinity. As a result, no further off-site traffic mitigation measures beyond those described above are warranted for the project.

The proposed project will provide a total of approximately 356 on-site parking spaces, located within a multi-level (one semi-subterranean and two subterranean levels) parking garage, including 341 project-related spaces, plus an additional 15 public parking spaces provided as replacement for existing on-street spaces along the project's Wesley Street frontage removed as part of the development. A total of approximately 129 retail/commercial parking spaces are located on the semi-subterranean (23 spaces) and B-1 (106 spaces) parking levels, as are the 15 public parking replacement spaces (semi-subterranean level only). Additionally, a total of approximately 212 residential spaces (179 resident-only spaces on the B-2 level, plus 4 resident and 29 residential guest spaces located on the B-1 level) are also provided. This proposed parking supply exceeds the current City parking requirements for the development by a total of

18 spaces (not including the 15 public parking replacement spaces). As a result, no significant parking-related impacts resulting from on-site parking shortages or "overflow" parking onto nearby residential or commercial streets by project employees or visitors are anticipated.

All of the on-site parking stalls will be standard sized spaces (18 feet by nine feet) as required by the City of Culver City Zoning Code. Further, all of the proposed retail/commercial spaces and residential guest spaces, as well as the 15 public parking replacement spaces, will be direct access (no tandem or valet assist) spaces. However, a total of 46 of the 183 resident-only parking spaces (approximately 25 percent), all on the B-2 level, will be configured as tandem spaces. These spaces will be assigned exclusively to the two- and three-bedroom units, as required by the City Zoning Code, with one "pair" of tandem spaces assigned to a single two- or three-bedroom unit. The current Zoning Code states that individual spaces within a tandem parking "pair" cannot be assigned to different units, nor can they be assigned as guest parking spaces. The proposed project exhibits a sufficient number of two- and three-bedroom units (a total of 56 units, including 46 two-bedroom and 10 three-bedroom) such that the 46 pairs of tandem resident-only parking spaces can be fully assigned to such units. Therefore, this arrangement of residential parking spaces is considered to be acceptable, and no operational impacts associated with the proposed resident-only tandem spaces are anticipated.

The project's on-site parking facilities are accessed by two driveways; one located along the site's Washington Boulevard frontage, approximately mid-block between National Boulevard and Wesley Street, and the second located along Wesley Street near the southeastern edge of the project site. Both driveways provide direct access to the approximately 23 retail/commercial parking spaces and 15 public parking replacement spaces on the semi-subterranean level of the parking garage, as well as to an internal garage access ramp, located near the center of the garage, to the subterranean parking levels, which contain the remaining 106 retail/commercial, 4 resident-only, and 29 residential guest parking spaces located on the B-1 parking level, and to the 179 resident-only spaces located on the B-2 level of the garage. Both driveways will be controlled via ticket-dispenser/access card readers and gate arms located internal to the site near the driveway entrances to the garage. Additionally, although the retail/commercial spaces and residential guest spaces are proposed to be shared within the B-1 level parking field, access to the B-2 level resident-only parking spaces is controlled via an internal gate at the ramp between the B-1 and B-2 levels, and is therefore available only to project residents.

Due to physical constraints at both of the site's driveways, it is anticipated that the exiting movements at these locations will utilize a "pre-pay" format, and thereby not require an attendant and associated kiosk at either driveway. Typical pre-pay exit operations require that visitors to the site take their parking tickets with them as they patronize the project, and pay at a parking payment kiosk or parking office located on-site before returning to their vehicles. Upon payment, visitors are issued a ticket to operate the exit gate arms at the driveways. This type of pre-pay parking operation is common, and is currently in place at a number of developments throughout the region. Such pre-pay exit requirements do not affect the operations of the automated entry ticket dispensers at either of the site's driveways, and as such, will not result in any reduction in entering capacity at the driveways or create disruption of the traffic flows along Washington Boulevard adjacent to the project site.

A review of the project's proposed retail/commercial and residential parking and access plans indicates that the internal vehicular circulation and parking layout is acceptable. However, it is recommended that the project's Washington Boulevard driveway be limited to right-turn entry/right-turn exit operations due to its location adjacent to the existing westbound left-turn lane on Washington Boulevard, as well as its proximity to the intersection of Washington Boulevard and National Boulevard.

In addition to the retail/commercial and residential parking facilities described previously, the project will also provide an on-site loading dock for the supermarket component of the site, located at the southeastern corner of the site, designed to accommodate full-size semi-trailer trucks, and accessed via an additional driveway on Wesley Street, just south of the proposed retail/commercial and residential access driveway. Since no on-site "turnaround" facilities can be provided for the loading dock due to the limited site size, "inbound" delivery trucks will drive past (south of) the project's Wesley Street driveway and back into the loading dock. While backing into a loading dock from an adjacent street is not typically the preferred access method, this maneuver will not create any significant traffic or access impacts to Wesley Street operations, since this street is a limited-use cul-de-sac facility in the immediate project vicinity.

Further, as described in the discussion of the proposed mitigation improvements for Wesley Street, it is recommended that a new striped "median" island be provided south of the project's parking garage driveway as a "staging" location for inbound delivery trucks waiting to back into the loading dock, in order to further minimize any potential traffic disruptions to Wesley Street operations. It is also recommended that all deliveries to the on-site loading dock be limited to

times when the operations of the retail/commercial components of the site are minimal (such as before or after the retail/commercial uses' typical hours of operation), and that on-site personnel be designated to assist with such loading dock "backing" maneuvers to prevent conflicts with any vehicles using Wesley Street or accessing the project's adjacent Wesley Street parking garage access driveway. With the provision of parking assist personnel and off-peak period scheduling of deliveries, the truck "backing" maneuver is not anticipated to create any significant traffic or access impacts to the project's on-site or adjacent street vehicular circulation.

Upon leaving the on-site loading dock, trucks will simply exit the parking garage via a left-turn to travel to Washington Boulevard; no significant effects of this maneuver are anticipated, although due to the limited roadway width along Wesley Street adjacent to the project site, the trucks will temporarily cross over both travel lanes on this street as they exit the site. These conditions are typical of commercial vehicle loading dock operations throughout the City, and as noted before, due to the limited number of deliveries and relatively low traffic volumes along Wesley Street in the immediate project vicinity, the proposed location, configuration, and operations of the on-site supermarket loading dock are acceptable.

Finally, in addition to the on-site supermarket loading dock, a short-term loading zone accommodating up to two 30-foot long single-unit trucks or one 55-foot long semi-trailer truck is proposed along the project frontage of Wesley Street, between Washington Boulevard and the proposed parking garage access driveway; this loading zone is anticipated to be used as loading spaces for the proposed drugstore/pharmacy and other retail/commercial uses, and/or for residential loading/unloading activities. On-street loading spaces such as those proposed are permitted through approval by the City Engineer or Traffic Committee. It is recommended that any on-street loading areas should be located sufficiently distant from the project's Wesley Street parking garage access driveway such that site distance for exiting driveway traffic (looking toward Washington Boulevard) is not impaired, but adequately distant from Washington Boulevard such that no sight distance issues for eastbound right-turns at Wesley Street are created. However, due to the limited amount of traffic on Wesley Street (even with development of the proposed project and other future developments) and other factors, no significant operational or access issues associated with the on-street loading area are anticipated

Additionally, as described earlier, it is recommended that all on-street parking on Wesley Street be removed (with the exception of the proposed new curbside loading zone), in order to facilitate the operations of the on-street loading area without creating conflicts with vehicles

attempting to access the existing on-street spaces. A total of approximately 20 spaces are currently provided along Wesley Street in the immediate project vicinity, including 10 spaces on the east side of the street (opposite the project site), and 10 spaces on the west side of the street, including eight spaces adjacent to the project's frontage. The project will provide a total of 15 on-site public parking spaces as replacement for the 12 total removed existing spaces that are not immediately adjacent to the project frontage; the eight existing on-street spaces along the project frontage of Wesley Street are considered to be site-serving spaces, and their replacement is appropriately assumed to be accommodated within the project's code parking requirements. As a result, the removal of the existing on-street public parking spaces on Wesley Street is adequately compensated by the proposed project, and no secondary significant impacts are anticipated.

With the implementation of the recommended intersection and roadway mitigation improvements, along with the operational modifications described above, all of the project's potential traffic, access, and vehicular circulation impacts will be reduced to less than significant levels, and no further mitigation measures are required.

TABLE OF CONTENTS

Page

INTRODUCTION **1**

PROJECT DESCRIPTION **6**
Project Traffic Generation 6
Project Geographic Trip Distribution 12
Project Traffic Assignment 12
Project Parking and Access 16
Parking Requirements 25
Site Vehicular Access and Parking Operations 27
Project Roadway Improvements 35

TRAFFIC IMPACT ANALYSIS STUDY AREA **37**
Environmental Setting 37
Area Transportation Facilities 37
Public Transportation 45

ANALYSIS OF AREA TRAFFIC CONDITIONS **49**
Existing (Year 2010) Traffic Volumes 49
Analysis of Existing (Year 2010) Traffic Conditions 49
Future (Year 2013) Traffic Volumes 61
Without Project Traffic Forecasts 61
Ambient Traffic Growth 62
Related Projects 62
Highway System Improvements 73
Analysis of Future (2013) Traffic Conditions 76
Impact Significance Criteria 84
Local/Residential Street Traffic Impact Analysis 86
Project Impacts on Regional Transportation System 94
CMP Monitoring Intersection Impacts 94
CMP Freeway Segment Impacts 96

MITIGATION MEASURES **98**

APPENDICES
A – Related Projects Trip Generation Rates/Equations
B – Intersection Geometrics/Controls and Traffic Count Data Sheets
C – Project Local/Neighborhood Street Trips Calculations
D – Conceptual Traffic Mitigation Improvements and Supporting Information
E – CMA Calculation Worksheets

LIST OF FIGURES

Figure No.		Page
1	Site Vicinity Map	2
2	Study Intersection and Street Segment Locations	5
3	Project Site Plan	7
4	Project Geographic Traffic Distribution Percentages	14
5	Project Component Traffic Assignment Percentages	17
6	Project Component Traffic Volumes – AM Peak Hour	19
7	Project Component Traffic Volumes – PM Peak Hour	21
8	Project Traffic Volumes - Total	23
9	Project Driveway Volumes	33
10	Project Area Transit Service Map	46
11	Existing (2010) Peak Hour Traffic Volumes	50
12	Related Projects Locations Map	64
13	Related Projects Traffic Volumes	71
14	Future (2013) Peak Hour "Without Project" Traffic Volumes	77
15	Future (2013) Peak Hour "With Project" Traffic Volumes	79
16	Net Project Trip Redistributions Due to Traffic Signal Installation	104

LIST OF TABLES

Table No.		Page
1	Project Trip Generation Rates	9
2	Project Trip Generation	11
3	Geographic Project Directional Trip Distribution	12
4	Project Parking Requirements	26
5	Critical Movement Analysis Volume Ranges per Level of Service	54
6	Level of Service as a Function of CMA Value	55
7	HCM Level of Service as a Function of Approach Delay	56
8	Critical Movement Analysis Summary – Existing (2010) Conditions	57
9	Related Projects Descriptions	65
10	Related Projects Trip Generation	68
11	Critical Movement Analysis Summary – Future (2013) Conditions	81
12	City of Culver City Significant Impact Criteria	85
13	City of Los Angeles Significant Impact Criteria	85
14	Local/Residential Traffic Impact Analysis Summary	88
15	City of Culver City Local/Residential Traffic Impact Significance Criteria	93
16	Critical Movement Analysis Summary – Future (2013) With Mitigation Conditions	106

INTRODUCTION

This report summarizes the results of a traffic and parking impact analysis for a proposed new mixed-use residential and retail/commercial project at 8770 Washington Boulevard, along the south side of the street between National Boulevard and Wesley Street, in the northeastern portion of the City of Culver City. The project will contain a total of approximately 115 residential condominium units, and a total of approximately 31,240 square feet of retail/commercial uses, including a 13,900 square foot supermarket, an 11,800 square foot drugstore/pharmacy, a 2,300 square foot restaurant, and a total of 3,240 square feet of café area. The development will also provide a total of approximately 356 total on-site parking spaces, including approximately 129 retail/commercial spaces, 212 resident and guest spaces, and 15 public parking spaces (replacement of existing on-street parking removed along the site's Wesley Street frontage), located in a multi-level, semi-subterranean and subterranean parking garage. The project site is developed with a number of structures formerly housing the Spartan Roofing Supply company and its associated equipment and supply storage facilities, although this business vacated the site in April 2008. The site is currently utilized as long-term parking for trucks, trailers, and construction equipment, and for daily parking for faculty and staff of the nearby Turning Point School. The project site and surrounding vicinity are shown in Figure 1.

Hirsch/Green Transportation Consulting, Inc. ("Hirsch/Green") was retained by the project applicant to study the potential impacts of the proposed development on the operations of the streets and intersections surrounding the project site. The scope of the study was reviewed by the City of Culver City Public Works Department traffic engineering staff to ensure that appropriate analysis methodologies and assumptions were utilized. Based on those scoping discussions and City recommendations, this study evaluates the existing (year 2010) and forecast future (year 2013) conditions at a total of 34 intersections adjacent to or in close proximity to the project site during both the AM and PM peak hours. These intersections, listed below, represent the locations most likely to be affected by project-generated traffic.

1. Robertson Boulevard and Cattaraugus Avenue [1]
2. Robertson Boulevard and WB I-10 Freeway Off-Ramp/Kincardine Avenue [1]
3. Robertson Boulevard and National Boulevard [1]
4. National Boulevard and I-10 EB On-Ramp [1]
5. Venice Boulevard and Hughes Avenue [1]
6. Venice Boulevard and Bagley Avenue [1]

WASHINGTON-NATIONAL EMC (CULVER CITY) \ VICINITY

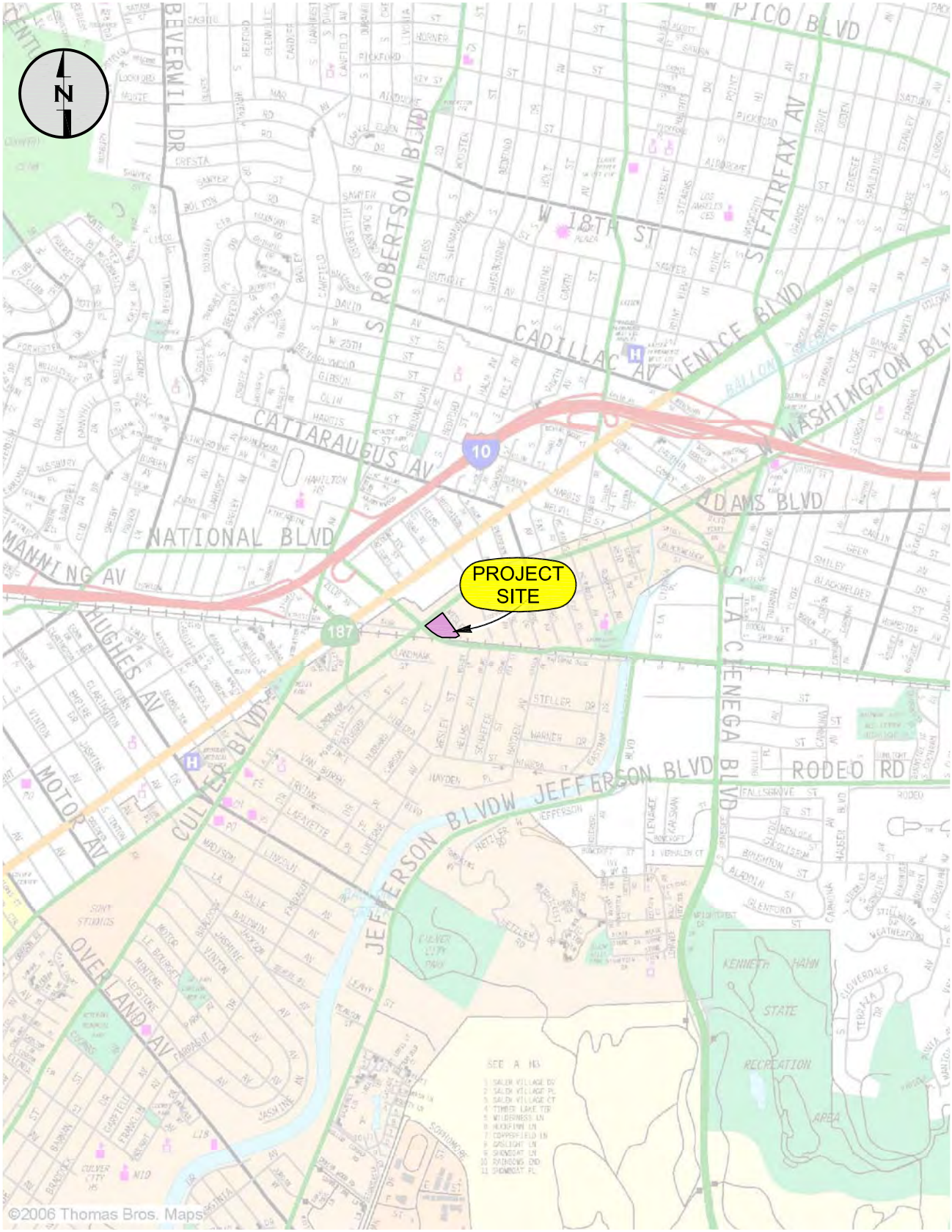


FIGURE 1

12/5/2008

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

8770 WASHINGTON BOULEVARD MIXED-USE PROJECT
SITE VICINITY MAP

7. Venice Boulevard and Culver Boulevard [1]
8. Venice Boulevard and Robertson Boulevard [1]
9. Venice Boulevard and National Boulevard [1]
10. Venice Boulevard and Helms Avenue [1]
11. Venice Boulevard and Cattaraugus Avenue [1]
12. Venice Boulevard and La Cienega Boulevard [1]
13. Washington Boulevard and Hughes Avenue
14. Culver Boulevard and Duquesne Avenue
15. Washington Boulevard, Culver Boulevard and Irving Place
16. Washington Boulevard and Main Street
17. Washington Boulevard and Culver Boulevard
18. Washington Boulevard and Robertson Boulevard/Higuera Street
19. Washington Boulevard and Landmark Street
20. Washington Boulevard and National Boulevard
21. Washington Boulevard and Wesley Street
22. Washington Boulevard and Helms Avenue
23. Washington Boulevard and Cattaraugus Avenue
24. Washington Boulevard and La Cienega Boulevard
25. La Cienega Boulevard and Fairfax Avenue [2]
26. National Boulevard and Wesley Street
27. National Boulevard and Hayden Avenue
28. National Boulevard and Jefferson Boulevard [1]
29. National Boulevard and La Cienega Boulevard [1]
30. Higuera Street/Rodeo Road and Jefferson Boulevard [1]
31. Rodeo Road and La Cienega Boulevard [1]
32. Hughes Avenue and Braddock Drive
33. Hughes Avenue and Lucerne Avenue
34. Hughes Avenue and Jefferson Boulevard

Notes:

[1] Intersection under jurisdiction of City of Los Angeles

[2] Intersection under jurisdiction of City of Culver City, but traffic signal maintained by City of Los Angeles

In addition to these 34 study intersections, the potential project impacts were also investigated on eight local/residential access roadways adjacent to the project site, as listed below.

a. Lucerne Avenue, between Ince Boulevard and Duquesne Avenue
b. Lucerne Avenue, south of Higuera Street
c. Wesley Street, between Higuera Street and National Boulevard
d. Helms Avenue, between Higuera Street and National Boulevard
e. Schaefer Street, between Higuera Street and National Boulevard
f. Higuera Street, between Washington Boulevard and Lucerne Avenue
g. Higuera Street, between Lucerne Avenue and Wesley Street
h. Higuera Street, between Wesley Street and Jefferson Boulevard

These roadway segments were selected because they each exhibit the potential for use by project-related traffic as access routes between the project site and the surrounding arterial roadway network. The locations of the selected study intersections and local/residential street segments in relation to the project site are shown in Figure 2.

WASHINGTON-NATIONAL EMC (CULVER CITY) \ STUDYINTS

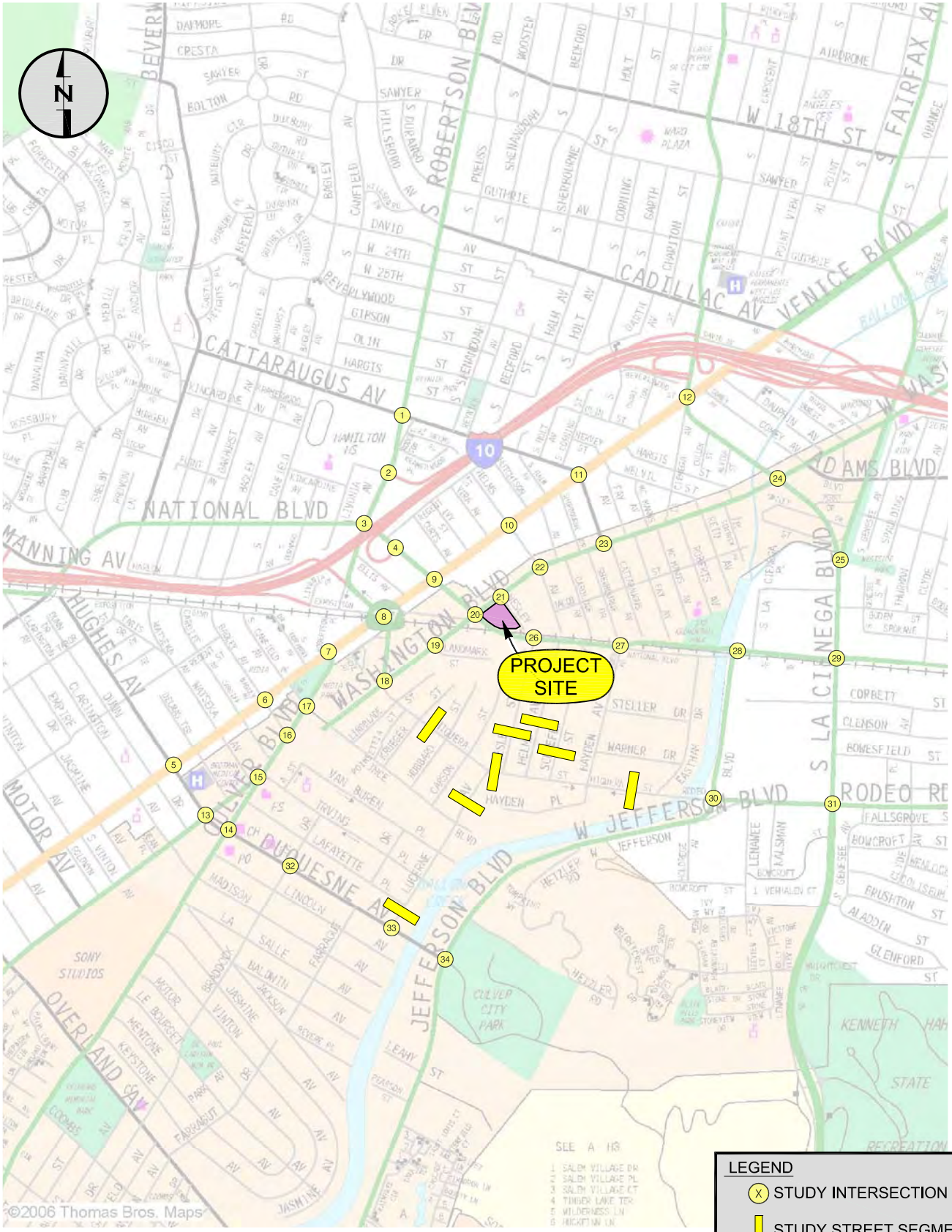


FIGURE 2

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

8770 WASHINGTON BOULEVARD MIXED-USE PROJECT
PROPOSED STUDY INTERSECTION AND
STREET SEGMENT LOCATIONS

2/23/2009

PROJECT DESCRIPTION

The project under consideration is a new mixed-use residential and retail/commercial development located at 8770 Washington Boulevard, along the south side of the street between National Boulevard and Wesley Street, in the northeastern portion of the City of Culver City. The proposed project will contain approximately 115 residential condominium units and a total of approximately 31,240 square feet of retail/commercial uses, including a 13,900 square foot supermarket, an 11,800 square foot drugstore/pharmacy, a 2,300 square foot restaurant, and a total of 3,240 square feet of café area. An approximately 356-space multi-level on-site parking garage (one semi-subterranean and two subterranean levels) is also proposed as part of the project. The parking facilities are accessed by two driveways; one located along the site's Washington Boulevard frontage, approximately mid-block between National Boulevard and Wesley Street, and the second located along Wesley Street near the southeastern edge of the project site. The project's first floor (and semi-subterranean parking level) layout is shown in Figure 3(a), while the parking configurations of the two subterranean parking levels are shown in Figure 3(b). The project site is currently developed with a number of structures formerly housing the Spartan Roofing Supply company, including a large surface parking lot. However, the on-site buildings have been vacant since April 2008, and the existing parking lot is currently used as long-term parking for trucks, trailers, and construction equipment, and for daily parking for faculty and staff of the nearby Turning Point School.

Project Traffic Generation

Traffic-generating characteristics of many land uses, including the residential condominium, and retail/commercial (supermarket, drugstore/pharmacy, and restaurant/café) uses comprising the proposed project, have been extensively surveyed and documented in studies conducted under the auspices of the Institute of Transportation Engineers (ITE). The most recent information is available in the ITE 8th Edition *Trip Generation* manual.[1] The trip generation data contained in the ITE manual are nationally recognized, and are used as the basis for most traffic studies conducted in the City of Culver City; the City's traffic engineering staff recommended the use of the ITE rates in the preparation of this study. The trip generation rates utilized to estimate the amount of new traffic resulting from the development of the proposed project, including the residential condominium, supermarket and drugstore/pharmacy uses, general retail space, and café component, are summarized in Table 1.

[1] *Trip Generation*, 8th Edition, Institute of Transportation Engineers, Washington, D.C., 2008.

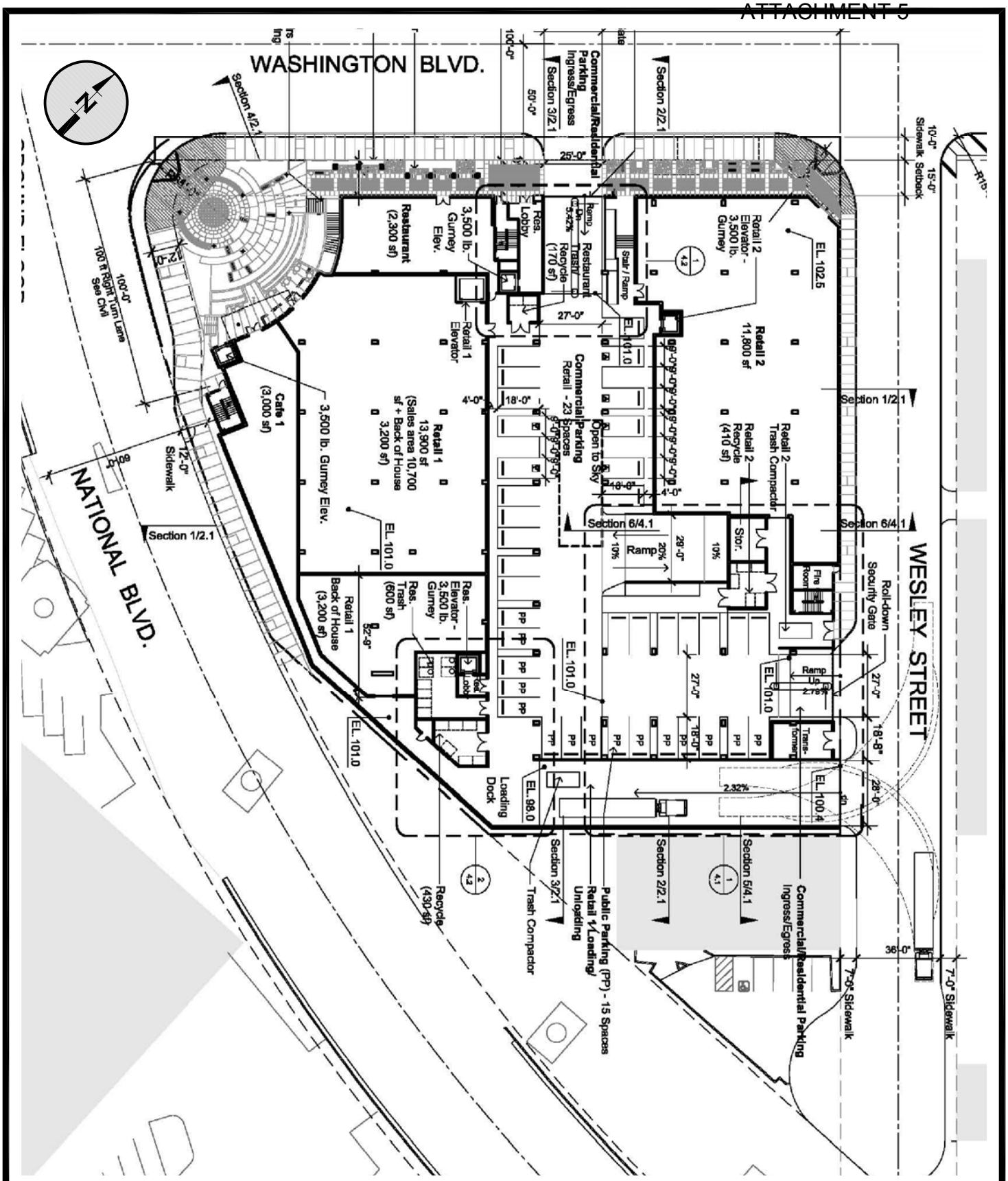
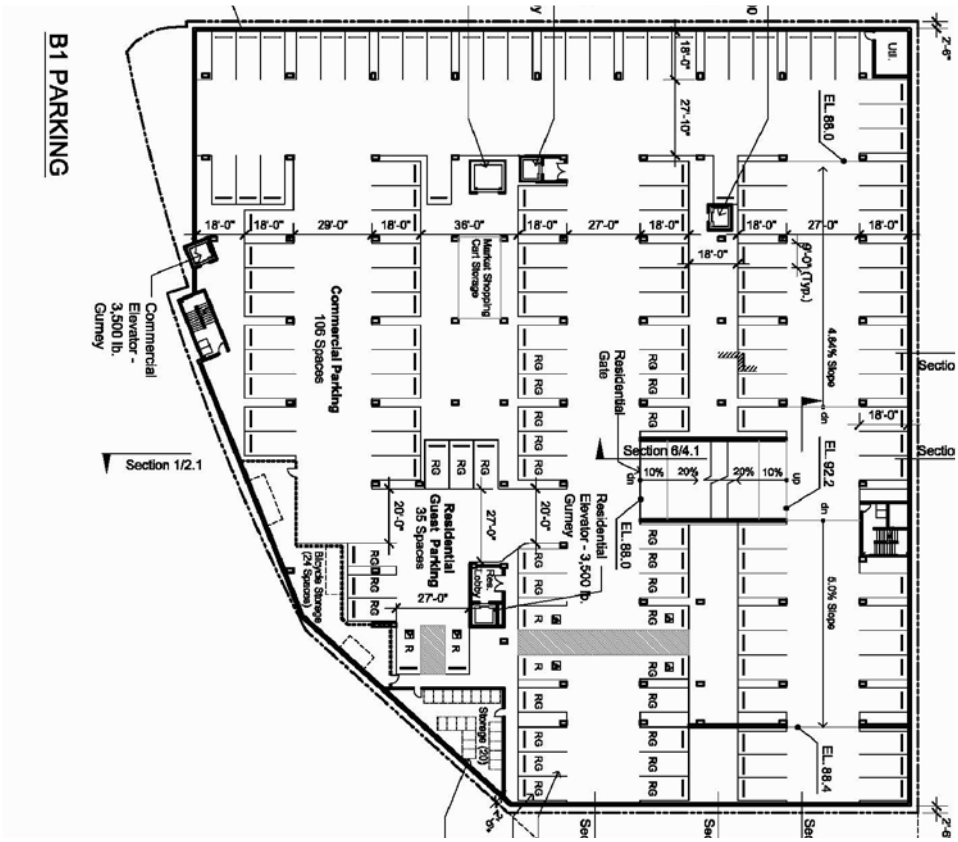


FIGURE 3(a)

PROJECT GROUND FLOOR SITE LAYOUT

WASHINGTON-NATIONAL EMC (CULVER CITY) \ SITE-LAYOUT



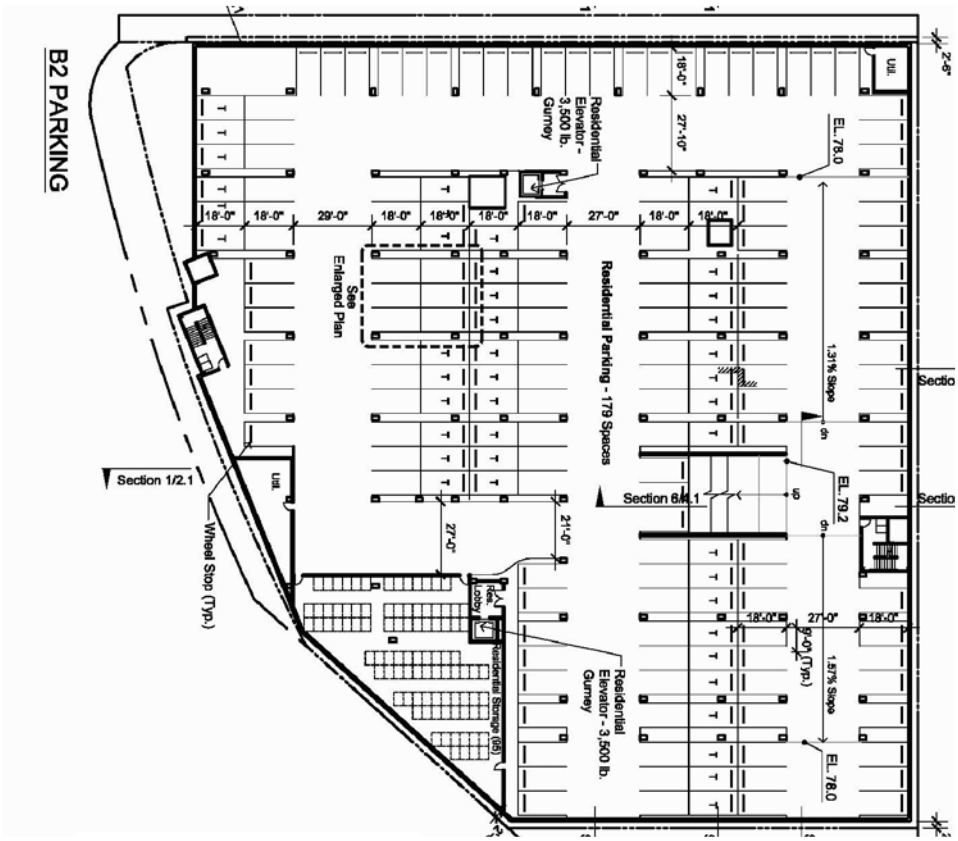


FIGURE 3(b)

7/28/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

PROJECT SUBTERRANEAN PARKING LEVELS

Table 1
Project Trip Generation Rates*

Condominium/Townhome - per dwelling unit (ITE Land Use 230)

Daily Trips:	T = 5.81 (A)
AM Peak Hour:	T = 0.44 (A); I/B = 17%, O/B = 83%
PM Peak Hour:	T = 0.52 (A); I/B = 67%, O/B = 33%

Supermarket - per 1,000 gross square feet of floor area (ITE Land Use 850)

Daily Trips:	T = 102.24 (A)
AM Peak Hour:	T = 3.59 (A); I/B = 61%, O/B = 39%
PM Peak Hour:	T = 10.50 (A); I/B = 51%, O/B = 49%

Pharmacy/Drugstore without Drive-Through - per 1,000 gross square feet of floor area (ITE Land Use 880)

Daily Trips:	T = 90.06 (A)
AM Peak Hour:	T = 3.20 (A); I/B = 59%, O/B = 41%
PM Peak Hour:	T = 8.42 (A); I/B = 50%, O/B = 50%

Specialty Retail Center - per 1,000 gross square feet of floor area (ITE Land Use 814)

Daily Trips:	T = 44.32 (A)	
AM Peak Hour:	T = 1.33 (A); I/B = 60%, O/B = 40%	(3% of Daily trips, per SanDAG data)
PM Peak Hour:	T = 2.71 (A); I/B = 44%, O/B = 56%	

High-Turnover (Sit-Down) Restaurant - per 1,000 gross square feet of floor area (ITE Land Use 932)

Daily Trips:	T = 127.15 (A)
AM Peak Hour:	T = 11.52 (A); I/B = 52%, O/B = 48%
PM Peak Hour:	T = 11.15 (A); I/B = 59%, O/B = 41%

T = Trip Ends
A = Building Area in 1,000 sq. ft.
U = Number of Residential Units

I/B = Inbound Trip Percentage
O/B = Outbound Trip Percentage

* Note:
All trip generation rates 8th Ed. ITE Trip Generation.

It should be noted that the trip generation estimates derived using the trip generation rates summarized in Table 1 generally represent a “worst case” calculation; the ITE data typically reflect the traffic generation characteristics of suburban, “stand alone” developments that do not exhibit any significant transit service or pedestrian patronage. These factors can reduce the number of trips generated by developments in close proximity to effective transit service, or located so as to serve an existing community through pedestrian friendly and accessible design.

Based on the project’s mix of on-site residential and retail/commercial components, and a review of data provided in the ITE Trip Generation publication for other studied mixed-use developments, it was determined that an approximately 10 percent reduction in the

retail/commercial component (supermarket, drugstore/pharmacy, and restaurant/café) trips to and from the project site would be realized through use of these convenient retail facilities by project residents, who would no longer need to drive to other off-site facilities in order to shop for goods or services provided by these on-site amenities.

Additionally, based on the project's location at the intersection of Washington Boulevard and National Boulevard, both of which are key public transit corridors through the City and the general project vicinity, and the location of the future Los Angeles County Metropolitan Transportation Authority ("Metro") Expo Line light rail station being constructed near the southwest corner of Venice Boulevard and National Boulevard, approximately adjacent to the project site (as described later in this study), the City Traffic Engineer noted that the project's residential component would exhibit at least a modest degree of public transit utilization. An examination of the capacities and service routes for the existing bus lines in the area, along with the operations and station locations for the proposed Expo Line light rail transit facilities determined that an approximately 7.5 percent reduction in residential-related project trips could result from the use of these conveniently located bus lines and future public transit facilities.

Further, in addition to these "on-site" and "transit" related trip reducing factors, the effects of "pass-by trips" on the project's net new traffic additions to the vicinity may be considerable. The concept of pass-by traffic adjustments involves the "capture" of an existing trip passing by the project site. These existing trips are already on the area roadway network for other purposes, such as a trip to or from work, or perhaps to or from other shopping destinations. As these trips pass by the project site, the specific convenient facilities provided by the project, or other factors produces a stop at the site. Such activity is considered to be an interim stop along a trip which existed without the development of the project, and therefore vehicles making these stops are not considered to be newly generated project-related traffic.

As such, based on information contained in the ITE data as well as from LADOT and San Diego Association of Governments (SanDAG) data, and consultation with the City Traffic Engineer, the project's proposed supermarket, drugstore/pharmacy, and restaurant/café components are expected to exhibit approximately 20 percent of their patronage as pass-by traffic. These are considered to be highly conservative assumptions, as the ITE data indicates that land uses similar to those anticipated within the proposed project routinely experience between 40 percent (supermarket, and restaurant/café) and 60 percent (pharmacy/drugstore) of their peak hour patronage from pass-by trips.

Therefore, using the "baseline" ITE trip generation rates shown in Table 1, adjusted to account for the trip reductions resulting from the mixed-use nature of the project itself, the use of the convenient public transit facilities, and nominal pass-by traffic effects, the amount of net new traffic generated by the proposed project was estimated. Note that, since the existing uses on the project site are currently vacant, no adjustments for removal of existing site-related traffic were assumed. The results of the project trip generation calculations are shown in Table 2.

Table 2
Project Trip Generation

Size/Use	Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Proposed Project							
115 unit Condominium	668	9	42	51	40	20	60
(Less 7.5% Transit Use)	(50)	(1)	(3)	(4)	(3)	(2)	(5)
Net Condominium Trips	618	8	39	47	37	18	55
13,900 sq. ft. Supermarket	1,421	31	19	50	74	72	146
(Less 10% Internal Project Capture)	(142)	(3)	(2)	(5)	(8)	(7)	(15)
(Less 20% Pass-by Trips)	(256)	(5)	(4)	(9)	(13)	(13)	(26)
Net Supermarket Trips	1,023	23	13	36	53	52	105
11,800 sq. ft. Pharmacy/Drugstore	1,063	22	16	38	49	50	99
(Less 10% Internal Project Capture)	(106)	(2)	(2)	(4)	(5)	(5)	(10)
(Less 20% Pass-by Trips)	(191)	(4)	(3)	(7)	(9)	(9)	(18)
Net Pharmacy/Drugstore Trips	766	16	11	27	35	36	71
2,300 sq. ft. Restaurant	292	14	12	26	15	11	26
(Less 10% Internal Project Capture)	(29)	(2)	(1)	(3)	(2)	(1)	(3)
(Less 20% Pass-by Trips)	(53)	(3)	(2)	(5)	(3)	(2)	(5)
Net Retail Trips	210	9	9	18	10	8	18
3,240 sq. ft. Café	412	19	18	37	21	15	36
(Less 10% Internal Project Capture)	(41)	(2)	(2)	(4)	(2)	(2)	(4)
(Less 20% Pass-by Trips)	(74)	(4)	(3)	(7)	(4)	(2)	(6)
Net Cafe Trips	297	13	13	26	15	11	26
Total Project Trips	2,914	69	85	154	150	125	275
Less Existing Uses (Removed)							
Spartan Roofing Supply Company (vacant)	----	---	---	---	---	---	---
Net New Site Trips	***2,914***	***69***	***85***	***154***	***150***	***125***	***275***

As shown in Table 2, once the new development is completed and occupied, the project is expected to result in a net increase in site-related trips of approximately 2,914 net new daily trips, including a net increase of approximately 154 net new trips (69 inbound, 85 outbound) during the AM peak hour, and approximately 275 net new trips (150 inbound, 125 outbound) during the PM peak hour. This net level of project traffic was used to evaluate the proposed project's potential impacts at the 34 study intersections and on the eight local/residential access roadways identified earlier in this report.

Project Geographic Trip Distribution

Next, the general geographic distribution of the project trips was identified, based on several factors, including the relative distribution of employment opportunities, shopping and entertainment venues, locations of other services, and other factors for the proposed residential uses, and employee residential locations, and locations of potential patronage generators for the commercial components of the site. Local and regional demographic information was also reviewed, and the existing traffic patterns and land uses in the project area were analyzed to estimate the overall geographic distribution of project trips throughout the local area and surrounding region. Trip distribution percentages were developed separately for the residential and commercial components of the project, as summarized in Table 3.

Table 3
Geographic Project Trip Distribution Percentages

	Surface Streets		Freeways		Totals	
Direction	**Residential**	**Commercial**	**Residential**	**Commercial**	**Residential**	**Commercial**
North	18%	20%	n/a	n/a	18%	20%
South	11%	15%	n/a	n/a	11%	15%
East	18%	25%	15%	10%	33%	35%
West	23%	20%	15%	10%	38%	30%
Totals	70%	80%	30%	20%	100%	100%

Project Traffic Assignment

Using the general geographic directional distribution percentages shown in Table 3, the anticipated roadway and freeway network utilization percentages were determined. Differences in trip-making characteristics, as well as in origin/destination locations and other factors, were incorporated into the assumptions for the various land uses proposed for the project, and as a

result, the different geographic directional distributions and trip-making characteristics assigned to each type of land use resulted in different trip assignments for the "residential" and "retail/commercial" components of the project. The resulting project trip assignment percentages along the key travel facilities in the study area are shown in Figure 4(a) for the residential uses, and in Figure 4(b) for the project's retail/commercial components. This process identified the approximate percentages of project traffic expected to utilize each of the key streets and freeway facilities in the vicinity.

The general project traffic travel patterns noted in Table 3 and shown in Figures 4(a) and 4(b) were then further refined to produce the intersection-level detail necessary to assess the project's traffic effects on the selected study intersections and local access roadways. This step involved the identification of specific turning movements for project traffic at each of the study intersections as vehicles travel to and from the project site, and considered many factors influencing the project traffic's access routes to and from the site, including turn restrictions at various intersections, and the locations and intended uses and operations of the project's driveways along both Washington Boulevard (right-turn in/right-turn out) and Wesley Street.

Consideration was also given to current traffic conditions and travel patterns on the key streets and at intersections near the project site; high traffic volumes and/or traffic congestion at some locations make some moves, such as exiting left-turns from Wesley Street across heavy traffic to access westbound Washington Boulevard, difficult and time consuming, resulting in more circuitous "around the block" travel patterns for some access routes. Observations of current traffic patterns were noted for such delays, and their effects were incorporated into the development of the project traffic assignments. In particular, due to high cross traffic volumes during the peak hours, many of the exiting (northbound) left-turns from Wesley Street to westbound Washington Boulevard were assumed to instead turn right onto eastbound Washington Boulevard, then travel north on Cattaraugus Avenue (Helms Avenue, the nearest north-south street to the west of the project site connecting Washington Boulevard and Venice Boulevard, is closed to through traffic) to westbound Venice Boulevard (and ultimately back to westbound Washington Boulevard) or to northbound National Boulevard.

Again, separate travel patterns were identified for both the residential and retail/commercial components of the proposed project, taking into account the differences in trip-making characteristics and in the general geographic distributions of trips for each of the project components described above. These differences are ultimately reflected in the percentages of

WASHINGTON-NATIONAL EMC (CULVER CITY) \ GENDIST-RES

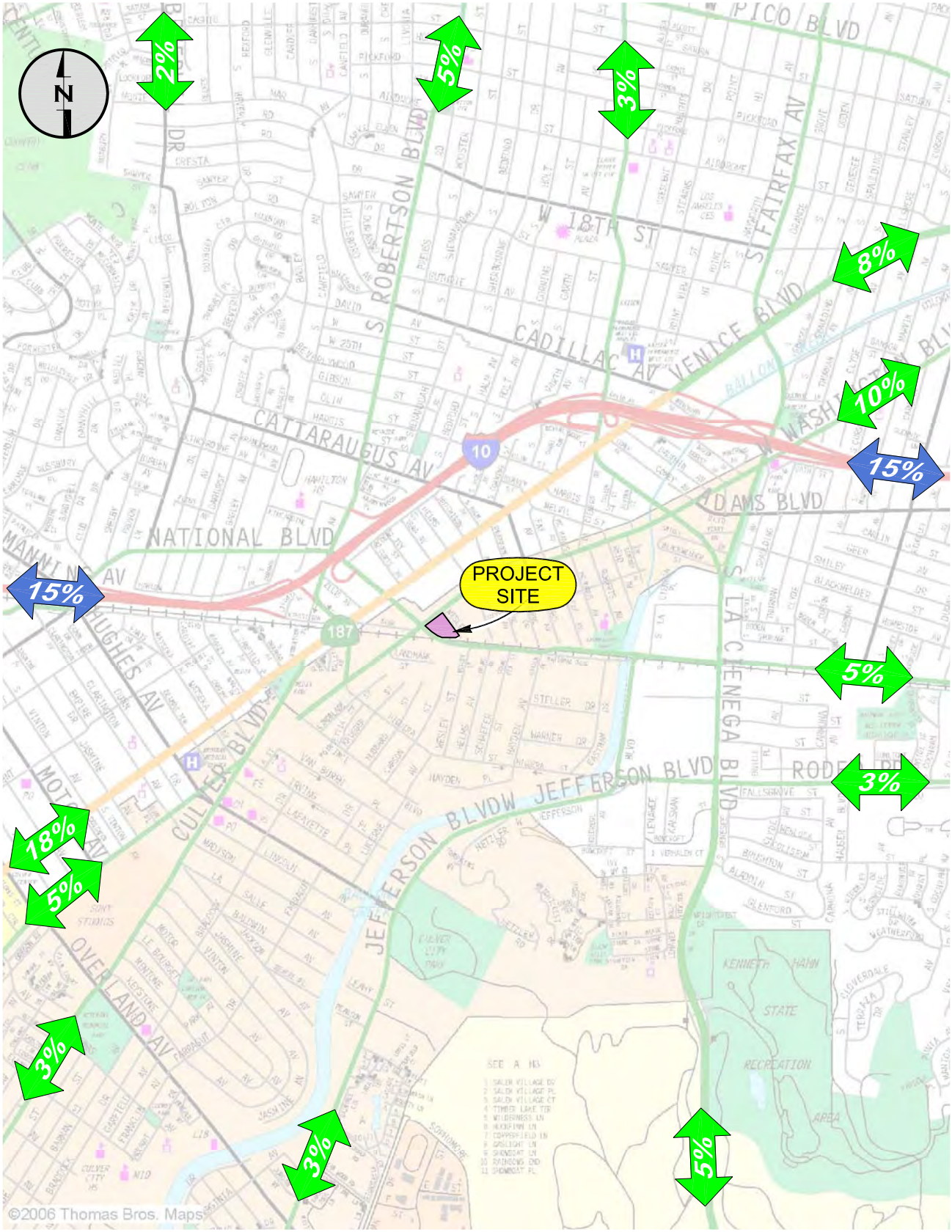


FIGURE 4(a)

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

8770 WASHINGTON BOULEVARD MIXED-USE PROJECT
REGIONAL TRIP DISTRIBUTION PERCENTAGES
(RESIDENTIAL COMPONENT)

2/23/2009

WASHINGTON-NATIONAL EMC (CULVER CITY) \ GENDIST-COM

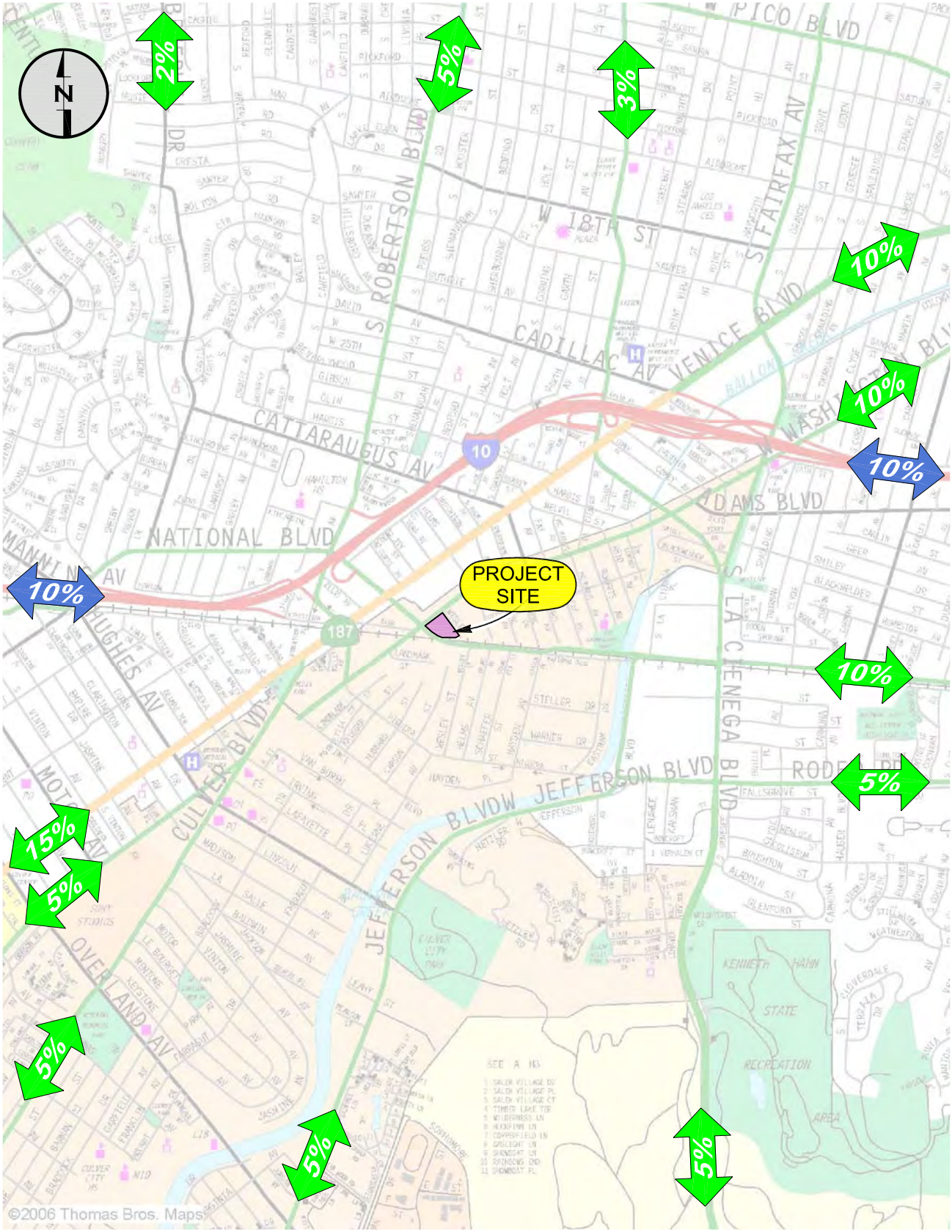


FIGURE 4(b)

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

8770 WASHINGTON BOULEVARD MIXED-USE PROJECT
REGIONAL TRIP DISTRIBUTION PERCENTAGES
(COMMERCIAL COMPONENT)

2/23/2009

traffic utilizing the area roadways for each of the individual project components, and in the discrete turning movement assignments of project component trips at the study intersections. The resulting project traffic assignment percentages are shown in Figure 5(a) for the residential component and in Figure 5(b) for the retail/commercial uses proposed for the site.

The final step was to calculate the number of net new "residential" and "retail/commercial" component trips using the identified travel routes, and their specific movements when traveling through each of the study intersections; the individual trip assignments from the "residential" and "retail/commercial" components were then combined to identify the total project traffic for each of the phases at each study intersection. The results of the project traffic assignment process provide the necessary level of detail to conduct the traffic analysis and to identify incremental project traffic impacts at the study intersections.

The net project traffic additions to each of the 34 study intersections are shown for the AM peak hour in Figure 6(a) for the residential project components, and in Figure 6(b) for the retail/commercial uses, while the PM peak hour residential and retail/commercial component traffic volumes are shown in Figures 7(a) and 7(b), respectively. Finally, the total net project trips, representing the sum of the residential and retail/commercial component trips, are shown for each of the study intersections in Figure 8(a) for the AM peak hour and in Figure 8(b) for the PM peak hour. The values shown in Figures 8(a) and 8(b) represent the anticipated increases in peak hour traffic at each of the study intersections attributable to the project, and provide the level of detail necessary to identify the potential incremental project traffic impacts at each of the selected study intersections and roadway segments identified in this report.

Project Parking and Access

The proposed project will provide a total of approximately 341 on-site parking spaces, including a total of approximately 212 residential spaces (183 resident and 29 guest spaces), and a total of 139 commercial (retail/restaurant/café) spaces, plus an additional 15 public parking spaces for the replacement of existing on-street unmetered parking removed along the Wesley Street frontage of the site as part of the project's development[2]. These parking spaces are located within a multi-level (one semi-subterranean level plus two full subterranean levels) parking garage beneath the site. The semi-subterranean parking level contains 23 of the retail parking

[2] Five metered and one unmetered on-street spaces are also present along the site's Washington Boulevard frontage. These spaces will also be removed, although not as part of the proposed project. The City has indicated that the Washington Boulevard spaces are underutilized, and that it is desirable to remove these spaces (without replacement) in order to accommodate a new bicycle lane along Washington Boulevard, as identified in the City's approved Bicycle and Pedestrian Master Plan.

PROJECT SITE

LEGEND
XX INBOUND
XX OUTBOUND

©2008 Rand McNally & Company

FIGURE 5(a)

8770 WASHINGTON BOULEVARD MIXED-USE PROJECT
TRIP DISTRIBUTION PERCENTAGES - RESIDENTIAL COMPONENT

Hirsch/Green Transportation Consulting, Inc.

PROJECT SITE

LEGEND
XX INBOUND
XX OUTBOUND

©2008 Rand McNally & Company

FIGURE 5(b)
8770 WASHINGTON BOULEVARD MIXED-USE PROJECT
TRIP DISTRIBUTION PERCENTAGES - COMMERCIAL / RETAIL COMPONENT

Hirsch/Green Transportation Consulting, Inc.

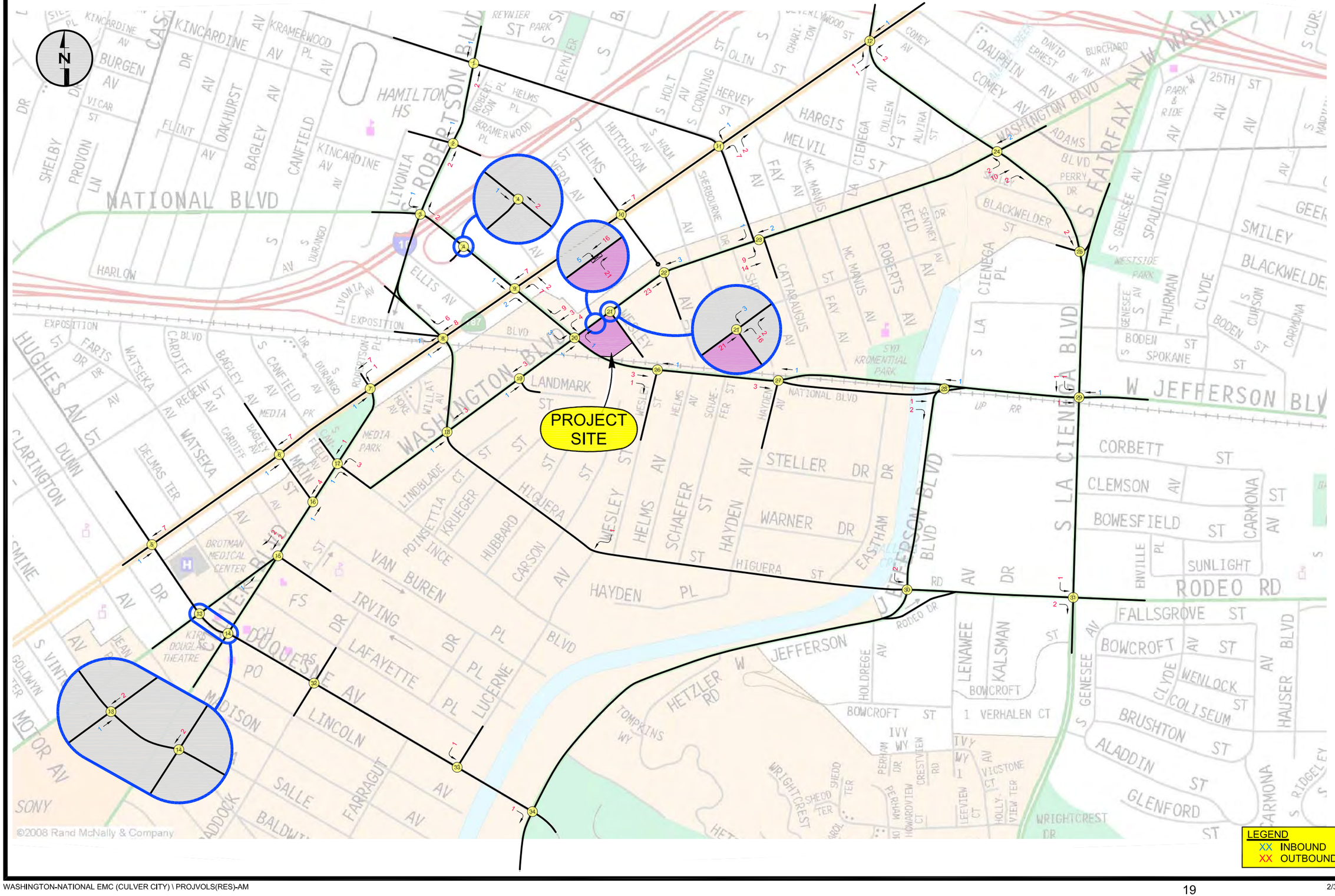


FIGURE 6(a)

NET PROJECT TRAFFIC VOLUMES
(RESIDENTIAL COMPONENT)
AM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

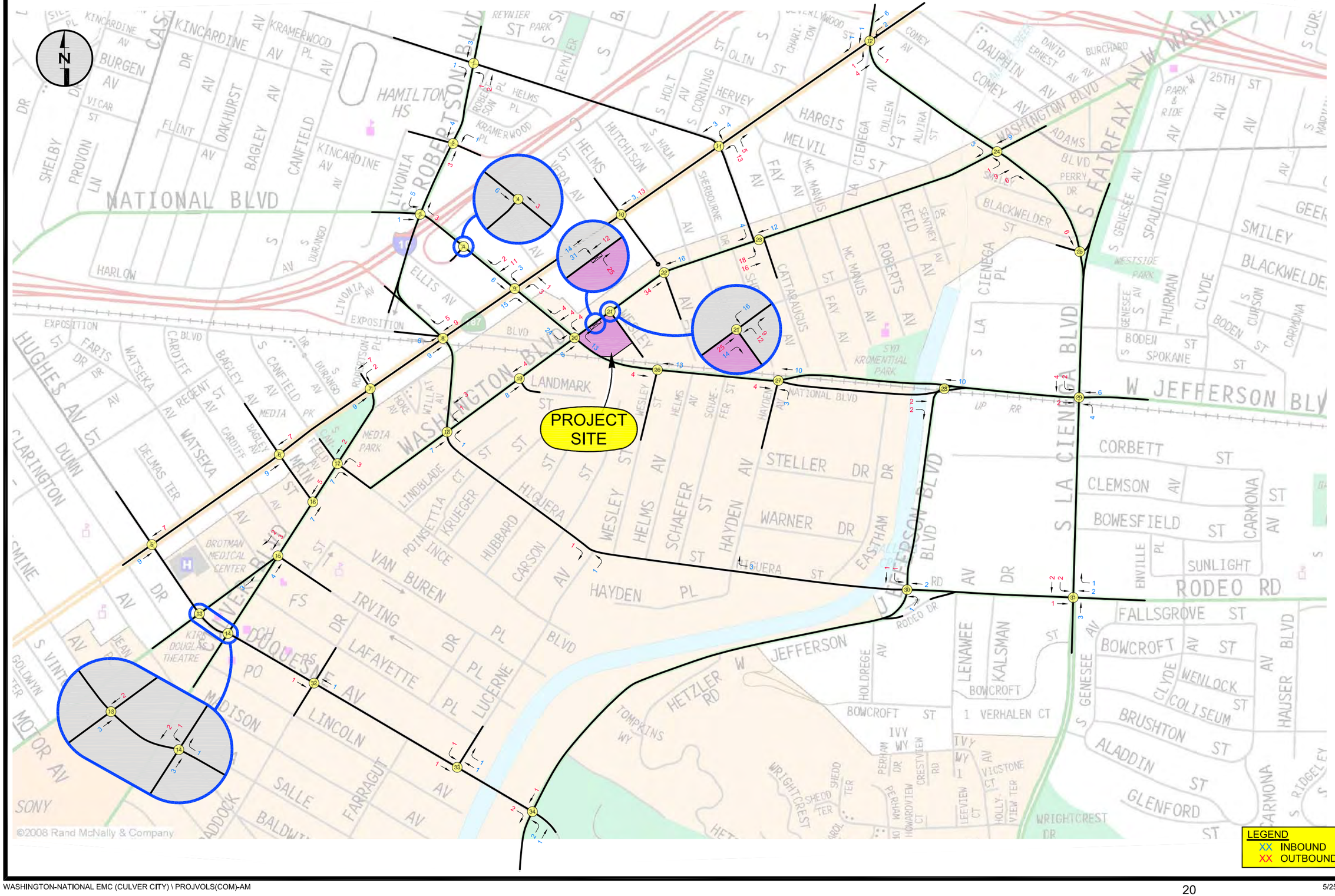


FIGURE 6(b)

NET PROJECT TRAFFIC VOLUMES
(COMMERCIAL COMPONENT)
AM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

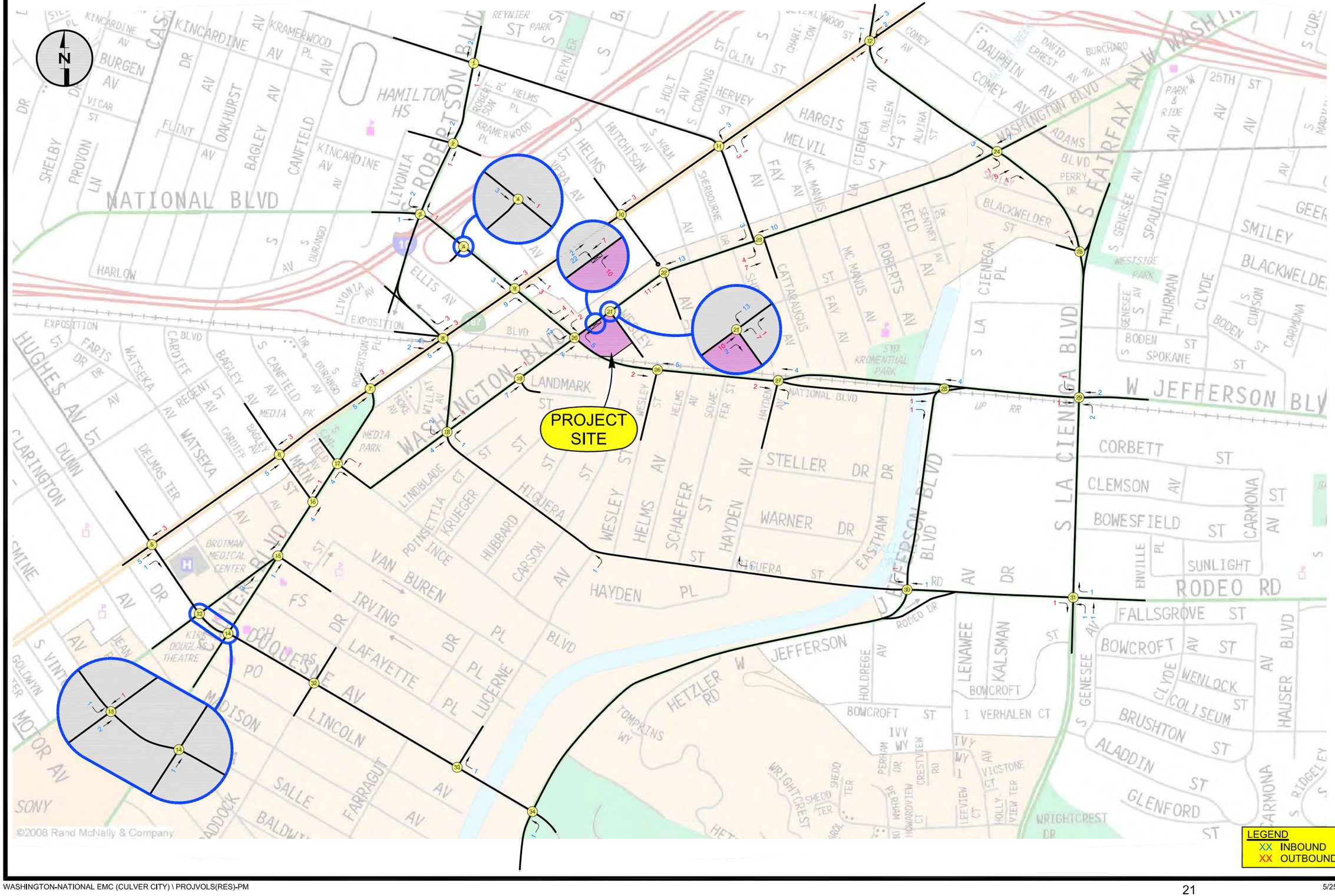


FIGURE 7(a)

NET PROJECT TRAFFIC VOLUMES
(RESIDENTIAL COMPONENT)
PM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

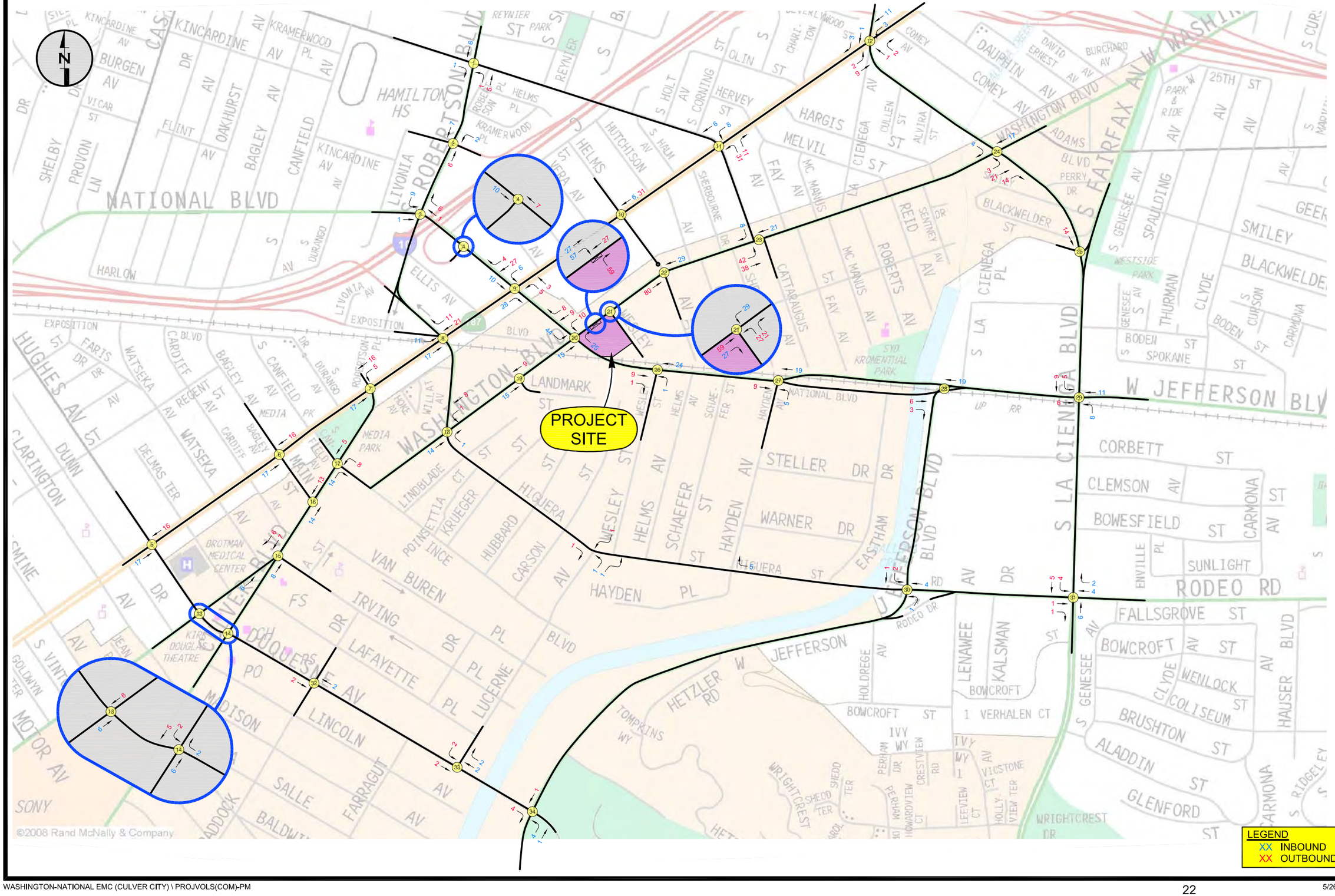


FIGURE 7(b)

NET PROJECT TRAFFIC VOLUMES
(COMMERCIAL COMPONENT)
PM PEAK HOUR

IRSCH REEN
Hirsch/Green Transportation Consulting, Inc.

PROJECT SITE

FIGURE 8(a)

TOTAL NET PROJECT TRAFFIC VOLUMES
AM PEAK HOUR

©2008 Rand McNally & Company

Hirsch/Green Transportation Consulting, Inc.

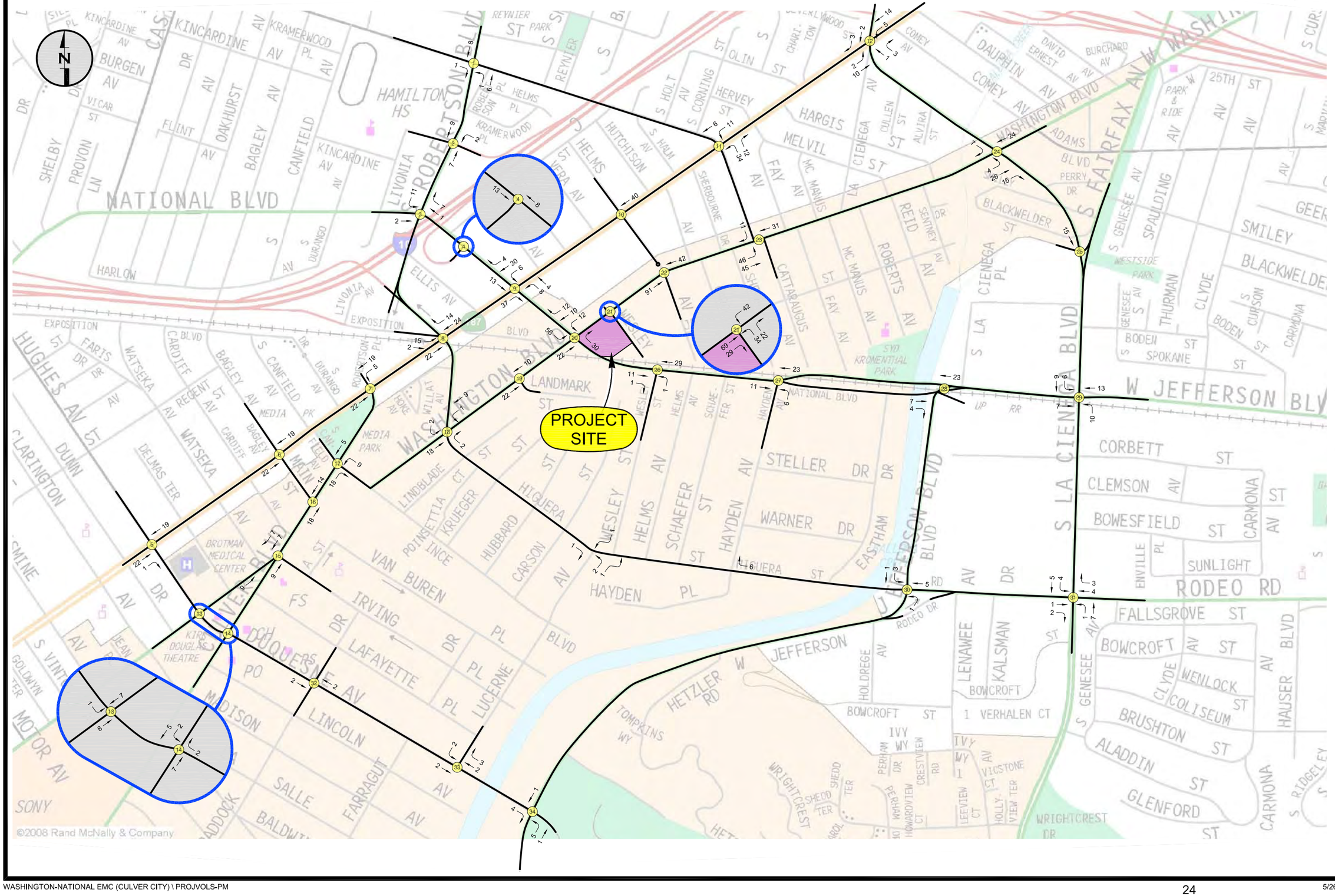


FIGURE 8(b)

NET TOTAL PROJECT TRAFFIC VOLUMES
PM PEAK HOUR

IRSCH REEN
Hirsch/Green Transportation Consulting, Inc.

spaces and the 15 street parking replacement spaces. The B-1 (first subterranean) parking level contains the remaining 106 commercial parking spaces, plus 4 of the resident-only and all 29 of the residential guest parking spaces. The remaining 179 resident-only parking spaces are located on the B-2 level of the garage.

Parking Requirements

The City of Culver City Zoning Code identifies off-street parking requirements for both residential (condominium) developments as well as for various commercial businesses, including supermarket, drugstore/pharmacy, and restaurant/café uses such as those proposed for the subject project. Residential developments are typically required to provide parking on a variable scale, dependent on the number of bedrooms and/or size of the units; for studio and one-bedroom units of less than 900 square feet, only 1.0 parking space per unit is required, for studio and one-bedroom units greater than 900 square feet, and for two- and three-bedroom units, 2.0 parking spaces per unit are required. For four-bedroom units and larger, a minimum of 3.0 spaces per unit are required, plus one space for each bedroom over four bedrooms. Finally, in addition to the specific resident parking space requirements, the City also requires that residential guest parking be provided at a ratio of 1.0 space for every four (4) total units within the development, regardless of the size or number of bedrooms.

The City's current standard parking requirements for "commercial" uses call for the provision of a minimum of 1.0 space for every 350 square feet of gross floor area. The Zoning Code does not make any specific distinctions for either supermarket use or drugstore/pharmacy use in its definition of "general retail", and as such, this default retail parking ratio is considered applicable to both types of facilities. Lastly, restaurant uses, such as the ground floor restaurant and separate ground floor/second floor cafés proposed for the project site, are required to provide a minimum of 9.0 spaces per 1,000 square feet of floor space, inclusive of any outdoor dining area, although the parking code allows that no parking is required for the first 250 square feet of any outdoor dining areas associated with the restaurant use.

As described earlier, the project proposes to develop a total of approximately 115 residential units, including 59 studio and one-bedroom units (900 square feet or less), 46 two-bedroom units, and 10 three-bedroom units. Additionally, the 31,240 total square foot "commercial" component of the site is proposed to contain an approximately 13,900 square foot supermarket (including approximately 3,200 square feet of back-of-house areas), an 11,800 square foot drugstore/pharmacy, a 2,300 square foot restaurant, and a total of approximately 3,240 square

feet of café area. Based on these current City Zoning Code parking requirements and the project's anticipated component uses and sizes, the amount of parking required for the project was calculated, as summarized in Table 4.

Table 4
Project Parking Requirements

Component	No. Units/Size	Parking Ratio	Parking Required
Residential			
Studio/1-BR (> 900 sq. ft.)	59 units	1.00 /unit	59 spaces
Studio/1-BR (> 900 sq. ft.), and 2- and 3-BR and 2- and 3- BR	56 units	2.00 /unit	112 spaces
Guest Parking	115 units	0.25 /unit	29 spaces
Total Residential Parking Required			200 spaces
Commercial			
Retail [1]	25,700 sq. ft	1.00 /350 sq. ft.	73 spaces
Restaurant	2,300 sq. ft	9.00 /1,000 sq. ft.	21 spaces
Café [2]	3,240 sq. ft	9.00 /1,000 sq. ft.	29 spaces
Total Commercial Parking Required			123 spaces
Total Project Parking Required			***323 spaces***

Note:

[1] Includes 13,900 sq. ft. supermarket, 11,800 sq. ft. drugstore/pharmacy.

[2] Includes total 3,000 sq. ft. ground floor café area, plus 240 sq. ft. 2nd floor cafe.

As shown in Table 4, the project will be required to provide a total of 323 parking spaces, including 200 residential spaces (171 resident and 29 guest spaces), and 123 commercial parking spaces (73 supermarket and drugstore/pharmacy spaces, and 50 restaurant/café spaces). The project will provide a total of 212 residential spaces (183 resident and 29 guest spaces), and 129 commercial spaces (not including the 15 street parking replacement spaces), or 341 total project-use parking spaces. This parking supply exceeds the current City parking requirements for the entire development by 18 spaces (not including the 15 public parking replacement spaces), including 12 spaces more than the required amount of residential parking for residents and the required amount of parking for residential guests, and six (6) more than the required number of commercial/retail spaces. As a result, no significant off-site parking-related impacts or "overflow" parking in adjacent residential neighborhoods or commercial areas by project employees or visitors due to on-site parking shortages are anticipated.

All of the parking spaces provided are standard stalls, at 18 feet long by nine feet wide (as required for a 90-degree stall angle); no compact spaces are proposed. All parking for the commercial components and residential guest uses of the project will be direct-access spaces (no tandem or valet assist spaces). However, a total of 46 of the 183 resident-only parking spaces (approximately 25 percent) will be configured as tandem spaces; these spaces would be assigned to the two- and three-bedroom units, as required by the City Zoning Code, with one "pair" of tandem spaces assigned to a single unit. Tandem spaces cannot be assigned to different units, nor can they be assigned as guest parking spaces. The project exhibits a sufficient number of two- and three-bedroom units (a total of 56 units) such that the 46 pairs of tandem spaces can be fully assigned to such units, and therefore, this arrangement of residential parking spaces is considered acceptable, and no operational impacts associated with the proposed residential tandem spaces is anticipated.

In addition to the vehicle parking space requirements, the current City Zoning Code requires that the development provide bicycle parking spaces equal to a minimum of 10 percent of the required number of residential vehicle parking spaces, and/or a minimum of five (5) percent of the required number of retail and non-residential vehicle parking spaces. As shown in Table 4, the project requires a total of 200 residential and 123 commercial/non-residential vehicle parking spaces, and is therefore required to provide a minimum of approximately 20 residential-related and six (6) commercial/non-residential-related bicycle parking spaces, for a total project requirement of 26 bicycle spaces. The project will provide a total of 39 bicycle parking spaces, 13 more than are required; 24 resident bicycle spaces are located on the on the B-1 parking level, with the remaining 15 commercial bicycle spaces provided at street level along the Washington Boulevard frontage of the site. As such, the project will exceed the City's minimum requirements for the provision of bicycle parking by 50 percent, and no additional requirements in this regard are warranted.

Site Vehicular Access and Parking Operations

Access to the project's on-site parking garage will be provided via two driveways, one located along the site's Washington Boulevard frontage, approximately mid-block between National Boulevard and Wesley Street, and the second located along Wesley Street near the southeastern edge of the project site. Both driveways provide direct access to the approximately 23 retail/commercial parking spaces and 15 public parking replacement spaces on the semi-subterranean level of the parking garage, as well as to an internal garage access

ramp, located near the center of the garage, to the subterranean parking levels, which contain the remaining 106 retail/commercial, 4 resident-only, and 29 residential guest parking spaces located on the B-1 parking level, and to the 179 resident-only spaces located on the B-2 level of the garage. Both driveways will be controlled via ticket-dispenser/access card readers and gate arms located internal to the garage. Additionally, although the retail/commercial spaces and residential guest spaces are proposed to be shared within the B-1 level parking field, access to the B-2 level resident-only parking spaces is controlled via an internal gate at the ramp between the B-1 and B-2 levels, and is therefore available only to project residents.

A review of the proposed parking and access plans indicates that the site's proposed internal vehicular circulation plan and parking layout scheme is acceptable. However, although internal circulation within the semi-subterranean parking level will provide two-way travel into and out of the Washington Boulevard driveway, it is recommended that the operations of this access location be limited to right-turn entry/right-turn exit due to its location adjacent to the existing westbound left-turn lane on Washington Boulevard, as well as its proximity to the intersection of Washington Boulevard and National Boulevard.

In addition to the retail/commercial and residential parking facilities, the project will also provide an on-site loading dock for the supermarket component of the site, located at the southeastern corner of the site, designed to accommodate full-size semi-trailer trucks, and accessed via an additional driveway on Wesley Street, just south of the proposed retail/commercial and residential access driveway. Since no on-site "turnaround" facilities can be provided for the loading dock due to the limited site size, "inbound" delivery trucks will drive past (south of) the project's Wesley Street commercial/residential driveway, and then back into the loading dock driveway. While backing into a loading dock from an adjacent street is not typically the preferred access method, this maneuver will not create any significant traffic or access impacts to Wesley Street operations, since this street is a limited-use cul-de-sac facility in the immediate project vicinity, terminating just south of the project site.

Further, as described in more detail later in the "Mitigation" section of this report regarding the proposed mitigation improvements for Wesley Street, it is recommended that a new striped "median" island be provided south of the project's parking garage driveway as a "staging" location for inbound delivery trucks waiting to back into the loading dock, in order to further minimize any potential traffic disruptions to Wesley Street operations. It is also recommended that all deliveries to the on-site loading dock be limited to times when traffic from the

retail/commercial and residential components of the site are minimal (such as before or after the retail/commercial uses' typical hours of operation), and that on-site personnel be designated to assist with such loading dock "backing" maneuvers, to prevent conflicts with any vehicles using Wesley Street or accessing the project's adjacent Wesley Street parking garage access driveway. With the provision of parking assist personnel and off-peak period scheduling of deliveries, the truck "backing" maneuver is not anticipated to create any significant traffic or access impacts to the project's on-site or adjacent street vehicular circulation.

Upon leaving the on-site loading dock, trucks will simply exit the parking garage via a left-turn to travel to Washington Boulevard; no significant effects of this maneuver are anticipated, although due to the limited roadway width along Wesley Street adjacent to the project site, the trucks will temporarily cross over both travel lanes on this street as they exit the site. These conditions are typical of commercial vehicle loading dock operations throughout the City, and as noted before, due to the limited number of deliveries and relatively low traffic volumes along Wesley Street in the immediate project vicinity, the proposed location, configuration, and operations of the on-site supermarket loading dock are acceptable.

Finally, in addition to the on-site supermarket loading dock, a short-term loading zone accommodating up to two 30-foot long "single unit" trucks (or a single 55-foot long semi-trailer truck) is proposed along the project frontage of Wesley Street, between Washington Boulevard and the proposed parking garage access driveway; this loading zone is anticipated to be used as loading spaces for the proposed drugstore/pharmacy and other on-site retail/commercial uses, and/or for residential loading/unloading activities. On-street loading spaces such as those proposed are permitted through approval by the City Engineer or Traffic Committee.

As described previously, it is recommended that all on-street parking on Wesley Street be removed (with the exception of the proposed new curbside loading spaces), in order to facilitate the operations of these on-street loading areas without creating conflicts with vehicles attempting to access the existing on-street spaces. Further, any loading areas should be located sufficiently distant from the project's Wesley Street parking garage access driveway such that site distance for exiting driveway traffic (looking toward Washington Boulevard) is not impaired, but adequately distant from Washington Boulevard such that no sight distance issues for eastbound right-turns at Wesley Street are created. In order to assure that adequate sight distance is provided for vehicles exiting the site's Wesley Street driveway, a supplemental evaluation of this issue was prepared. Current American Association of State Highway and

Transportation Officials ("AASHTO") design standards for stopping sight visibility[3] recommend that driveways along local (or low volume) roadways provide a sight distance of between approximately 80 feet (for speed limits of 15 miles per hour or less) and 155 feet (for speed limits up to 25 miles per hour). Based on the current project design and anticipated location of the on-street loading zone, the sight distance for vehicles exiting the Wesley Street driveway was evaluated for three conditions; a) one single-unit truck parked at the northernmost end of the loading zone, b) one semi-trailer truck parked at the northernmost end of the loading zone, and c) two single-unit trucks parked in the loading zone.

The results of these evaluations, which are contained in Appendix D of this report, indicate that scenario "a" (one single-unit truck) provides approximately 104 feet of sight distance from the exit lane of the project's Wesley Street driveway. Scenario "b" (one semi-trailer truck) reduces the sight distance to approximately 82 feet, while scenario "c" (two single-unit trucks) further reduces the sight distance to approximately 55 feet. Although both scenarios "a" and "b" meet the minimum sight distances for roadways exhibiting speed limits of 15 miles per hour or less, scenario "c" would not; if the speed limit on Wesley Street is assumed to be the typical de facto local street speed limit of 25 miles per hour, none of the three loading zone scenarios would provide the recommended sight distances. However, despite these results, it should be noted that the AASHTO sight distance recommendations are general guidelines provided to assist in the design of relatively generic driveway/street interface locations; the project site exhibits a number of factors which act to reduce the amount of sight distance actually required from these general guidelines, as discussed below.

First, vehicles southbound on Wesley Street from Washington Boulevard passing the on-street loading zone and approaching the project driveway will be travelling at relatively reduced speeds due to "side friction" from the vehicles parked in the loading zone and from oncoming vehicles, as well as the curvilinear alignment of the southbound travel lane at this location. Additionally, as a result of the cul-de-sac configuration and limited development along the street immediately south of the project site, most of the southbound traffic on Wesley Street will be turning into the project driveway, thereby posing no conflict with project-exiting vehicles. As a result of these project-specific geometric conditions, the proposed on-street loading zone location is not expected to pose any significant sight visibility issues. Further, the removal of the existing street parking along Wesley Street will not create any secondary significant impacts to

[3] Exhibit 5-2, page 381, A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 5th Edition, Washington D.C., 2004.

area parking operations; a total of approximately 20 spaces are currently provided along Wesley Street in the immediate project vicinity, including 10 spaces on the east side of the street (opposite the project site), and 10 spaces on the west side of the street, including eight spaces adjacent to the project's frontage. The project will provide a total of 15 on-site public parking spaces as replacement for the 12 total removed existing spaces that are not immediately adjacent to the project frontage; the eight existing on-street spaces along the project frontage of Wesley Street are considered to be site-serving spaces, and their replacement is appropriately assumed to be accommodated within the project's code parking requirements. As a result, the removal of the existing on-street public parking spaces on Wesley Street is adequately compensated by the proposed project.

It should also be noted that, although the side-by-side design concept for the Wesley Street commercial/residential driveway and supermarket loading dock driveway is generally not recommended, the unique characteristics of this site will permit this configuration to operate adequately. This is because Wesley Street is a dead-end facility slightly to the southeast of the project site. As such, access movements at both of these driveways will be generally limited to right-turn entry and left-turn exit; right-turns entering the commercial/residential driveway and left-turns exiting the loading dock driveway will not produce any conflicting moves. Additionally, trucks entering the loading dock driveway will actually drive past the commercial/residential driveway to back into the site, and will not conflict with either entering or exiting traffic from that driveway. The only potential conflict will arise as trucks exit the loading driveway and pass in front of the commercial/residential driveway, although the limited use of the loading dock driveway and the recommended scheduling of truck loading activities will minimize the incidence of this occurrence during peak activity at the commercial/residential driveway.

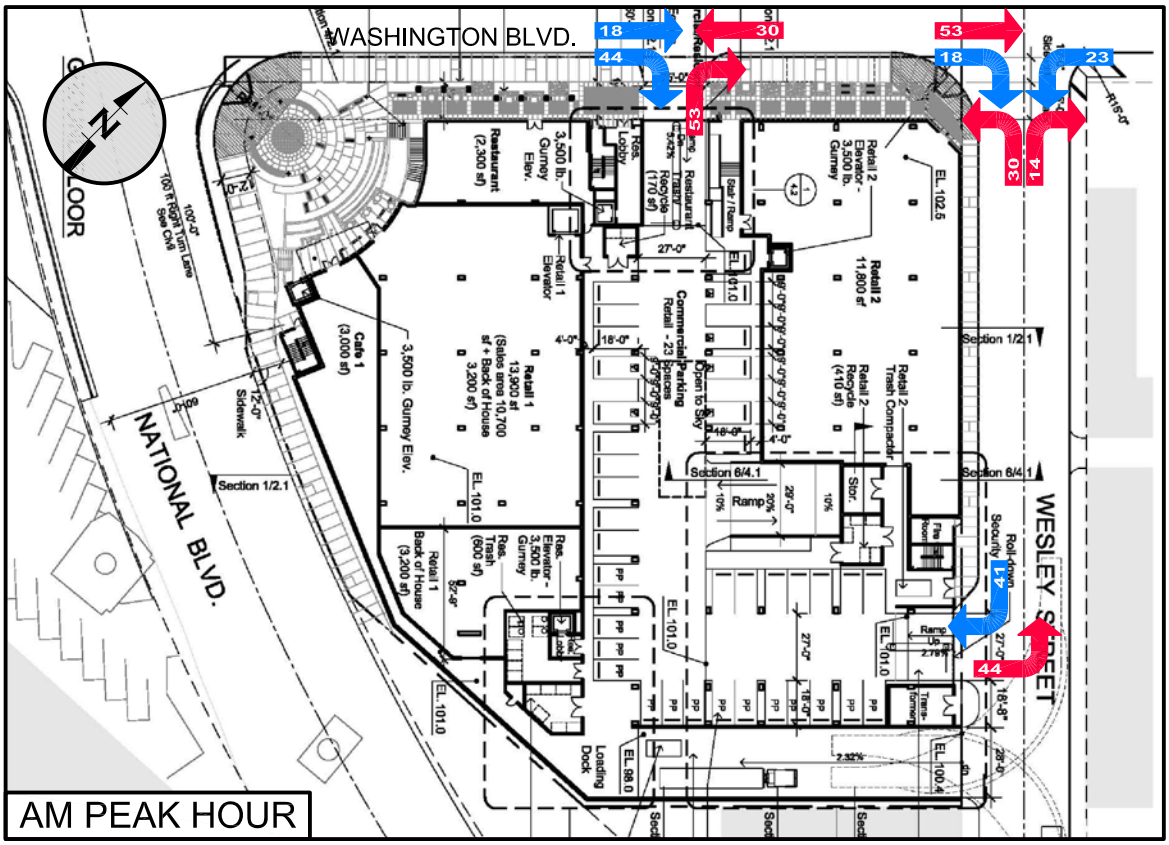
Finally, the anticipated typical operations of the project's driveways (unrelated to the loading dock operations) were also examined, to assure that safe operations and adequate capacity are provided to accommodate the anticipated vehicular access demands of the project. The total traffic volumes at each of the project's driveways were determined using the project traffic assignment percentages shown previously in Figures 5(a) and 5(b), along with the project trip generation estimates shown in Table 2. Note that the driveway volumes are slightly higher than the net project trip additions identified previously for the selected study intersections and area roadways. This is because the pass-by trip reductions for the project's "commercial" component traffic volumes are not considered in the calculation of the project's driveway volumes, since pass-by trips, while not necessarily new project trips on the streets and intersections in the

general area, will actually access the project site's driveways and are therefore part of the project's overall driveway activity. However, the "internal interaction" and "transit utilization" trip discounts discussed earlier remain applicable in the calculation of driveway trips, since these factors are intrinsic to the site's traffic generation, and actually remove trips from both the area roadway network as well as from the project's driveway access locations.

Therefore, based on these modifications to the previous trip generation calculations, the project's total driveway volumes, including both the retail/commercial and residential component trips, which will share the two site driveways, are expected to be approximately 3,488 daily trips (adding the 574 daily pass-by trips to the "net" intersection volumes shown earlier in Table 2), including 182 (85 inbound, 97 outbound) trips during the AM peak hour (adding 28 pass-by trips), and 330 (179 inbound, 151 outbound) trips during the PM peak hour (adding 55 pass-by trips). These trips were assigned to the project's driveways based on the access assumptions described earlier in this report, including consideration of the right-turn in/right-turn out restriction at the Washington Boulevard driveway, and the operations of the Wesley Street access location. The results of these driveway trip assignments are shown in Figure 9 for both the AM and PM peak hour conditions.

As shown in Figure 9, the Washington Boulevard driveway, which provides direct access to the 23 retail and 15 public parking replacement parking spaces on the semi-subterranean level as well as internal site access to the subterranean commercial/retail and residential parking levels), is anticipated to accommodate approximately 1,862 trips per day, including 97 trips (44 inbound, 53 outbound) during the AM peak hour, and about 176 trips (93 inbound, 83 outbound) during the PM peak hour. The commercial/residential access driveway on Wesley Street, which also provides access to both the semi-subterranean and subterranean parking levels, will accommodate the remaining approximately 1,626 daily trips, including approximately 85 trips (41 inbound, 44 outbound) during the AM peak hour, and approximately 154 trips (86 inbound, 68 outbound) during the PM peak hour. These values represent the actual number of vehicles expected to enter and exit the project's driveways during the typical weekday peak hour periods.

As indicated in the ground-floor project site plans shown previously in Figure 3(a), the project will provide vehicular access control and monitoring operations for the project (such as driveway control arms activated by card keys or ticket dispensers), at both the Washington Boulevard and Wesley Street driveways. Ticket dispenser/gate arm access controls such as those anticipated at the Washington Boulevard and Wesley Street driveways generally accommodate between 600 and 700 entering vehicles per hour per lane, and between 200 and 500 exiting vehicles per



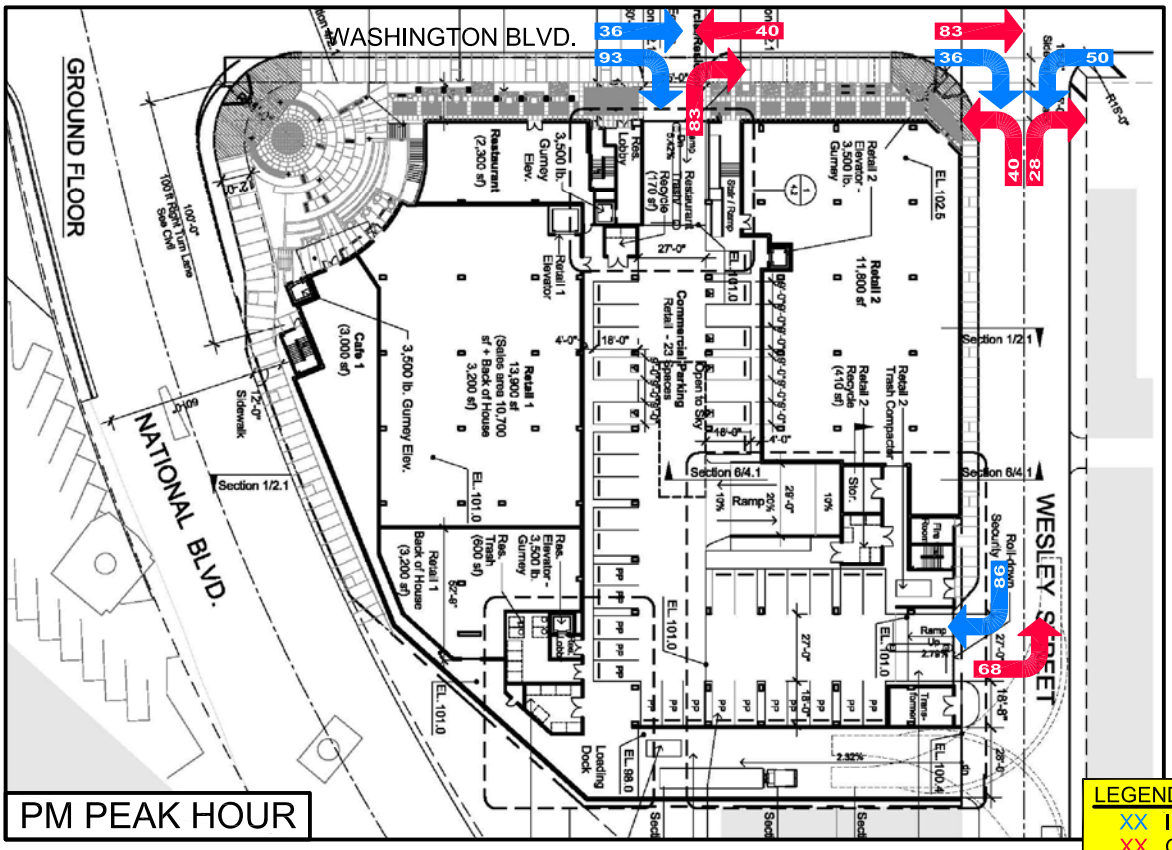


FIGURE 9

8/4/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

PROJECT DRIVEWAY VOLUMES

hour per lane, depending primarily on the payment method (variable rate versus flat rate, pay at gate versus pre-pay, etc.) and on the amount of traffic/congestion on the frontage streets, which may limit the number of vehicles that can exit the site into the traffic flow on the site adjacent streets. Forecast future traffic volumes and congestion conditions along Washington Boulevard adjacent to the project site are expected to limit the exit capacity at this location to between approximately 350 and 400 vehicles per hour per lane, although the recommended right-turn only egress restrictions will tend to allow for exit capacities at the higher end of this range. On the other hand, the relatively uncongested traffic conditions on Wesley Street are expected to permit exit capacities of between 450 and 500 vehicles per hour at that driveway location.

Both the Washington Boulevard and Wesley Street site driveways are currently configured as one entry and one exit lane, and as such, the "per lane" driveway capacity values identified above for the driveway/access control combinations represent the entire capacities of each of the applicable driveways. A review of the peak project driveway volumes shown in Figure 9 indicates that the vehicular demand at the project driveways for both inbound and outbound traffic will be substantially below the expected access control capacity levels at both driveways. Therefore, the project driveways will provide more than sufficient capacity to accommodate the expected peak hour vehicular demands of the development, and will operate adequately with no external vehicular queuing along either Washington Boulevard or Wesley Street fronting the site, and no significant internal queuing within the parking structures.

Due to physical constraints at both of the project site's driveways, it is anticipated that the exiting movements at these locations will utilize a "pre-pay" format, and thereby not require an attendant and associated kiosk at either driveway. Typical pre-pay exit operations require that visitors to the site take their parking tickets with them as they patronize the project, and pay at a parking payment kiosk or parking office located on-site before returning to their vehicles. Upon payment, visitors are issued a ticket to operate the exit gate arms at the driveways. This type of pre-pay parking operation is common, and is currently in place at a number of developments throughout the region. Such pre-pay exit requirements do not affect the operations of the automated entry ticket dispensers at either of the site's driveways, and as such, will not result in any reduction in entering capacity at the driveways or create disruption of the traffic flows along Washington Boulevard adjacent to the project site.

In addition to the access controls at the entrances to the project's parking facilities, access to the resident-only parking level of the garage will be equipped with security gates (internal to the garage) operated via card key or vehicle transponders that automatically open the gates for

vehicles so equipped (such as for project residents) to prevent commercial or residential guest parking use of these spaces. Automated or card key activated security gates such as those anticipated to separate the resident-only parking spaces from the guest and retail/commercial parking spaces (internal to the site, and located on ramp between the B-1 and B-2 parking levels) typically provide entry and exit capacities of between 400 and 500 vehicles per hour.

Since the residential component of the proposed project will generate substantially less than this amount of traffic even during the peak periods, with a total of approximately 47 trips (8 inbound, 39 outbound) during the AM peak hour and 55 trips (37 inbound, 18 outbound) during the PM peak hour as shown earlier in Table 2, the residential parking security gates are anticipated to easily accommodate the expected demands without creating any significant internal delays or vehicular queuing for either the retail/commercial and residential guests using the B-1 parking level, or for the residents themselves as they enter and leave the B-2 parking level.

Therefore, as described in the preceding section, no significant site access or internal vehicular circulation impacts, or significant operational concerns are anticipated for the proposed project. However, as described earlier in the discussion of the site's on-street loading zone operations, it is recommended that all existing on-street parking on both sides of Wesley Street be removed (with the exception of the proposed new on-street project loading spaces), and that any loading areas be located such that sight distance for exiting driveway traffic from the project site or for eastbound right-turns from Washington Boulevard on to Wesley Street is not impaired.

Project Roadway Improvements

The City of Culver City Public Works Department and City Engineer has indicated that no roadway widening is required along either the Washington Boulevard or National Boulevard frontages of the project site, although the curb return radius at the southeast corner of Washington Boulevard and National Boulevard (along the project frontage) should be improved to a 35-foot radius. However, the project will be required to widen both sides of Wesley Street (along and opposite the frontages of the project site) by three feet, in order to provide a total curb-to-curb roadway width of 36 feet; this improvement will reduce the sidewalk widths along both the west and east sides of Wesley Street from the existing 10 feet to seven (7) feet. The project will also be required to repair or replace any damaged curb and gutter and/or sidewalks along each of the three roadways fronting the site.

Additionally, the City has requested that the project improve the curb return radii at both the southwest corner (adjacent to the project site) and the southeast corner (opposite the project site) of Washington Boulevard and Wesley Street from the existing 10-foot radii to 35 feet, and to dedicate the necessary rights-of-way for implementation of these improvements (at the southwest corner only). These improvements will allow for easier "inbound" turns from Washington Boulevard into Wesley Street and "outbound" turns from Wesley Street to Washington Boulevard, and will help improve general traffic flow in the project vicinity.

However, a review of the existing rights-of-way/property lines for the southeast corner of Washington Boulevard and Wesley Street (opposite the project site) indicates that there is insufficient existing right-of-way to provide the requested 35-foot curb return radius and still maintain adequate public sidewalk widths. As such, it is recommended that the curb return at this location be improved with either a 15-foot or 25-foot radius, as deemed acceptable by the City. Additional improvements to Wesley Street, including new roadway striping to address project truck loading dock access issues (as discussed earlier) and potential significant project traffic-related impacts to the intersection of Washington Boulevard and Wesley Street, are identified and discussed in detail later in the "Mitigation" section of this document.

TRAFFIC IMPACT ANALYSIS STUDY AREA

Environmental Setting

The proposed project site is located along the south side of Washington Boulevard between National Boulevard and Wesley Street, in the eastern portion of the City of Culver City. The area surrounding the site is developed predominantly with single and multi-family residential uses, although the frontages of Washington Boulevard and other key roadways in the area exhibit primarily commercial and retail development. Additionally, a number of educational facilities are present in the study area, most notably the West Los Angeles Community College located approximately one and one-half miles to the southwest near Jefferson Boulevard and Overland Avenue, and Hamilton High School located approximately one-half mile to the north of the project site along Robertson Boulevard. Culver City Park is also nearby, on the east side of Jefferson Boulevard opposite Duquesne Avenue, about one mile south of the project.

Area Transportation Facilities

The study area is relatively well served by a variety of transportation facilities, including freeways, arterials, and local streets. Although direct access to the project site itself is not provided, the Santa Monica (I-10) Freeway is located just north of the project and is easily accessible for access to and from the area, while the San Diego Freeway (I-405) is located approximately two and one-half miles west of the project site. In addition to these regional transportation facilities, the area is also served by a number of major and secondary arterials, along with a well-developed local and residential street grid. The key transportation facilities in the project vicinity are identified and described in more detail in the following pages.

Freeways

Santa Monica Freeway (I-10) – The primary east-west transportation facility in the project vicinity, the Santa Monica Freeway (I-10) is located approximately one-quarter mile north of the project site. This freeway connects to the Pacific Coast Highway (SR-1) along the western edge of the City of Santa Monica and continues eastward into San Bernardino County and beyond. In the project vicinity, the Santa Monica Freeway is generally an eight-lane facility, providing four through travel lanes in each direction, plus additional auxiliary lanes near ramp or interchange locations. The closest surface street ramp connections providing access to and from the project site are located at Robertson Boulevard/National Boulevard just north of the project site, with additional ramps provided at La Cienega Boulevard/Venice Boulevard, and at

Fairfax Avenue/Washington Boulevard, approximately one mile east of the site, at National Boulevard/Manning Avenue (westbound off- and eastbound on-ramps only) about one mile west of the project, and at Overland Avenue/National Place, and about one and three-quarter miles west the project site. Additionally, a full interchange with the San Diego (I-405) Freeway is located approximately two and one-half miles west of the project.

San Diego Freeway (I-405) – The key north-south transportation facility in the area, this freeway generally provides five travel lanes per direction, plus additional or auxiliary lanes at ramps or interchanges. This facility serves the entire western portion of the Los Angeles basin, including the Los Angeles International Airport (LAX), from its departure from the Golden State Freeway (I-5) in the Sylmar community to the north to its merge back into the Golden State Freeway in the City of Irvine in Orange County. In the project vicinity, the San Diego Freeway provides surface street access at both Culver Boulevard and Washington Boulevard/Venice Boulevard.

Primary (Major) and Secondary Arterial Highways

The City of Culver City designates key regional and sub-regional roadways within its boundaries as “Primary Arterials” and “Secondary Arterials”, while the adjacent City of Los Angeles assigns roadway designations to these facilities as “Major Highways” and “Secondary Highways”, respectively. Although the two sets of roadway designations are generally interchangeable, for purposes of this report, the city-appropriate designations have been utilized to avoid confusion.

Washington Boulevard – This east-west oriented facility is designated as a Primary Arterial within the City of Culver City, and a Major Highway within the City of Los Angeles, and provides the northern frontage of the project site. Washington Boulevard is an important transportation facility throughout the study area, providing uninterrupted service between the Pacific Ocean to the west and the City of Whittier to the east, passing through the Venice community of the City of Los Angeles, the City of Culver City, the Mid-City and Harvard Heights communities of the City of Los Angeles, the southern portion of downtown Los Angeles, and the Cities of Vernon, Commerce, Pico Rivera along the route. In the study area, Washington Boulevard typically provides two through lanes in each direction, plus a median two-way left-turn lane that converts to exclusive left-turn channelization at most cross streets. On-street parking is generally allowed along most segments of Washington Boulevard within the study area.

National Boulevard – A generally east-west oriented Secondary Arterial/Secondary Highway, National Boulevard provides a continuous route from its western terminus at the Santa Monica Municipal Airport (at Bundy Drive/Centinela Avenue near the Santa Monica/Los Angeles city

boundary) through the West Los Angeles area to Overland Avenue, where it continues eastward, roughly paralleling the Santa Monica (I-10) Freeway through the eastern portion of the City of Culver City to its terminus at Jefferson Boulevard, southeast of the project site. Within the study area, National Boulevard is located along the western boundary of the project site, and is typically striped to provide two through lanes in each direction with left-turn channelization at key intersections. On-street parking is generally allowed on both sides of the street throughout the project vicinity.

Culver Boulevard – This generally east-west oriented facility provides a connection between its western terminus at Pacific Avenue/Trolleyway in the Playa del Rey beach community of the City of Los Angeles and its eastern terminus in the City of Culver City at Venice Boulevard approximately one-quarter mile northwest of the project site. Culver Boulevard provides the primary thoroughfare through the Culver City downtown and business districts, and is classified as a Primary Arterial throughout the City of Culver City and a Major Highway within much of the City of Los Angeles, although it is downgraded to a Secondary Highway west of Lincoln Boulevard, and ultimately to Local Street status for its final few blocks west of Vista del Mar. Within the study area, Culver Boulevard exhibits a variety of lane configurations, but is generally developed to provide at least two travel lanes in each direction plus left-turn channelization at most intersections; raised median islands are prevalent, particularly through the downtown Culver City segments. Culver Boulevard also exhibits a minor, local-access frontage road counterpart between McConnell Avenue in the Del Rey community of the City of Los Angeles and Elenda Street in the City of Culver City; this frontage road is highly discontinuous, and generally provides a single travel lane in each direction. Most segments of Culver Boulevard, including the minor frontage road facility, permit on-street parking.

Fairfax Avenue – Making up the eastern limit of the northeast portion of the City of Culver City, Fairfax Avenue serves as a key transportation connection between Hollywood Boulevard on the north and its southern terminus La Cienega Boulevard, just south of Washington Boulevard. Fairfax Avenue is designated as a Primary Arterial/Major Highway throughout most of its length, with the exception of the segment between Rosewood Avenue (south of Melrose Avenue) and 18th Street (north of Venice Boulevard), where it is downgraded to Secondary Highway status. Within the general study area, Fairfax Avenue is typically striped to provide two travel lanes in each direction, with left-turn and/or right-turn channelization provided at most key intersections. On-street on Fairfax Avenue is generally prohibited throughout the study area, although some limited, time-restricted parking is allowed.

Jefferson Boulevard – This generally east-west oriented roadway begins at Culver Boulevard, west of Lincoln Boulevard, in the Del Rey area of the City of Los Angeles, and provides a continuous connection through the southern and eastern portions of the City of Culver City where it intersects with Sepulveda Boulevard near the San Diego (I-405) and Marina (SR-90) Freeway interchange. At Sepulveda Boulevard, Jefferson Boulevard turns north and continues as Sepulveda Boulevard for several blocks until it diverges again near Sawtelle Boulevard. Continuing northward through the southeastern portions of Culver City, Jefferson Boulevard intersects with National Boulevard approximately three-quarters of a mile to the east of the project site, turning east to travel past the University of Southern California campus south of downtown Los Angeles, and ultimately terminating at Central Avenue in the South Central area of Los Angeles. Jefferson Boulevard is designated as a Primary Arterial/Major Highway along the portions west of La Cienega Boulevard, but is downgraded to Secondary Highway status to the east of that intersection. In the vicinity of the project, Jefferson Boulevard generally provides two travel lanes in each direction plus a median two-way left-turn lane that converts to exclusive left-turn channelization at most cross streets. On-street parking generally allowed along most portions of this facility throughout the study area.

La Cienega Boulevard – This generally north-south oriented Primary Arterial/Major Highway facility provides a key travel route though the study area between Sunset Boulevard in the City of West Hollywood on the north and its southern terminus at El Segundo Boulevard in the unincorporated area of Los Angeles County between the cities of El Segundo and Hawthorne. La Cienega Boulevard serves the cities of Beverly Hills, Culver City, and Inglewood, as well as a number of communities of the City of Los Angeles, and the Ballwin Hills area of Los Angeles County. Within the immediate project vicinity, this roadway is typically improved to provide three travel lanes in each direction, plus a median two-way left-turn lane or left-turn channelization at key intersections. On-street parking is generally prohibited on both sides of La Cienega Boulevard throughout the study area.

Venice Boulevard – This generally east-west oriented roadway travels through the northern portion of the study area, and provides a key transportation connection between Pacific Avenue in the Venice community of the City of Los Angeles on the west through the Mar Vista, Palms, Mid-City, and Harvard Heights communities of Los Angeles, through the southern portion of downtown Los Angeles to approximately Main Street, where it turns into 16th Street and continues to its eastern terminus at Hooper Avenue. Venice Boulevard is classified as a Primary Arterial/Major Highway west of Crenshaw Boulevard and as a Secondary Highway to

the east of that location. Within the study area, Venice Boulevard generally provides three through lanes in each direction with left-turn channelization at major intersections; a large raised median island prohibits left-turns into or out of minor roadways through much of the project vicinity. On-street parking is typically permitted along both sides of Venice Boulevard throughout the project study area.

Robertson Boulevard – This roadway is designated as a Primary Arterial within the City of Culver City, but is identified only as a Secondary Highway within the City of Los Angeles. Robertson Boulevard provides a north-south connection from just north of Santa Monica Boulevard in the City of West Hollywood, through the eastern portion of the City of Beverly Hills and parts of Los Angeles, continuing into the City of Culver City, where it terminates at Washington Boulevard opposite Higuera Street. Within the study area, Robertson Boulevard typically exhibits two travel lanes in each direction, plus left-turn channelization at key intersections. On-street parking is generally permitted along both sides of the roadway throughout the length of Robertson Boulevard, although some segments of the roadway exhibit parking prohibitions and/or restrictions in one or both directions.

Rodeo Road – An east-west oriented roadway, Rodeo Road is designated as a Major Highway between its western terminus at Jefferson Boulevard (opposite Higuera Street) and its eastern terminus at Martin Luther King, Jr. Boulevard in the Baldwin Village/Crenshaw community of the City of Los Angeles, where it then becomes a Secondary Highway. Rodeo Road continues eastward to approximately Gramercy Place, where the roadway merges with and becomes Exposition Boulevard, continuing east along the southern portion of the University of Southern California campus before terminating at Flower Street near the Harbor (I-110) Freeway. In the project vicinity, Rodeo Road exhibits variable configurations, but generally provides two westbound and three eastbound lanes between Jefferson Boulevard and Martin Luther King, Jr. Boulevard, plus a median two-way left-turn lane that converts to exclusive left-turn lanes at most intersections; right-turn lanes are also present at selected locations. East of Martin Luther King, Jr. Boulevard, Rodeo Road generally is striped for two travel lanes per direction plus left-turn channelization at most intersections. On-street parking is generally permitted on the north side of the roadway west of Martin Luther King, Jr. Boulevard, but is typically allowed on both sides of the roadway east of this location.

Duquesne Avenue – This northwest-to-southeast oriented roadway, located to the south of the project site, is designated as a Secondary Arterial within the City of Culver City. Duquesne Avenue connects Venice Boulevard on the north, where provides the southern leg of the

intersection opposite Hughes Avenue, with Jefferson Boulevard on the south, where it continues southeastward to permit access to Culver City Park. Within the study area, Duquesne Avenue typically provides a single travel lane in each direction, with left-turn and/or right-turn channelization provided at some intersections. On-street parking is generally permitted throughout the study area on both sides of Duquesne Avenue.

Hayden Avenue – A short Secondary Arterial, Hayden Avenue provides north-south access through a generally light industrial/commercial area of the City of Culver City between Higuera Street and National Boulevard, although the roadway continues south of Higuera Street for a short distance as Hayden Place before terminating in a cul-de-sac northeast of Ince Boulevard. Hayden Avenue is striped to provide only a single lane in each direction, and on-street parking is generally prohibited or restricted throughout its length, although a number of off-street parking areas directly abut the roadway on both sides.

Higuera Street – Approximately three-quarters of a mile in length, this roadway generally connects Washington Boulevard on the west with Jefferson Boulevard on the east; at Washington Boulevard, Higuera Street intersects opposite Robertson Boulevard, while near Jefferson Boulevard, Higuera Street becomes Rodeo Road at Eastham Drive, just across the Ballona Creek channel from Jefferson Boulevard. Through the study area, Higuera Street is designated as a Neighborhood Feeder street and typically exhibits one travel lane in each direction with only limited on-street parking between Washington Boulevard and Hayden Avenue/Hayden Place; east of this location, Higuera Street is upgraded to Secondary Arterial status, and provides two travel lanes per direction plus left-turn and/or right-turn channelization at its intersections with Hayden Avenue/Hayden Place, Eastham Drive, and Jefferson Boulevard. At the intersection of Hayden Avenue/Hayden Place, “through” traffic movements are prohibited, all traffic in either the eastbound or westbound direction must turn onto Hayden Avenue to continue to National Boulevard or onto the cul-de-sac’ed Hayden Place.

Neighborhood Feeders (Collector and Local Streets)

Similar to the different designations for the Primary/Major and Secondary Arterials/Highway facilities described previously, the City of Culver City and City of Los Angeles also identify different designations for the feeder/collector and local-serving roadways within their respective jurisdictions. Therefore, as before, each of the following roadways is identified with the appropriate, city-specific designation.

Wesley Street – This generally north-south oriented Local Street serves a primarily residential area of Culver City to the southeast of the project site, connecting Higuera Street on the south with National Boulevard on the north, although a short, discontinuous segment of Wesley Street also extends south from Washington Boulevard, terminating in a cul-de-sac just north of National Boulevard; this portion of the roadway provides the eastern boundary of the project site. Wesley Street provides one travel lane per direction, and on-street parking is generally permitted throughout most of its length, including along the project frontage.

Landmark Street – This short, north-south oriented Local Street extends about 700 feet southward from Washington Boulevard, providing access to a number of commercial developments before terminating in a cul-de-sac. Landmark Street is not striped, but provides one travel lane in each direction plus on-street parking along both sides of the street.

Cattaraugus Avenue – This short facility, designated as a Local Street within the City of Culver City, but exhibiting Collector Street status within the City of Los Angeles, generally connects Castle Heights Avenue/Beverwil Drive in West Los Angeles with Washington Boulevard in the City of Culver City, although the roadway is offset to the east at Washington Boulevard and continues southerly for two blocks to its cul-de-sac termination just north of Jefferson Boulevard. Throughout the study area, Cattaraugus Avenue is generally striped to provide a single travel lane in each direction, with on-street parking typically permitted along both sides of the street. No left-turn channelization is provided at any of the intersections along Cattaraugus Avenue.

Helms Avenue – Designated as Local Street facility within both the City of Culver City and the City of Los Angeles, Helms Avenue provides a generally north-south travel path through the study area between Regent Street in the City of Los Angeles on the north, just south of the Santa Monica (I-10) Freeway, and its southern terminus at Higuera Street in Culver City. However, this roadway is discontinuous at National Boulevard, with only the southern approach of Helms Avenue intersecting with National Boulevard; the northern segment of Helms Avenue terminates in a cul-de-sac north of National Boulevard. Throughout most of its length, Helms Avenue primarily serves as a local access facility for the surrounding residential neighborhoods, and provides a single travel lane in each direction. Within the study area, on-street parking is generally permitted along both sides of the street.

Hughes Avenue – This short north-south oriented roadway is designated as a Collector Street within the City of Los Angeles, and provides a connection between Exposition Boulevard (near the intersection of National Boulevard and Palms Avenue) on the north and Washington

Boulevard on the south; at Washington Boulevard, Hughes Avenue is renamed to become Duquesne Avenue within the City of Culver City. Throughout the immediate project vicinity, Hughes Avenue provides a single lane in each direction, and on-street parking is generally permitted, although no parking is allowed on either side of the street in the segment between Venice Boulevard and Washington Boulevard.

Irving Place – This short northwest-to-southeast oriented Local Street only exists for a few blocks within the City of Culver City, from its northern terminus at Culver Boulevard near the intersection with Washington Boulevard to its southern terminus at Lucerne Avenue just west of the Ballona Creek channel. The segment between A Street (one block south of Culver Boulevard) and Farragut Drive is configured as a one-way northbound facility (providing a couplet with one-way southbound Van Buren Place one block to the east), although the remaining segments of the roadway exhibit typical two direction operations providing a single lane in each direction. On-street parking is permitted along most segments of Irving Place.

Lucerne Avenue – A short Neighborhood Feeder roadway, Lucerne Avenue provides a generally local access connection between Duquesne Avenue and Higuera Street, through the primarily residential neighborhoods south of the project site. Lucerne Avenue is striped to provide a single travel lane in each direction, and on-street parking is generally permitted on both sides of the street throughout its length.

Bagley Avenue – A north-south oriented Local Street located to the southwest of the project site within the City of Los Angeles, Bagley Avenue connects Airdrome Street (approximately four blocks south of Pico Boulevard) in the South Robertson community of the City of Los Angeles on the north with Venice Boulevard on the south, where the roadway is renamed to become Main Street in the City of Culver City. Bagley Avenue is typically configured to provide one travel lane in each direction, plus on-street parking throughout its length.

Main Street – Another north-south oriented Local Street, Main Street provides a one-block long connection between Venice Boulevard, where it forms the southern extension of Bagley Avenue (a Collector Street in the City of Los Angeles), and Culver Boulevard. Main Street is generally striped to provide only a single travel lane in each direction, although an additional left-turn lane is provided on the northbound approach to Venice Boulevard, while an additional right-turn only lane is provided on the southbound approach at Culver Boulevard. On-street parking is permitted along both sides of Main Street throughout its short length.

Canfield Avenue – This generally north-south oriented Local Street serves primarily as a local access facility from its northern terminus at Sawyer Street in the South Robertson community of the City of Los Angeles on the north and Culver Boulevard on the south, where it intersects opposite the recently realigned Washington Boulevard (along the prior Ince Boulevard alignment). At its southern terminus, Canfield Avenue provides only a right-turn only lane to westbound Culver Boulevard; no through traffic is permitted to continue onto eastbound Washington Boulevard. Canfield Avenue is also discontinuous at several locations along its length, most notably between Harlow Avenue and Exposition Boulevard on either side of the Santa Monica (I-10) Freeway right-of-way, and at Venice Boulevard, where the existing raised median on Venice Boulevard prevents north-south through movements along Canfield Avenue. In the immediate project vicinity between Venice Boulevard and Culver Boulevard, Canfield Avenue provides one travel lane per direction and on-street parking on both sides of the street.

Public Transportation

The general project vicinity is currently served by a number of public transit service providers, including the City of Culver City Municipal Bus, the Los Angeles County Metropolitan Transportation Authority ("Metro"), and the Santa Monica Big Blue Bus (SMBBB), as shown by the map of the available transit service in the project vicinity in Figure 10. These existing public transit services consist primarily of local-serving bus lines with multiple stops throughout the general study area, as well as providing convenient access to shopping, museums, colleges, and public service building destinations. However, as also indicated in Figure 10, the project site itself is not particularly well served by the area's transit providers, with only the Culver CityBus Line 1 providing direct access to the site, as described below.

Culver City Line 1 – This bus line runs between Windward Circle, at the intersection of main Street, Grand Boulevard, and Windward Street at the western edge of the Venice community of the City of Los Angeles and the West Los Angeles Transit Center at Washington Boulevard and Fairfax Avenue, near the Santa Monica Freeway (I-10). Line 1 travels between Windward Avenue along Pacific Avenue to Washington Boulevard, then continues along Washington Boulevard through the Venice and Mar Vista communities of the City of Los Angeles, past the project site and through the City of Culver City to its eastern terminus at the Transit Center. Line 1 does not provide a stop directly at the project site at either National Boulevard or Wesley Street; the nearest bus stops are located on Washington Boulevard at Exposition Boulevard (west of National Boulevard, about 250 feet east of the project site) and at Helms Avenue (about

WASHINGTON-NATIONAL EMC (CULVEER CITY) \ TRANSIT-MAP

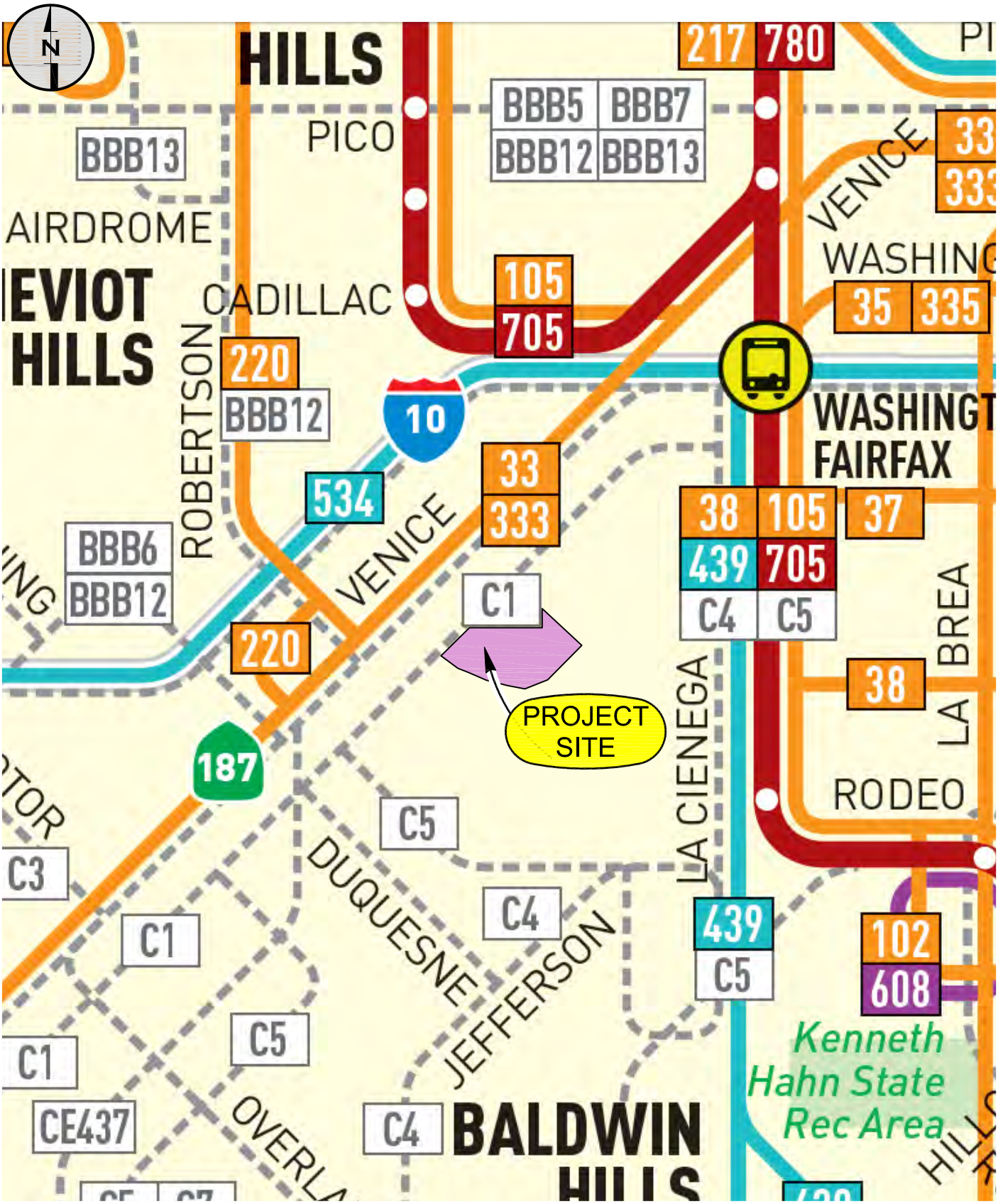


FIGURE 10

8/4/2010

IRSCH
REEN
Hirsch/Green Transportation Consulting, Inc.

PROJECT AREA TRANSIT SERVICE MAP

600 feet west of the project) for both eastbound and westbound travel. Line 1 provides two-way service along its route generally between about 5:30 AM and 11:30 PM on weekdays, with headways through the project vicinity of 10 to 15 minutes in both directions throughout the day. Weekend (Saturday and Sunday) and holiday service is also provided by Line 1, with service between approximately 6:00 AM and 12:00 midnight, with mid-day headways of approximately 15 minutes in both directions, although headways during the early morning and later evening (before 9:00 AM and after 6:30 PM) can be between 30 minutes to over one hour.

However, in addition to this lone site-serving transit line, a number of other bus routes pass within approximately one-quarter mile of the project site, and could be considered to be within "convenient" walking distance for project residents, visitors, employees and/or patrons. These nearby bus route include Metro's Route 33/333 (Venice Boulevard) and Route 220 (Robertson Boulevard); Culver City's CityBus Line 5 (Braddock Drive/Culver Boulevard/Higuera Street) and Line 7 (Culver Boulevard); LADOT's Commuter Express Route 437 (Marina del Rey to downtown Los Angeles via Culver Boulevard and Washington Boulevard through the project vicinity); and Santa Monica's Big Blue Bus Line 12 (Venice Boulevard/National Boulevard/Robertson Boulevard), Super 12 (Westwood Boulevard/National Boulevard/Venice Boulevard), and Line 6 (Ocean Park Boulevard/Bundy Drive/Venice Boulevard).

Each of these transit services, while not serving the project site directly, offer multiple transfer opportunities to expanded regional transit services to all areas of the metropolitan Los Angeles and surrounding region. As a result, it is likely that some of the proposed project's residents, visitors, and employees would utilize these services for travel to and from the site on both local and regional/commute trips. However, in order to present the most conservative analysis of the potential traffic impacts of the project, only nominal use of these existing public transportation facilities by the project's residents and commercial employees/patrons was assumed, as described earlier in the discussion of project trip generation.

It should also be noted that, in addition to these existing transit facilities, the proposed project is directly adjacent to the proposed western terminus station of the Phase 1 portion of Metro's Expo Line light rail transit project, providing future transit availability between the project site and downtown Los Angeles; the Expo Line project is proposed to ultimately extend westward to and through the City of Santa Monica. Further, the proposed 8770 Washington Boulevard project analyzed herein is one of a number of projects proposed for development within the Washington Boulevard/National Boulevard Transit Oriented Development District, which is

proposed by the City of Culver City to enhance public transportation facilities and reduce traffic throughout the City and the region. The western terminus station for the Phase 1 portion of the Expo Line will be located at Venice Boulevard/Robertson Boulevard, immediately to the northwest (across the intersection of Washington Boulevard and National Boulevard) of the proposed Washington/Landmark project.

The proposed Metro Expo Line transit improvements are described in detail in the Final EIS/EIR document prepared for the project[4]. As identified in that document, the Expo Line will provide a full transit station along the Exposition Boulevard right-of-way near the southwest corner of Venice Boulevard and National Boulevard. The Expo Line Phase 1 project will provide surface light rail public transportation between the 7th Street/Metro Center station near Wilshire Boulevard and Figueroa Street in downtown Los Angeles southward along Flower Street to Washington Boulevard, where it moves to Hill Street and continues southward to Exposition Boulevard, which it generally parallels throughout the remainder of its route to the western terminus of the Phase 1 portion of the project at Venice Boulevard and National Boulevard in the City of Culver City. Within the vicinity of the proposed project, the Expo Line is anticipated to operate with approximately 12 trains per hour to and from the Venice Boulevard/National Boulevard station, resulting in headways of approximately five (5) minutes between trains; parking for a total of approximately 600 vehicles is also proposed to be provided throughout the immediate area of the proposed station, along Washington Boulevard and National Boulevard, within several surface parking lots. Additionally, although no details are as yet available, it is anticipated that the development of the Expo Line station at Venice Boulevard and National Boulevard will result in an expansion of the existing bus service in and through the immediate project vicinity, as Metro and other transit providers improve overall localized connections to provide support for the Expo Line operations.

The Phase 1 portion of the Expo Line project is currently under construction, and is expected to be operational by sometime in late 2010. Phase 2 of the Expo Line will extend transit service westward into the City of Santa Monica with its ultimate western terminus near the intersection of 4th Street and Colorado Avenue. This final portion of the Expo Line is still in the environmental evaluation and analysis phase, with construction anticipated to begin sometime in 2010 and operations commencing in 2014 or 2015.

[4] *Mid-City/Exposition LRT Project Final EIS/EIR*, Los Angeles Metropolitan Transportation Authority/U. S. Department of Transportation, Federal Transit Administration, October 2005.

ANALYSIS OF AREA TRAFFIC CONDITIONS

Existing (Year 2010) Traffic Volumes

Traffic volume data for this study were obtained primarily from counts performed at the selected study intersections during the morning (7:00 to 10:00 AM) and afternoon (3:00 to 6:00 PM) commute traffic periods in early September 2008, although some additional counts were performed in April 2010; all data collected prior to 2010 was adjusted using a traffic growth factor (discussed in detail later in this report) to reflect current (year 2010) conditions. The count days represent typical midweek conditions during weeks with no holidays, with all area schools in full session and businesses in normal operation. The "peak hour" volumes utilized in this analysis were identified as the highest four consecutive 15-minute periods within the larger three-hour count windows; peak hour traffic volumes were determined individually for each of the study intersections, assuring that the "worst case" operational conditions at each location were analyzed in this study. The existing year 2010 AM and PM peak hour traffic volumes at each of the 34 study intersections are shown in Figures 11(a) and 11(b), respectively.

Analysis of Existing (Year 2010) Traffic Conditions

Detailed traffic analyses of existing conditions were performed at the following 34 intersections:

1. Robertson Boulevard and Cattaraugus Avenue [1]
2. Robertson Boulevard and WB I-10 Freeway Off-Ramp/Kincardine Avenue [1]
3. Robertson Boulevard and National Boulevard [1]
4. National Boulevard and I-10 EB On-Ramp [1]
5. Venice Boulevard and Hughes Avenue [1]
6. Venice Boulevard and Bagley Avenue [1]
7. Venice Boulevard and Culver Boulevard [1]
8. Venice Boulevard and Robertson Boulevard [1]
9. Venice Boulevard and National Boulevard [1]
10. Venice Boulevard and Helms Avenue [1]
11. Venice Boulevard and Cattaraugus Avenue [1]
12. Venice Boulevard and La Cienega Boulevard [1]
13. Washington Boulevard and Hughes Avenue
14. Culver Boulevard and Duquesne Avenue

PROJECT SITE

FIGURE 11(a)

EXISTING (2010) TRAFFIC VOLUMES
AM PEAK HOUR

©2008 Rand McNally & Company

Hirsch/Green Transportation Consulting, Inc.

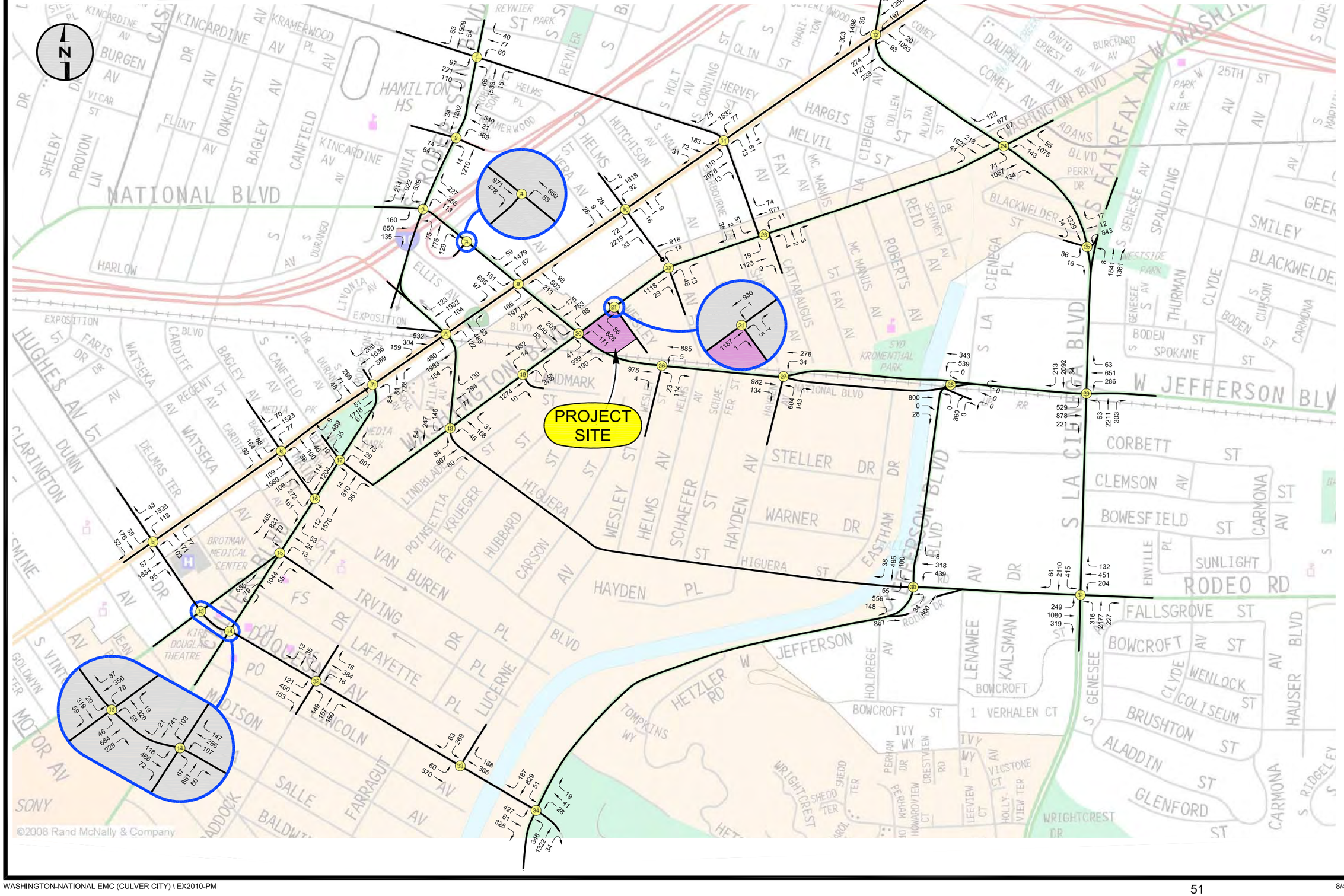


FIGURE 11(b)

EXISTING (2010) TRAFFIC VOLUMES
PM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

15. Washington Boulevard, Culver Boulevard and Irving Place
16. Washington Boulevard and Main Street
17. Washington Boulevard and Culver Boulevard
18. Washington Boulevard and Robertson Boulevard/Higuera Street
19. Washington Boulevard and Landmark Street
20. Washington Boulevard and National Boulevard
21. Washington Boulevard and Wesley Street
22. Washington Boulevard and Helms Avenue
23. Washington Boulevard and Cattaraugus Avenue
24. Washington Boulevard and La Cienega Boulevard
25. La Cienega Boulevard and Fairfax Avenue [2]
26. National Boulevard and Wesley Street
27. National Boulevard and Hayden Avenue
28. National Boulevard and Jefferson Boulevard [1]
29. National Boulevard and La Cienega Boulevard [1]
30. Higuera Street/Rodeo Road and Jefferson Boulevard [1]
31. Rodeo Road and La Cienega Boulevard [1]
32. Hughes Avenue and Braddock Drive
33. Hughes Avenue and Lucerne Avenue
34. Hughes Avenue and Jefferson Boulevard

Notes:

[1] Indicates intersection under jurisdiction of City of Los Angeles

[2] Intersection under jurisdiction of City of Culver City, but traffic signal maintained by City of Los Angeles

All of the study intersections are currently signalized, with the exception of the following four locations; Washington Boulevard and Wesley Street, a three-approach “tee” intersection that is STOP sign controlled along the Wesley Street approach; Washington Boulevard and Cattaraugus Avenue, which is actually comprised of two adjacent three-approach “tee” intersections STOP sign controlled along both Cattaraugus Avenue approaches; and Duquesne Avenue and Braddock Drive (four approaches), and Duquesne Avenue and Lucerne Avenue (three-approach “tee” intersection), both of which are all-way STOP sign controlled intersections. Of the 30 signalized study intersection locations, most exhibit multiple phasing operations, with separate or “lead/lag” left-turn phases, and/or right-turn indication or “overlap” phases to maximize capacity.

A number of the study intersections, including those along Venice Boulevard and Robertson Boulevard (intersections 1 through 12), and the intersections of National Boulevard/Jefferson Boulevard, Jefferson Boulevard/La Cienega Boulevard, Higuera Street/Rodeo Road/Jefferson Boulevard, and Rodeo Road/La Cienega Boulevard (intersections 28 through 31), are within the City of Los Angeles, and are part of the Los Angeles Department of Transportation's (LADOT) signal enhancement project, currently operating with that city's Automated Traffic Surveillance and Control (ATSAC) and next-generation Adaptive Traffic Control System (ATCS) signal synchronization protocols. These programs monitor traffic flows from other similarly-equipped intersections and adjust signal timing and phasing in real time to maximize vehicular throughput and minimize delay. The remaining signalized study intersections along Washington Boulevard, National Boulevard, and Jefferson Boulevard, all under the jurisdiction of the City of Culver City, also operate using a signal coordination system similar to ATSAC, but have not been fitted with ATCS-type upgrades. The City of Culver City is completing installation of a City-wide signal coordination system, which is anticipated to be in place by the study year of 2013.

This study uses the Critical Movement Analysis methodology for the analysis and evaluation of traffic operations at signalized intersections, as detailed in Circular Number 212 published by the Transportation Research Board.[5] This methodology describes the operating characteristics of an intersection in terms of the "Level of Service", based on intersection traffic volume and other variables such as number and type of signal phasing, lane geometries, and other factors which determine both the quantity of traffic that can move through an intersection ("Capacity") and the quality of that traffic flow ("Level of Service").

"Capacity" represents the maximum total hourly volume of vehicles in the critical lanes which has a reasonable expectation of passing through an intersection under prevailing roadway and traffic conditions. Critical lanes are defined generally as those intersection movement or groups of movements which exhibit the highest "per lane" volumes, thus defining the maximum amount of vehicles attempting to travel through the intersection during a specific time period. The capacity of an intersection also varies based on the number of signal phases for the location; more signal phases generally result in more "lost" or "start up" time, as vehicles exhibit slight driver reaction delays when signal indications change from "red" to "green". Thus, additional signal indication changes create more opportunities for lost time during the signal cycle, and reduce the efficiency and thus the capacity of an intersection. The intersection capacities for various levels of service, based on the number of traffic signal phases, are shown in Table 5.

[5] Interim Materials on Highway Capacity, Circular Number 212, Transportation Research Board, Washington, D.C., 1980.

Table 5
Critical Movement Analysis
Volume Ranges per Level of Service *

Level of Service	Maximum Sum of Critical Volumes (VPH) vs. Number of Signal Phases: Two Phases	Three Phases	Four or More Phases
A	900	855	825
B	1,050	1,000	965
C	1,200	1,140	1,100
D	1,350	1,275	1,225
E	1,500	1,425	1,375
F	- - - - - - - - - - Not Applicable - - - - - - - - - -		

* For planning applications only. Not appropriate for operations/design applications.

For intersection evaluation and planning purposes, the capacity of an intersection equates to the value of Level of Service (LOS) E, which represents the highest level of traffic through urban area intersections that can be adequately accommodated without a breakdown in operation resulting in stop-and-go conditions. The "Critical Movement" indices at an intersection are determined by first identifying the sum of all critical movement volumes at that intersection. This value is then divided by the appropriate capacity value for the type of signal control at the study intersection to arrive at the "CMA value" for the intersection, which is roughly equivalent to the volume-to-capacity ratio for the location.

"Level of Service" describes the quality of traffic flow through the intersection. LOS A through LOS C provide good traffic flow characteristics, with little or no congestion or vehicle delay. LOS D typically is the level for which a metropolitan area street system is designed, and represents the highest level of smooth traffic flow. LOS E represents volumes at or near the capacity of the intersection and can result in stoppages of momentary duration and unstable traffic flow at the upper reaches of this condition. LOS F occurs when a facility is overloaded and is characterized by stop-and-go traffic with stoppages of long duration.

For signalized intersection analyses, the City of Culver City utilizes the CMA methodology to determine the level of service at the subject location. Note that the LOS definitions described above do not represent a single intersection operation condition, but rather correspond to a range of CMA values, as shown in Table 6.

Table 6
Level of Service as a Function of CMA Value

CMA Value	Level of Service	Intersection Operation/Traffic Flow Characteristics
≤ 0.600	A	No congestion; all vehicles clear in a single cycle.
> 0.600 ≤ 0.700	B	Minimal congestion; all vehicles still clear in a single cycle.
> 0.700 ≤ 0.800	C	No major congestion; most vehicles clear in a single cycle.
> 0.800 ≤ 0.900	D	Generally uncongested, but vehicles may wait through more than one cycle; short duration queues may form on critical approaches.
>0.900 ≤ 1.000	E	Increased congestion on critical approaches; long duration queues form at higher end of range.
> 1.000	F	Over capacity; forced flow with long periods of congestion; substantial queues form.

Note that, as described previously, the ATSAC traffic signal coordination system has been implemented at all of the signalized intersections in the study area, with the ATCS upgrades installed at those locations under the operational jurisdiction of the City of Los Angeles. LADOT has determined that intersections connected to the ATSAC system experience an approximate seven percent increase in capacity as compared to non-ATSAC locations, while locations equipped with the ATCS upgrades experience an approximate ten percent increase in capacity compared to non-ATSAC/ATCS locations. Therefore, per LADOT policy, the basic CMA value calculated using the standard methodology described earlier was reduced by 0.070 for intersections equipped with ATSAC, and by 0.100 for locations improved with ATSAC/ATCS, in order to estimate the effectiveness of the resulting increases in intersection capacity. Although these adjustments in intersection capacity have been identified specifically for intersections under the jurisdiction of the City of Los Angeles, the ATSAC operational improvements are considered applicable to any traffic signal system so equipped, and as such, the ATSAC-related CMA reduction was applied to the appropriate intersections within the City of Culver City.

For unsignalized intersections, the City of Culver City uses a somewhat different operational assessment methodology. First, the critical traffic flows and operational parameters of the intersection are identified through the CMA analysis procedures described above. These values are used to provide a numerical baseline for the determination of the incremental effects of potential traffic increases, including project traffic, at the intersection. However, the evaluation of the intersection level of service is based on the *unsignalized* intersection analysis

methodologies described in the Highway Capacity Manual (HCM)[6]. This document, published by the Transportation Research Board, provides analysis techniques applicable to the unique traffic flows and interactions that occur at unsignalized intersections.

These methodologies utilize much of the same intersection information regarding traffic volumes and lane geometries and configurations as the CMA methodology, but base the level of service assessments on vehicle delays rather than on the percentage of available capacity. This approach is useful when evaluating locations where high volumes of unimpeded "through" traffic on a major street may hinder traffic moves to and from minor street approaches, potentially resulting in long delays for these side street vehicles. The LOS definitions applicable to the HCM unsignalized intersection analysis methodologies are summarized in Table 7.

Table 7
HCM Level of Service as a Function of Approach Delay
STOP-sign Controlled Intersections

Delay Value (sec/veh)	Level of Service
0 - 10	A
10 - 15	B
15 - 25	C
25 - 35	D
35 - 50	E
> 50	F

Note that the LOS and delay values for the all-way STOP sign controlled intersections, such as the four-approach Duquesne Avenue and Braddock Drive, and the three-approach "tee" intersection of Duquesne Avenue and Lucerne Avenue, represent the average delays and levels of service for the intersection as a whole, while the LOS and delay values for two-way STOP sign controlled "tee" intersections such as Washington Boulevard and Wesley Street, and Washington Boulevard and Cattaraugus Avenue represent the highest individual intersection approach delay and level of service.

Finally, it should be noted that the intersections of National Boulevard and Hayden Avenue (intersection 27), and National Boulevard and Jefferson Boulevard (intersection 28) are currently under construction as part of ongoing upgrades to the area roadway infrastructure as part of the Metro's Expo Line light rail project, or, independently by the City of Los Angeles. While the

[6] Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2000.

construction activities do not prohibit any of the allowable traffic *movements* at these locations, it does reduce the number of travel *lanes* on National Boulevard generally between about Wesley Street and Jefferson Boulevard (including at Hayden Avenue), and along Jefferson Boulevard in the vicinity of National Boulevard. However, a review of the existing traffic volumes at these and adjacent intersections indicates that the overall "throughput" of traffic at the affected intersections is not significantly impaired, and as such, the CMA calculations of the operations of the intersections is considered to accurately represent typical conditions, although it is noted that the subject lane closures can result in temporary and transient increases in delays for vehicles at these locations during periods of heavy demand.

By applying the appropriate analysis procedures, calculation methodologies, and operational adjustments described in the preceding pages to each of the 34 study intersections, the intersection CMA value and corresponding LOS for the "Existing" year 2010 traffic conditions were calculated, as summarized in Table 8.

Table 8
Critical Movement Analysis Summary
Existing (2010) Conditions

Int. No.	Intersection	Peak Hour	CMA	LOS
1	Robertson Boulevard and	AM	0.831	D
	Cattaraugus Avenue [1]	PM	0.823	D
2	Robertson Boulevard and	AM	0.594	A
	I-10 WB Off-Ramp/Kincardine Avenue [1]	PM	0.676	B
3	Robertson Boulevard and	AM	0.888	D
	National Boulevard [1]	PM	0.884	D
4	National Boulevard and	AM	0.359	A
	I-10 EB On-Ramp [1]	PM	0.279	A
5	Venice Boulevard and	AM	0.698	B
	Hughes Avenue [1]	PM	0.632	B
6	Venice Boulevard and	AM	0.702	C
	Bagley Avenue [1]	PM	0.670	B
7	Venice Boulevard and	AM	0.652	B
	Culver Boulevard [1]	PM	0.747	C
8	Venice Boulevard and	AM	**1.380**	**F**
	Robertson Boulevard [1]	PM	**1.322**	**F**

Table 8 (continued)
Critical Movement Analysis Summary
Existing (2010) Conditions

Int. No.	Intersection	Peak Hour	CMA	LOS
9	Venice Boulevard and	AM	**0.960**	**E**
	National Boulevard [1]	PM	**0.943**	**E**
10	Venice Boulevard and	AM	0.452	A
	Helms Avenue [1]	PM	0.475	A
11	Venice Boulevard and	AM	0.733	C
	Cattaraugus Avenue [1]	PM	0.615	B
12	Venice Boulevard and	AM	**0.981**	**E**
	La Cienega Boulevard [1]	PM	**0.995**	**E**
13	Washington Boulevard and	AM	0.527	A
	Hughes Avenue/Duquesne Avenue	PM	0.571	A
14	Culver Boulevard and	AM	0.563	A
	Duquesne Avenue	PM	0.643	B
15	Washington Boulevard and	AM	0.492	A
	Culver Boulevard, and Irving Place	PM	0.526	A
16	Culver Boulevard and	AM	0.494	A
	Main Street	PM	0.508	A
17	Washington Boulevard/Canfield Avenue and	AM	0.561	A
	Culver Boulevard	PM	0.534	A
18	Washington Boulevard and	AM	0.624	B
	Robertson Boulevard/Higuera Street	PM	0.525	A
19	Washington Boulevard and	AM	0.557	A
	Landmark Street	PM	0.402	A
20	Washington Boulevard and	AM	0.780	C
	National Boulevard	PM	0.714	C
21	Washington Boulevard and	AM	0.649	B [2]
	Wesley Street	PM	0.506	D [2]
22	Washington Boulevard and	AM	0.486	A
	Helms Avenue	PM	0.363	A
23	Washington Boulevard and	AM	**0.903**	**F** [2]
	Cattaraugus Avenue	PM	**0.601**	**F** [2]
24	Washington Boulevard and	AM	**1.036**	**F**
	La Cienega Boulevard	PM	0.871	D

Table 8 (continued)
Critical Movement Analysis Summary
Existing (2010) Conditions

Int. No.	Intersection	Peak Hour	CMA	LOS
25	La Cienega Boulevard and	AM	**0.950**	**E**
	Fairfax Avenue	PM	0.802	D
26	National Boulevard and	AM	0.580	A
	Wesley Street	PM	0.350	A
27	National Boulevard and	AM	0.817	D
	Hayden Avenue	PM	0.608	B
28	National Boulevard and	AM	0.689	B
	Jefferson Boulevard [1]	PM	**1.025**	**F**
29	Jefferson Boulevard and	AM	**1.069**	**F**
	La Cienega Boulevard [1]	PM	**1.048**	**F**
30	Higuera Street/Rodeo Road and	AM	0.731	C
	Jefferson Boulevard [1]	PM	0.669	B
31	Rodeo Road and	AM	**1.056**	**F**
	La Cienega Boulevard [1]	PM	**1.189**	**F**
32	Duquesne Avenue and	AM	**1.056**	**F** [2]
	Braddock Drive	PM	**1.182**	**F** [2]
33	Duquesne Avenue and	AM	0.833	D [2]
	Lucerne Avenue	PM	**0.962**	**F** [2]
34	Hughes Avenue and	AM	**0.940**	**E**
	Jefferson Boulevard	PM	0.823	D

Notes:

[1] City of Los Angeles intersection.

[2] Unsignalized intersection. LOS value determined using HCM methodology.

As shown in Table 8, most of the 34 study intersections currently operate at acceptable levels of service for urban conditions (LOS A through LOS D), although 12 locations exhibit unacceptable LOS E or LOS F operations during one or both of the peak hours (indicated in bold text). Of those 12 locations, four intersections exhibit LOS E as the worst operating level (one peak hour operates at LOS E, the other peak hour operates at LOS E or acceptable levels of service D or better), while the eight remaining intersections show LOS F conditions during at least one of the peak periods, five of which operate at LOS F conditions during both the AM and PM peak hours.

The 12 intersections currently exhibiting LOS E or LOS F conditions are listed below:

- Venice Boulevard and Robertson Boulevard (LOS F AM and PM)
- Venice Boulevard and National Boulevard (LOS E AM and PM)
- Venice Boulevard and La Cienega Boulevard (LOS E AM and PM)
- Washington Boulevard and Cattaraugus Avenue (LOS F AM and PM)
- Washington Boulevard and La Cienega Boulevard (LOS E AM, LOS D PM)
- La Cienega Boulevard and Fairfax Avenue (LOS E AM, LOS D PM)
- National Boulevard and Jefferson Boulevard (LOS B AM, LOS F PM)
- Jefferson Boulevard and La Cienega Boulevard (LOS F AM and PM)
- Rodeo Road and La Cienega Boulevard (LOS F AM and PM)
- Duquesne Avenue and Braddock Drive (LOS F AM and PM)
- Duquesne Avenue and Lucerne Avenue(LOS D AM, LOS F PM)
- Duquesne Avenue and Jefferson Boulevard (LOS E AM, LOS D PM)

Most of these congested intersections are located along key transportation corridors through the area, and as such, exhibit high traffic demands not only during the peak hours but throughout much of the day as well. It is of note that three of the "LOS F" intersections are STOP sign controlled locations, potentially indicating a need for installation of a traffic signal or additional lanes to add capacity to one or more approaches to address the rather substantial delays encountered at these intersections. This is particularly true of the two all-way STOP sign controlled intersections along Duquesne Avenue; at Braddock Drive, and Lucerne Avenue. These two locations generally provide only one lane per approach, but carry substantial commute period traffic in both directions between Culver Boulevard and Jefferson Boulevard, resulting in long vehicle queues and delays for each of the intersection approaches.

However, the third STOP sign controlled location exhibiting LOS F operations is the intersection of Washington Boulevard and Cattaraugus Avenue, which consists of two somewhat offset "tee" intersections, each STOP sign controlled only along the Cattaraugus Avenue approaches. Unlike the all-way STOP sign controlled intersections along Duquesne Avenue, the LOS F conditions at Washington Boulevard and Cattaraugus are the result of vehicular delays along the northbound and southbound STOP sign controlled approaches of Cattaraugus Avenue, as vehicles attempt to turn left or cross through relatively heavy Washington Boulevard traffic, which does not stop at this intersection. A review of the intersection operations evaluation

worksheets contained in Appendix E of this report indicates that no substantial delays are encountered by the east-west Washington Boulevard through traffic at this location, and the levels of service for both of the Washington Boulevard approaches are LOS A or LOS B during both the AM and PM peak hours. As a result, the overall assessment of LOS F conditions for this intersection is somewhat misleading.

Future (Year 2013) Traffic Conditions

Future (year 2013) traffic volumes in the project vicinity, and indeed throughout the region, are anticipated to increase as a result of a number of factors, although two factors contribute most significantly to area traffic growth. The first of these factors is simply ambient increases in the number of vehicles on the roadway system. Ambient traffic growth occurs for a number of reasons; increasing population (not tied to specific developments), additional vehicles for existing households (as children become driving age, or new multi-vehicle status for current single-vehicle families), economic factors such as new jobs creating new worker trips, and other factors. The second factor is new traffic resulting from on going and continued development. A number of other projects are currently either under construction or planned for development in the project vicinity which will likely contribute to future traffic volumes in the study area.

Therefore, since the project is not expected to be built and occupied immediately, its traffic, and consequently, the impacts of that traffic, will occur on a roadway system that is accommodating more traffic than indicated in the discussion of "Existing (2010)" conditions. For this reason, the analysis of future traffic conditions has been expanded to include potential traffic volume increases expected from both ambient growth and from traffic generated by projects that have not yet been developed. These "Future (2013) Without Project" volumes represent the forecast traffic conditions in the study area at the time the project is expected to be completed, but prior to its occupancy, and form the "baseline" conditions against which the project's incremental traffic additions (calculated earlier) are assessed.

Without Project Traffic Forecasts

Briefly, the methodology for estimating future traffic volumes was as follows: First, as described in a preceding section of this report, the current (year 2010) traffic volumes were determined by traffic counts. These existing volumes were then used to estimate future conditions (year 2013) through the application of an "ambient traffic growth factor". This growth factor, compounded annually, was applied to all of the turning movement volumes at the study intersections to form

the "baseline" traffic volume conditions for the future study year 2013. Although the annual growth factor is expected to fully represent all potential area traffic increases, for the purposes of conservative analysis, traffic generated from nearby “related projects” was also added to these future baseline traffic volumes, to form the basis for the “Without Project” conditions.

Ambient Traffic Growth

Based on analyses of the trends in traffic growth in the study area over the last several years, the City Traffic Engineer has determined that an annual traffic growth factor of 1.0 percent is reasonable. In fact, as documented in the Los Angeles County Congestion Management Program (CMP), actual anticipated traffic growth in the “Westside” area encompassing and surrounding the study vicinity, is forecast to be approximately 0.80 to 0.85 percent annually, inclusive of both ambient growth and traffic from cumulative area development, and as such, the assumed 1.0 percent annual growth factor is expected to be quite conservative. This “ambient traffic growth factor” is used to account for expected increases in traffic resulting from general ambient traffic growth in the study vicinity due to ongoing regional population growth, or from potential development projects not yet proposed or outside of the study area. The ambient growth factor, compounded annually, was applied to the 2010 traffic volumes to develop estimates of the future traffic volumes for the future year 2013 conditions.

Related Projects

In addition to the 1.0 percent annual traffic growth rate used for this study, a listing of specific projects located within the study area – an approximately 1.5-mile radius from the project site – was obtained from the Culver City Planning Department, the City of Los Angeles Planning Department, Los Angeles County Department of Regional Planning, LADOT files, and various other sources including recently prepared or approved traffic studies of other developments in the project vicinity and field surveys of the area. Additionally, a field survey of the study area was conducted to identify any other potential developments not on the list. As noted previously, the 1.0 percent annual ambient traffic growth factor is expected to adequately represent all area traffic growth within the study period, and as such, the inclusion of traffic due to specific projects in the study area in addition to the assumed ambient background traffic growth may tend to overstate cumulative conditions. However, the methodology applied in this study includes all foreseeable traffic increases in the area during the forecast period, and the “worst case” future intersection conditions resulting from this approach assure that any potential intersection capacity or travel corridor deficiencies are identified and addressed.

Using these assumptions as guidelines, a review of the various project lists, plus the field survey information, indicated that a total of 42 individual projects near the project site might produce additional traffic at study intersections. Potential traffic generated by these other prospective area developments was added to the assumed 1.0 percent annual ambient traffic growth to produce the estimates of the future 2013 study year traffic volumes. The locations of the 42 identified related projects identified in this analysis are shown in Figure 12, and each project is individually listed and described in Table 9.

Estimates of the traffic expected to be generated by these related projects were determined by applying the appropriate trip generation rates and equations from the same 8th Edition ITE *Trip Generation* publication used to estimate project traffic, or were obtained from specific related project records or studies. The related project trip estimates are summarized in Table 10, while the trip generation rates and equations used in the calculations contained in Table 10 (where specific trip generation information was not available) are contained in Appendix A.

The related projects' traffic volumes shown in Table 10 were then distributed through the study area and assigned to the roadway and freeway network using assumptions and methodologies similar to those used to assign the proposed project's trips. The results of the related projects' trip assignments through each of the 34 study intersections are shown in Figure 13(a) for the AM peak hour conditions and in Figure 13(b) for the PM peak hour conditions.

It should be noted that a review of the anticipated related projects' traffic shown in Figures 13(a) and 13(b) reveals that several of the study intersections are expected to exhibit reductions in traffic volumes for one or more intersection movements; these reductions are noted as negative numbers in the graphics. The reductions in traffic movement volumes are the result of the expected future operations of the Expo Line project in the study area. Based on a comparison of the forecast "without" and "with" Expo Line project traffic conditions contained in that project's DEIR and FEIR documents, the actual incremental effects of the proposed Expo Line project on the area streets and study intersections were determined. These results indicated that the proposed Expo Line project is expected to result in both additional trips within the study area, as well as a redistribution of existing trips on the area roadway system. The "new" trips to the area are the result of park-and-ride or kiss-and-ride Expo Line passengers traveling into and out of the study area to and from the new station locations, although the effects of these new trips are expected to be localized near the stations and their associated parking lots.

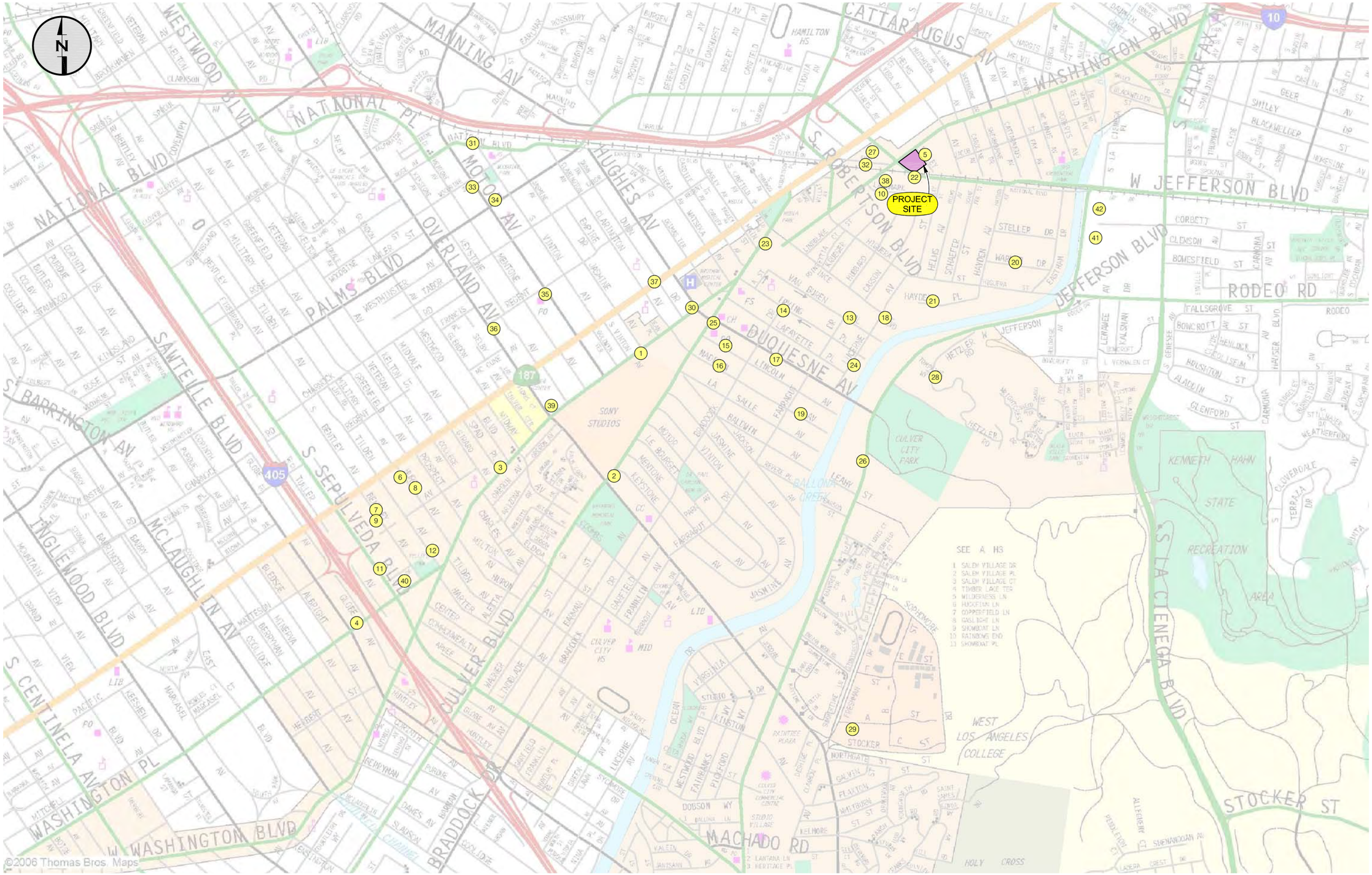


FIGURE 12

RELATED PROJECTS LOCATIONS MAP

Hirsch/Green Transportation Consulting, Inc.

Table 9
Related Projects Descriptions

Map No.	Land Use/Description	Size/Units	Address
1.	Office/Post Production [1]	100,000 sq. ft.	10202 Washington Boulevard
2.	Gas Station	n/a	10638 Culver Boulevard
	Car Wash	1 bay	
	Convenience Store	1,500 sq. ft.	
	Gas Station w/Convenience Mart	*n/a*	
3.	Live/Work Lofts	3 units	10839 Washington Boulevard
4.	Mixed-Use		11281 Washington Boulevard
	Apartments and Retail	17,500 sq. ft.	
5.	Warehouse	7,014 sq. ft.	3434 Wesley Street
	Office	3,528 sq. ft.	
6.	Townhomes	15 units	3823 - 3833 Huron Avenue
	Townhomes	*3 units*	
7.	Condominium	4 units	3846 Bentley Avenue
8.	Condominium	5 units	3862 Huron Avenue
9.	Condominium	2 units	3873 Bentley Avenue
10.	School	43,950 sq. ft.	3939 Landmark Street
	Studio	*37,200 sq. ft.*	
11.	Hotel	77 room	3954 Sepulveda Boulevard
12.	Condominium	4 units	3972 Tilden Avenue
13.	Condoninium	4 units	4014 Van Buren Place
14.	Apartment	26 units	4043 Irving Place
	Office	3,380 sq. ft.	
15.	Condominium	3 units	4048 Lincoln Avenue
16.	Condominium	4 units	4058 Madison Avenue
17.	Apartment	6 units	4139 and 4145 Duquesne Avenue
18.	Condominium	6 units	4227 Ince Boulevard
19.	Condominium	2 units	4228 Madison Avenue

Table 9 (continued)
Related Projects Descriptions

Map No.	Land Use/Description	Size/Units	Address
20.	Mixed-Use		8511 Warner Drive
	Retail	41,520 sq. ft	
	Restaurant	10,000 sq. ft	
21.	Office	63,679 sq. ft.	8665 Hayden Place
22.	School Remodel/Addition	9,000 sq. ft.	8794 National
23.	Mixed-Use		9300 Culver Boulevard
	Office	65,335 sq. ft.	
	Restaurant	23,580 sq. ft.	
	Retail	23,580 sq. ft.	
24.	Condominium	5 units	9650 Lucerne Avenue
25.	Office	5,457 sq. ft.	9900 Culver Boulevard
	Condominium	18 units	
26.	Office	113,467 sq. ft.	9919 Jefferson Boulevard
27.	Mixed-Use (Triangle Site)		NWC Washington Boulevard and
	Apartment	200 units	National Boulevard
	Hotel	149 room	
	Office	200,000 sq. ft.	
	Retail	51,500 sq. ft.	
	Restaurant	20,000 sq. ft.	
28.	Baldwin Hills Scenic Overlook Park	58 acres	Hetzler Road
29.	West LA Community College	Master Plan	9000 Overland Avenue
30.	Mixed-Use		9901 Washington Boulevard
	Apartment	131 units	
	Retail	12,178 sq. ft.	
31.	Le Lycee Francais High School	340 students	10309 W. National Boulevard
32.	Expo Light Rail Station [1],[2]		Venice Boulevard/National Boulevard
33.	Apartments	85 units	3417 Motor Avenue
	Retail	2,000 sq. ft.	
34.	Apartments	20 units	10329 Palms Boulevard
	Retail	9,000 sq. ft.	

Table 9 (continued)
Related Projects Descriptions

Map No.	Land Use/Description	Size/Units	Address
35.	Apartments	36 units	3707 Motor Avenue
	Single Family Dwelling	*1 units*	
36.	Apartments	40 units	3706 Overland Avenue
37.	Apartments	118 units	10001 Venice Boulevard
38.	Mixed-Use [3]		8810 - 8850 Washington Boulevard
	Apartment	134 units	
	Retail	27,000 sq. ft.	
39.	Mixed-Use ("The Palms") [4]		10601 Washington Boulevard
	Apartment	132 units	
	Office	26,000 sq. ft.	
	Retail	18,000 sq. ft.	
	Office	*11,108 sq. ft.*	
40.	Auto Repair Shop	1,196 sq. ft	11167 Washington Place
41.	Bus Maintenance Facility [5]	175 buses	5848 Jefferson Boulevard
42.	Mixed-Use [6]		SEC Jefferson Boulevard and
	Office	69,688 sq. ft.	National Boulevard
	Light Industrial	162,607 sq. ft.	
	Warehouse	*3,285 sq. ft.*	

Note:

Uses identified in *italics* are to be removed.

Sources:

[1] *Draft Traffic Impact Study for Washington-National Specific Plan, Culver City, California* , March 23, 2007, Katz, Okitsu & Associates.

[2] *Mid-City/Exposition LRT Project Final EIS/EIR* , Los Angeles Metropolitan Transportation Authority/U.S. Department of Transportation, Federal Transit Administration, October 2005.

[3] Per Draft Memorandum of Understanding with the City of Culver City, August 2008, Hirsch/Green Transportation Consulting, Inc.

[4] Per LADOT Site Plan Review Memorandum, October 27, 2008.

[5] *Traffic Impact Study for Bus Maintenance Facility,* July 2004, Overland Traffic Consultants, Inc.

[6] *Traffic Study for the Samitaur Development,* October 1998, Kaku Associates, Inc. (Phases B through E only)

Table 10
Related Projects Trip Generation Estimates

Map No.	Land Use/Description	Size/Units	Daily	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour In	PM Peak Hour Out
1.	Office/Post Production	100,000 sq. ft.	11,401	1,412	193	262	1,281
2.	Gas Station	n/a	125	5	5	0	0
	Car Wash	1 bay					
	Convenience Store	1,500 sq. ft.					
	Gas Station w/Convenience Mart	*n/a*					
3.	Live/Work Lofts	3 units	18	0	1	1	1
4.	Mixed-Use						
	Apartments and Retail	17,500 sq. ft.	751	11	7	32	34
5.	Warehouse	7,014 sq. ft.	35	2	1	1	2
	Office	3,528 sq. ft.	39	4	1	1	4
			74	**6**	**2**	**2**	**6**
6.	Townhomes	15 units	88	1	6	5	3
	Townhomes	*3 units*	*18*	*0*	*1*	*1*	*1*
			70	**1**	**5**	**4**	**2**
7.	Condominium	4 units	23	0	2	1	1
8.	Condominium	5 units	29	0	2	2	1
9.	Condominium	2 units	12	0	1	1	0
10.	School	43,950 sq. ft.	531	105	85	9	11
	Studio	*37,200 sq. ft.*					
11.	Hotel	77 room	629	26	17	24	21
12.	Condominium	4 units	23	0	2	1	1
13.	Condoninium	4 units	23	0	2	1	1
14.	Apartment	26 units	175	3	10	10	6
	Office	3,380 sq. ft.	37	4	1	1	4
			212	**7**	**11**	**11**	**10**
15.	Condominium	3 units	18	0	1	1	1
16.	Condominium	4 units	23	0	2	1	1
17.	Apartment	6 units	40	1	2	3	1
18.	Condominium	6 units	35	1	2	2	1

Table 10 (continued)
Related Projects Trip Generation Estimates

Map No.	Land Use/Description	Size/Units	Daily	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour In	PM Peak Hour Out
19.	Condominium	2 units	12	0	1	1	0
20.	Mixed-Use						
	Retail	41,520 sq. ft	1,840	33	22	50	63
	Restaurant	10,000 sq. ft	1,272	60	55	66	43
			3,112	**93**	**77**	**116**	**106**
21.	Office	63,679 sq. ft.	701	87	12	16	79
22.	School Remodel/Addition	9,000 sq. ft.	130	23	19	12	16
23.	Mixed-Use						
	Office	65,335 sq. ft.	719	89	12	16	81
	Restaurant	23,580 sq. ft.	2,998	141	131	157	100
	Retail	23,580 sq. ft.	1,045	19	12	28	36
			4,762	**249**	**155**	**201**	**217**
24.	Condominium	5 units	29	0	2	2	1
25.	Office	5,457 sq. ft.	60	7	1	1	7
	Condominium	18 units	105	1	7	6	3
			165	**8**	**8**	**7**	**10**
26.	Office	113,467 sq. ft.	1,249	155	21	29	140
27.	Mixed-Use (Triangle Site)						
	Apartment	200 units	1,344	20	82	81	43
	Hotel	149 room	1,217	51	32	47	41
	Office	200,000 sq. ft.	2,202	273	37	51	247
	Retail	51,500 sq. ft.	2,282	41	27	62	78
	Restaurant	20,000 sq. ft.	1,799	9	7	101	49
			8,844	**394**	**185**	**342**	**458**
28.	Baldwin Hills Scenic Overlook Park	58 acres	446	---- nominal ----		8	60
29.	West LA Community College	Master Plan	6,785	436	45	300	133
30.	Mixed-Use						
	Apartment	131 units	880	13	54	53	28
	Retail	12,178 sq. ft.	540	10	6	15	18
			1,420	**23**	**60**	**68**	**46**

Table 10 (continued)
Related Projects Trip Generation Estimates

Map No.	Land Use/Description	Size/Units	Daily	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour In	PM Peak Hour Out
31.	Le Lycee Francais High School	340 students	722	122	55	23	25
32.	Expo Light Rail Station		1,500	243	27	21	189
33.	Apartments	85 units	571	9	34	34	19
	Retail	2,000 sq. ft.	89	1	1	2	3
			660	**10**	**35**	**36**	**22**
34.	Apartments	20 units	134	2	8	8	4
	Retail	9,000 sq. ft.	399	7	4	11	13
			533	**9**	**12**	**19**	**17**
35.	Apartments	36 units	242	4	14	14	8
	Single Family Dwelling	*1 units*	*10*	*0*	*1*	*1*	*0*
			232	**4**	**13**	**13**	**8**
36.	Apartments	40 units	269	4	16	16	9
37.	Apartments	118 units	793	12	48	47	26
38.	Mixed-Use		1,771	26	59	89	70
	Apartment	134 units					
	Retail	27,000 sq. ft.					
39.	Mixed-Use ("The Palms")		2,050	81	69	103	148
	Apartment	132 units					
	Office	26,000 sq. ft.					
	Retail	18,000 sq. ft.					
	Office	*11,108 sq. ft.*					
40.	Auto Repair Shop	1,196 sq. ft	42	3	1	2	2
41.	Bus Maintenance Facility	175 buses	1,666	67	40	77	26
42.	Mixed-Use		2,494	293	38	53	308
	Office	69,688 sq. ft.					
	Light Industrial	162,607 sq. ft.					
	Warehouse	*3,285 sq. ft.*					

Note:

Uses identified in *italics* are to be removed.

PROJECT SITE

FIGURE 13(a)

RELATED PROJECTS TRAFFIC VOLUMES
AM PEAK HOUR

©2008 Rand McNally & Company

Hirsch/Green Transportation Consulting, Inc.

PROJECT SITE

FIGURE 13(b)
RELATED PROJECTS TRAFFIC VOLUMES
PM PEAK HOUR

©2008 Rand McNally & Company

Hirsch/Green Transportation Consulting, Inc.

The development of the Expo Line is also expected to produce a change in travel habits for some residents of the surrounding community, as current drivers switch from travel modes from automobile use to the newly-constructed light rail facilities. This change of travel mode will likely eliminate some vehicle trips altogether. However, besides changes in the number of actual vehicles traveling to the Expo Line station and parking facilities, the availability of this new transit service is also expected to result in a change in travel patterns of some area drivers, as former (existing) typical commute traffic vehicles change destinations to use the new Expo Line stations' associated parking and/or drop-off/pick-up areas. Therefore, although the Expo Line project is not expected to result in *overall* reductions in area trips, the anticipated reassignment in destination locations for some vehicles is expected to result in reductions in the existing and forecast traffic volumes for some moves at some of the study intersections, as indicated in Figures 13(a) and 13(b). These reductions represent vehicle trips which currently exhibit typical commute travel patterns diverting from their existing travel routes to access the nearby Expo Line facilities, or are representative of actual reductions in vehicle trips as a result of drivers switching travel modes from automobile to light rail transit service.

Highway System Improvements

A number of significant highway improvements within the immediate study area were identified by the City of Culver City Traffic Engineer, generally connected with the development of the Metro's Expo Line light rail project and its planned local station near Venice Boulevard and Robertson Boulevard (related project number 32). These improvements are identified in the Final EIS/EIR for the Expo Line project[7] either as part of the project itself (necessary roadway realignments/improvements to accommodate the new light rail tracks and/or stations), or as mitigation measures to address the anticipated impacts of the project's traffic.

The Metro Expo Line area roadway improvements identified in that project's EIS/EIR, and confirmed by the City of Culver City Traffic Engineer, are as follows:

- o La Cienega Boulevard and Jefferson Boulevard – Modify the existing eastbound-westbound traffic signal operations at this intersection to provide permissive left-turn phasing (no changes to the intersection lane configurations are anticipated).

- o La Cienega Boulevard and Rodeo Road – Reconfigure westbound Rodeo Road to provide dual left-turn lanes, two through lanes, and an exclusive right-turn only lane.

[7] *Mid-City/Exposition LRT Project Final EIS/EIR*, Los Angeles Metropolitan Transportation Authority/U. S. Department of Transportation, Federal Transit Administration, October 2005.

- Jefferson Boulevard and National Boulevard – Reconstruct the existing intersection to provide a new northbound left-turn lane from Jefferson Boulevard to westbound National Boulevard (this move is currently prohibited) along with two northbound through lanes, and one new exclusive right-turn only lane (to a private driveway); reconfigure the southbound (westbound) approach of Jefferson Boulevard to provide one left-turn lane (to the private driveway), one through lane, and one exclusive right-turn lane (from Jefferson Boulevard to westbound National Boulevard); and reconfigure eastbound National Boulevard to provide two "through" lanes (to eastbound/northbound Jefferson Boulevard, including access to the private driveway opposite National Boulevard), and one exclusive right-turn only lane (to southbound Jefferson Boulevard).

- Washington Boulevard and National Boulevard – Reconfigure the westbound approach of Washington Boulevard to convert the existing right-turn only lane to a shared through/right-turn lane, in addition to the existing left-turn lane and two through lanes.

- Venice Boulevard between Robertson Boulevard/Exposition Boulevard and Ivy Street – Widen the north side of Venice Boulevard from approximately 500 feet west of Robertson Boulevard/Exposition Boulevard to Ivy Street (two blocks east of National Boulevard), and widen the south side of Venice Boulevard from approximately 500 feet west of Robertson Boulevard/Exposition Boulevard to Exposition Boulevard, including reconfiguration of the median islands. The programmed widenings do not result in any substantial changes in lane configurations/operations from the existing conditions at the intersection of Venice Boulevard and Robertson Boulevard/Exposition Boulevard.

- Venice Boulevard and National Boulevard – In addition to the Venice Boulevard widenings described above, reconfigure both the eastbound and westbound approaches of Venice Boulevard at National Boulevard to provide dual left-turn lanes, three through lanes, and an exclusive right-turn only lane (the addition of a second left-turn lane and a right-turn lane in both directions).

- National Boulevard and Hayden Avenue – To compliment the improvements to National Boulevard between Hayden Avenue and Jefferson Boulevard, modify the existing raised median along National Boulevard to install a new eastbound right-turn only lane.

In addition to these Metro Expo Line-related improvements, the City of Culver City is also planning several general traffic circulation roadway improvements within the study area; these additional City-sponsored improvements are described in the following paragraphs.

- Washington Boulevard and Higuera Street/Robertson Boulevard – The City has identified an improvement to restripe northbound Higuera Street at this intersection to convert the existing shared through/right-turn lane to an exclusive right-turn only lane, in addition to the existing left-turn lane and remaining (one) through lane on this approach; the north leg of this intersection will also be restriped to remove the northbound lane line.

- National Boulevard between Venice Boulevard and Washington Boulevard – As part of its proposed "Triangle Site" transit-oriented development project, located along the west side of National Boulevard between Venice Boulevard and Washington Boulevard, the City intends dedicate and widen the west side of National Boulevard along this segment of the roadway by 10 feet, to provide a future 72-foot wide roadway. Additionally, this portion of National Boulevard will be restriped to remove all existing on-street parking in order to accommodate the installation of new bicycle lanes along both sides of the street, although no changes to the existing number of travel lanes is proposed.

The roadway/intersection improvements described above will improve the overall capacity of the existing roadway network in the study area, but are not, in general, expected to substantially alter the current travel patterns through the area. However, the construction of the new northbound left-turn lane at National Boulevard and Jefferson Boulevard, and the anticipated closure of Helms Avenue between Venice Boulevard and Washington Boulevard, will result in localized changes to area circulation patterns. The effect of the provision of a new northbound left-turn lane from Jefferson Boulevard to westbound National Boulevard are included in the "net" traffic changes associated with the construction of the Expo Line, and are described in detail in the EIS/EIR for that project. The analyses of "related projects" contained in this document takes the net Expo Line traffic effects directly from the EIS/EIR, and as such, the associated diversions in traffic are intrinsically included in the traffic volumes and assignments for the Expo Line project (related project number 32) used in this report.

In addition to these near-term improvements, all of which are anticipated to be completed by the 2013 study year, there are several other regional improvements being evaluated for the project vicinity, including improvements to the Santa Monica (I-10) Freeway ramps at Robertson Boulevard/Exposition Boulevard, auxiliary lane improvements to the Santa Monica Freeway itself, and improvements to the nearby Santa Monica/San Diego (I-405) Freeway interchange. However, these improvements are currently only in the preliminary stages, and as such, are not anticipated to be completed within the study timeline, and were therefore not assumed as future conditions. It should also be noted that some or all of the related projects identified in this

analysis may be required to implement localized roadway and/or intersection improvements to mitigate specific traffic impacts from those individual projects, although since many of these projects are currently only in the conceptual stage and, specific traffic impacts for these projects have not been identified, no such cumulative “mitigation” improvements are assumed.

Therefore, the “Future (2013) Without Project” condition traffic volumes for this analysis were estimated by combining the assumed 1.0 percent annual ambient traffic growth in the area with new traffic generated by the potential cumulative development in the vicinity of the project site. This process also included adjustments to the future area traffic patterns and volumes to account for the effects of the new northbound left-turn capability at Jefferson Boulevard and National Boulevard (as described earlier), and for the anticipated redistribution of some existing traffic from its normal “commute” path to the proposed Expo Line stations and parking facilities in the vicinity, as drivers change travel modes from single-occupancy vehicles to use the new Expo Line transit facilities, as identified in the Expo Line Final EIS/EIR traffic analyses. Note, however, that no specific adjustments were incorporated to account for any potential reduction in areawide traffic as a result of the new Expo Line ridership.

The resulting AM and PM peak hour traffic estimates for the forecast “Future (2013) Without Project” conditions are shown in Figures 14(a) and 14(b), respectively. These pre-project condition traffic estimates form the "benchmark" values for determining the proposed project’s potential traffic impacts at the nearby intersections and on the surrounding street system.

Finally, the net traffic volumes generated by the proposed project, calculated earlier in this report, and shown in Figures 8(a) and 8(b), for the AM and PM peak hours, respectively, were then combined with these benchmark “Without Project” traffic volumes to produce the forecast “Future (2013) With Project" traffic volume estimates, which are shown Figure 15(a) for the AM peak hour and Figure 15(b) for the PM peak hour conditions.

Analysis of Future (Year 2013) Traffic Conditions

The future year 2013 “Without Project” traffic volumes shown in Figures 14(a) and 14(b), and the “With Project” traffic volumes shown in Figures 15(a) and 15(b) were then evaluated using the same CMA analysis procedures described earlier in this report. As described earlier, the analysis of these forecast future conditions assumed that the area roadway network would be modified with the ongoing or proposed intersection improvements at the locations identified in the preceding pages (La Cienega Boulevard and Jefferson Boulevard; La Cienega Boulevard

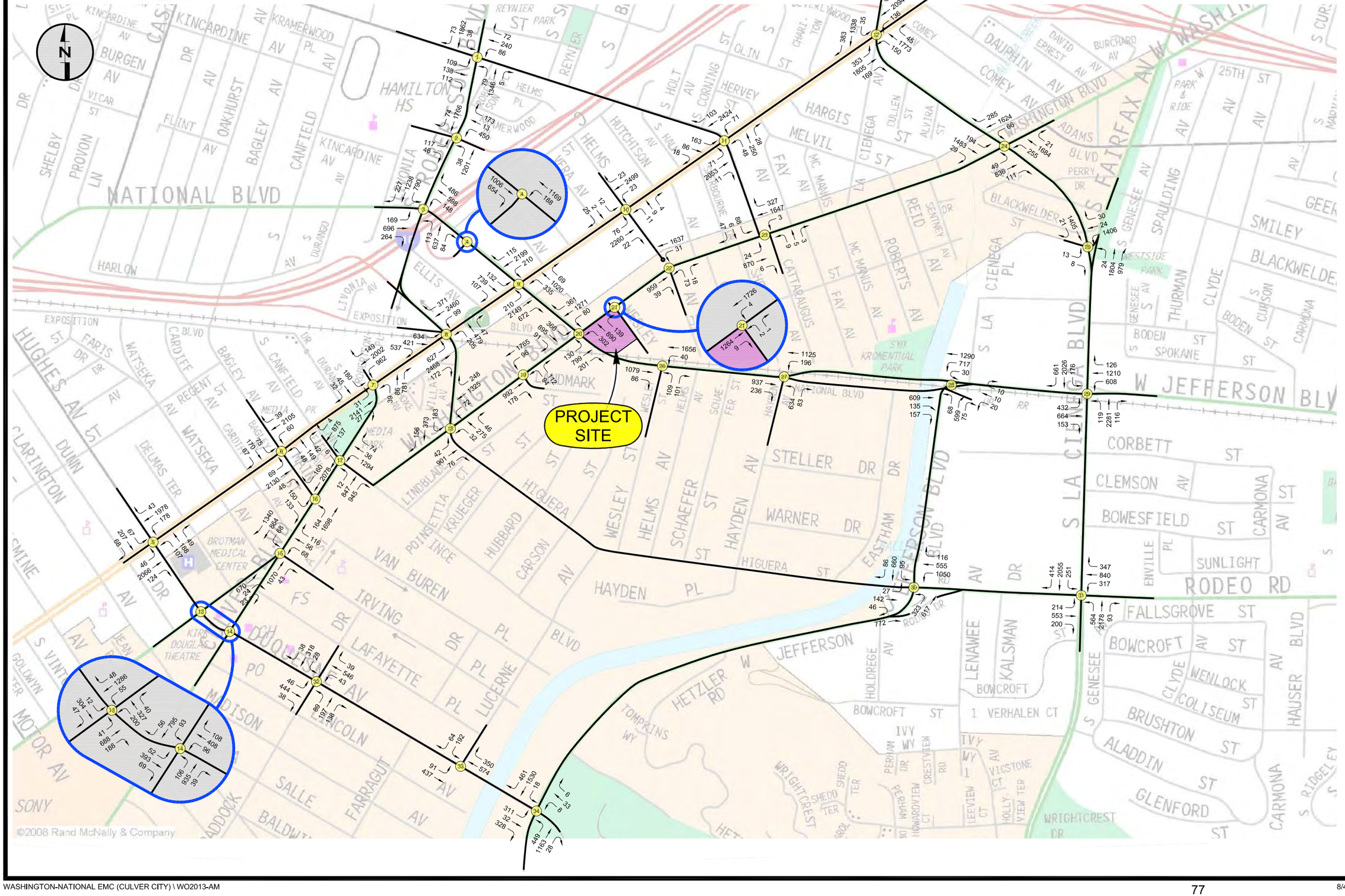


FIGURE 14(a)

FUTURE (2013) TRAFFIC VOLUMES
WITHOUT PROJECT
AM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

PROJECT SITE

FIGURE 14(b)

FUTURE (2013) TRAFFIC VOLUMES
WITHOUT PROJECT
PM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

©2008 Rand McNally & Company

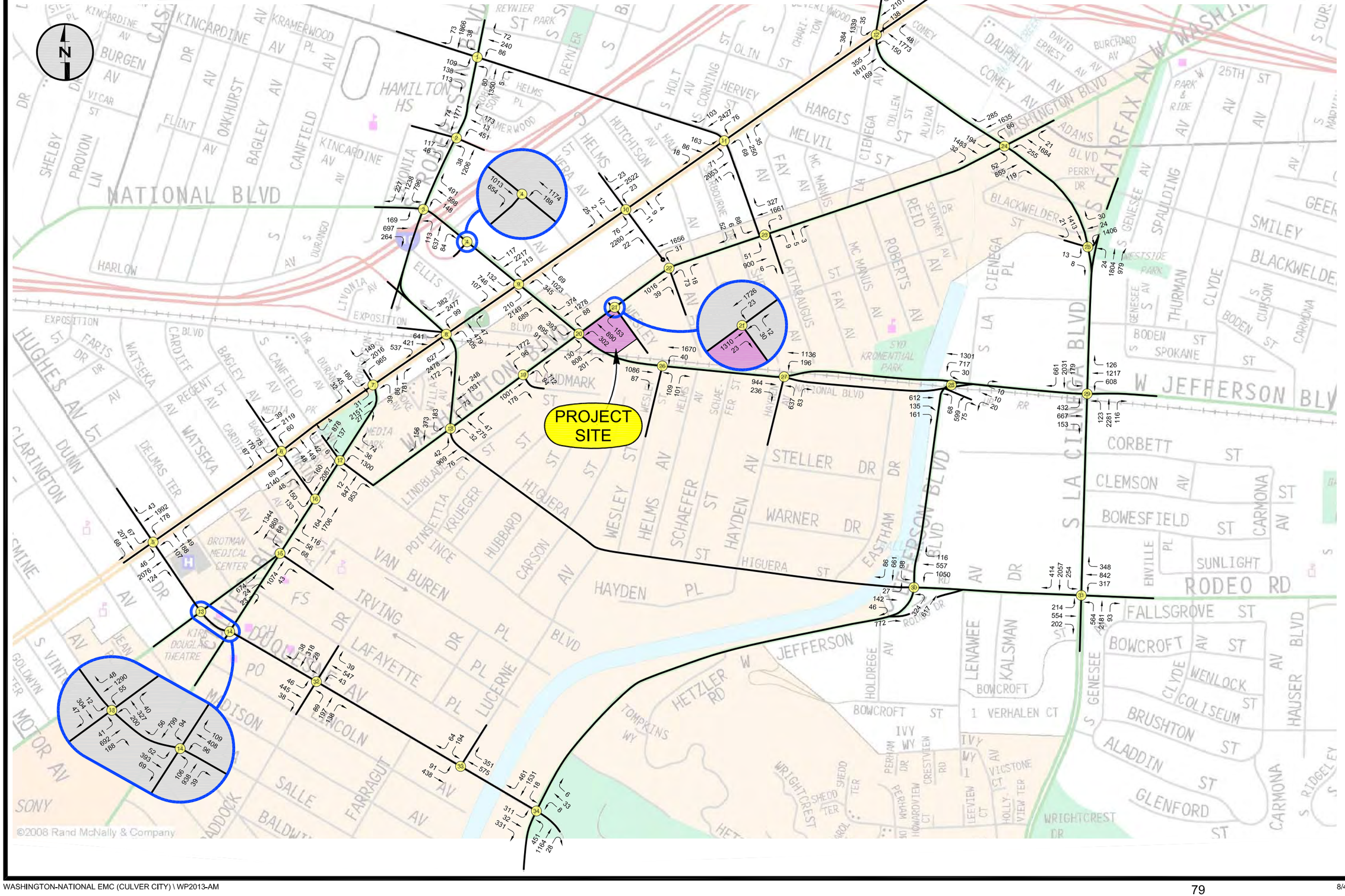


FIGURE 15(a)

FUTURE (2013) TRAFFIC VOLUMES
WITH PROJECT
AM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

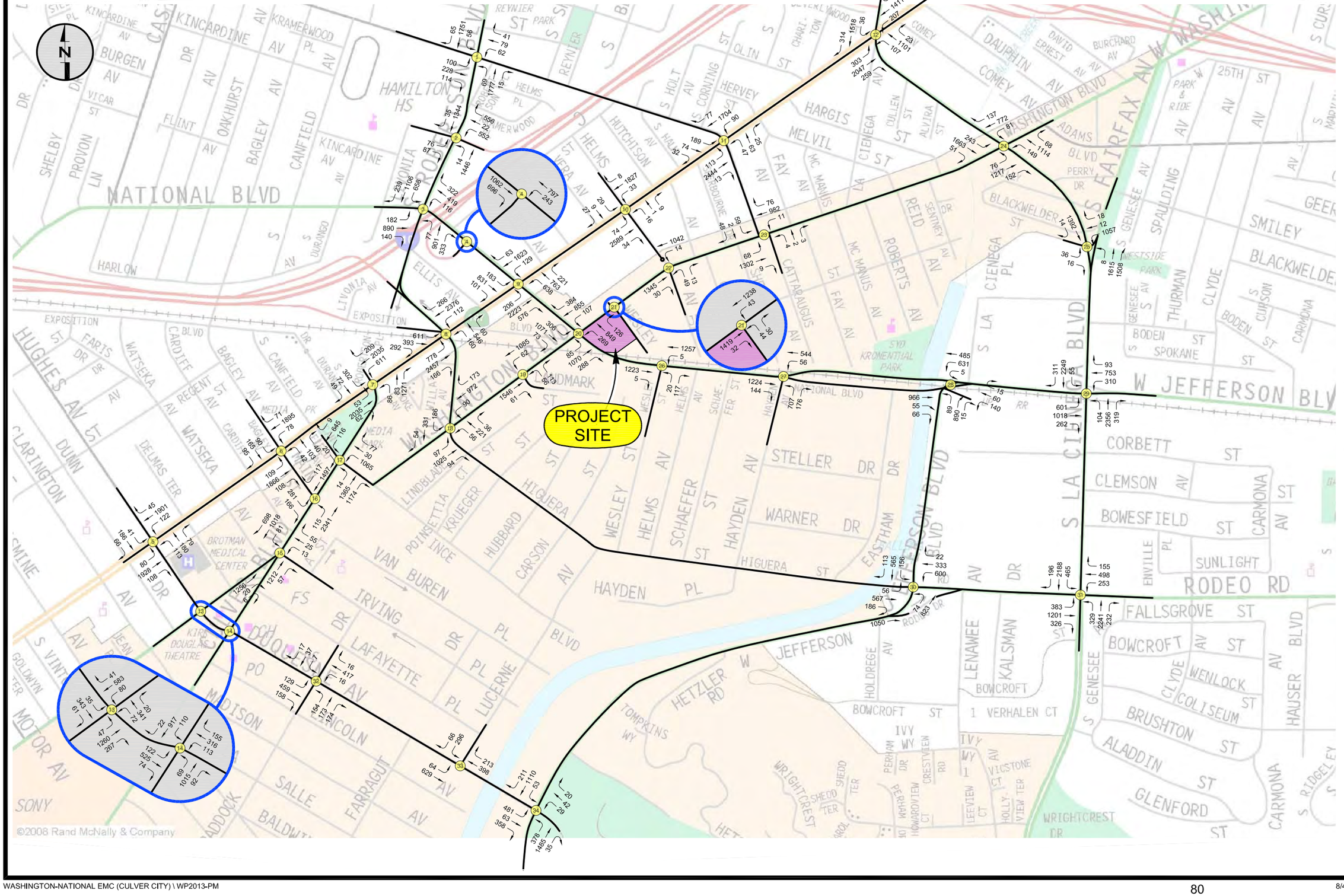


FIGURE 15(b)

FUTURE (2013) TRAFFIC VOLUMES
WITH PROJECT
PM PEAK HOUR

Hirsch/Green Transportation Consulting, Inc.

and Rodeo Road; Jefferson Boulevard and National Boulevard; Washington Boulevard and National Boulevard; Venice Boulevard and Robertson Boulevard/Exposition Boulevard, Venice Boulevard and National Boulevard; National Boulevard and Hayden Avenue; Washington Boulevard and Higuera Street/Robertson Boulevard, and National Boulevard between Venice Boulevard and Washington Boulevard), although the existing intersection geometries and signal operations at the remaining study intersections and area streets were assumed to remain unchanged from the "existing" conditions.

The result of the analysis of the forecast future traffic conditions in the study area are summarized in Table 11. The intersection CMA and LOS values shown in Table 11 for the "With Project" conditions were then compared against the "Without Project" conditions to determine the locations, time periods, and magnitudes of any incremental traffic impacts directly attributable to the proposed project, as described in detail later in this report.

Table 11
Critical Movement Analysis Summary
Future (2013) Without and With Project Conditions

Int. No.	Intersection	Peak Hour	Without Project		With Project		
			CMA	LOS	CMA	LOS	Impact
1	Robertson Boulevard and	AM	**0.936**	**E**	**0.938**	**E**	**0.002**
	Cattaraugus Avenue [1]	PM	0.883	D	0.887	D	0.004
2	Robertson Boulevard and	AM	**0.947**	**E**	**0.949**	**E**	**0.002**
	I-10 WB Off-Ramp/Kincardine Avenue [1]	PM	0.855	D	0.859	D	0.004
3	Robertson Boulevard and	AM	**1.072**	**F**	**1.072**	**F**	**0.000**
	National Boulevard [1]	PM	**1.066**	**F**	**1.071**	**F**	**0.005**
4	National Boulevard and	AM	0.461	A	0.461	A	0.000
	I-10 EB On-Ramp [1]	PM	0.526	A	0.526	A	0.000
5	Venice Boulevard and	AM	0.807	D	0.809	D	0.002
	Hughes Avenue [1]	PM	0.710	C	0.715	C	0.005
6	Venice Boulevard and	AM	0.763	C	0.766	C	0.003
	Bagley Avenue [1]	PM	0.749	C	0.754	C	0.005
7	Venice Boulevard and	AM	**0.966**	**E**	**0.969**	**E**	**0.003**
	Culver Boulevard [1]	PM	**1.019**	**F**	**1.024**	**F**	**0.005**
8	Venice Boulevard and	AM	**1.647**	**F**	**1.659**	**F**	**0.012** *
	Robertson Boulevard [1]	PM	**1.673**	**F**	**1.693**	**F**	**0.020** *

Table 11 (continued)
Critical Movement Analysis Summary
Future (2013) Without and With Project Conditions

Int. No.	Intersection	Peak Hour	Without Project CMA	Without Project LOS	With Project CMA	With Project LOS	Impact
9	Venice Boulevard and	AM	**1.069**	**F**	**1.083**	**F**	**0.014** *
	National Boulevard [1]	PM	**1.281**	**F**	**1.293**	**F**	**0.012** *
10	Venice Boulevard and	AM	0.545	A	0.549	A	0.004
	Helms Avenue [1]	PM	0.559	A	0.559	A	0.000
11	Venice Boulevard and	AM	0.835	D	0.853	D	0.018
	Cattaraugus Avenue [1]	PM	0.704	C	0.734	C	0.030
12	Venice Boulevard and	AM	**1.105**	**F**	**1.107**	**F**	**0.002**
	La Cienega Boulevard [1]	PM	**1.091**	**F**	**1.099**	**F**	**0.008**
13	Washington Boulevard and	AM	0.769	C	0.771	C	0.002
	Hughes Avenue/Duquesne Avenue	PM	0.807	D	0.810	D	0.003
14	Culver Boulevard and	AM	0.686	B	0.688	B	0.002
	Duquesne Avenue	PM	0.727	C	0.731	C	0.004
15	Washington Boulevard and	AM	0.723	C	0.726	C	0.003
	Culver Boulevard, and Irving Place	PM	0.787	C	0.792	C	0.005
16	Culver Boulevard and	AM	0.674	B	0.676	B	0.002
	Main Street	PM	0.670	B	0.675	B	0.005
17	Washington Boulevard/Canfield Avenue and	AM	0.790	C	0.792	C	0.002
	Culver Boulevard	PM	0.875	D	0.879	D	0.004
18	Washington Boulevard and	AM	0.832	D	0.835	D	0.003
	Robertson Boulevard/Higuera Street	PM	0.681	B	0.685	B	0.004
19	Washington Boulevard and	AM	0.769	C	0.772	C	0.003
	Landmark Street	PM	0.554	A	0.562	A	0.008
20	Washington Boulevard and	AM	**0.940**	**E**	**0.962**	**E**	**0.022** *
	National Boulevard	PM	**0.904**	**E**	**0.921**	**E**	**0.017**
21	Washington Boulevard and	AM	**0.722**	**F** [2]	**0.754**	**F** [2]	**0.032** *
	Wesley Street	PM	**0.579**	**F** [2]	**0.703**	**F** [2]	**0.124** *
22	Washington Boulevard and	AM	0.536	A	0.543	A	0.007
	Helms Avenue	PM	0.409	A	0.439	A	0.030
23	Washington Boulevard and	AM	**0.973**	**F** [2]	**1.006**	**F** [2]	**0.033** *
	Cattaraugus Avenue	PM	**0.669**	**F** [2]	**0.800**	**F** [2]	**0.131** *
24	Washington Boulevard and	AM	**1.110**	**F**	**1.117**	**F**	**0.007**
	La Cienega Boulevard	PM	**0.945**	**E**	**0.955**	**E**	**0.010**

Table 11 (continued)
Critical Movement Analysis Summary
Future (2013) Without and With Project Conditions

Int. No.	Intersection	Peak Hour	Without Project CMA	Without Project LOS	With Project CMA	With Project LOS	Impact
25	La Cienega Boulevard and	AM	**1.090**	**F**	**1.090**	**F**	**0.000**
	Fairfax Avenue	PM	**0.911**	**E**	**0.911**	**E**	**0.000**
26	National Boulevard and	AM	0.622	B	0.627	B	0.005
	Wesley Street	PM	0.430	A	0.440	A	0.010
27	National Boulevard and	AM	0.647	B	0.651	B	0.004
	Hayden Avenue	PM	0.702	C	0.709	C	0.007
28	National Boulevard and	AM	**1.012**	**F**	**1.020**	**F**	**0.008**
	Jefferson Boulevard [1]	PM	**0.912**	**E**	**0.914**	**E**	**0.002**
29	Jefferson Boulevard and	AM	**1.222**	**F**	**1.227**	**F**	**0.005**
	La Cienega Boulevard [1]	PM	**1.171**	**F**	**1.178**	**F**	**0.007**
30	Higuera Street/Rodeo Road and	AM	0.814	D	0.814	D	0.000
	Jefferson Boulevard [1]	PM	0.727	C	0.732	C	0.005
31	Rodeo Road and	AM	**1.185**	**F**	**1.187**	**F**	**0.002**
	La Cienega Boulevard [1]	PM	**1.220**	**F**	**1.223**	**F**	**0.003**
32	Duquesne Avenue and	AM	**1.147**	**F** [2]	**1.148**	**F** [2]	**0.001**
	Braddock Drive	PM	**1.268**	**F** [2]	**1.270**	**F** [2]	**0.002**
33	Duquesne Avenue and	AM	**0.921**	**F** [2]	**0.924**	**F** [2]	**0.003**
	Lucerne Avenue	PM	**1.051**	**F** [2]	**1.055**	**F** [2]	**0.004**
34	Hughes Avenue and	AM	**1.081**	**F**	**1.085**	**F**	**0.004**
	Jefferson Boulevard	PM	**0.985**	**E**	**0.989**	**E**	**0.004**

Notes:

[1] City of Los Angeles intersection.

[2] Unsignalized intersection. LOS value determined using HCM methodology.

"*" Indicates significant impact per City of Culver City criteria.

"*" Indicates significant impact per City of Los Angeles (LADOT) criteria.

As indicated by the "Without Project" values shown in Table 11, ambient traffic growth and expected traffic increases from other ongoing or proposed development in and around the study area will result in a general worsening of traffic conditions throughout the study area by the year 2013, and although many of the study intersections will continue to operate at acceptable levels of service (LOS A through LOS D), a total of 18 of the 34 study locations are forecast to exhibit LOS E or LOS F operations during one or both of the peak hours (again indicated by bold type),

six more than under existing (year 2010) conditions; Robertson Boulevard and Cattaraugus Avenue, Robertson Boulevard and the I-10 Freeway Westbound Off-Ramp/Kincardine Avenue, Robertson Boulevard and National Boulevard, Venice Boulevard and Culver Boulevard, Washington Boulevard and National Boulevard, and Washington Boulevard and Wesley Street. Further, of the 18 LOS E/LOS F intersections, 10 are forecast to exhibit LOS F conditions during both the AM and PM peak hours, five more than currently operate under such conditions; Robertson Boulevard and National Boulevard, Venice Boulevard and Culver Boulevard, Venice Boulevard and National Boulevard, Venice Boulevard and La Cienega Boulevard, Washington Boulevard and Wesley Street, and Duquesne Avenue and Lucerne Avenue. However, it is important to reiterate that this deterioration in level of service is primarily due to new traffic generated by ongoing and/or proposed development within and near the study area, and is not associated with or the result of the proposed Washington/National project.

Nonetheless, traffic generated by the proposed project will also have an effect on the operations of the study intersections, although as shown in Table 11, project traffic will generally result in only nominal incremental increases in area intersection operations. These relatively nominal increases will not result in changes to the forecast future year 2013 “Without Project” levels of service at any of the 34 study intersections.

Impact Significance Criteria

However, project traffic-related changes to the level of service at an intersection, which although useful as an indicator of the potential for noticeable effects on the area transportation network, are not the standard used by either the City of Culver City or the City of Los Angeles for evaluating the potential “significance” of a project’s incremental traffic impacts on the area roadway network, as described in more detail in the following pages.

The City of Culver City defines a significant traffic impact attributable to a project based on a “stepped scale”, with intersections at high volume-to-capacity ratios being more sensitive to additional traffic than those operating with available surplus capacity. A significant impact is identified as an increase in the CMA value, due to project-related traffic, of 0.020 or more when the final (“With Project”) Level of Service is E or F, or a CMA increase of 0.040 or more when the final Level of Service is LOS D, as summarized in Table 12. No significant impacts are deemed to occur at LOS A, B, or C, as these operating conditions exhibit sufficient surplus capacities to accommodate traffic increases with little effect on traffic delays.

Table 12
City of Culver City Significant Traffic Impact Criteria

Final (With Project) Condition		Project-Related Increase
LOS	**CMA Value**	**in CMA Value**
A , B, or C	< 0.800	No Impacts
D	> 0.800 ≤ 0.900	≥ 0.040
E or F	> 0.900	≥ 0.020

However, as noted previously in this report, several of the study intersections (numbers 1 through 12, and 28 through 31) are operated under the jurisdiction of the City of Los Angeles Department of Transportation (LADOT), and as such, the LADOT criteria was used to identify potential project significant impacts at these 16 locations. As with the City of Culver City criteria, LADOT also defines significant project-related traffic impacts using a variable scale based on final "With Project" levels of service, although the City of Los Angeles criteria is somewhat more stringent than the City of Culver City criteria shown in Table 12. The LADOT intersection impact significance criteria are summarized in Table 13.

Table 13
City of Los Angeles Significant Traffic Impact Criteria

Final (With Project) Condition		Project-Related Increase
LOS	**CMA Value**	**in CMA Value**
A or B	≤ 0.700	No Impacts
C	> 0.700 ≤ 0.800	≥ 0.040
D	> 0.800 ≤ 0.900	≥ 0.020
E or F	> 0.900	≥ 0.010

Using the appropriate impact evaluation criteria shown in the preceding tables, the incremental project traffic impacts summarized in Table 11 were evaluated. Based on the applicable City of Culver City or LADOT impact criteria, the proposed project could result in significant traffic impacts at up to five of the 34 study intersections, prior to any mitigation, during one or both of the peak hours. These significant impacts are all located within the immediate vicinity of the project, and occur at the following intersections during the indicated peak periods:

- Venice Boulevard and Robertson Boulevard (AM and PM)
- Venice Boulevard and National Boulevard (AM and PM)

- Washington Boulevard and National Boulevard (AM Only)
- Washington Boulevard and Wesley Street (AM and PM)
- Washington Boulevard and Cattaraugus Avenue (AM and PM)

Two of the significantly impacted locations, Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard, are located within the City of Los Angeles, which as discussed previously, utilizes a more restrictive definition of "significance" regarding traffic impacts than does the City of Culver City. For comparative purposes, if the Culver City significance criteria shown in Table 12 were applied to all 34 of the intersections evaluated in this study, the project's impacts at Venice Boulevard and National Boulevard would not be considered significant, and the impacts at Venice Boulevard and Robertson Boulevard would be considered significant only during the PM peak hour. Conversely, if the City of Los Angeles significant impact definition were to be utilized for all of the study intersections, one additional intersection, Washington Boulevard and La Cienega Boulevard, would be identified as significantly impacted (during the PM peak hour). Additionally, the site-adjacent intersection of Washington Boulevard and National Boulevard would exhibit a new PM peak hour impact, although the AM peak hour at this location is already identified as significantly impacted.

Recommended roadway improvements and/or other traffic capacity-enhancing measures to address these potential significant project-related traffic impacts are recommended, and their effectiveness analyzed, later in the "Mitigation Measures" section of this report.

Local/Residential Street Traffic Impact Analysis

In addition to the intersection impacts summarized in the preceding section, an examination of the location of the proposed project and a review of the general traffic circulation patterns within the study area indicate that it is likely that some of the project traffic could utilize the local streets located to the south and east of the project to access the site. Further, assuming that at least some of the proposed retail components of the development will provide local-serving amenities, it is also likely that some of the project traffic will actually be generated within these nearby residential neighborhoods, and would naturally use the local streets to access the project site. While such locally-generated trips would not necessarily produce additional traffic on these roadways – such trips are likely already occurring to other more distant facilities, and would simply redirect to the project – for purposes of this study, these locally-originating trips were considered to be potential new trips to and from the proposed project, resulting in increased traffic volumes on some of the local access streets.

Therefore, an additional analysis was conducted to determine the potential for project impacts on several of the key local streets providing access to the project site. The local area street segments listed below were selected by the City Traffic Engineer for analysis based on their proximity to the project sites and the likelihood of project residents, visitors, and patrons using these roadways to access the project site.

a. Lucerne Avenue, between Ince Boulevard and Duquesne Avenue
b. Lucerne Avenue, south of Higuera Street
c. Wesley Street, between Higuera Street and National Boulevard
d. Helms Avenue, between Higuera Street and National Boulevard
e. Schaefer Street, between Higuera Street and National Boulevard
f. Higuera Street, between Washington Boulevard and Lucerne Avenue
g. Higuera Street, between Lucerne Avenue and Wesley Street
h. Higuera Street, between Wesley Street and Jefferson Boulevard

Existing (year 2010) traffic conditions on the selected local/residential street segments were identified through new 24-hour traffic counts performed for this study, or were obtained from data provided by the City of Culver City; note that the City data was collected in 2004, and these counts were "growth factored" by 1.0 percent per year to estimate year 2010 conditions. Future year (2013) traffic volumes for these facilities were estimated using the same procedures and assumptions described previously in the development of future intersection volumes, including the application of the 1.0 percent annual "ambient" traffic growth factor, and the addition of traffic generated by the 42 related projects in calculating the "Without Project" traffic volumes. Net daily project traffic volumes were based on the traffic assignment percentages shown earlier in Figures 5(a) and 5(b), and were added to the "Without Project" conditions to form the future forecast "With Project" traffic estimates. The existing traffic volumes and future forecast traffic estimates for the selected local/residential street segments are summarized in Table 14.

As shown in Table 14, both segments of Lucerne Avenue (covering the stretch between Duquesne Avenue and Higuera Street) exhibit relatively high traffic volumes for local-serving facilities, with the southern portion of the roadway, south of Ince Boulevard, currently accommodating approximately 5,400 vehicle trips per day (total of both directions), including approximately 600 vehicles per hour during the AM and about 500 vehicles per hour during the PM peak hour. The portion of Lucerne Avenue between Ince Boulevard and Higuera Street exhibits somewhat lower daily traffic volumes of about 3,450 vehicles per day, including about

Table 14
Local/Residential Street Traffic Impact Analysis Summary
Existing and Future Average Daily and Peak Hour Traffic Volumes (Total Both Directions)

Street/Segment	Time Period	Existing (2010)	Future (2013) Without Project	Project Traffic *	With Project	Increase
Lucerne Avenue						
Between Ince Boulevard and	Daily	5,402	6,103	58	6,161	1.0%
Duquesne Avenue	AM Peak Hour	604	666	3	669	0.5%
	PM Peak Hour	506	568	5	573	0.9%
South of Higuera Street	Daily	3,448	3,650	58	3,708	1.6%
	AM Peak Hour	424	448	3	451	0.7%
	PM Peak Hour	349	370	5	375	1.4%
Wesley Street						
Between Higuera Street and	Daily	485	510	26	536	26 vpd
National Boulevard	AM Peak Hour	55	58	1	59	1 vph
	PM Peak Hour	56	59	2	61	2 vph
Helms Avenue						
Between Higuera Street and	Daily	640	673	nominal	673	nominal
National Boulevard	AM Peak Hour	97	102	0	102	0 vph
	PM Peak Hour	56	59	0	59	0 vph
Schaefer Street						
Between Higuera Street and	Daily	690	725	nominal	725	nominal
National Boulevard	AM Peak Hour	78	82	0	82	0 vph
	PM Peak Hour	71	75	0	75	0 vph
Higuera Street						
Between Washington Boulevard and	Daily	5,928	8,470	32	8,502	0.4%
Lucerne Avenue	AM Peak Hour	534	718	2	720	0.3%
	PM Peak Hour	542	728	3	731	0.4%
Between Lucerne Avenue and	Daily	4,618	7,068	26	7,094	0.4%
Wesley Street	AM Peak Hour	471	650	2	652	0.3%
	PM Peak Hour	433	610	2	612	0.3%
Between Wesley Street and	Daily	4,618	5,891	55	5,946	0.9%
Jefferson Boulevard	AM Peak Hour	471	581	3	584	0.5%
	PM Peak Hour	433	611	6	617	1.0%

* Note:
Project trip calculations are contained in Appendix C.

425 vehicles per hour during the AM peak hour and 350 vehicles per hour during the PM peak hour. These higher-than-typical local/residential street traffic volumes are primarily due to the fact that Lucerne Avenue provides a convenient "cut-through" connection between Jefferson Boulevard and Culver Boulevard/Washington Boulevard to and from the downtown area of Culver City. Note that approximately one-third of the existing daily traffic using the southern portion of Lucerne Avenue travel to or from Ince Boulevard, in the middle of the study segment, and do not travel along the northern segment of Lucerne Avenue to and from Higuera Street.

Similar traffic volume conditions are also present along Higuera Street throughout the study area between Washington Boulevard and Jefferson Boulevard. This street accommodates much of the "cut-through" traffic occurring along Lucerne Avenue, as it provides a convenient travel route between Lucerne Avenue and the downtown Culver City area via its connection with Washington Boulevard. Higuera Street, between Washington Boulevard and Lucerne Avenue, currently exhibits approximately 5,930 vehicles per day, including about 530 vehicles per hour during the AM peak hour and 540 vehicles per hour during the PM peak hour.

However, the portion of Higuera Street between Lucerne Avenue and Jefferson Boulevard, including the short (one-block) segment between Lucerne Avenue and Wesley Street providing a connection for through traffic between Duquesne Avenue and National Boulevard via Lucerne Avenue south of Higuera Street and Wesley Street to the north, exhibits slightly lower traffic volumes, accommodating a total of approximately 4,620 vehicles per day, including approximately 470 vehicles per hour during the AM peak hour and 430 vehicles per hour during the PM peak hour. These lower volumes are likely due to the discontinuity of "through" traffic flow along Higuera Street at Hayden Avenue; all vehicles traveling either eastbound or westbound on Higuera Street are required to turn at Hayden Avenue, and therefore, traffic traveling from Washington Boulevard cannot directly access Jefferson Boulevard, or vice versa. As such, traffic using the segment of Higuera Street between Jefferson Boulevard and Hayden Avenue can only access local uses, or connect to National Boulevard via Hayden Avenue.

Conversely, Wesley Street, which acts essentially as the northern extension of Lucerne Avenue between Higuera Street and National Boulevard (although the intersection of Lucerne Avenue/Wesley Street is slightly offset at National Boulevard), Helms Avenue, and Schaefer Street each exhibit substantially lower traffic volumes than either of the study segments of Lucerne Avenue or along Higuera Street, most likely because these roadways provide a much more limited "through" connection between the major highways in the project area, and

therefore serve primarily as a local residential access street. Wesley Street, between Higuera Street and National Boulevard, currently carries fewer than 500 vehicles per day, with between 50 and 60 vehicles per hour during both the AM and PM peak hours, while Helms Avenue carries approximately 650 vehicles per day, with about 100 vehicles per hour during the AM and 60 vehicles per hour during the PM peak hour. Finally, Schaefer Street currently accommodates approximately 700 vehicles per day, with about 80 vehicles per hour during the AM peak hour and about 70 vehicles per hour during the PM peak hour

Anticipated future traffic growth in the study area is expected to increase the daily traffic utilization on each of these street segments. Based on the assumed ambient traffic growth, coupled with new traffic generated by other ongoing or proposed developments within the study area, traffic along Lucerne Avenue between Duquesne Avenue and Ince Boulevard, is expected to increase by about 13 percent by the forecast future year (2013), with anticipated daily traffic volumes of about 6,100 vehicles per day, including about 670 vehicles per hour during the AM and about 570 vehicles per hour during the PM peak hour. These increases in traffic volumes along this segment of the roadway are due to several ongoing or proposed development projects in the study area (see Figure 12, and Tables 9 and 10) that are expected to utilize this segment of Lucerne Avenue to travel to and from Duquesne Avenue to the south in order to access their respective sites. However, traffic volumes along the northern study segment of Lucerne Avenue between Ince Boulevard and Higuera Street, which does not provide the same level of access to Duquesne Avenue or other key arterial roadways, are anticipated to experience a relatively nominal traffic increase of only about six percent by the year 2013, to a total of about 3,650 vehicles per day, including approximately 450 vehicles per hour during the AM peak hour and 370 vehicles per hour during the PM peak hour.

Daily traffic volumes along Higuera Street, however, are anticipated to experience rather substantial traffic increases in the future due to ongoing development within the study area (prior to construction of the proposed project). Traffic on the segment east of Lucerne Street is expected to increase by about 43 percent from the existing conditions, to over 8,450 vehicles per day, with AM and PM peak hour traffic volumes anticipated to be slightly more than about 700 vehicles per hour during both periods. The short segment of Higuera Street between Lucerne Avenue and Wesley Street is also anticipated to experience similar increases in traffic (approximately 53 percent growth), with forecast future volumes of approximately 7,100 vehicles per day, including between 600 and 650 vehicles per hour during both the AM and PM peak hours. Finally, the easternmost study segment of Higuera Street, between Wesley Street and

Jefferson Boulevard, would be expected to experience pre-project traffic growth of approximately 28 percent, to approximately 5,900 vehicles per day, including about 600 vehicles per hour during both the AM and PM peak hours.

Traffic volumes on Wesley Street, Helms Avenue, and Schaefer Street are also expected to increase, although not as substantially, with forecast year 2013 traffic volumes of slightly more than 500 vehicles per day on Wesley Street, about 675 vehicles per day on Helms Avenue, and about 725 vehicles per day on Schaefer Street. Each of these roadways will exhibit between about 60 and 100 vehicles per hour during both the AM and PM peak hours. As with the intersection traffic forecasts and future conditions described earlier in this report, these traffic increases are expected due to ongoing and forecast ambient growth in the area and region, and will occur whether or not the proposed project itself is constructed.

Finally, project traffic additions to the selected local/residential street segments were identified, and added to the "Without Project" traffic forecasts described above. A review of the project trip assignment percentages shown previously in Figures 5(a) and 5(b) indicates that approximately two percent (2%) of the trips associated with both the residential and commercial/retail components of the proposed project are expected to utilize Lucerne Avenue between Duquesne Avenue and Higuera Street to travel between Washington Boulevard and Jefferson Boulevard to access the project site. At Higuera Street, about half of this project-related traffic is expected to utilize Higuera Street to travel to and from Washington Boulevard, and ultimately, to and from the project site, while the remainder of the project-trips are expected to travel on Wesley Street, which is roughly the northward continuation of Lucerne Avenue, to access National Boulevard, traveling to and from the site via this facility to access the site.

It is also expected that approximately one percent (2%) of the inbound and one percent (1%) of the outbound project residential component traffic will utilize Higuera Street, while about one percent (1%) of the total commercial component trips are anticipated to travel along this roadway to and from the site. No significant project-related traffic utilization of either Helms Avenue or Schaefer Street between Higuera Street and National Boulevard is expected, since neither of these roadways provide convenient short-cuts between the major roadways and the project site, and would generally require drivers to travel out of their way, unless such trips originate within the local residential or commercial areas served by these facilities.

Based on these travel pattern assumptions in concert with the project's "daily" trip generation values for both the residential and commercial/retail components shown previously in Table 2, the number of new project-related trips on each of the selected local/residential street segments

was calculated, and is also shown in Table 14; the detailed project trip calculations for each of the selected local/residential street segments analyzed in this report are provided in Table C-1 in Appendix C. Due to the relatively low percentages of project traffic anticipated to use the subject local streets, the proposed project is expected to add only minimally to the forecast future traffic volumes in the project vicinity.

As shown in Table 14, both of the study segments of Lucerne Avenue between Duquesne Avenue and Higuera Street are expected to experience a net increase in project-related traffic of approximately 58 net new trips per day (total of traffic in both directions), including about three vehicles per hour during the AM and five vehicles per hour during the PM peak hour.

Incremental project traffic additions to Higuera Street are expected to be somewhat lower, with a total of approximately 32 net new trips per day, including two net new trips during the AM peak hour and three net new trips during the PM peak hour on the segment between Lucerne Avenue and Washington Boulevard, while the short segment between Lucerne Avenue and Wesley Street carries the remainder of the traffic identified along Lucerne Avenue, at about 26 net trips per day, including two net new trips during both the AM and PM peak hours. Net project-related traffic additions to the eastern segment of Higuera Street between Wesley Street and Jefferson Boulevard, which as noted earlier, does not allow a "through" traffic connection to the portions of Higuera Street east of Hayden Avenue, are expected to be approximately 55 net new trips per day, including about three net new trips during the AM peak hour and six net new trips during the PM peak hour.

Finally, project traffic additions to Wesley Street between Higuera Street and National Boulevard are expected to be of a similar magnitude, at about 26 net new trips per day, including the addition of about one net new AM and two net new PM peak hour trips. Net project trip additions to both Helms Avenue and Schaefer Street are expected to be nominal, with no measurable increases, on average, during either the AM or PM peak hours.

The City of Culver City guidelines for the evaluation of project traffic impacts on local streets utilize a variable scale to determine the significance of potential traffic additions. Impacts are generally determined to be "significant" if the project's incremental traffic meets or exceeds an identified percentage of the total future (With Project) average daily traffic ("ADT") volumes with the exception of very low-volume roadways (less than 1,000 vehicles per day), potential project traffic impacts for such roadways are deemed to be "significant" if the project adds 120 or more daily trips to that facility. Note that the AM and PM peak hour volumes shown in Table 14 are

provided for informational purposes only, and are not used to determine the significance of the project's incremental traffic on these local/residential roadways. These City of Culver City local/residential street impact criteria utilized in this analysis are summarized in Table 15.

Table 15
City of Culver City
Local/Residential Street Significant Impact Criteria *

Projected Future ADT (With Project)	Project-Related Increase in Average Daily Traffic Volume
999 or less	120 or more trips per day
1,000 to 1,999	12 percent or more of final ADT
2,000 to 2,999	10 percent or more of final ADT
3,000 or more	8 percent or more of final ADT

Note:
* Per City of Culver City Department of Public Works.

As shown previously in Table 14, the net project traffic additions to each of the selected local/residential street segments will be well below the applicable levels of significance shown in Table 15. Project traffic additions to any segment of Lucerne Avenue will result in a maximum impact of approximately 1.6 percent, while potential project-related impacts to any of the study segments of Higuera Street between Washington Boulevard and Jefferson Boulevard are expected to be less than 1.0 percent, substantially below the 8.0 percent "significance" threshold for these streets (for roadways carrying more than 3,000 vehicles per day). Additionally, project-related traffic increases on Wesley Street between Higuera Street and National Boulevard are also expected to be less than significant, with approximately 26 net new project trips per day, well below the applicable significance threshold of 120 net new trips per day for facilities carrying less than 1,000 total vehicles per day. Finally, as described previously, only nominal project-related traffic is expected to utilize either Helms Avenue or Schaefer Street between Higuera Street and National Boulevard, and as a result, potential project-related traffic impacts to either of these two facilities will be essentially zero.

Therefore, based on this analysis, while the proposed project could be expected to add some level of additional traffic along several of the local/residential streets in the project vicinity, this additional traffic will be relatively nominal, and will not create any significant impacts to any of these facilities. As a result, no local/residential street mitigation measures are warranted.

Project Impacts on Regional Transportation System

To address the increasing public concern that traffic congestion was impacting the quality of life and economic vitality of the State of California, the Los Angeles County Congestion Management Program (CMP)[8] was enacted to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. A countywide approach has been established by the Metropolitan Transportation Authority, the local CMP agency, to implement the statutory requirements of the CMP.

The countywide approach includes designating a highway network that includes all state highways and principal arterials within the County and monitoring the network's Level of Service standards. The CMP project traffic impact analysis (TIA) guidelines require analyses of all CMP monitoring intersections where the project could add a total of 50 or more trips during either peak hour. Additionally, all freeway segments where a project could add 150 or more trips in either direction during the peak hours must be analyzed.

CMP Monitoring Intersection Impacts

As noted in the preceding discussion, the CMP requires that detailed analyses be conducted for any of these locations where the proposed project is anticipated to add 50 or more total trips during either the AM or PM peak hours. The current CMP (2004) identifies seven arterial monitoring intersections within an approximately three-mile radius of the project site. All but two of these CMP monitoring intersection locations, Venice Boulevard and La Cienega Boulevard; and La Cienega Boulevard and Jefferson Boulevard, are outside the immediate study area, and are expected to be beyond the range of identifiable project traffic impacts. The CMP intersections closest to the project site are located within the City or County of Los Angeles, the City of Beverly Hills, or the City of Culver City, as listed below.

- Santa Monica Boulevard and Wilshire Boulevard (Beverly Hills)
- Wilshire Boulevard and La Cienega Boulevard (Beverly Hills)
- Venice Boulevard and Overland Avenue (Culver City)
- La Cienega Boulevard and Jefferson Boulevard (City of Los Angeles)
- Venice Boulevard and La Cienega Boulevard (City of Los Angeles)
- Venice Boulevard and Centinela Avenue (City of Los Angeles)
- La Cienega Boulevard and Stocker Street (Los Angeles County)

[8] *2004 Congestion Management Program for Los Angeles County*, Los Angeles County Metropolitan Transportation Authority, Los Angeles, 2004.

Two of the CMP intersections identified above, La Cienega Boulevard and Jefferson Boulevard, and Venice Boulevard and La Cienega Boulevard, are specifically examined as intersections number 29 and 12, respectively, of the 34 study intersections already included in the detailed analyses of project impacts, and as such, the potential project traffic impacts to this CMP monitoring intersection has already been assessed. However, the remaining five CMP locations have not been previously analyzed in this study, and therefore, a supplemental evaluation of the proposed project's net trip additions and potential for impacts at these locations was conducted.

A review of the project's trip generation summarized previously in Table 2 reveals that the project would be expected to produce more than 50 net new trips during both the AM and PM peak hours (154 AM, 275 PM), although the project's anticipated traffic travel patterns into, out of, and through the study vicinity, shown previously in Figures 5(a) and 5(b), indicate that project traffic will disperse throughout the area roadway network outside the immediate study vicinity, and that project traffic volume additions to any of the CMP monitoring intersections are expected to be substantially less than the 50-trip threshold.

Based on the estimated project net traffic volumes shown in Figures 8(a) and 8(b), it is estimated that project -related trips traveling to and from the south along La Cienega Boulevard through the CMP intersection of La Cienega Boulevard and Stocker Street are expected to be about seven AM and 14 PM peak hour trips, while net project traffic traveling to and from the west along Venice Boulevard through the CMP intersections of Venice Boulevard and Centinela Avenue and Venice Boulevard and Overland Avenue are expected to be approximately 24 net new trips during the AM and about 42 net new trips during the PM peak hour.

Project traffic traveling outside the immediate study area to and from the north, potentially affecting the two CMP intersections of Wilshire Boulevard and Santa Monica Boulevard, and Wilshire Boulevard and La Cienega Boulevard, is expected to be about 12 net new trips (eight trips on Robertson Boulevard and four trips on La Cienega Boulevard) during the AM peak hour, and about 22 net new trips during the PM peak hour (14 trips on Robertson Boulevard and eight trips on La Cienega Boulevard). As such, total net project traffic actually traveling outside the immediate study area to or from any of these more remote CMP intersections is generally well below the CMP's 50-peak hour trip impact threshold at the study area boundaries, and as these trips disperse along other roadways and into communities in the intervening distances between the study area and the CMP arterial monitoring intersection locations themselves, these already nominal volumes are expected to further diminish. As a result, the project does not meet the minimum CMP thresholds, and therefore will not create any significant impacts to the CMP arterial roadway network, and no further detailed analysis is warranted.

CMP Freeway Segment Impacts

An examination was also made of the potential for project-related freeway impacts within the study area; as noted earlier, any freeway segments where a proposed project could add 150 or more new peak hour trips in either direction must be analyzed. The project site is located within an area that is directly served by only freeway, the Santa Monica (I-10) Freeway, although areawide access is also provided by the San Diego (I-405) Freeway, which interchanges with the I-10 Freeway approximately two and one-half miles to the west of the project site. A review of the project's net trip generation, shown previously in Table 2, shows that the project is expected to generate far fewer than 150 directional vehicles per hour during the AM peak hour, with approximately 69 inbound and 85 outbound trips. During the PM peak hour, the project would just meet the CMP freeway directional trip threshold in one direction, with 150 inbound trips, although outbound trips would be below the threshold at only 125 outbound trips.

However, as described earlier in this report, only a small percentage of the project's trips are expected to utilize the area freeways in their travel paths to and from the site, with approximately 15 percent of the project's residential component trips and 10 percent of the commercial/retail component trips using the Santa Monica Freeway both to the east and to the west of the site; most of the project trips using the Santa Monica Freeway west of the site transition onto the northbound or southbound San Diego Freeway to continue their travel route through the rest of the Los Angeles region. Based on these trip distribution assumptions, the proposed project would be expected to add a total of approximately 10 eastbound and seven westbound trips to the I-10 Freeway east of the project site, and about 11 westbound and seven eastbound trips to the I-10 Freeway west of the project site during the AM peak hour. During the PM peak hour, the project could add about 17 westbound and 14 eastbound trips to the Santa Monica Freeway east of the site, and about 17 eastbound and 14 westbound trips west of the site. These values are not only substantially less than the 150-trip analysis threshold at which a detailed analysis is required, as described below, they are also well below levels at which measurable impacts to these area regional transportation facilities would occur.

A significant freeway impact under CMP analysis guidelines is defined to occur when there is an increase in the directional demand-to-capacity (d/c) ratio of two percent (0.020) or more and the final ("With Project") conditions are at Level of Service F. The I-10 Freeway through the study area generally provides four mainline travel lanes in each direction; based on an assumed mainline lane capacity of approximately 2,000 vehicles per hour[9], the freeway thus provides a

[9] Highway Capacity Manual, Transportation Research Board, National Research Council, Washington, D.C., 2000.

total directional capacity of approximately 8,000 vehicles per hour throughout the project vicinity. As noted above, the maximum 17-trip net project traffic additions to the freeway would result in an approximate 0.21 percent (17 directional project trips per hour traffic/8,000 vehicles per hour directional mainline capacity = 0.0021) increase in the mainline d/c value, or only one-tenth of the potential "significant" impact level. Therefore, regardless of the existing or future level of service or d/c ratio of the selected freeway segment, the highest anticipated peak hour project traffic incremental additions to the area freeway system would not approach levels resulting in a significant impact, and as such, no further CMP freeway mainline impact analysis is warranted.

Note that only the Santa Monica Freeway mainline facilities are included in the above analyses; freeway ramps were not specifically analyzed as a component of the freeway impact evaluation, since the CMP is primarily designed to address "mainline" operations. However, the key surface street access ramps within the immediate project vicinity expected to be utilized by project traffic are included in the analysis of the 34 study intersections. The operations of these freeway ramps, including the westbound on- and eastbound off-ramps at and near the intersection of Robertson Boulevard/Exposition Boulevard and Venice Boulevard (study intersection number 8), the eastbound on-ramp at Robertson Boulevard (intersection number 4), and the westbound off-ramp at Robertson Boulevard and Kincardine Avenue (intersection number 2), are generally controlled by the terminus intersections examined in the preceding analyses, and therefore, potential project-related impacts to the Santa Monica Freeway ramps most likely to be affected by project traffic are already identified.

MITIGATION MEASURES

The results of the traffic impact analyses contained in this report indicate that the proposed mixed-use project at 8770 Washington Boulevard, which will contain a total of approximately 115 residential condominium units and approximately 31,240 square feet of retail/commercial uses, including a 13,900 square foot supermarket, an 11,800 square foot drugstore/pharmacy, a 2,300 square foot restaurant, and a total of approximately 3,240 square feet of café area, could result in significant traffic impacts at up to five of the 34 study intersections during one or both of the peak hours. The significant impacts are all located within the immediate vicinity of the project, and occur at the following intersections during the indicated peak periods:

- Venice Boulevard and Robertson Boulevard (AM and PM)
- Venice Boulevard and National Boulevard (AM and PM)
- Washington Boulevard and National Boulevard (AM Only)
- Washington Boulevard and Wesley Street (AM and PM)
- Washington Boulevard and Cattaraugus Avenue (AM and PM)

In order to address these project-specific traffic impacts, the following intersection and/or roadway system improvements are recommended:

Venice Boulevard and Robertson Boulevard – Venice Boulevard at this location (generally from approximately 500 feet west of Robertson Boulevard to Ivy Street, two blocks east of National Boulevard) is already programmed for improvements associated with the Metropolitan Transportation Authority's ("Metro") Expo Line light rail transit station near Venice Boulevard and National Boulevard; these improvements are unrelated to the proposed Washington/National mixed-use project. The Metro Expo Line project roadway improvements will widen both sides of Venice Boulevard along the eastbound and westbound approaches to Robertson Boulevard, although the Venice Boulevard lane configurations will remain unchanged from their current conditions and operations. The proposed Washington/National project should modify the Metro Expo Line improvements by restriping the westbound approach of Venice Boulevard at Robertson Boulevard to provide an exclusive right-turn only lane, in addition to one left-turn lane and three through lanes. This measure will require the removal of approximately six unstriped/unmetered on-street parking spaces along the north side of Venice Boulevard between Robertson Boulevard and Ellis Avenue, in order to maintain the existing westbound bicycle lane. However, current

utilization surveys indicate that these on-street parking spaces are not heavily utilized, and further, parking along the subject segment is already prohibited during the PM peak period on weekdays ("Tow Away No Stopping 4 – 7 PM"). As a result, the removal of these spaces is not expected to create significant "secondary" impacts to local area parking. The proposed new right-turn only lane will also require buses using the existing westbound bus stop at Venice Boulevard and Robertson Boulevard to load and unload passengers within the new right-turn only lane. However, this condition is not unique, and it is recommended that new "Right Turn Only – Buses Exempt" signage be installed to permit such activity. The use of the new right-turn only lane to load/unload passengers is not expected to significantly affect on the operations of either the buses or the new right-turn lanes. It is important to note that, although the proposed restriping improvements occur along Venice Boulevard, which is under the jurisdiction of the City of Los Angeles, the City of Los Angeles Department of Transportation ("LADOT") has reviewed the proposed mitigation measure, and indicated that it is acceptable. A conceptual drawing of the proposed improvement, including its compatibility with the programmed Expo Line improvements at this intersection, is shown in Figure D-1 in Appendix D of this report, as are the results of the on-street parking utilization surveys for the north side of Venice Boulevard east of the intersection.

Venice Boulevard and National Boulevard – This intersection is already programmed for several improvements unrelated to the proposed Washington/National mixed-use project, including measures associated with the Metro Expo Line light rail transit station located near this intersection, as well as recommended improvements identified by the City of Culver City as part of it's ongoing redevelopment of a transit-oriented project on its "Triangle Site", located on the west side of National Boulevard between Venice Boulevard and Washington Boulevard. The Metro Expo Line project roadway improvements will widen and restripe Venice Boulevard to provide dual left-turn lanes, three through lanes, and a right-turn only lane on both the eastbound and westbound approaches. Additionally, the City of Culver City has indicated its intent to dedicate and widen the west side of National Boulevard between Venice Boulevard and Washington Boulevard by 10 feet, and to restripe National Boulevard to remove all existing on-street parking in order to accommodate the installation of new bicycle lanes along both sides of the street. In addition to these anticipated roadway improvements, the proposed Washington/National project should restripe the southbound approach of National Boulevard at this intersection (within the adjacent City of Los Angeles) to install an exclusive right-turn only lane, in addition to one left-turn lane and two through lanes. This proposed improvement will require the removal of approximately six existing

unmarked/unmetered on-street parking spaces on the east side of National Boulevard north of Venice Boulevard to accommodate the new lane. However, it does not affect any of the other approaches of the intersection, and as such, is compatible with the anticipated Metro Expo Line/City of Culver City striping proposals, including maintaining the proposed new bicycle lanes. It is important to note that, although the proposed restriping improvements occur along Robertson Boulevard within the City of Los Angeles, LADOT has reviewed the proposed mitigation measure, and indicated that it is acceptable. A conceptual drawing of the proposed improvement, including its compatibility with the programmed Expo Line and City of Culver City improvements at this intersection, is shown in Figure D-2 in Appendix D of this report, along with the results of the on-street parking utilization surveys for the east side of National Boulevard north of Venice Boulevard.

Washington Boulevard and National Boulevard – This intersection is also programmed for a series of improvements as part of the Metro's Expo Line light rail transit facility, including converting the existing westbound Washington Boulevard right-turn only lane to a shared through/right-turn lane, associated new dedications and widenings along the north side of Washington Boulevard west of National Boulevard to provide a new "receiving" lane for the additional westbound through traffic lane, and a new nine-foot dedication along the east side of National Boulevard between Washington Boulevard and the Expo Line right-of-way to accommodate the City's request for a 12-foot sidewalk in this area. Other programmed improvements to this intersection include the previously-described roadway dedications and widenings along the west side of National Boulevard as part of the City's "Triangle Site" project. In addition to these programmed Expo Line/City of Culver City roadway improvements, the project should construct a new 11-foot wide right-turn only lane for northbound National Boulevard. This improvement will require the project to dedicate and widen approximately 100 feet of its National Boulevard frontage by approximately nine feet to install the new right-turn lane; all other existing lane widths on the south approach of National Boulevard shall be maintained. This project-specific dedication, in addition to the nine-foot Expo Line dedication, will provide adequate roadway width for the recommended new right-turn only lane, and will maintain the City's requested 12-foot sidewalk. Finally, the curb return at the southeast corner of the intersection of Washington Boulevard and National Boulevard (along the project's frontage) should also be improved to provide a 35-foot radius. A conceptual drawing of the proposed improvement in relation to the project site, and including its compatibility with the programmed Expo Line and City of Culver City roadway improvements, is shown in Figure D-3 in Appendix D.

Washington Boulevard and Wesley Street – The proposed project should widen both sides of Wesley Street by three feet within the existing right-of-way (resulting in a reduction in sidewalk width on both sides of seven feet) to provide a total roadway width of 36 feet, and restripe the northbound approach to Washington Boulevard to provide an exclusive left-turn lane plus an exclusive right-turn only lane, plus one southbound lane. The City has requested that the curb returns at both the southwest and southeast corners of Washington Boulevard and Wesley Street be improved to exhibit a 35-foot radius. However, a review of the existing rights-of-way/property lines for the southeast corner of Washington Boulevard and Wesley Street (opposite the project site) indicates that insufficient existing right-of-way exists to provide the requested 35-foot curb return radius and still maintain adequate public sidewalk widths. As such, it is recommended that the curb return at this location be improved with either a 15-foot or 25-foot radius, as deemed acceptable to the City. The existing on-street parking along both sides of Wesley Street should be removed, and a new on-street project-related loading zone (for use both by project residents and by the proposed pharmacy) should be provided along the west side of Wesley Street, north of the proposed project. Additionally, a new striped "median" island south of the project's commercial driveway should be provided as a "staging" location for inbound delivery trucks waiting to back into the supermarket loading dock on the semi-subterranean parking level, in order to minimize any traffic disruptions to Wesley Street operations.

Further, the project should install a new traffic signal at this location, which should be interconnected and coordinated with the nearby signal at Washington Boulevard and National Boulevard to minimize traffic flow disruptions, and be equipped with the City's current traffic signal coordination software; a detailed traffic signal warrant analysis for this location (provided in Appendix D) indicates that the intersection would meet traffic signal warrant requirements for installation of a new traffic signal once the proposed project is developed. Additionally, in order to provide adequate operational access to and from the project site, and to avoid having much of the project's exiting traffic turn right (onto eastbound Washington Boulevard), thereby creating a "around the block" travel pattern for westbound-oriented exiting vehicles and potentially "overburdening" intersections along Washington Boulevard east of the project site, the installation of a new traffic signal is considered appropriate for this project-access intersection. A conceptual drawing of the proposed Wesley Street improvements, along with the previously described improvement at Washington Boulevard and National Boulevard, is shown in Figure D-3 in Appendix D.

Washington Boulevard and Cattaraugus Avenue – The project should modify the existing raised median island on Washington Boulevard to provide a new eastbound left-turn lane at this location, in addition to one through lane and one shared through/right-turn lane. The project shall be responsible for 100 percent of the cost of the design and installation of the proposed left-turn lane. The installation of a new traffic signal at this location was also considered as a potential measure to mitigate the 8770 Washington project's significant impacts; a detailed analysis of the intersection indicated that it is forecast to meet the requirements for signal installation (traffic signal warrant analysis, contained in Appendix D) for both the future "Without Project" and "With Project" conditions. The City has previously determined that a new traffic signal is appropriate for this location, and the analyses summarized in this report indicates that the proposed project will exacerbate the need for signalization of this intersection. As a result, a new traffic signal should be installed at this location, and the project shall be responsible for 100 percent of the cost to design the new traffic signal, and shall contribute 25 percent of the cost of installation of the signal. The recommended median island modification (to provide a new eastbound left-turn pocket at this intersection) and cross walk striping improvements due to the installation of the new traffic signal are shown conceptually in Figure D-4 in Appendix D of this report.

In addition to the recommended restriping mitigation improvements at Venice Boulevard and Robertson Boulevard/Exposition Boulevard, and Venice Boulevard and National Boulevard, LADOT, in their preliminary review of those proposed mitigation measures, requested that the City of Culver City consider additional improvements at several intersections within the City of Los Angeles to augment the proposed intersection restriping improvements. These traffic signal-related improvements would further reduce the potential impacts of the proposed project (both significant and non-significant impacts) and enhance general traffic flow operations within the study area. The requested additional improvements include: installation of closed circuit traffic monitoring cameras at the intersections of Cadillac Avenue and La Cienega Boulevard, and at Venice Boulevard and Robertson Boulevard/Exposition Boulevard; and installation of traffic signal controller upgrades at eight additional as-yet identified intersections.

The installation of a new traffic signal at the site-adjacent intersection of Washington Boulevard and Wesley Street, in conjunction with the proposed widening and restriping of Wesley Street to provide a left-turn and right-turn lane, will provide greater traffic control and capacity, and will reduce the project's impacts at this intersection to less than significant levels. Additionally, this new traffic signal is expected to produce the secondary affect of redistribution of project-related

traffic at this intersection and at several intersections in close proximity to the project site. As described earlier in this report, the current STOP sign controlled approach of Wesley Street, combined with the unimpeded traffic flow of both eastbound and westbound Washington Boulevard at this location, make the exiting left-turn movement from Wesley Street to westbound Washington Boulevard difficult during peak traffic periods. As such, and as indicated by the project trip assignment percentages shown previously in Figures 5(a) and 5(b), much of the project's outbound traffic was initially assumed to turn right at this intersection onto eastbound Washington Boulevard rather than wait for a "break" in traffic to accommodate the left-turn. These vehicles were then assumed to turn left on Cattaraugus Avenue and travel north to Venice Boulevard, where they would then turn left to ultimately travel westbound along Venice Boulevard or to access northbound Robertson Boulevard.

However, the proposed signalization of the site-adjacent intersection of Washington Boulevard and Wesley Street will facilitate this currently difficult exiting (northbound) left-turn move, resulting in more left-turning vehicles and the elimination of the need for the currently assumed "around the block" travel patterns described above. The net effects of the redistribution of project trips due to the recommended installation of a new traffic signal at this intersection are shown in Figure 16(a) for the AM peak hour and Figure 16(b) for the PM peak hour conditions.

The effectiveness of the recommended traffic mitigation measures, including the anticipated redistribution of project trips due to the new signal at Washington Boulevard/Wesley Avenue, was evaluated using the same CMA methodologies and procedures described earlier in this report, with the exception that the proposed improvements were assumed to be "in place". The results of the supplemental "With Project Plus Mitigation" analysis are summarized in Table 16. Note that Table 16 contains an assessment of the proposed mitigation measure(s) at the intersection of Washington Boulevard and Cattaraugus Avenue for (a) the installation of an eastbound left-turn lane only, and (b) for a new left-turn lane plus a new traffic signal.

Table 16 also includes a summary of the effectiveness of the proposed mitigation not only for the five significantly impacted study intersections, but also for three additional intersections (Venice Boulevard and Helms Avenue, Venice Boulevard and Cattaraugus Avenue, and Washington Boulevard and Helms Avenue) that are not significantly impacted by the project itself, but are expected to be affected by the anticipated project traffic redistributions resulting from the installation of the proposed traffic signal at Washington Boulevard and Wesley Street.

WASHINGTON-NATIONAL EMC (CULVER CITY) \ NET-WESLEYSIG-AM

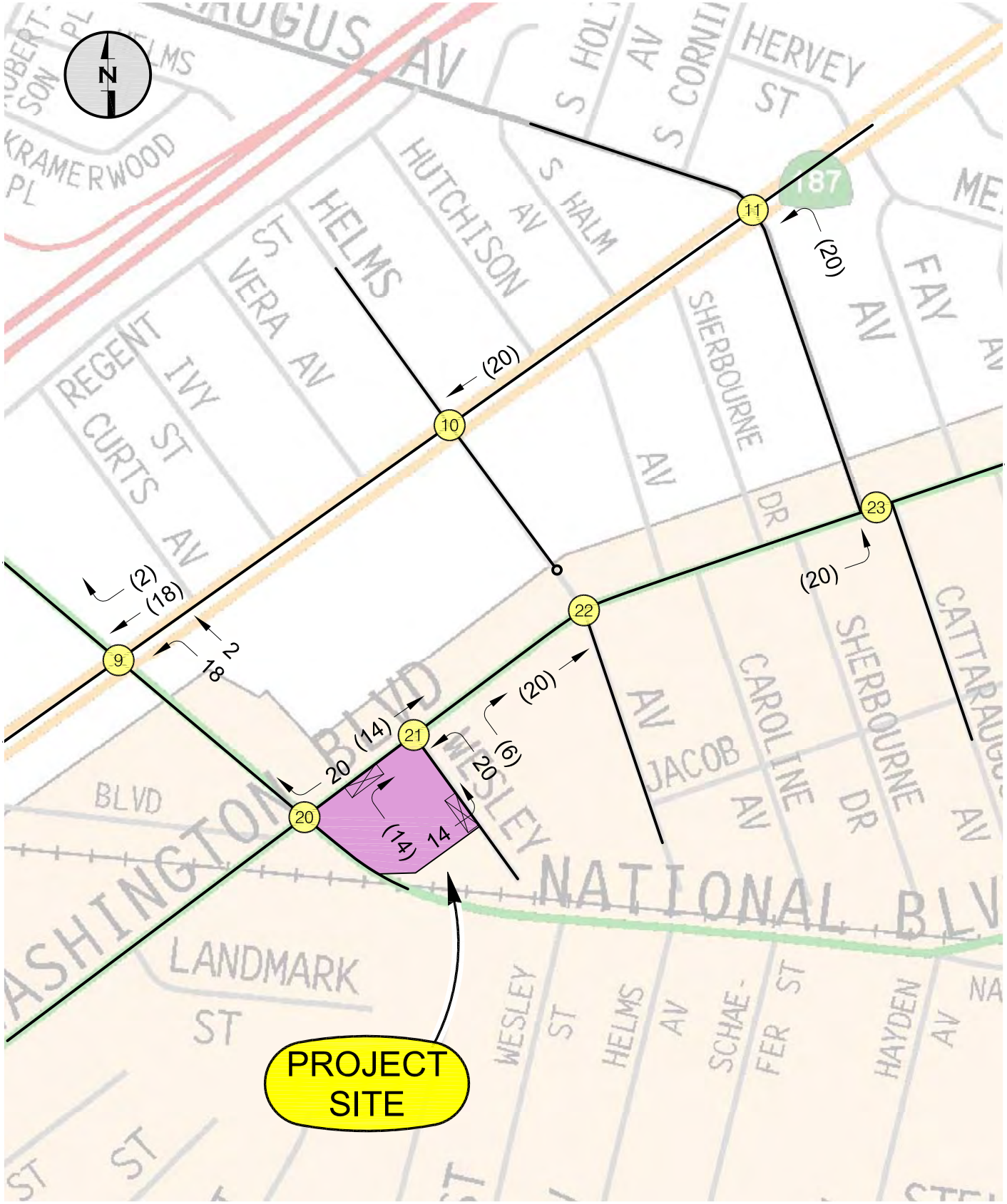


FIGURE 16(a)

8/3/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

NET EFFECT OF REDISTRIBUTION OF PROJECT TRAFFIC
DUE TO SIGNAL INSTALLATION AT
WASHINGTON BOULEVARD AND WESLEY STREET
AM PEAK HOUR (OUTBOUND TRIPS ONLY)

WASHINGTON-NATIONAL EMC (CULVER CITY) \ NET-WESLEYSIG-PM

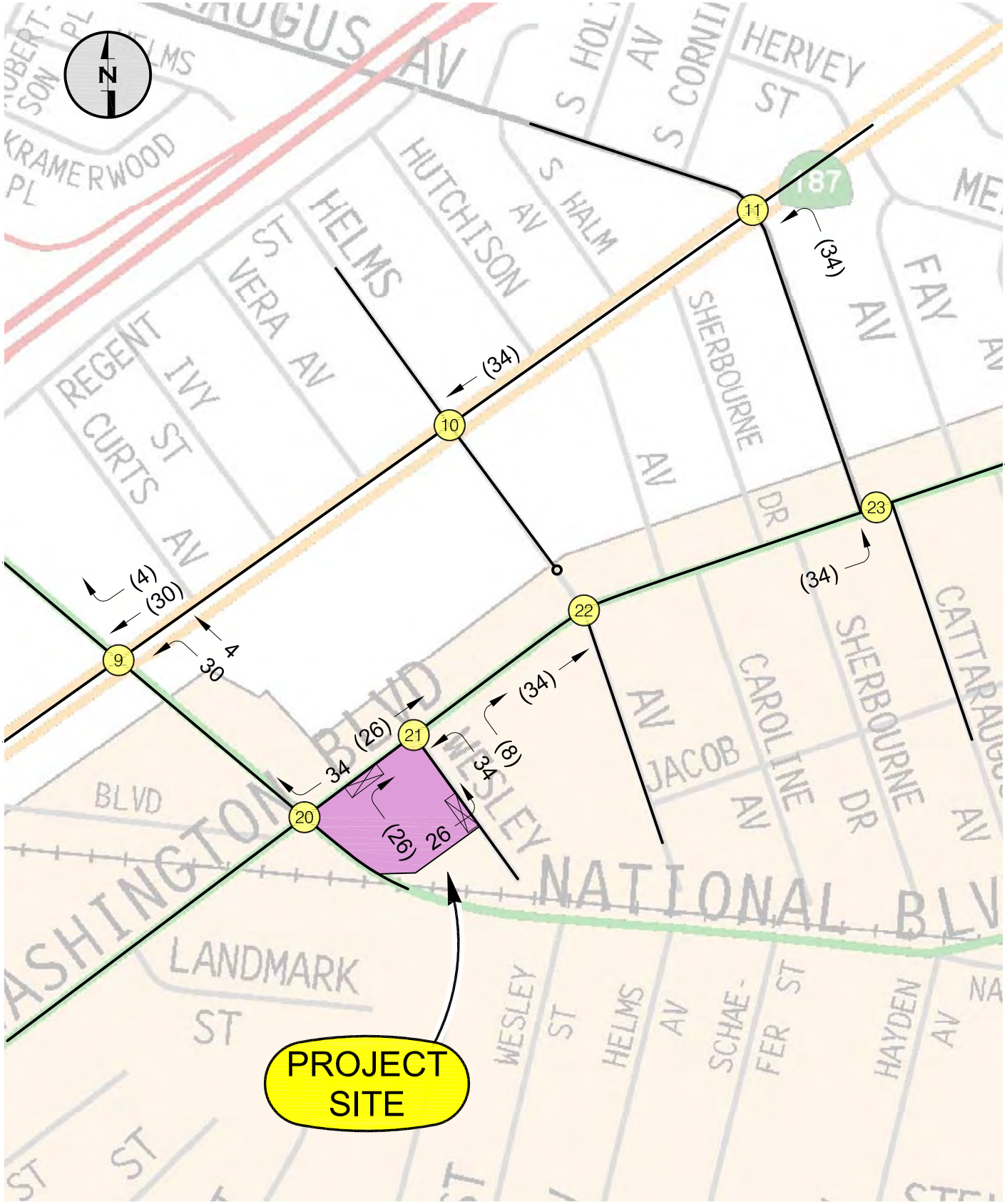


FIGURE 16(b)

NET EFFECT OF REDISTRIBUTION OF PROJECT TRAFFIC
DUE TO SIGNAL INSTALLATION AT
WASHINGTON BOULEVARD AND WESLEY STREET
PM PEAK HOUR (OUTBOUND TRIPS ONLY)

Hirsch/Green Transportation Consulting, Inc.

8/3/2010

Table 16
Critical Movement Analysis Summary
Future (2013) With Project Plus Recommended Mitigation Conditions

Int. No.	Intersection	Peak Hour	Without Project CMA	Without Project LOS	With Project CMA	With Project LOS	With Project Impact	With Project Plus Mitigation CMA	With Project Plus Mitigation LOS	With Project Plus Mitigation Impact
8	Venice Boulevard and Robertson Boulevard [1]	AM	**1.647**	**F**	**1.659**	**F**	**0.012** *	**1.566**	**F**	**-0.081**
		PM	**1.673**	**F**	**1.693**	**F**	**0.020** *	**1.629**	**F**	**-0.044**
9	Venice Boulevard and National Boulevard [1]	AM	**1.069**	**F**	**1.083**	**F**	**0.014** *	**1.053**	**F**	**-0.016**
		PM	**1.281**	**F**	**1.293**	**F**	**0.012** *	**1.279**	**F**	**-0.002**
10	Venice Boulevard and Helms Avenue [1]	AM	0.545	A	0.549	A	0.004	0.545	A	0.000
		PM	0.559	A	0.559	A	0.000	0.559	A	0.000
11	Venice Boulevard and Cattaraugus Avenue [1]	AM	0.835	D	0.853	D	0.018	0.840	D	0.005
		PM	0.704	C	0.734	C	0.030	0.711	C	0.007
20	Washington Boulevard and National Boulevard	AM	**0.940**	**E**	**0.962**	**E**	**0.022** *	**0.910**	**E**	**-0.030**
		PM	**0.904**	**E**	**0.921**	**E**	**0.017**	**0.921**	**E**	**0.017**
21	Washington Boulevard and Wesley Street	AM	**0.722**	**F** [2]	**0.754**	**F** [2]	**0.032** *	0.539	A	-0.183
		PM	**0.579**	**F** [2]	**0.703**	**F** [2]	**0.124** *	0.485	A	-0.094
22	Washington Boulevard and Helms Avenue	AM	0.536	A	0.543	A	0.007	0.543	A	0.007
		PM	0.409	A	0.439	A	0.030	0.427	A	0.018
23	Washington Boulevard and Cattaraugus Avenue	AM	**0.973**	**F** [2]	**1.006**	**F** [2]	**0.033** *	**0.989** [a]	**F** [2]	**0.016**
		PM	**0.669**	**F** [2]	**0.800**	**F** [2]	**0.131** *	**0.650** [a]	**F** [2]	**-0.019**
								0.763 [b]	C	-0.210
								0.477 [b]	A	-0.192

[1] City of Los Angeles intersection.
[2] Unsignalized intersection. LOS value determined using HCM methodology.
"*" Indicates significant impact per City of Culver City criteria.
"*" Indicates significant impact per City of Los Angeles (LADOT) criteria.
[a] Assumes installation of EB left-turn lane only.
[b] Assumes installation of EB left-turn lane plus new 3-phase traffic signal.

As shown in Table 16, implementation of the recommended mitigation measures will reduce the potential impacts of the proposed project to less than significant levels at each of the five significantly impacted intersections. Further, the anticipated redistribution of project traffic as a secondary effect of the new traffic signal at Washington Boulevard and Wesley Street will also reduce the project's impacts at several nearby intersections that are not significantly impacted. It should be noted, however, that although the recommended roadway improvements will reduce the project's incremental traffic impacts to less than significant levels, and will, in fact, improve operating conditions at several of the study intersections to better than forecast

"Without Project" conditions, the proposed measures are not expected to improve the overall levels of service at any of the subject intersections, with the exception of Washington Boulevard and Wesley Street, which will improve from LOS F to LOS A as a result of the installation of the new traffic signal at this location, and the intersection of Washington Boulevard and Cattaraugus Avenue, which would improve to LOS C or better if the new traffic signal is installed.

It should also be noted that the recommended installation of a new northbound right-turn lane on National Boulevard at Washington Boulevard will require the project to dedicate and widen an approximately 100-foot portion of its National Boulevard frontage south of Washington Boulevard by approximately nine feet, in addition to an anticipated nine-foot dedication required as part of the Expo Line project's roadway improvements. If this additional dedication cannot be accommodated by the project, or if for any reason the recommended right-turn lane is not installed, the project's impacts at this location would remain significant and unavoidable, unless an alternative and similarly effective improvement were to be identified.

Similarly, as described previously, two of the projects' significant impacts occur at intersections under the jurisdiction of the City of Los Angeles; Venice Boulevard and Robertson Boulevard, and Venice Boulevard and National Boulevard. As such, while LADOT has agreed that the proposed mitigation improvements at these locations are acceptable, the City of Culver City cannot guarantee their implementation, and therefore, if the City of Los Angeles does not implement the recommended at one or both of these intersections, the project-related traffic impacts at those locations would remain significant and unavoidable.

Although the proposed project could significantly impact up to five intersections in the immediate project vicinity, the traffic analyses summarized in this report also show that the project would not generate sufficient net new traffic to produce significant impacts along any of the adjacent local/residential streets examined in this study, nor would the traffic generated by the project be expected to significantly impact any of the regional arterial roadways or freeways within the project vicinity identified in the Los Angeles County CMP. As a result, no further off-site traffic mitigation measures beyond those improvements described above are warranted for the project.

The proposed project will provide a total of approximately 341 on-site project-specific parking spaces, including approximately 212 residential spaces (183 resident and 29 guest spaces), and 129 commercial (office and retail) spaces, plus an additional 15 public parking spaces, to replace on-street parking removed along Wesley Street as part of the project's development, for a total parking supply of 356 spaces. The proposed parking supply exceeds the current City

parking requirements for the development as a whole by a total of 18 spaces (not counting the 15 public parking replacement spaces), including 12 spaces more than the required amount of residential parking for residents and the required amount of parking for residential guests, and six (6) more than the required number of commercial/retail spaces. As a result, no significant on-site parking-related impacts due to parking supply shortages or "overflow" parking in the adjacent residential neighborhoods or commercial areas by project employees or visitors due to on-site parking shortages are anticipated.

The project's proposed vehicular access and internal circulation plan is adequate and is expected to operate acceptably, and the proposed parking layout is acceptable, as described in detail earlier in this report. However, while it is acceptable for the project's proposed Washington Boulevard driveway to provide two-way (entry and exit) access for the site, it is recommended that this driveway be limited to right-turn entry/right-turn exit to avoid conflicts with the existing left-turn lane on westbound Washington Boulevard and the nearby intersection of Washington Boulevard and National Boulevard.

Additionally, the proposed on-site truck loading dock for the supermarket component of the project, located at the southeastern corner of the site, will require "inbound" delivery trucks to drive past (south of) the project's Wesley Street commercial and residential driveway and then back into the loading dock. While backing into a loading dock from an adjacent street is not typically the preferred access method, this maneuver will not create any significant traffic or access impacts to Wesley Street operations, since this street is a limited-use cul-de-sac facility in the immediate project vicinity. However, in order to further minimize any potential access or circulation conflicts, it is recommended that a new striped "median" island be provided on Wesley Street south of the project's parking garage driveway as a "staging" location for inbound delivery trucks waiting to back into the loading dock (as described earlier in the discussion as part of the recommend intersection/roadway improvements at Washington Boulevard and Wesley Street). It is also recommended that all deliveries to the on-site loading dock be limited to times when the operations of the retail/commercial components of the site are minimal (such as before or after the retail/commercial uses' typical hours of operation), and that on-site personnel be designated to assist with loading dock "backing" maneuvers to prevent conflicts with any vehicles using Wesley Street or accessing the project's adjacent Wesley Street parking garage access driveway. With the provision of parking assist personnel and off-peak period scheduling of deliveries, the truck "backing" maneuver is not anticipated to create any significant traffic or access impacts to the project's on-site or adjacent street vehicular circulation.

Finally, in addition to the on-site supermarket loading dock, a short-term loading zone is proposed along the project frontage of Wesley Street, between Washington Boulevard and the proposed parking garage access driveway. This loading area is anticipated to be used by the proposed drugstore/pharmacy and other on-site retail/commercial uses, and/or for residential loading/unloading activities. On-street loading spaces are permitted through approval by the City Engineer or Traffic Committee. As detailed in the preceding analyses, due to the limited amount of traffic on Wesley Street (even with development of the proposed project and other future developments) and other factors, no significant operational or access issues associated with the on-street loading area are anticipated.

Therefore, as summarized in the preceding report, with the implementation of the recommended intersection and roadway mitigation improvements, along with the operational modifications described above, all of the project's potential traffic, access, and vehicular circulation impacts will be reduced to less than significant levels, and no further mitigation measures are required.

APPENDICES

(Contained in Separate Document)

TRAFFIC IMPACT ANALYSIS REPORT - APPENDIX I

Proposed Mixed-Use Development
(115-Unit Residential and 31,240 Square Foot Retail)
Located at 8770 Washington Boulevard
in Culver City, California

Prepared for:

EMC Development, LLC
8383 Wilshire Boulevard, Suite 630
Beverly Hills, California 90211

Prepared by:

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.
13333 Ventura Boulevard, #204
Sherman Oaks, California 91423

REGISTERED PROFESSIONAL ENGINEER
RONALD R. HIRSCH
NO. 2318
6-30-2011
TRAFFIC
STATE OF CALIFORNIA

REVISED JULY 2010

APPENDICES
TABLE OF CONTENTS

VOLUME I

A – Related Projects Trip Generation Rates/Equations

B – Intersection Geometrics/Controls and Traffic Count Data Sheets

C – Project Local/Residential Street Trip Calculations

D – Conceptual Traffic Mitigation Improvements and Supporting Analyses

VOLUME II

E – CMA Calculation Worksheets

- *Existing (2010) Conditions*
- *Future (2013) Without Project Conditions*

VOLUME III

E – CMA Calculation Worksheets

- *Future (2013) With Project Conditions*
- *Future (2013) With Project Plus Mitigation Conditions*

APPENDIX A

RELATED PROJECTS TRIP GENERATION RATES/EQUATIONS

Table A-1
Related Projects Trip Generation Rates and Equations
ITE 8th Edition Data

Single-Family Detached Housing - per dwelling unit (ITE Land Use 210)
Daily Trips: T = 9.57 (U)
AM Peak Hour: T = 0.75 (U); I/B = 25%, O/B = 75%
PM Peak Hour: T = 1.01 (U); I/B = 63%, O/B = 37%

Apartment - per dwelling unit (ITE Land Use 220)
Daily Trips: T = 6.65 (U)
AM Peak Hour: T = 0.51 (U); I/B = 20%, O/B = 80%
PM Peak Hour: T = 0.62 (U); I/B = 65%, O/B = 35%

Condominium/Townhome - per dwelling unit (ITE Land Use 230)
Daily Trips: T = 5.81 (U)
AM Peak Hour: T = 0.44 (U); I/B = 17%, O/B = 83%
PM Peak Hour: T = 0.52 (U); I/B = 67%, O/B = 33%

Hotel - per room (ITE Land Use 310)
Daily Trips: T = 8.17 (R)
AM Peak Hour: T = 0.56 (R); I/B = 61%, O/B = 39%
PM Peak Hour: T = 0.59 (R); I/B = 53%, O/B = 47%

High School - per student (ITE Land Use 530)
Daily Trips: T = 1.71 (S)
AM Peak Hour: T = 0.42 (S); I/B = 68%, O/B = 32%
PM Peak Hour: T = 0.13 (S); I/B = 47%, O/B = 53%

Private School (K - 12) - per student (ITE Land Use 536)
Daily Trips: T = 2.48 (S)
AM Peak Hour: T = 0.81 (S); I/B = 61%, O/B = 39%
PM Peak Hour: T = 0.17 (S); I/B = 43%, O/B = 57%

General Office - per 1,000 gross square feet of floor area (ITE Land Use 710)
Daily Trips: T = 11.01 (A)
AM Peak Hour: T = 1.55 (A); I/B = 88%, O/B = 12%
PM Peak Hour: T = 1.49 (A); I/B = 17%, O/B = 83%

Specialty Retail Center - per 1,000 gross square feet of floor area (ITE Land Use 814)
Daily Trips: T = 44.32 (A)
AM Peak Hour: T = 1.33 (A); I/B = 60%, O/B = 40% (Assumed as 3% of Daily, per SanDAG)
PM Peak Hour: T = 2.71 (A); I/B = 44%, O/B = 56%

Shopping Center - per 1,000 gross square feet of floor area (ITE Land Use 820)
Daily Trips: T = 42.94 (A)
AM Peak Hour: T = 1.00 (A); I/B = 61%, O/B = 39%
PM Peak Hour: T = 3.73 (A); I/B = 49%, O/B = 51%

Table A-1 (continued)
Related Projects Trip Generation Rates and Equations
ITE 8th Edition Data

Supermarket - per 1,000 gross square feet of floor area (ITE Land Use 850)
Daily Trips: T = 102.24 (A)
AM Peak Hour: T = 3.59 (A)2; I/B = 61%, O/B = 39%
PM Peak Hour: T = 10.50 (A); I/B = 51%, O/B = 49%

Convenience Market (24-Hour) - per 1,000 gross square feet of floor area (ITE Land Use 851)
Daily Trips: T = 737.99 (A)
AM Peak Hour: T = 67.03 (A); I/B = 50%, O/B = 50%
PM Peak Hour: T = 52.41 (A); I/B = 51%, O/B = 49%

Pharmacy/Drugstore without Drive-Through - per 1,000 gross square feet of floor area (ITE Land Use 880)
Daily Trips: T = 90.06 (A)
AM Peak Hour: T = 3.20 (A); I/B = 59%, O/B = 41%
PM Peak Hour: T = 8.42 (A); I/B = 50%, O/B = 50%

High-Turnover (Sit-Down) Restaurant - per 1,000 gross square feet of floor area (ITE Land Use 932)
Daily Trips: T = 127.15 (A)
AM Peak Hour: T = 11.52 (A); I/B = 52%, O/B = 48%
PM Peak Hour: T = 11.15 (A); I/B = 59%, O/B = 41%

Gasoline/Service Station with Convenience Market - per 1,000 gross square feet of floor area (ITE Land Use 945)
Daily Trips: T = 1,224.90 (A) [estimated]
AM Peak Hour: T = 79.30 (A); I/B = 51%, O/B = 49%
PM Peak Hour: T = 97.08 (A); I/B = 50%, O/B = 50%

Self Service Car Wash - per wash stall (ITE Land Use 947)
Daily Trips: T = 108.00 (WS)
AM Peak Hour: T = 8.00 (WS); I/B = 50%, O/B = 50% (peak of generator)
PM Peak Hour: T = 5.54 (WS); I/B = 51%, O/B = 49%

Where: A = Building Area in 1,000 sq. ft.
U = Dwelling Units
S = Students
R = Rooms
WS = Wash Stalls
I/B = Inbound Trip Percentage
O/B = Outbound Trip Percentage

APPENDIX B

INTERSECTION GEOMETRICS/CONTROLS AND TRAFFIC COUNT DATA SHEETS

PROJECT SITE

UNDER CONSTRUCTION

UNDER CONSTRUCTION

UNDER CONSTRUCTION

NO EXIT

NEW DWY

DWY

DWY

DWY

LEGEND

EXISTING LANE CONFIGURATION

FUTURE LANE CONFIGURATION (PRIOR TO PROJECT MITIGATION)

©2008 Rand McNally & Company

FIGURE B-1

STUDY INTERSECTION GEOMETRICS AND CONTROLS

Hirsch/Green Transportation Consulting, Inc.

WASHINGTON-NATIONAL EMC (CULVER CITY) \ LANE-CONFIG (MIT)

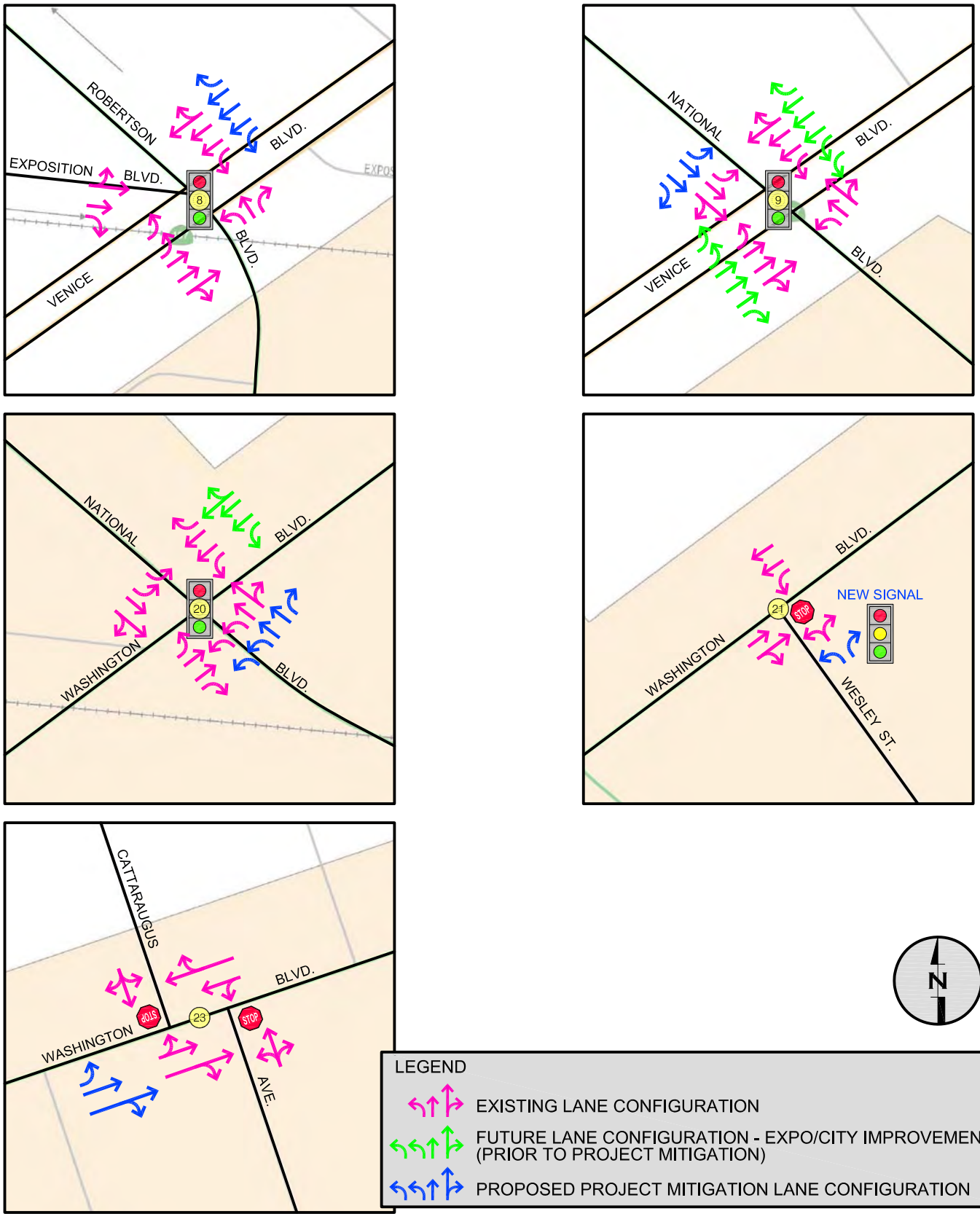


FIGURE B-2

7/28/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

LANE CONFIGURATIONS
AT SIGNIFICANTLY IMPACTED INTERSECTIONS
(INCLUDING RECOMMENDED MITIGATIONS)

Intersection Counts

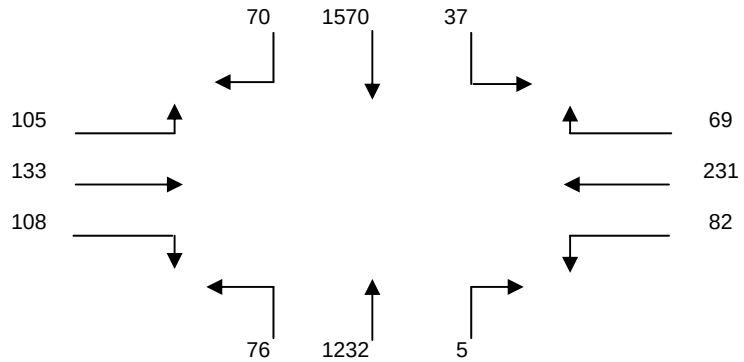
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: WEDNESDAY, MARCH 11, 2009
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S ROBERTSON BOULEVARD
E/W CATTARAGUS AVENUE
FILE NUMBER: 1-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	10	242	3	11	28	18	0	186	10	11	5	5
0715-0730	18	279	4	12	39	39	1	228	19	19	11	10
0730-0745	26	355	4	10	43	47	1	261	16	20	19	22
0745-0800	29	395	8	18	63	30	2	296	19	32	26	31
0800-0815	19	353	9	17	53	20	2	291	20	29	39	26
0815-0830	11	385	8	17	65	19	1	321	19	28	39	24
0830-0845	11	437	12	17	50	13	0	324	18	19	29	24
0845-0900	8	362	8	22	58	7	1	316	23	17	24	32
0900-0915	12	342	13	16	40	13	1	324	19	14	22	26
0915-0930	12	366	11	21	31	10	2	328	19	13	17	24
0930-0945	12	326	14	16	20	8	2	289	21	14	16	16
0940-1000	9	338	15	19	17	10	1	284	22	10	16	17

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	83	1271	19	51	173	134	4	971	64	82	61	68	2981
0715-0815	92	1382	25	57	198	136	6	1076	74	100	95	89	3330
0730-0830	85	1488	29	62	224	116	6	1169	74	109	123	103	3588
0745-0845	70	1570	37	69	231	82	5	1232	76	108	133	105	3718
0800-0900	49	1537	37	73	226	59	4	1252	80	93	131	106	3647
0815-0915	42	1526	41	72	213	52	3	1285	79	78	114	106	3611
0830-0930	43	1507	44	76	179	43	4	1292	79	63	92	106	3528
0845-0945	44	1396	46	75	149	38	6	1257	82	58	79	98	3328
0900-1000	45	1372	53	72	108	41	6	1225	81	51	71	83	3208

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

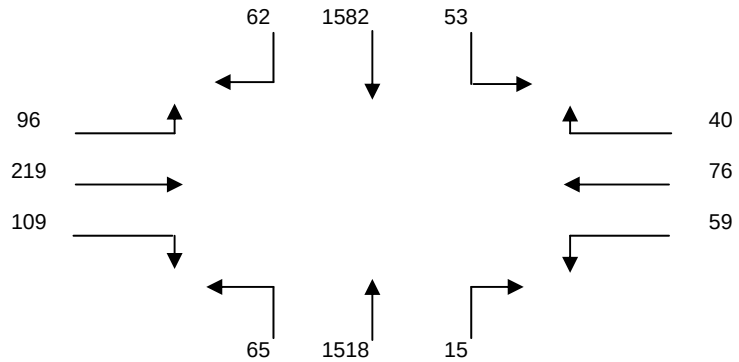
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: WEDNESDAY, MARCH 11, 2009
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S ROBERTSON BOULEVARD
E/W CATTARAGUS AVENUE
FILE NUMBER: 1-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	17	365	19	15	33	15	4	346	19	26	25	7
0315-0330	12	344	19	11	31	14	3	349	14	34	31	13
0330-0345	15	407	17	9	20	11	2	374	12	27	49	17
0345-0400	14	346	11	14	14	11	2	349	16	20	42	16
0400-0415	17	405	14	11	16	11	2	355	19	26	41	16
0415-0430	12	383	18	10	16	8	4	361	17	21	40	20
0430-0445	10	381	14	14	26	16	3	362	16	17	39	20
0445-0500	10	320	16	13	20	11	2	380	15	17	41	24
0500-0515	17	358	11	13	22	16	3	388	15	24	44	20
0515-0530	16	441	15	8	13	10	5	378	16	25	59	20
0530-0545	15	384	17	9	18	18	4	385	19	33	61	29
0545-0600	14	399	10	10	23	15	3	367	15	27	55	27

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	58	1462	66	49	98	51	11	1418	61	107	147	53	3581
0315-0415	58	1502	61	45	81	47	9	1427	61	107	163	62	3623
0330-0430	58	1541	60	44	66	41	10	1439	64	94	172	69	3658
0345-0445	53	1515	57	49	72	46	11	1427	68	84	162	72	3616
0400-0500	49	1489	62	48	78	46	11	1458	67	81	161	80	3630
0415-0515	49	1442	59	50	84	51	12	1491	63	79	164	84	3628
0430-0530	53	1500	56	48	81	53	13	1508	62	83	183	84	3724
0445-0545	58	1503	59	43	73	55	14	1531	65	99	205	93	3798
0500-0600	62	1582	53	40	76	59	15	1518	65	109	219	96	3894

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

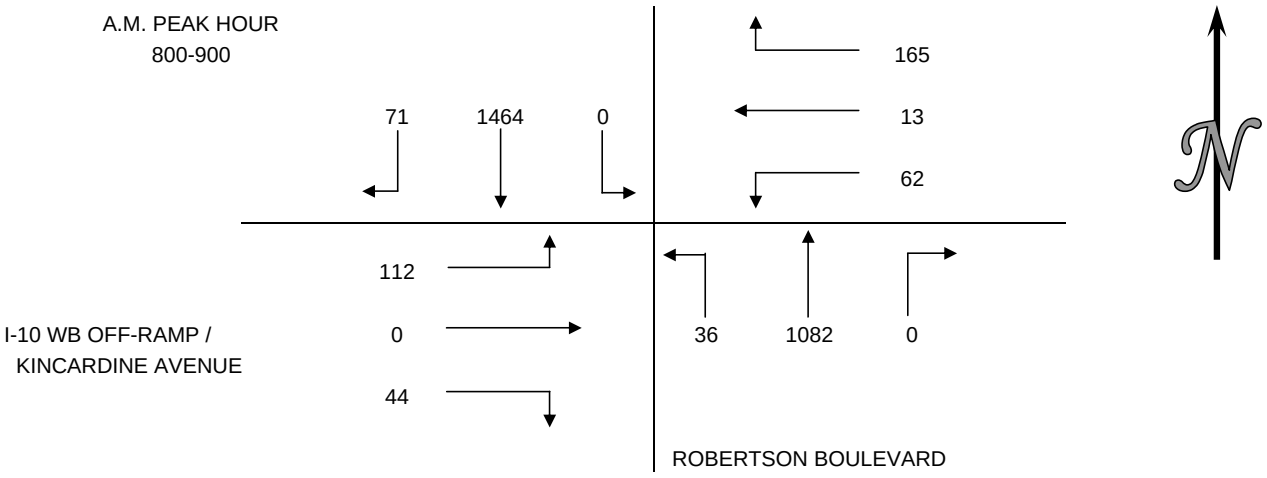
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 2 N/S ROBERTSON BOULEVARD
E/W I-10 WB OFF-RAMP / KINCARDINE AVENUE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	4	282	0	38	6	14	0	218	15	5	0	6	588
715-730	22	346	0	29	13	21	0	263	22	17	0	18	751
730-745	32	333	0	29	20	11	0	247	17	32	0	6	727
745-800	21	336	0	26	17	23	0	258	9	37	0	28	755
800-815	24	386	0	42	6	18	0	280	11	16	0	30	813
815-830	15	326	0	36	1	11	0	207	8	10	0	27	641
830-845	12	365	0	36	2	13	0	282	9	7	0	25	751
845-900	20	387	0	51	4	20	0	313	8	11	0	30	844
900-915	10	304	0	65	0	24	0	281	9	7	0	13	713
915-930	6	262	0	50	4	24	0	303	6	5	0	9	669
930-945	5	267	0	45	4	34	0	301	2	2	0	14	674
945-1000	9	279	0	124	7	38	0	260	8	8	0	7	740

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	79	1297	0	122	56	69	0	986	63	91	0	58	2821
715-815	99	1401	0	126	56	73	0	1048	59	102	0	82	3046
730-830	92	1381	0	133	44	63	0	992	45	95	0	91	2936
745-845	72	1413	0	140	26	65	0	1027	37	70	0	110	2960
800-900	71	1464	0	165	13	62	0	1082	36	44	0	112	3049
815-815	57	1382	0	188	7	68	0	1083	34	35	0	95	2949
830-930	48	1318	0	202	10	81	0	1179	32	30	0	77	2977
845-945	41	1220	0	211	12	102	0	1198	25	25	0	66	2900
900-1000	30	1112	0	284	15	120	0	1145	25	22	0	43	2796



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 2 N/S ROBERTSON BOULEVARD
E/W I-10 WB OFF-RAMP / KINCARDINE AVENUE

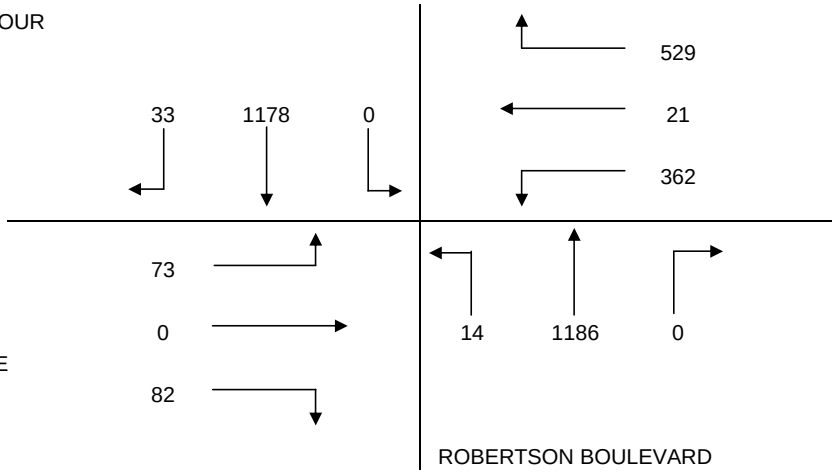
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	12	252	0	135	15	60	0	299	9	31	0	16	829
315-330	11	308	0	127	12	62	0	293	9	38	0	18	878
330-345	8	298	0	139	9	48	0	257	3	18	0	22	802
345-400	7	311	0	126	8	73	0	261	12	7	0	19	824
400-415	8	324	0	117	10	74	0	219	8	15	0	21	796
415-430	7	236	0	140	6	92	0	222	11	4	0	16	734
430-445	11	288	0	117	3	70	0	261	4	12	0	23	789
445-500	8	333	0	153	3	92	0	274	2	7	0	23	895
500-515	4	276	0	144	5	82	0	282	3	6	0	16	818
515-530	6	232	0	118	8	98	0	309	1	16	0	20	808
530-545	9	280	0	126	2	87	0	331	4	35	0	17	891
545-600	14	390	0	141	6	95	0	264	6	25	0	20	961

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	38	1169	0	527	44	243	0	1110	33	94	0	75	3333
315-415	34	1241	0	509	39	257	0	1030	32	78	0	80	3300
330-430	30	1169	0	522	33	287	0	959	34	44	0	78	3156
345-445	33	1159	0	500	27	309	0	963	35	38	0	79	3143
400-500	34	1181	0	527	22	328	0	976	25	38	0	83	3214
415-515	30	1133	0	554	17	336	0	1039	20	29	0	78	3236
430-530	29	1129	0	532	19	342	0	1126	10	41	0	82	3310
445-545	27	1121	0	541	18	359	0	1196	10	64	0	76	3412
500-600	33	1178	0	529	21	362	0	1186	14	82	0	73	3478

P.M. PEAK HOUR
500-600



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

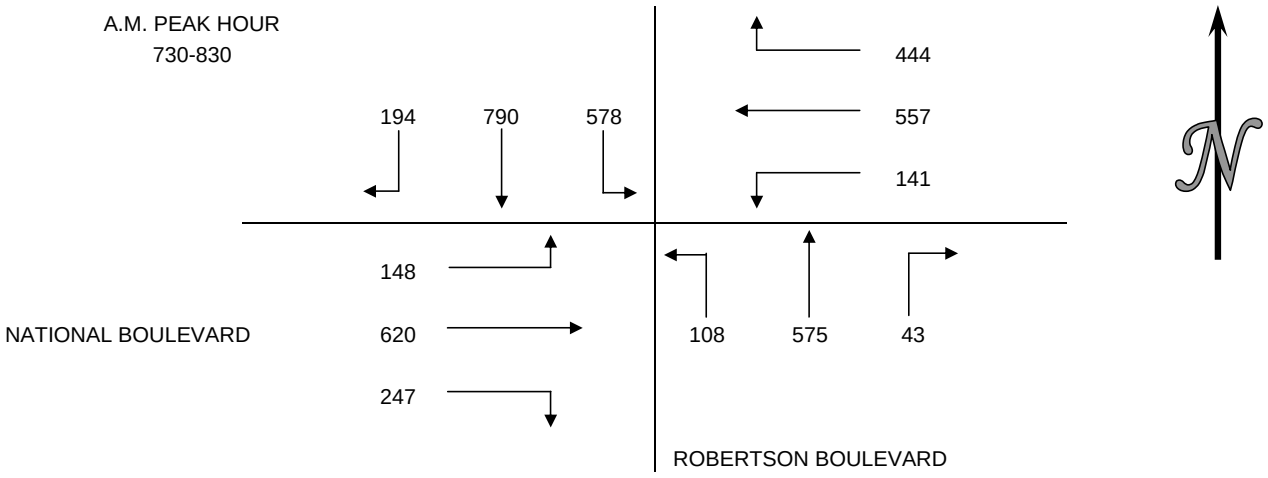
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 3 N/S ROBERTSON BOULEVARD
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	31	146	105	66	87	35	6	84	8	57	92	30	747
715-730	63	174	102	84	127	44	16	124	22	54	114	35	959
730-745	47	200	136	120	154	35	7	177	31	70	146	40	1163
745-800	63	179	122	110	131	53	13	141	20	40	168	43	1083
800-815	44	199	162	96	124	22	8	145	33	68	166	36	1103
815-830	40	212	158	118	148	31	15	112	24	69	140	29	1096
830-845	39	171	146	135	157	46	20	122	19	79	112	41	1087
845-900	43	191	120	110	159	28	14	130	16	73	142	41	1067
900-915	47	172	130	141	136	29	6	148	13	47	130	42	1041
915-930	38	146	106	129	157	30	14	147	13	57	108	37	982
930-945	33	174	116	116	127	36	19	165	19	40	92	29	966
945-1000	59	116	97	81	138	42	11	144	16	32	75	26	837

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	204	699	465	380	499	167	42	526	81	221	520	148	3952
715-815	217	752	522	410	536	154	44	587	106	232	594	154	4308
730-830	194	790	578	444	557	141	43	575	108	247	620	148	4445
745-845	186	761	588	459	560	152	56	520	96	256	586	149	4369
800-900	166	773	586	459	588	127	57	509	92	289	560	147	4353
815-815	169	746	554	504	600	134	55	512	72	268	524	153	4291
830-930	167	680	502	515	609	133	54	547	61	256	492	161	4177
845-945	161	683	472	496	579	123	53	590	61	217	472	149	4056
900-1000	177	608	449	467	558	137	50	604	61	176	405	134	3826



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

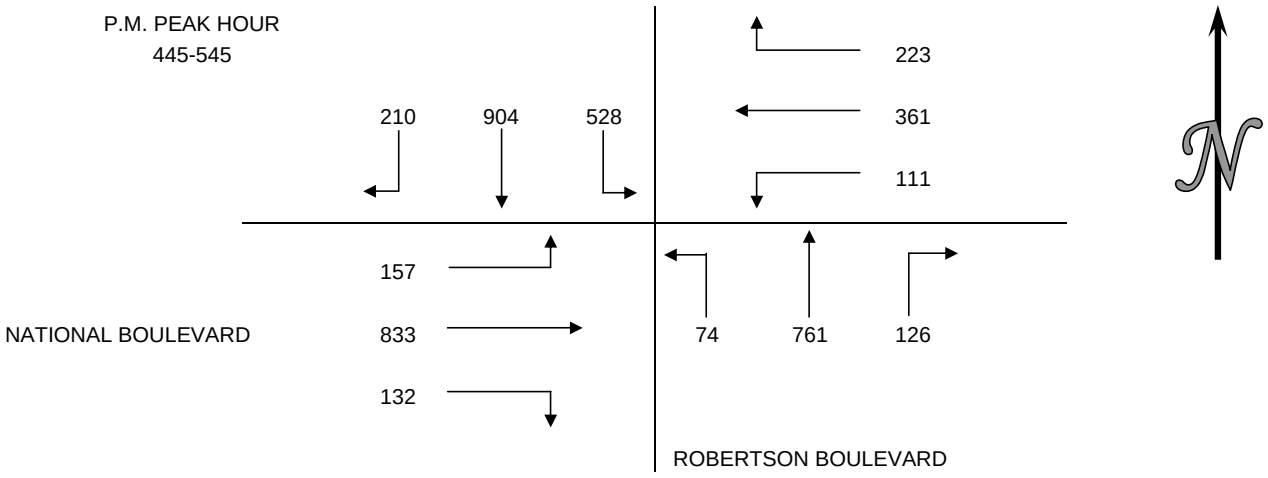
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 3 N/S ROBERTSON BOULEVARD
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	68	202	128	64	86	16	25	219	23	23	191	34	1079
315-330	32	188	116	41	76	12	19	181	13	25	186	29	918
330-345	55	215	138	68	92	29	30	202	28	34	205	40	1136
345-400	46	181	129	47	70	14	19	152	20	23	182	39	922
400-415	24	190	97	50	74	19	32	144	20	36	183	37	906
415-430	38	222	111	44	86	21	27	171	16	57	150	29	972
430-445	64	261	132	49	95	34	25	191	14	35	204	50	1154
445-500	52	222	112	60	112	22	24	162	12	29	211	29	1047
500-515	70	229	129	60	103	35	40	200	19	32	209	44	1170
515-530	37	212	129	38	79	24	23	180	16	22	182	31	973
530-545	51	241	158	65	67	30	39	219	27	49	231	53	1230
545-600	28	227	121	42	87	23	17	187	20	30	181	37	1000

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	201	786	511	220	324	71	93	754	84	105	764	142	4055
315-415	157	774	480	206	312	74	100	679	81	118	756	145	3882
330-430	163	808	475	209	322	83	108	669	84	150	720	145	3936
345-445	172	854	469	190	325	88	103	658	70	151	719	155	3954
400-500	178	895	452	203	367	96	108	668	62	157	748	145	4079
415-515	224	934	484	213	396	112	116	724	61	153	774	152	4343
430-530	223	924	502	207	389	115	112	733	61	118	806	154	4344
445-545	210	904	528	223	361	111	126	761	74	132	833	157	4420
500-600	186	909	537	205	336	112	119	786	82	133	803	165	4373



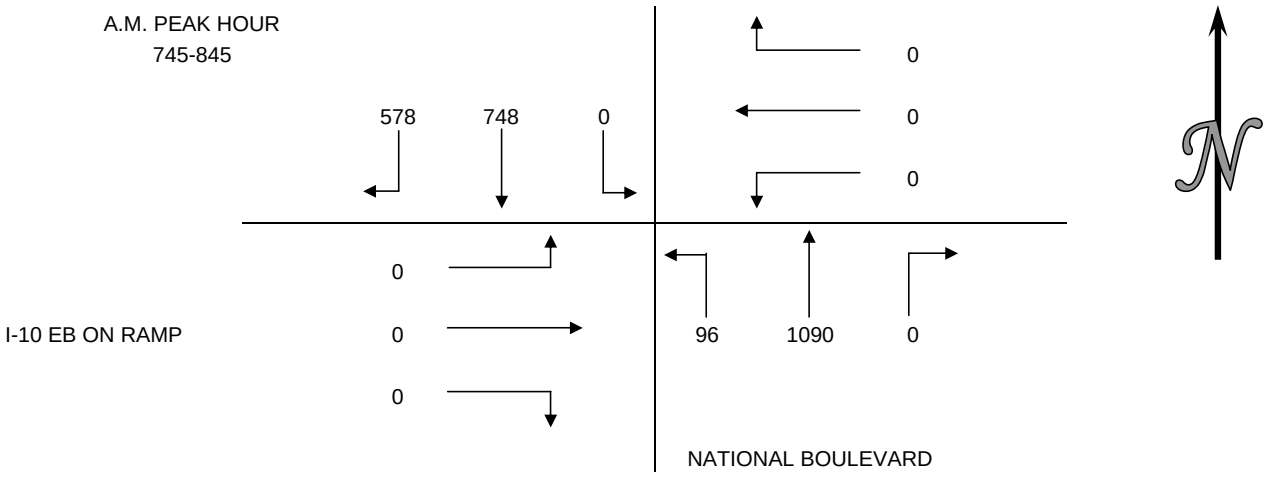
WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 4 N/S NATIONAL BOULEVARD
E/W I-10 EB ON RAMP

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	119	87	0	0	0	0	0	213	27	0	0	0	446
715-730	169	104	0	0	0	0	0	224	14	0	0	0	511
730-745	121	152	0	0	0	0	0	260	18	0	0	0	551
745-800	159	217	0	0	0	0	0	303	25	0	0	0	704
800-815	167	199	0	0	0	0	0	275	17	0	0	0	658
815-830	118	176	0	0	0	0	0	246	22	0	0	0	562
830-845	134	156	0	0	0	0	0	266	32	0	0	0	588
845-900	128	169	0	0	0	0	0	214	23	0	0	0	534
900-915	153	127	0	0	0	0	0	209	18	0	0	0	507
915-930	126	112	0	0	0	0	0	180	18	0	0	0	436
930-945	107	93	0	0	0	0	0	173	13	0	0	0	386
945-1000	130	86	0	0	0	0	0	188	28	0	0	0	432
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	568	560	0	0	0	0	0	1000	84	0	0	0	2212
715-815	616	672	0	0	0	0	0	1062	74	0	0	0	2424
730-830	565	744	0	0	0	0	0	1084	82	0	0	0	2475
745-845	578	748	0	0	0	0	0	1090	96	0	0	0	2512
800-900	547	700	0	0	0	0	0	1001	94	0	0	0	2342
815-815	533	628	0	0	0	0	0	935	95	0	0	0	2191
830-930	541	564	0	0	0	0	0	869	91	0	0	0	2065
845-945	514	501	0	0	0	0	0	776	72	0	0	0	1863
900-1000	516	418	0	0	0	0	0	750	77	0	0	0	1761



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

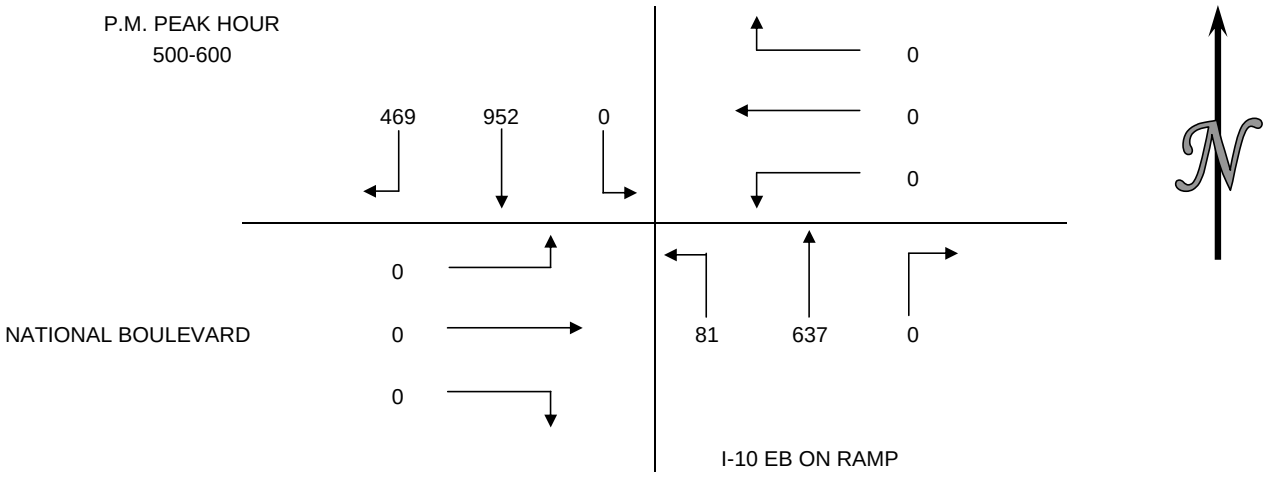
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 4 N/S I-10 EB ON RAMP
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	163	204	0	0	0	0	0	168	41	0	0	0	576
315-330	156	199	0	0	0	0	0	144	30	0	0	0	529
330-345	153	197	0	0	0	0	0	153	28	0	0	0	531
345-400	160	153	0	0	0	0	0	134	28	0	0	0	475
400-415	145	171	0	0	0	0	0	144	14	0	0	0	474
415-430	126	190	0	0	0	0	0	145	24	0	0	0	485
430-445	133	223	0	0	0	0	0	184	19	0	0	0	559
445-500	123	211	0	0	0	0	0	162	13	0	0	0	509
500-515	104	237	0	0	0	0	0	166	27	0	0	0	534
515-530	121	230	0	0	0	0	0	149	20	0	0	0	520
530-545	112	227	0	0	0	0	0	143	11	0	0	0	493
545-600	132	258	0	0	0	0	0	179	23	0	0	0	592

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	632	753	0	0	0	0	0	599	127	0	0	0	2111
315-415	614	720	0	0	0	0	0	575	100	0	0	0	2009
330-430	584	711	0	0	0	0	0	576	94	0	0	0	1965
345-445	564	737	0	0	0	0	0	607	85	0	0	0	1993
400-500	527	795	0	0	0	0	0	635	70	0	0	0	2027
415-515	486	861	0	0	0	0	0	657	83	0	0	0	2087
430-530	481	901	0	0	0	0	0	661	79	0	0	0	2122
445-545	460	905	0	0	0	0	0	620	71	0	0	0	2056
500-600	469	952	0	0	0	0	0	637	81	0	0	0	2139



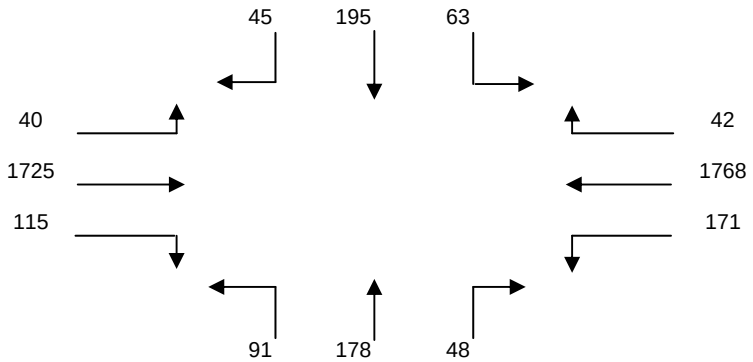
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: WEDNESDAY, MARCH 11, 2009
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S HUGHES AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 5-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	14	18	10	9	338	38	12	17	13	17	244	5
0715-0730	13	20	8	8	387	31	13	22	25	24	300	8
0730-0745	16	27	11	7	498	43	11	30	26	22	390	15
0745-0800	12	41	17	10	441	43	7	33	29	22	413	10
0800-0815	8	39	18	12	483	35	10	39	22	20	436	8
0815-0830	8	55	12	12	411	34	15	52	21	26	447	10
0830-0845	12	50	18	8	440	44	11	44	21	31	464	11
0845-0900	17	51	15	10	434	58	12	43	27	38	378	11
0900-0915	14	50	11	12	415	59	19	46	22	24	418	12
0915-0930	12	42	14	8	358	43	16	30	17	28	354	17
0930-0945	10	30	11	9	378	38	19	37	21	27	357	11
0940-1000	9	28	7	7	344	30	14	26	17	20	308	10

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	55	106	46	34	1664	155	43	102	93	85	1347	38	3768
0715-0815	49	127	54	37	1809	152	41	124	102	88	1539	41	4163
0730-0830	44	162	58	41	1833	155	43	154	98	90	1686	43	4407
0745-0845	40	185	65	42	1775	156	43	168	93	99	1760	39	4465
0800-0900	45	195	63	42	1768	171	48	178	91	115	1725	40	4481
0815-0915	51	206	56	42	1700	195	57	185	91	119	1707	44	4453
0830-0930	55	193	58	38	1647	204	58	163	87	121	1614	51	4289
0845-0945	53	173	51	39	1585	198	66	156	87	117	1507	51	4083
0900-1000	45	150	43	36	1495	170	68	139	77	99	1437	50	3809

A.M. PEAK HOUR
0800-0900



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

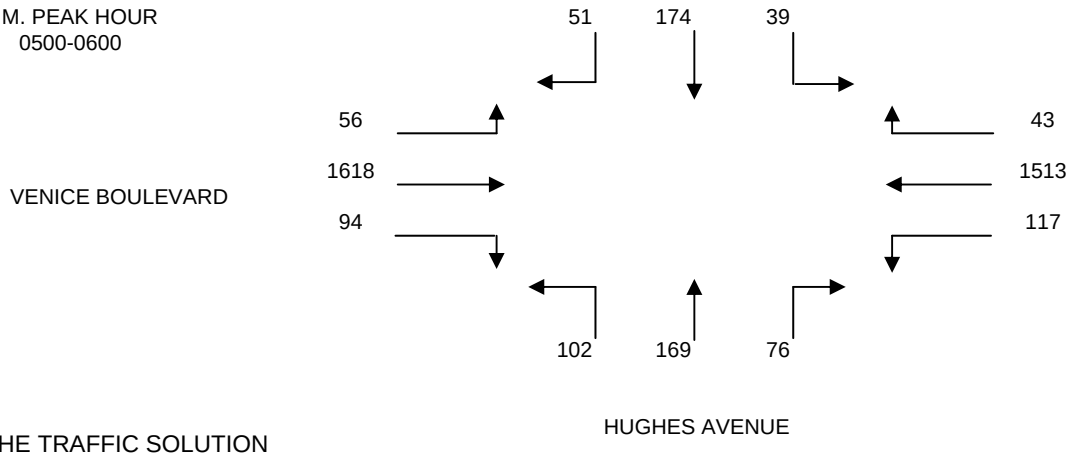
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: WEDNESDAY, MARCH 11, 2009
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S HUGHES AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 5-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	12	29	7	16	342	26	25	23	29	27	395	19
0315-0330	11	32	10	12	383	29	21	27	22	21	417	17
0330-0345	9	36	10	12	353	20	18	24	19	29	401	15
0345-0400	14	45	12	10	353	25	15	37	16	30	424	12
0400-0415	16	36	7	11	320	24	20	38	25	27	412	13
0415-0430	13	45	5	12	356	39	24	30	20	21	400	16
0430-0445	10	60	8	7	350	33	19	37	22	22	422	12
0445-0500	13	40	8	7	355	22	17	32	23	29	415	19
0500-0515	12	47	7	11	372	33	20	48	27	26	373	17
0515-0530	14	50	11	10	354	25	15	37	30	23	402	12
0530-0545	11	44	10	12	382	30	21	41	26	17	412	16
0545-0600	14	33	11	10	405	29	20	43	19	28	431	11

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	46	142	39	50	1431	100	79	111	86	107	1637	63	3891
0315-0415	50	149	39	45	1409	98	74	126	82	107	1654	57	3890
0330-0430	52	162	34	45	1382	108	77	129	80	107	1637	56	3869
0345-0445	53	186	32	40	1379	121	78	142	83	100	1658	53	3925
0400-0500	52	181	28	37	1381	118	80	137	90	99	1649	60	3912
0415-0515	48	192	28	37	1433	127	80	147	92	98	1610	64	3956
0430-0530	49	197	34	35	1431	113	71	154	102	100	1612	60	3958
0445-0545	50	181	36	40	1463	110	73	158	106	95	1602	64	3978
0500-0600	51	174	39	43	1513	117	76	169	102	94	1618	56	4052

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

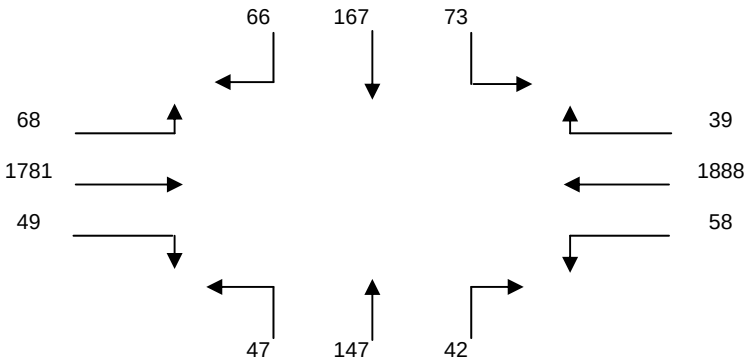
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: WEDNESDAY, MARCH 11, 2009
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S BAGLEY AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 6-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	7	11	9	2	341	8	9	19	10	2	281	8
0715-0730	10	16	10	6	419	8	7	20	9	3	334	9
0730-0745	10	22	14	7	497	9	7	30	7	5	381	14
0745-0800	15	39	19	9	483	9	10	39	10	13	409	19
0800-0815	19	42	18	10	473	10	13	28	11	10	444	19
0815-0830	16	42	20	10	451	16	10	36	14	14	459	15
0830-0845	16	44	16	10	481	23	9	44	12	12	469	15
0845-0900	14	39	22	13	440	20	8	33	12	13	411	15
0900-0915	14	33	17	11	432	23	10	20	7	15	399	13
0915-0930	14	26	16	9	401	18	8	20	10	17	364	13
0930-0945	16	28	18	8	399	25	10	20	12	12	371	14
0940-1000	13	26	16	8	347	29	9	10	9	12	340	15

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	42	88	52	24	1740	34	33	108	36	23	1405	50	3635
0715-0815	54	119	61	32	1872	36	37	117	37	31	1568	61	4025
0730-0830	60	145	71	36	1904	44	40	133	42	42	1693	67	4277
0745-0845	66	167	73	39	1888	58	42	147	47	49	1781	68	4425
0800-0900	65	167	76	43	1845	69	40	141	49	49	1783	64	4391
0815-0915	60	158	75	44	1804	82	37	133	45	54	1738	58	4288
0830-0930	58	142	71	43	1754	84	35	117	41	57	1643	56	4101
0845-0945	58	126	73	41	1672	86	36	93	41	57	1545	55	3883
0900-1000	57	113	67	36	1579	95	37	70	38	56	1474	55	3677

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

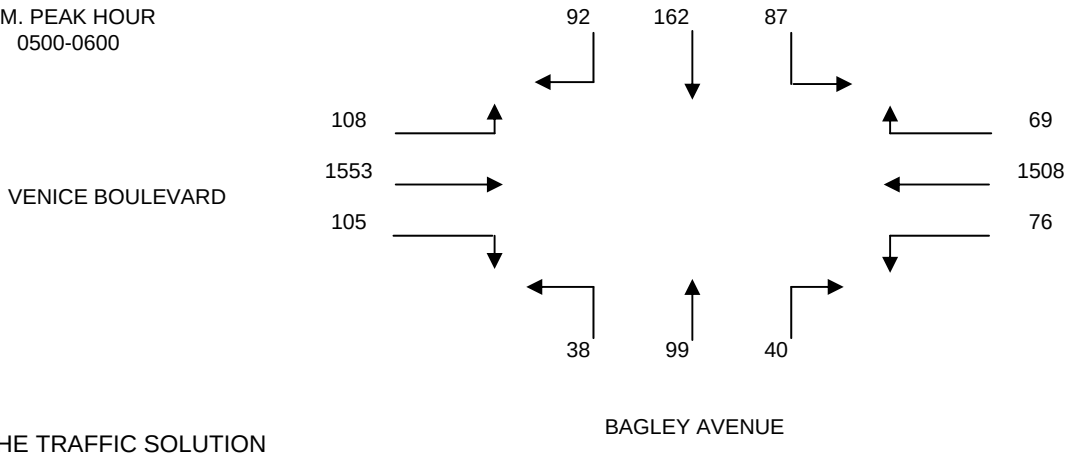
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: WEDNESDAY, MARCH 11, 2009
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S BAGLEY AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 6-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	15	31	12	9	369	16	7	10	6	16	380	23
0315-0330	14	33	16	14	374	19	6	14	4	19	425	18
0330-0345	20	29	11	12	355	15	11	14	7	23	404	15
0345-0400	20	28	12	12	353	18	6	15	9	17	437	15
0400-0415	16	35	15	15	331	18	7	13	10	22	397	16
0415-0430	23	24	19	19	355	17	9	18	9	28	394	18
0430-0445	26	29	17	11	352	15	7	18	5	31	408	23
0445-0500	19	31	17	14	353	19	6	22	9	29	397	20
0500-0515	20	37	21	15	377	15	9	27	9	25	358	24
0515-0530	24	45	19	20	348	18	10	21	11	26	384	27
0530-0545	22	41	23	19	379	24	10	26	7	28	411	26
0545-0600	26	39	24	15	404	19	11	25	11	26	400	31

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	69	121	51	47	1451	68	30	53	26	75	1646	71	3708
0315-0415	70	125	54	53	1413	70	30	56	30	81	1663	64	3709
0330-0430	79	116	57	58	1394	68	33	60	35	90	1632	64	3686
0345-0445	85	116	63	57	1391	68	29	64	33	98	1636	72	3712
0400-0500	84	119	68	59	1391	69	29	71	33	110	1596	77	3706
0415-0515	88	121	74	59	1437	66	31	85	32	113	1557	85	3748
0430-0530	89	142	74	60	1430	67	32	88	34	111	1547	94	3768
0445-0545	85	154	80	68	1457	76	35	96	36	108	1550	97	3842
0500-0600	92	162	87	69	1508	76	40	99	38	105	1553	108	3937

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

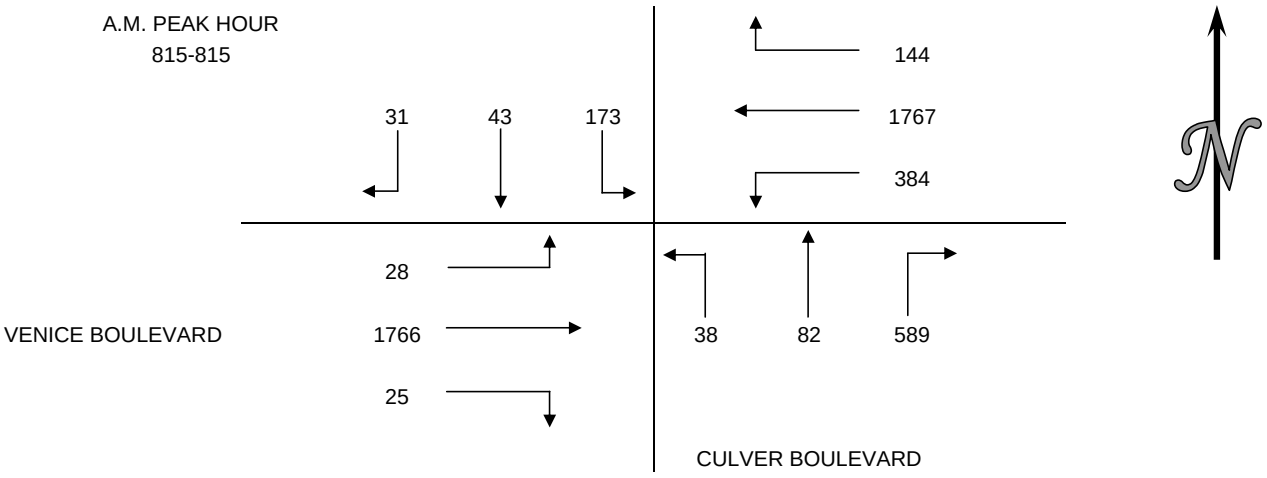
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 7 N/S CULVER BOULEVARD
E/W VENICE BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	12	6	37	39	350	52	124	3	5	3	249	2	882
715-730	8	11	28	20	409	75	156	8	3	1	318	4	1041
730-745	4	5	42	22	431	99	135	5	6	4	356	5	1114
745-800	10	3	52	33	395	108	165	12	11	5	398	9	1201
800-815	13	11	60	59	434	96	185	17	6	2	424	9	1316
815-830	2	8	43	35	399	86	150	29	9	5	408	2	1176
830-845	10	12	40	37	425	88	128	25	10	8	438	9	1230
845-900	6	9	49	33	450	99	151	19	11	4	465	8	1304
900-915	13	14	41	39	493	111	160	9	8	8	455	9	1360
915-930	11	9	26	29	405	91	127	7	10	5	433	10	1163
930-945	7	7	45	44	395	82	130	8	21	8	406	9	1162
945-1000	7	7	36	48	367	80	106	13	13	3	315	7	1002

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	34	25	159	114	1585	334	580	28	25	13	1321	20	4238
715-815	35	30	182	134	1669	378	641	42	26	12	1496	27	4672
730-830	29	27	197	149	1659	389	635	63	32	16	1586	25	4807
745-845	35	34	195	164	1653	378	628	83	36	20	1668	29	4923
800-900	31	40	192	164	1708	369	614	90	36	19	1735	28	5026
815-815	31	43	173	144	1767	384	589	82	38	25	1766	28	5070
830-930	40	44	156	138	1773	389	566	60	39	25	1791	36	5057
845-945	37	39	161	145	1743	383	568	43	50	25	1759	36	4989
900-1000	38	37	148	160	1660	364	523	37	52	24	1609	35	4687



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

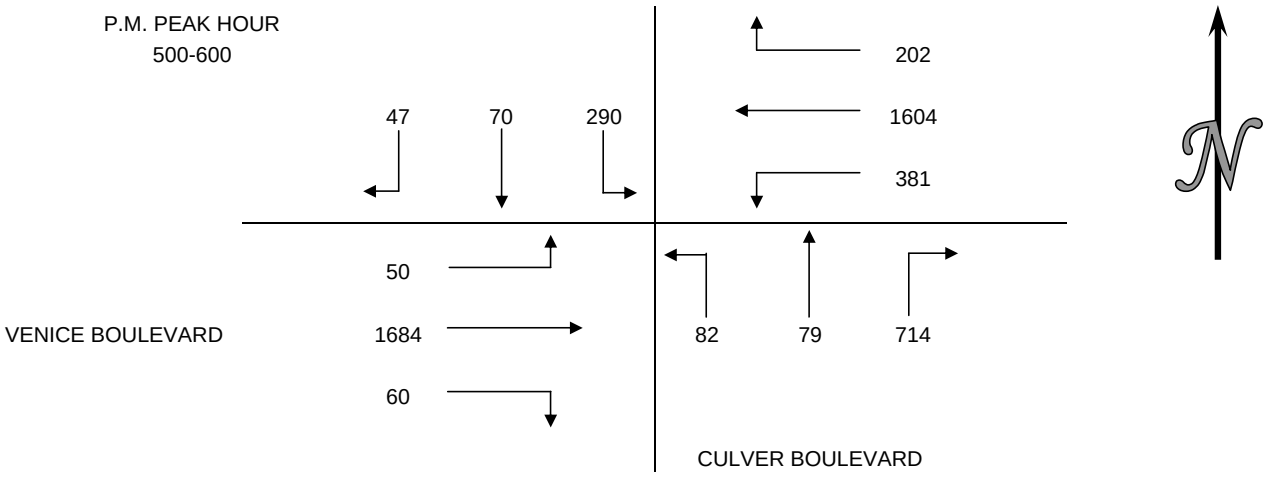
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 7 N/S CULVER BOULEVARD
E/W VENICE BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	14	8	62	47	223	76	149	11	10	13	365	8	986
315-330	13	7	64	54	235	85	138	15	16	19	399	21	1066
330-345	6	12	71	56	251	94	158	17	21	20	394	5	1105
345-400	16	23	89	71	299	85	171	34	20	21	422	11	1262
400-415	7	11	62	41	296	91	130	23	13	12	391	11	1088
415-430	15	22	66	55	259	100	175	16	31	16	403	8	1166
430-445	11	13	72	60	273	122	182	20	21	19	427	8	1228
445-500	10	28	77	39	308	100	167	37	16	17	391	10	1200
500-515	15	19	73	43	361	100	206	18	19	14	429	12	1309
515-530	7	19	73	53	405	88	172	21	23	14	438	10	1323
530-545	12	16	60	46	394	86	169	16	18	18	402	17	1254
545-600	13	16	84	60	444	107	167	24	22	14	415	11	1377

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	49	50	286	228	1008	340	616	77	67	73	1580	45	4419
315-415	42	53	286	222	1081	355	597	89	70	72	1606	48	4521
330-430	44	68	288	223	1105	370	634	90	85	69	1610	35	4621
345-445	49	69	289	227	1127	398	658	93	85	68	1643	38	4744
400-500	43	74	277	195	1136	413	654	96	81	64	1612	37	4682
415-515	51	82	288	197	1201	422	730	91	87	66	1650	38	4903
430-530	43	79	295	195	1347	410	727	96	79	64	1685	40	5060
445-545	44	82	283	181	1468	374	714	92	76	63	1660	49	5086
500-600	47	70	290	202	1604	381	714	79	82	60	1684	50	5263



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 8 N/S ROBERTSON BOULEVARD
E/W VENICE BOULEVARD

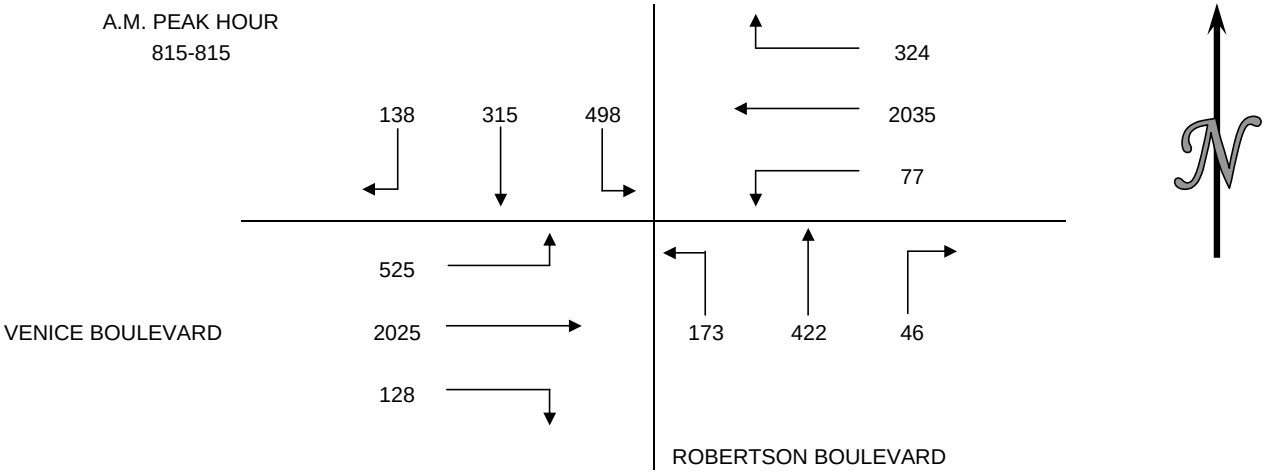
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	21	43	69	53	379	5	1	89	16	14	347	83	1120
715-730	12	53	94	85	410	2	9	103	24	17	391	82	1282
730-745	29	60	114	100	467	9	2	105	36	16	459	84	1481
745-800	35	73	137	93	519	20	7	122	50	22	444	126	1648
800-815	29	67	128	88	453	9	6	96	31	23	489	103	1522
815-830	44	63	154	100	480	6	13	109	44	22	534	94	1663
830-845	31	74	131	83	479	11	11	111	35	25	482	122	1595
845-900	32	81	116	74	503	21	10	95	36	34	507	161	1670
900-915	31	97	97	67	573	39	12	107	58	47	502	148	1778
915-930	26	106	73	51	557	33	30	105	32	44	482	119	1658
930-945	39	89	85	40	470	27	16	82	24	24	439	97	1432
945-1000	53	62	95	46	387	19	9	63	21	17	354	86	1212

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	97	229	414	331	1775	36	19	419	126	69	1641	375	5531
715-815	105	253	473	366	1849	40	24	426	141	78	1783	395	5933
730-830	137	263	533	381	1919	44	28	432	161	83	1926	407	6314
745-845	139	277	550	364	1931	46	37	438	160	92	1949	445	6428
800-900	136	285	529	345	1915	47	40	411	146	104	2012	480	6450
815-815	138	315	498	324	2035	77	46	422	173	128	2025	525	6706
830-930	120	358	417	275	2112	104	63	418	161	150	1973	550	6701
845-945	128	373	371	232	2103	120	68	389	150	149	1930	525	6538
900-1000	149	354	350	204	1987	118	67	357	135	132	1777	450	6080

A.M. PEAK HOUR
815-815



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

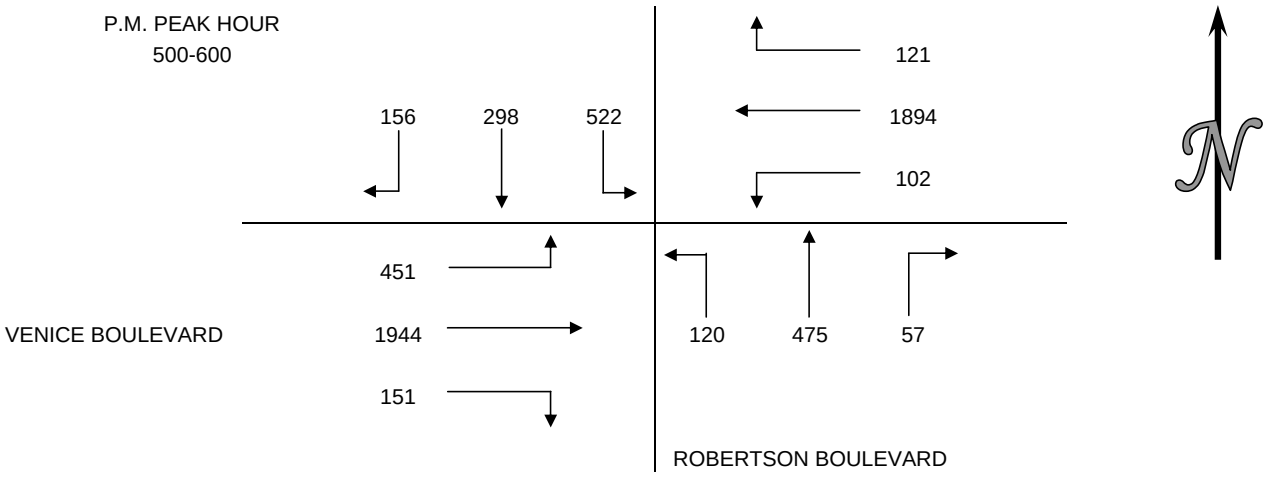
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: TUESDAY SEPTEMBER 9, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 8 N/S ROBERTSON BOULEVARD
E/W VENICE BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	22	84	157	36	353	19	16	78	13	38	437	110	1363
315-330	20	65	136	22	341	11	9	98	21	25	458	96	1302
330-345	25	67	164	35	334	29	14	102	26	33	499	110	1438
345-400	17	79	156	29	353	26	11	88	18	43	493	87	1400
400-415	13	70	161	36	381	18	11	77	24	33	484	106	1414
415-430	15	70	149	25	363	21	17	89	20	37	509	108	1423
430-445	25	69	145	27	380	22	13	82	16	41	475	94	1389
445-500	31	70	165	27	427	20	18	101	18	45	520	113	1555
500-515	24	74	120	36	442	15	12	113	29	35	523	119	1542
515-530	49	77	135	27	480	27	22	137	29	33	461	92	1569
530-545	44	65	100	35	506	26	13	127	36	41	488	119	1600
545-600	39	82	167	23	466	34	10	98	26	42	472	121	1580

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	84	295	613	122	1381	85	50	366	78	139	1887	403	5503
315-415	75	281	617	122	1409	84	45	365	89	134	1934	399	5554
330-430	70	286	630	125	1431	94	53	356	88	146	1985	411	5675
345-445	70	288	611	117	1477	87	52	336	78	154	1961	395	5626
400-500	84	279	620	115	1551	81	59	349	78	156	1988	421	5781
415-515	95	283	579	115	1612	78	60	385	83	158	2027	434	5909
430-530	129	290	565	117	1729	84	65	433	92	154	1979	418	6055
445-545	148	286	520	125	1855	88	65	478	112	154	1992	443	6266
500-600	156	298	522	121	1894	102	57	475	120	151	1944	451	6291



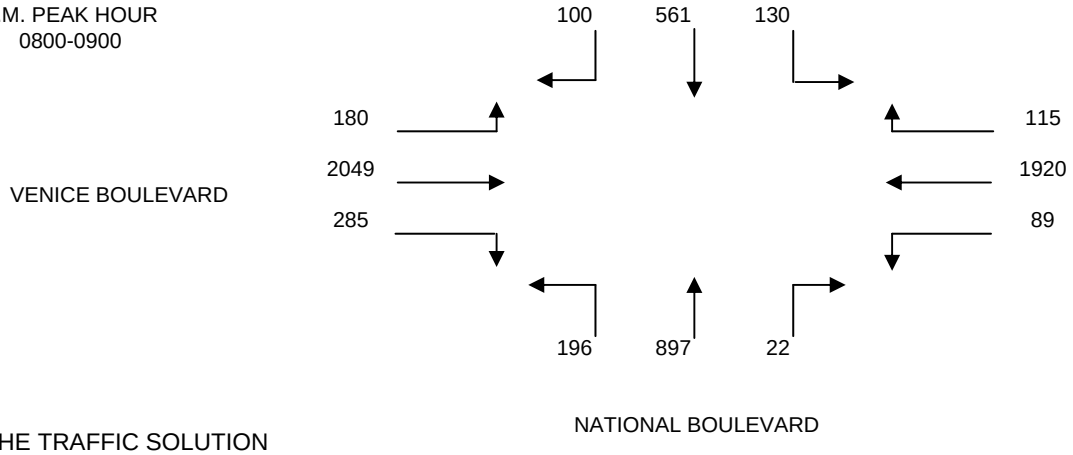
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: WEDNESDAY, APRIL 28, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S NATIONAL BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 9-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	9	65	10	14	355	8	4	200	69	19	225	37
0715-0730	13	73	13	23	375	10	6	218	78	26	334	25
0730-0745	17	100	15	21	475	9	3	240	69	49	399	33
0745-0800	26	126	27	25	555	16	4	255	60	68	444	40
0800-0815	25	150	29	30	480	23	5	240	50	75	475	41
0815-0830	23	137	33	27	450	27	3	240	49	80	520	42
0830-0845	30	132	35	28	476	20	7	207	47	57	514	47
0845-0900	22	142	33	30	514	19	7	210	50	73	540	50
0900-0915	27	137	30	26	463	16	8	226	43	62	440	40
0915-0930	31	155	34	28	392	15	8	230	37	65	421	34
0930-0945	24	132	40	31	352	19	5	219	38	58	345	37
0945-1000	26	158	36	32	399	14	7	217	41	49	315	41

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	65	364	65	83	1760	43	17	913	276	162	1402	135	5285
0715-0815	81	449	84	99	1885	58	18	953	257	218	1652	139	5893
0730-0830	91	513	104	103	1960	75	15	975	228	272	1838	156	6330
0745-0845	104	545	124	110	1961	86	19	942	206	280	1953	170	6500
0800-0900	100	561	130	115	1920	89	22	897	196	285	2049	180	6544
0815-0915	102	548	131	111	1903	82	25	883	189	272	2014	179	6439
0830-0930	110	566	132	112	1845	70	30	873	177	257	1915	171	6258
0845-0945	104	566	137	115	1721	69	28	885	168	258	1746	161	5958
0900-1000	108	582	140	117	1606	64	28	892	159	234	1521	152	5603

A.M. PEAK HOUR
0800-0900



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

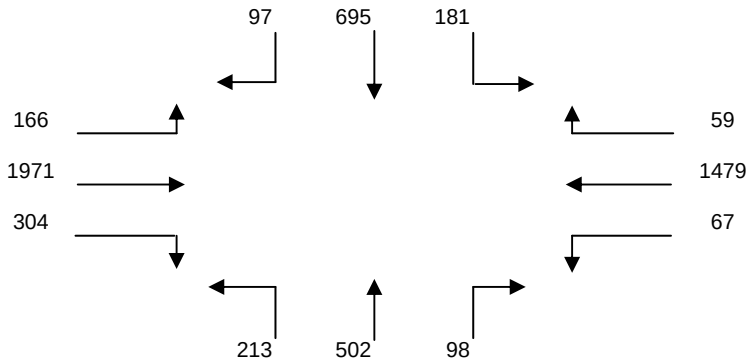
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: WEDNESDAY, APRIL 28, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S NATIONAL BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 9-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	14	137	34	24	338	19	20	166	51	90	405	53
0315-0330	17	130	24	20	283	17	20	134	41	93	371	36
0330-0345	19	134	39	16	359	19	18	133	47	86	449	40
0345-0400	23	120	32	18	315	25	21	108	43	103	434	51
0400-0415	22	146	42	22	338	18	29	107	49	82	466	48
0415-0430	26	144	49	19	324	12	35	133	52	109	490	33
0430-0445	34	145	32	16	319	16	24	148	56	79	411	31
0445-0500	23	131	32	17	308	15	20	116	61	87	471	35
0500-0515	23	151	44	17	372	19	28	114	47	98	512	39
0515-0530	31	194	47	13	385	15	21	120	53	66	464	47
0530-0545	20	180	40	14	323	18	24	123	52	75	496	46
0545-0600	23	170	50	15	399	15	25	145	61	65	499	34

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	73	521	129	78	1295	80	79	541	182	372	1659	180	5189
0315-0415	81	530	137	76	1295	79	88	482	180	364	1720	175	5207
0330-0430	90	544	162	75	1336	74	103	481	191	380	1839	172	5447
0345-0445	105	555	155	75	1296	71	109	496	200	373	1801	163	5399
0400-0500	105	566	155	74	1289	61	108	504	218	357	1838	147	5422
0415-0515	106	571	157	69	1323	62	107	511	216	373	1884	138	5517
0430-0530	111	621	155	63	1384	65	93	498	217	330	1858	152	5547
0445-0545	97	656	163	61	1388	67	93	473	213	326	1943	167	5647
0500-0600	97	695	181	59	1479	67	98	502	213	304	1971	166	5832

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

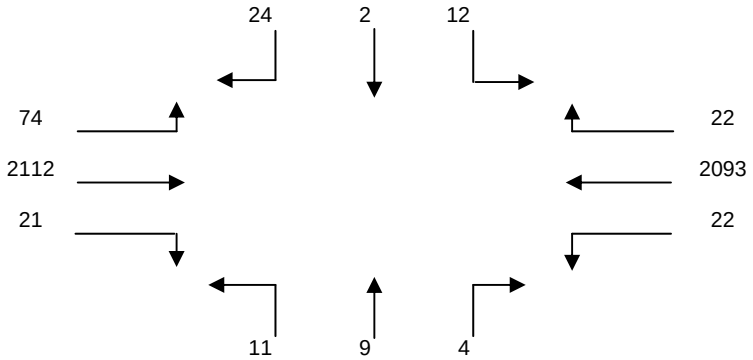
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: WEDNESDAY, APRIL 28, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S HELMS AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 10-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	5	1	1	3	314	3	2	0	0	1	236	8
0715-0730	5	2	4	4	461	5	1	0	0	1	319	10
0730-0745	6	1	3	4	526	4	0	0	2	2	413	11
0745-0800	11	1	6	2	531	7	0	1	5	3	438	14
0800-0815	5	1	2	4	502	6	1	0	5	6	537	16
0815-0830	5	0	4	3	549	3	0	4	2	3	517	16
0830-0845	6	0	4	5	522	5	0	2	2	7	512	18
0845-0900	8	1	2	10	520	8	3	3	2	5	546	24
0900-0915	4	1	2	10	478	8	1	1	4	10	475	22
0915-0930	2	1	2	5	461	7	1	0	6	5	419	22
0930-0945	2	1	2	6	422	3	2	2	3	5	345	17
0945-1000	4	2	2	10	414	5	1	2	3	3	331	12

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	27	5	14	13	1832	19	3	1	7	7	1406	43	3377
0715-0815	27	5	15	14	2020	22	2	1	12	12	1707	51	3888
0730-0830	27	3	15	13	2108	20	1	5	14	14	1905	57	4182
0745-0845	27	2	16	14	2104	21	1	7	14	19	2004	64	4293
0800-0900	24	2	12	22	2093	22	4	9	11	21	2112	74	4406
0815-0915	23	2	12	28	2069	24	4	10	10	25	2050	80	4337
0830-0930	20	3	10	30	1981	28	5	6	14	27	1952	86	4162
0845-0945	16	4	8	31	1881	26	7	6	15	25	1785	85	3889
0900-1000	12	5	8	31	1775	23	5	5	16	23	1570	73	3546

A.M. PEAK HOUR
0800-0900



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

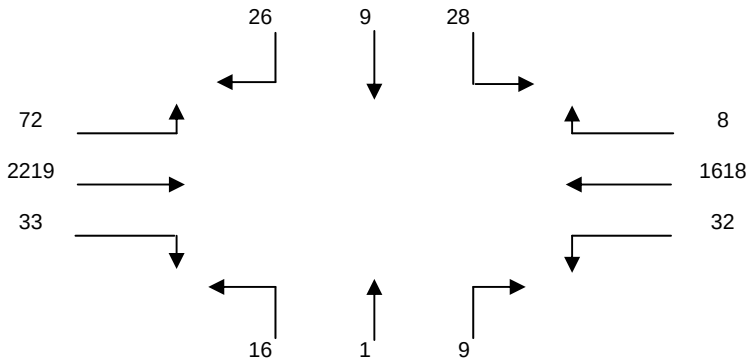
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: WEDNESDAY, APRIL 28, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S HELMS AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 10-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	7	2	2	2	344	9	2	1	6	6	393	13
0315-0330	3	2	4	1	339	11	3	2	4	10	457	14
0330-0345	6	1	3	1	326	6	2	3	5	16	492	17
0345-0400	5	2	5	1	341	5	4	1	9	12	508	20
0400-0415	8	0	5	2	337	6	8	2	5	9	475	16
0415-0430	8	0	4	3	354	4	5	0	5	5	590	19
0430-0445	8	0	2	1	385	7	3	1	7	8	478	19
0445-0500	4	1	4	2	340	8	2	1	8	7	577	19
0500-0515	4	2	6	5	389	9	4	0	5	10	504	19
0515-0530	6	2	6	2	442	7	2	0	2	11	520	19
0530-0545	8	2	7	0	370	8	1	1	4	7	582	16
0545-0600	8	3	9	1	417	8	2	0	5	5	613	18

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	21	7	14	5	1350	31	11	7	24	44	1850	64	3428
0315-0415	22	5	17	5	1343	28	17	8	23	47	1932	67	3514
0330-0430	27	3	17	7	1358	21	19	6	24	42	2065	72	3661
0345-0445	29	2	16	7	1417	22	20	4	26	34	2051	74	3702
0400-0500	28	1	15	8	1416	25	18	4	25	29	2120	73	3762
0415-0515	24	3	16	11	1468	28	14	2	25	30	2149	76	3846
0430-0530	22	5	18	10	1556	31	11	2	22	36	2079	76	3868
0445-0545	22	7	23	9	1541	32	9	2	19	35	2183	73	3955
0500-0600	26	9	28	8	1618	32	9	1	16	33	2219	72	4071

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

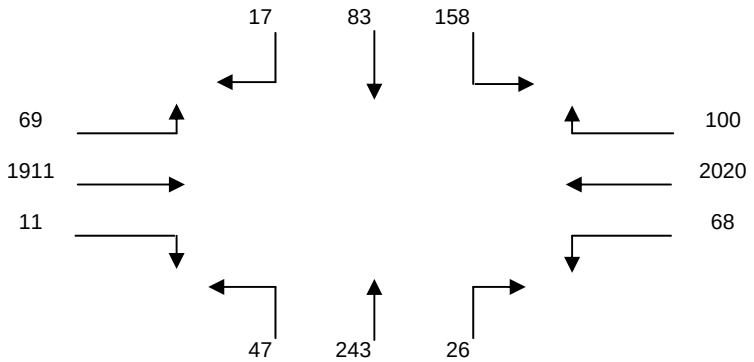
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: WEDNESDAY, APRIL 28, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S CATTARAUGUS AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 11-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	3	5	15	23	302	11	1	30	6	2	239	7
0715-0730	2	10	26	41	438	11	3	52	9	2	321	8
0730-0745	3	15	33	47	518	18	7	87	12	1	388	8
0745-0800	6	24	45	39	537	17	4	77	12	2	432	14
0800-0815	4	29	46	26	468	19	5	60	12	4	529	15
0815-0830	5	20	31	16	470	19	7	56	13	3	441	19
0830-0845	2	10	36	19	545	13	10	50	10	2	509	21
0845-0900	4	7	22	18	527	17	6	30	11	3	491	21
0900-0915	7	5	22	11	463	12	4	39	7	6	473	17
0915-0930	6	4	25	13	436	17	5	26	6	2	409	21
0930-0945	3	6	17	9	462	22	3	22	5	3	333	12
0945-1000	3	9	18	10	441	15	5	13	3	1	300	15

1 HOUR	1	2	3	4	5	6A	7	8	9	10	11	12A	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	14	54	119	150	1795	57	15	246	39	7	1380	37	3913
0715-0815	15	78	150	153	1961	65	19	276	45	9	1670	45	4486
0730-0830	18	88	155	128	1993	73	23	280	49	10	1790	56	4663
0745-0845	17	83	158	100	2020	68	26	243	47	11	1911	69	4753
0800-0900	15	66	135	79	2010	68	28	196	46	12	1970	76	4701
0815-0915	18	42	111	64	2005	61	27	175	41	14	1914	78	4550
0830-0930	19	26	105	61	1971	59	25	145	34	13	1882	80	4420
0845-0945	20	22	86	51	1888	68	18	117	29	14	1706	71	4090
0900-1000	19	24	82	43	1802	66	17	100	21	12	1515	65	3766

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

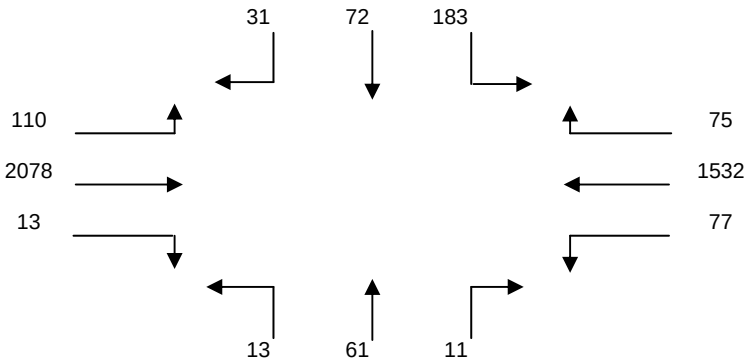
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: WEDNESDAY, APRIL 28, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S CATTARAUGUS AVENUE
E/W VENICE BOULEVARD
FILE NUMBER: 11-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	4	28	43	19	334	17	7	23	2	5	370	21
0315-0330	6	18	63	14	285	17	9	17	5	6	426	24
0330-0345	5	22	40	19	387	25	5	13	3	5	488	24
0345-0400	4	17	39	15	276	16	3	12	3	3	445	20
0400-0415	5	15	35	11	313	21	4	19	6	2	421	25
0415-0430	3	19	44	18	302	18	2	17	4	7	477	23
0430-0445	2	19	56	13	431	22	2	21	4	8	507	15
0445-0500	6	15	33	14	315	18	2	12	3	5	562	21
0500-0515	8	22	50	18	362	18	5	19	3	3	471	30
0515-0530	8	16	37	17	343	18	2	17	2	2	511	26
0530-0545	9	19	48	19	446	20	2	15	4	3	569	30
0545-0600	6	15	48	21	381	21	2	10	4	5	527	24

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6A WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12A EBLT	TOTALS
0300-0400	19	85	185	67	1282	75	24	65	13	19	1729	89	3633
0315-0415	20	72	177	59	1261	79	21	61	17	16	1780	93	3636
0330-0430	17	73	158	63	1278	80	14	61	16	17	1831	92	3683
0345-0445	14	70	174	57	1322	77	11	69	17	20	1850	83	3750
0400-0500	16	68	168	56	1361	79	10	69	17	22	1967	84	3901
0415-0515	19	75	183	63	1410	76	11	69	14	23	2017	89	4030
0430-0530	24	72	176	62	1451	76	11	69	12	18	2051	92	4090
0445-0545	31	72	168	68	1466	74	11	63	12	13	2113	107	4167
0500-0600	31	72	183	75	1532	77	11	61	13	13	2078	110	4225

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

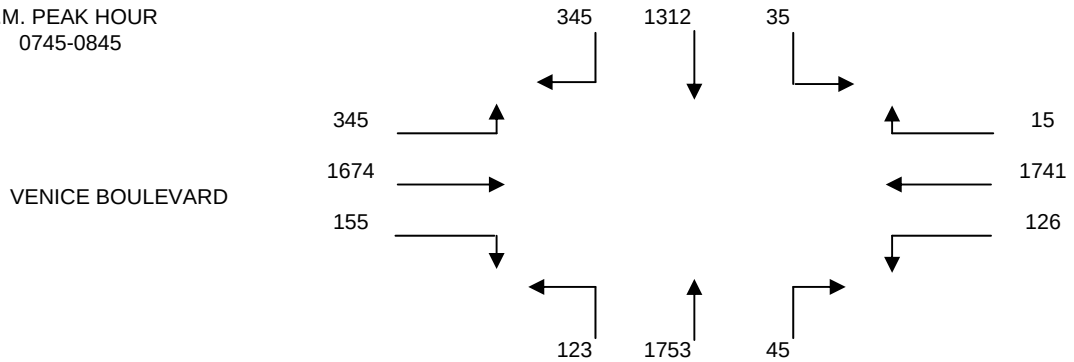
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S LA CIENEGA BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 12-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	54	221	3	4	292	21	12	400	22	13	206	47
0715-0730	62	222	4	4	370	22	9	390	37	20	300	60
0730-0745	66	265	6	7	469	30	7	401	40	31	321	66
0745-0800	81	315	7	4	436	34	13	455	36	39	333	88
0800-0815	86	395	9	3	455	31	14	443	33	49	444	82
0815-0830	92	304	9	5	405	39	8	409	24	36	442	87
0830-0845	86	298	10	3	445	22	10	446	30	31	455	88
0845-0900	112	301	16	7	390	34	6	427	25	24	399	55
0900-0915	113	279	10	6	401	28	7	372	24	22	395	81
0915-0930	108	258	10	4	333	31	6	305	18	24	351	67
0930-0945	72	259	11	6	351	33	5	289	18	24	325	51
0945-1000	99	266	15	3	322	29	8	298	22	21	230	44

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	263	1023	20	19	1567	107	41	1646	135	103	1160	261	6345
0715-0815	295	1197	26	18	1730	117	43	1689	146	139	1398	296	7094
0730-0830	325	1279	31	19	1765	134	42	1708	133	155	1540	323	7454
0745-0845	345	1312	35	15	1741	126	45	1753	123	155	1674	345	7669
0800-0900	376	1298	44	18	1695	126	38	1725	112	140	1740	312	7624
0815-0915	403	1182	45	21	1641	123	31	1654	103	113	1691	311	7318
0830-0930	419	1136	46	20	1569	115	29	1550	97	101	1600	291	6973
0845-0945	405	1097	47	23	1475	126	24	1393	85	94	1470	254	6493
0900-1000	392	1062	46	19	1407	121	26	1264	82	91	1301	243	6054

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

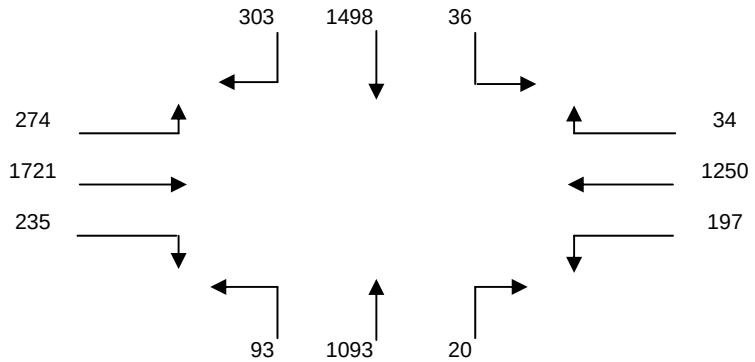
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S LA CIENEGA BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 12-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	92	318	7	8	247	35	5	242	28	48	298	86
0315-0330	86	344	11	12	249	55	10	242	22	76	330	72
0330-0345	61	305	13	7	238	43	7	251	17	52	364	53
0345-0400	71	316	18	8	271	37	8	255	17	65	391	56
0400-0415	70	332	11	6	239	59	6	248	22	55	382	74
0415-0430	72	390	8	8	284	56	8	279	15	40	367	74
0430-0445	86	404	13	6	262	42	5	280	21	66	380	60
0445-0500	90	386	9	5	259	48	7	261	20	53	449	63
0500-0515	67	370	8	5	293	39	10	268	15	69	400	63
0515-0530	82	410	12	6	328	54	5	277	21	52	446	71
0530-0545	78	387	10	10	290	52	3	275	29	54	431	71
0545-0600	76	331	6	13	339	52	2	273	28	60	444	69

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	310	1283	49	35	1005	170	30	990	84	241	1383	267	5847
0315-0415	288	1297	53	33	997	194	31	996	78	248	1467	255	5937
0330-0430	274	1343	50	29	1032	195	29	1033	71	212	1504	257	6029
0345-0445	299	1442	50	28	1056	194	27	1062	75	226	1520	264	6243
0400-0500	318	1512	41	25	1044	205	26	1068	78	214	1578	271	6380
0415-0515	315	1550	38	24	1098	185	30	1088	71	228	1596	260	6483
0430-0530	325	1570	42	22	1142	183	27	1086	77	240	1675	257	6646
0445-0545	317	1553	39	26	1170	193	25	1081	85	228	1726	268	6711
0500-0600	303	1498	36	34	1250	197	20	1093	93	235	1721	274	6754

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

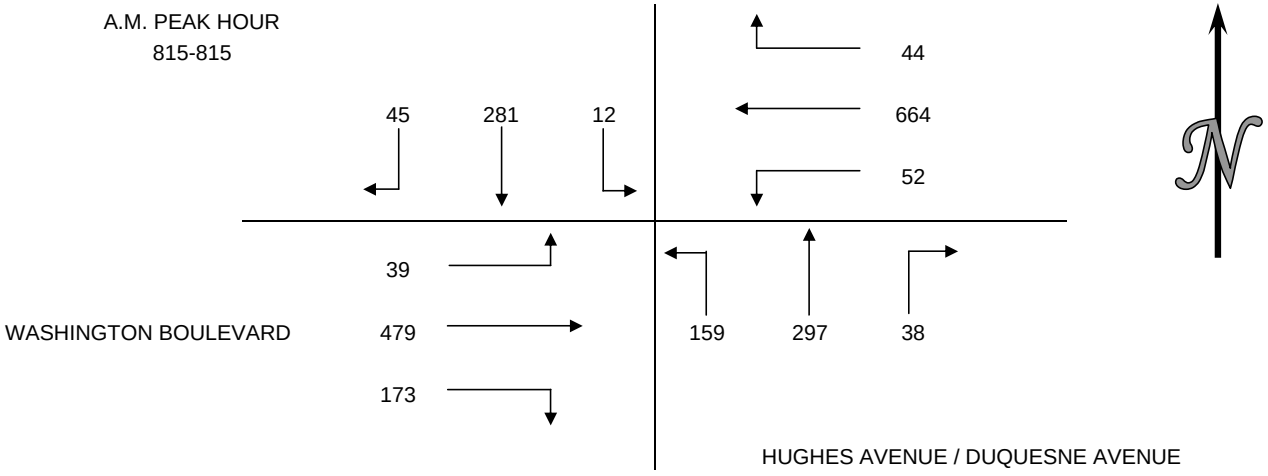
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 13 N/S HUGHES AVENUE / DUQUESNE AVENUE
E/W WASHINGTON BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	15	49	1	1	140	3	2	52	27	11	77	9	387
715-730	12	57	1	3	167	5	3	62	31	18	80	10	449
730-745	13	66	1	3	173	6	1	69	38	21	98	12	501
745-800	4	74	2	2	168	6	7	74	35	27	113	9	521
800-815	18	70	2	3	167	9	5	66	35	33	109	7	524
815-830	13	55	5	11	157	3	14	69	38	39	127	15	546
830-845	9	71	2	16	180	14	6	84	41	35	103	7	568
845-900	11	86	4	8	167	15	9	77	40	45	118	5	585
900-915	12	69	1	9	160	20	9	67	40	54	131	12	584
915-930	8	59	2	9	144	17	3	61	37	43	100	12	495
930-945	12	43	3	3	129	10	3	38	30	38	83	8	400
945-1000	7	58	3	4	130	13	8	47	34	26	62	6	398

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	44	246	5	9	648	20	13	257	131	77	368	40	1858
715-815	47	267	6	11	675	26	16	271	139	99	400	38	1995
730-830	48	265	10	19	665	24	27	278	146	120	447	43	2092
745-845	44	270	11	32	672	32	32	293	149	134	452	38	2159
800-900	51	282	13	38	671	41	34	296	154	152	457	34	2223
815-815	45	281	12	44	664	52	38	297	159	173	479	39	2283
830-930	40	285	9	42	651	66	27	289	158	177	452	36	2232
845-945	43	257	10	29	600	62	24	243	147	180	432	37	2064
900-1000	39	229	9	25	563	60	23	213	141	161	376	38	1877



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 13 N/S HUGHES AVENUE / DUQUESNE AVENUE
E/W WASHINGTON BOULEVARD

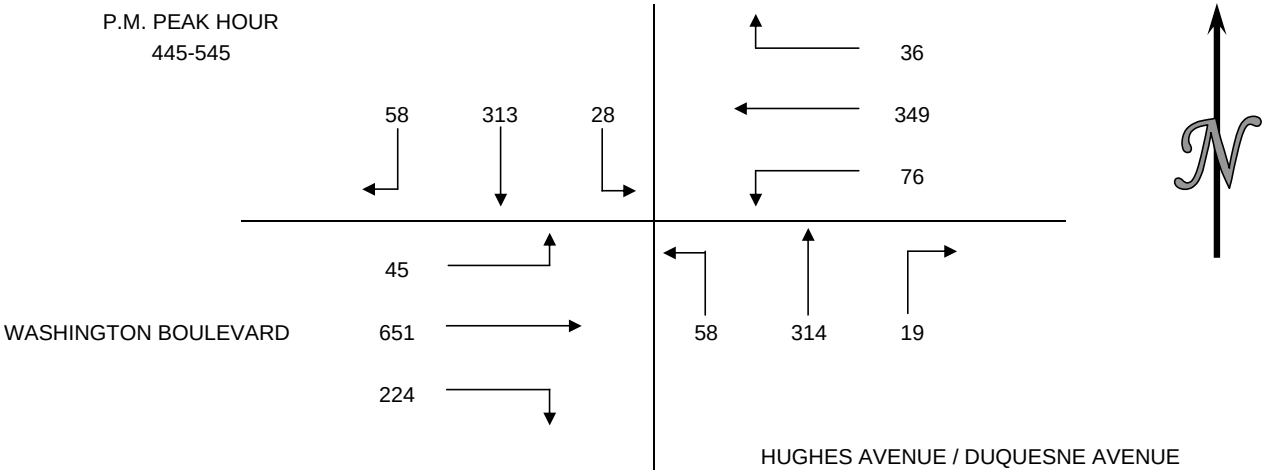
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	11	56	3	9	89	8	5	66	18	47	149	15	476
315-330	7	60	1	9	91	14	6	55	14	47	108	8	420
330-345	10	69	1	1	82	9	4	71	17	48	138	9	459
345-400	8	47	6	1	97	13	4	58	14	45	153	12	458
400-415	17	63	5	6	101	11	3	76	5	54	165	12	518
415-430	8	79	2	8	84	26	4	75	16	46	133	3	484
430-445	17	60	7	15	87	28	5	80	11	49	129	14	502
445-500	21	77	6	7	97	18	3	87	13	50	155	20	554
500-515	14	83	9	7	75	24	9	87	15	53	191	11	578
515-530	10	71	8	9	91	19	5	74	21	63	153	6	530
530-545	13	82	5	13	86	15	2	66	9	58	152	8	509
545-600	23	93	12	16	95	14	8	82	13	54	127	7	544

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	36	232	11	20	359	44	19	250	63	187	548	44	1813
315-415	42	239	13	17	371	47	17	260	50	194	564	41	1855
330-430	43	258	14	16	364	59	15	280	52	193	589	36	1919
345-445	50	249	20	30	369	78	16	289	46	194	580	41	1962
400-500	63	279	20	36	369	83	15	318	45	199	582	49	2058
415-515	60	299	24	37	343	96	21	329	55	198	608	48	2118
430-530	62	291	30	38	350	89	22	328	60	215	628	51	2164
445-545	58	313	28	36	349	76	19	314	58	224	651	45	2171
500-600	60	329	34	45	347	72	24	309	58	228	623	32	2161

P.M. PEAK HOUR
445-545



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

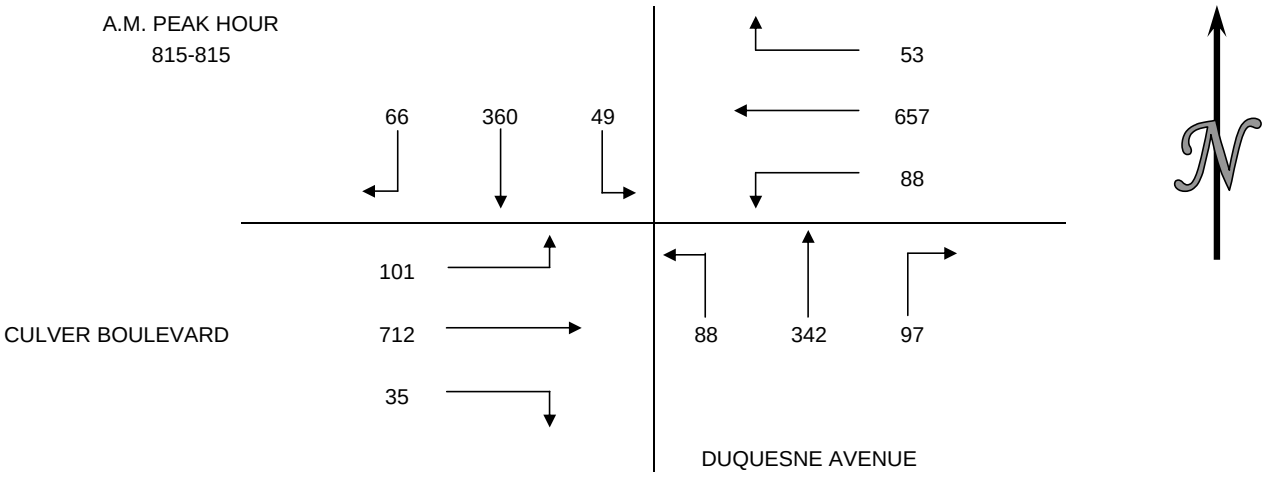
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 14 N/S DUQUESNE AVENUE
E/W CULVER BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	19	37	15	7	133	15	21	47	24	16	98	21	453
715-730	25	49	12	19	146	20	33	65	32	18	111	27	557
730-745	22	68	17	12	140	38	42	82	28	10	125	35	619
745-800	11	54	8	10	117	28	15	72	22	11	133	20	501
800-815	16	80	5	11	131	21	19	90	27	13	149	17	579
815-830	20	97	7	5	164	21	15	91	23	6	169	18	636
830-845	19	88	21	16	178	30	40	72	26	5	188	26	709
845-900	10	83	9	16	161	16	25	101	19	11	191	29	671
900-915	17	92	12	16	154	21	17	78	20	13	164	28	632
915-930	14	87	17	5	136	26	19	65	34	3	139	17	562
930-945	12	84	16	6	132	20	26	74	20	7	116	7	520
945-1000	16	68	14	2	104	16	15	70	26	5	108	12	456

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	77	208	52	48	536	101	111	266	106	55	467	103	2130
715-815	74	251	42	52	534	107	109	309	109	52	518	99	2256
730-830	69	299	37	38	552	108	91	335	100	40	576	90	2335
745-845	66	319	41	42	590	100	89	325	98	35	639	81	2425
800-900	65	348	42	48	634	88	99	354	95	35	697	90	2595
815-815	66	360	49	53	657	88	97	342	88	35	712	101	2648
830-930	60	350	59	53	629	93	101	316	99	32	682	100	2574
845-945	53	346	54	43	583	83	87	318	93	34	610	81	2385
900-1000	59	331	59	29	526	83	77	287	100	28	527	64	2170



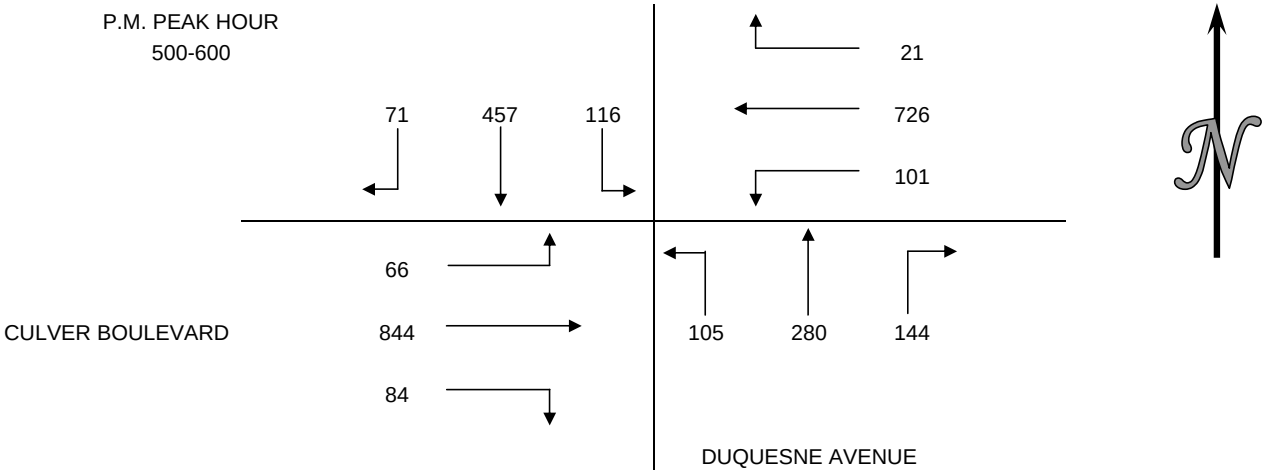
WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 14 N/S DUQUESNE AVENUE
E/W CULVER BOULEVARD

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	19	73	21	12	115	32	39	51	20	19	123	13	537
315-330	16	82	26	10	138	45	47	62	37	24	144	9	640
330-345	14	70	23	11	158	27	34	42	21	19	163	16	598
345-400	12	91	18	13	152	34	37	49	26	17	170	14	633
400-415	14	111	13	8	162	19	25	58	16	12	207	13	658
415-430	18	115	25	4	155	31	36	65	20	29	174	10	682
430-445	9	104	16	4	136	18	26	72	15	11	190	10	611
445-500	11	92	21	3	156	19	32	89	19	14	211	14	681
500-515	14	125	15	9	183	29	34	79	26	15	248	12	789
515-530	19	105	38	3	172	17	26	66	20	25	192	22	705
530-545	25	114	34	4	199	25	42	70	30	23	185	11	762
545-600	13	113	29	5	172	30	42	65	29	21	219	21	759
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	61	316	88	46	563	138	157	204	104	79	600	52	2408
315-415	56	354	80	42	610	125	143	211	100	72	684	52	2529
330-430	58	387	79	36	627	111	132	214	83	77	714	53	2571
345-445	53	421	72	29	605	102	124	244	77	69	741	47	2584
400-500	52	422	75	19	609	87	119	284	70	66	782	47	2632
415-515	52	436	77	20	630	97	128	305	80	69	823	46	2763
430-530	53	426	90	19	647	83	118	306	80	65	841	58	2786
445-545	69	436	108	19	710	90	134	304	95	77	836	59	2937
500-600	71	457	116	21	726	101	144	280	105	84	844	66	3015



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

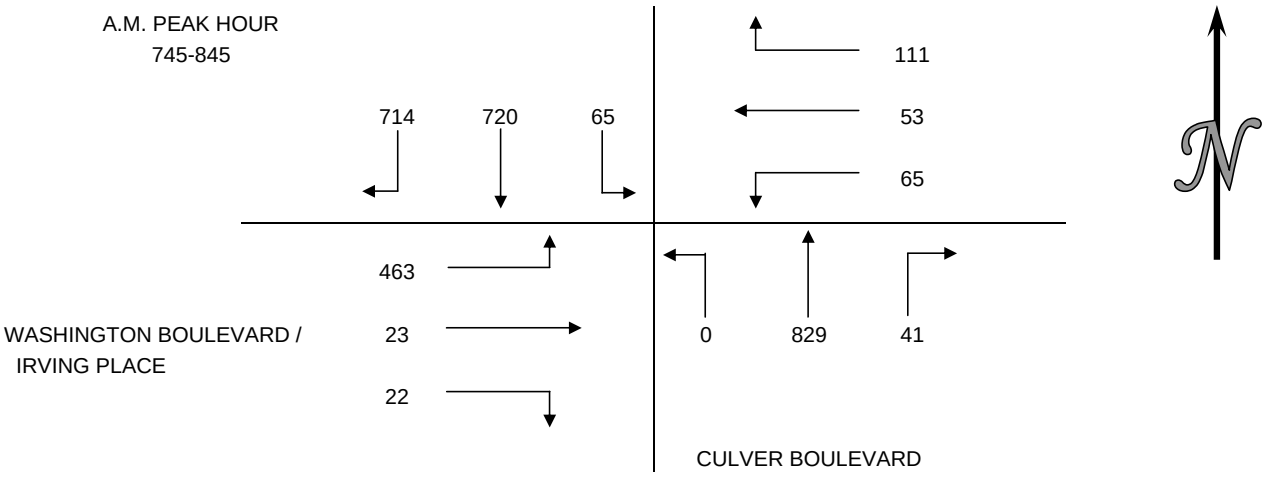
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 15 N/S CULVER BOULEVARD
E/W WASHINGTON BOULEVARD / IRVING PLACE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	145	126	6	15	3	6	1	122	0	1	0	78	503
715-730	154	151	3	18	7	3	7	146	0	3	1	84	577
730-745	194	161	9	16	7	9	3	181	0	0	3	103	686
745-800	169	195	14	17	5	14	9	199	0	6	9	119	756
800-815	186	188	17	26	14	17	16	221	0	2	7	101	795
815-830	170	151	29	32	20	29	11	197	0	11	7	114	771
830-845	189	186	5	36	14	5	5	212	0	3	0	129	784
845-900	181	169	8	7	4	8	3	193	0	4	3	119	699
900-915	184	180	6	17	6	6	5	202	0	3	3	119	731
915-930	146	141	13	10	12	13	1	185	0	5	2	103	631
930-945	135	120	6	14	4	6	2	169	0	2	0	96	554
945-1000	137	139	15	5	5	15	0	122	0	2	3	82	525

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	662	633	32	66	22	32	20	648	0	10	13	384	2522
715-815	703	695	43	77	33	43	35	747	0	11	20	407	2814
730-830	719	695	69	91	46	69	39	798	0	19	26	437	3008
745-845	714	720	65	111	53	65	41	829	0	22	23	463	3106
800-900	726	694	59	101	52	59	35	823	0	20	17	463	3049
815-815	724	686	48	92	44	48	24	804	0	21	13	481	2985
830-930	700	676	32	70	36	32	14	792	0	15	8	470	2845
845-945	646	610	33	48	26	33	11	749	0	14	8	437	2615
900-1000	602	580	40	46	27	40	8	678	0	12	8	400	2441



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

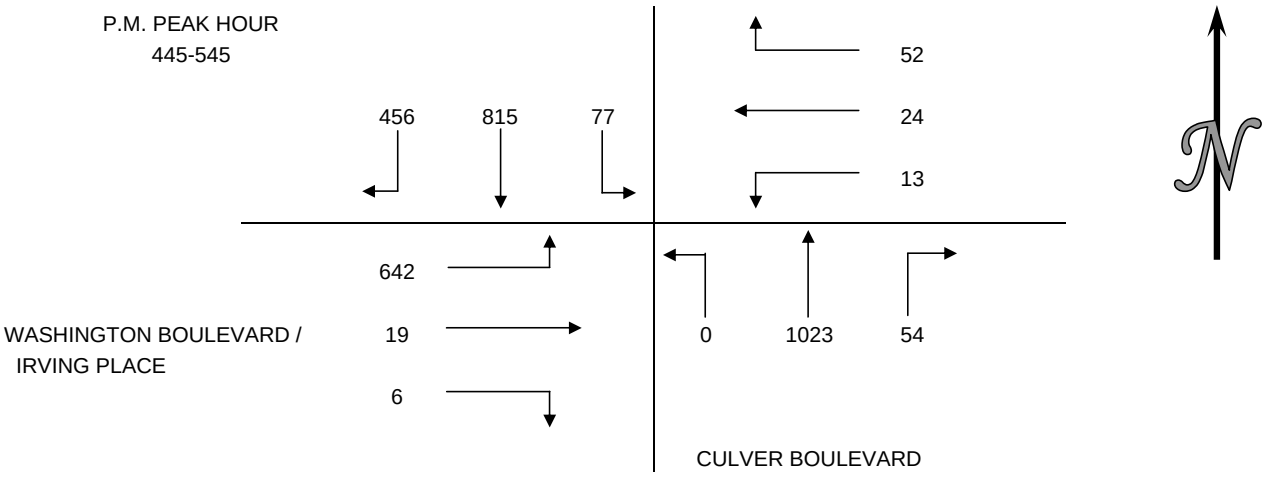
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY OCTOBER 2, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 15 N/S CULVER BOULEVARD
E/W WASHINGTON BOULEVARD / IRVING PLACE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	88	156	11	29	18	6	16	186	0	1	2	132	645
315-330	107	192	14	19	14	3	7	198	0	4	3	160	721
330-345	97	179	9	23	10	6	7	189	0	1	1	126	648
345-400	82	157	14	15	8	5	7	202	0	2	6	139	637
400-415	109	166	11	11	6	4	12	233	0	1	5	138	696
415-430	122	171	14	6	2	4	5	220	0	0	6	147	697
430-445	113	183	17	18	17	5	7	234	0	3	2	175	774
445-500	123	192	17	10	4	1	13	240	0	0	3	158	761
500-515	102	221	9	12	11	2	18	250	0	1	6	154	786
515-530	110	190	21	12	5	8	12	288	0	5	6	161	818
530-545	121	212	30	18	4	2	11	245	0	0	4	169	816
545-600	100	190	17	14	5	3	8	238	0	2	3	179	759

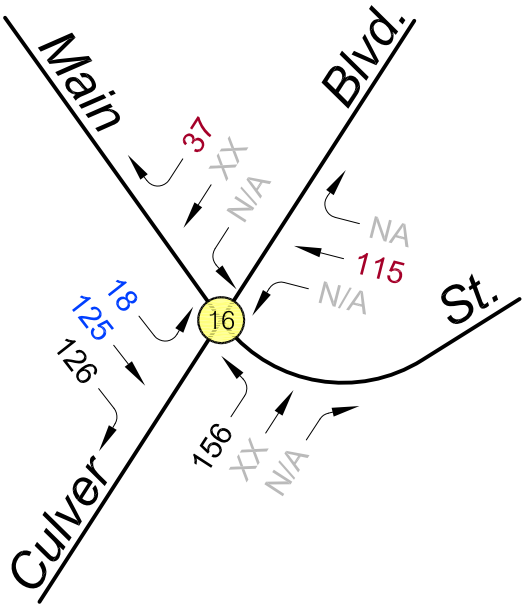
HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	374	684	48	86	50	20	37	775	0	8	12	557	2651
315-415	395	694	48	68	38	18	33	822	0	8	15	563	2702
330-430	410	673	48	55	26	19	31	844	0	4	18	550	2678
345-445	426	677	56	50	33	18	31	889	0	6	19	599	2804
400-500	467	712	59	45	29	14	37	927	0	4	16	618	2928
415-515	460	767	57	46	34	12	43	944	0	4	17	634	3018
430-530	448	786	64	52	37	16	50	1012	0	9	17	648	3139
445-545	456	815	77	52	24	13	54	1023	0	6	19	642	3181
500-600	433	813	77	56	25	15	49	1021	0	8	19	663	3179

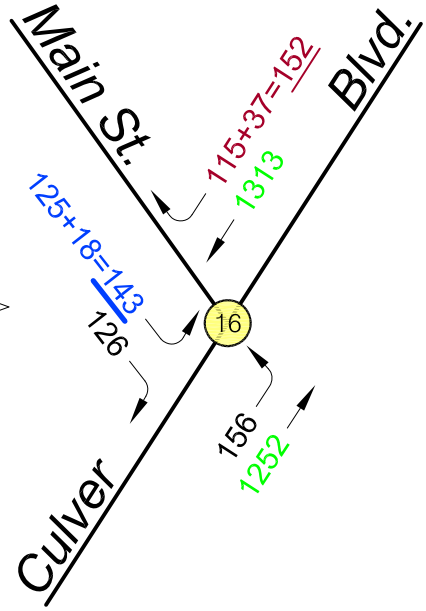


WASHINGTON-NATIONAL EMC (CULVER CITY) \ IINT #16 EX-VOLS

2007 KOA SPECIFIC PLAN STUDY VOLUMES



2008 HIRSCH/GREEN STUDY VOLUMES



XX = INTERPOLATED FROM ADJACENT INTERSECTIONS

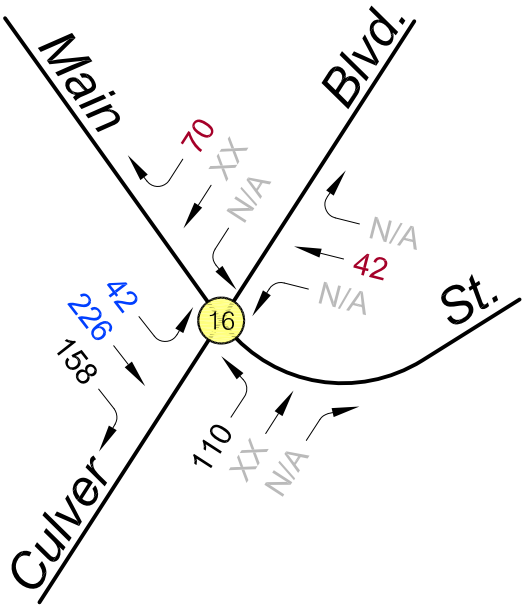
3/17/2009

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

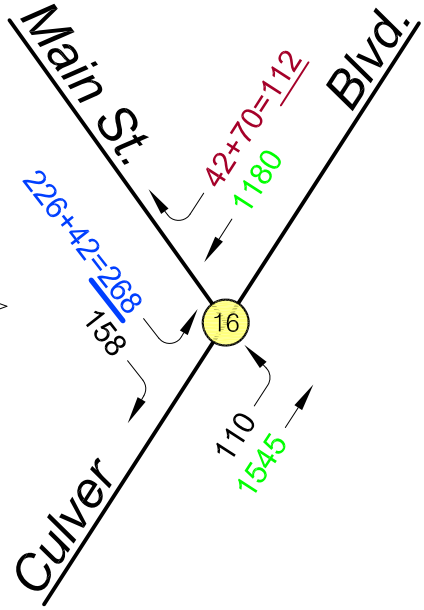
DEVELOPMENT OF EXISTING TRAFFIC VOLUMES AT
CULVER BOULEVARD AND MAIN STREET
AM PEAK HOUR

WASHINGTON-NATIONAL EMC (CULVER CITY) \ IINT #16 EX-VOLS

2007 KOA SPECIFIC PLAN STUDY VOLUMES



2008 HIRSCH/GREEN STUDY VOLUMES



XX = INTERPOLATED FROM ADJACENT INTERSECTIONS

3/17/2009

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

DEVELOPMENT OF EXISTING TRAFFIC VOLUMES AT
CULVER BOULEVARD AND MAIN STREET
PM PEAK HOUR

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 17 N/S CULVER BOULEVARD
E/W WASHINGTON BOULEVARD / CANFIELD AVENUE

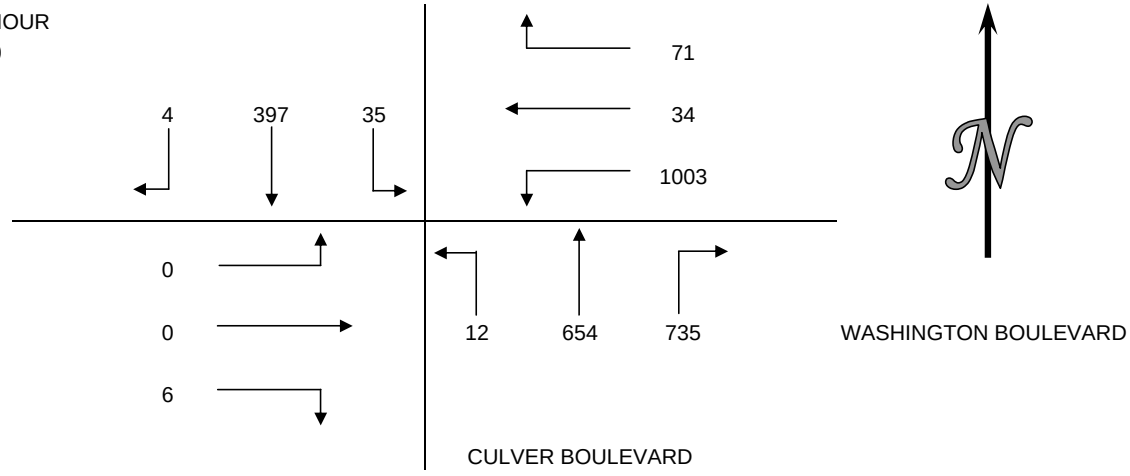
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	1	70	5	9	2	192	97	105	2	0	2	2	487
715-730	0	85	1	8	2	241	100	129	0	0	0	0	566
730-745	0	100	5	12	3	277	154	130	4	0	0	0	685
745-800	1	106	8	11	2	239	151	134	5	0	0	0	657
800-815	0	109	9	18	8	249	170	154	2	0	0	0	719
815-830	1	90	8	18	5	255	162	169	1	0	0	0	709
830-845	2	103	9	25	9	246	215	164	5	0	0	0	778
845-900	1	95	9	10	12	253	188	167	4	6	0	0	745
900-915	0	100	12	9	7	234	161	149	2	0	0	0	674
915-930	4	85	11	13	11	201	131	166	6	1	0	0	629
930-945	4	72	13	19	2	239	117	149	4	2	0	0	621
945-1000	2	88	8	6	3	199	112	114	1	1	0	1	535

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	2	361	19	40	9	949	502	498	11	0	2	2	2395
715-815	1	400	23	49	15	1006	575	547	11	0	0	0	2627
730-830	2	405	30	59	18	1020	637	587	12	0	0	0	2770
745-845	4	408	34	72	24	989	698	621	13	0	0	0	2863
800-900	4	397	35	71	34	1003	735	654	12	6	0	0	2951
815-815	4	388	38	62	33	988	726	649	12	6	0	0	2906
830-930	7	383	41	57	39	934	695	646	17	7	0	0	2826
845-945	9	352	45	51	32	927	597	631	16	9	0	0	2669
900-1000	10	345	44	47	23	873	521	578	13	4	0	1	2459

A.M. PEAK HOUR
800-900



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 17 N/S CULVER BOULEVARD
E/W WASHINGTON BOULEVARD / CANFIELD AVENUE

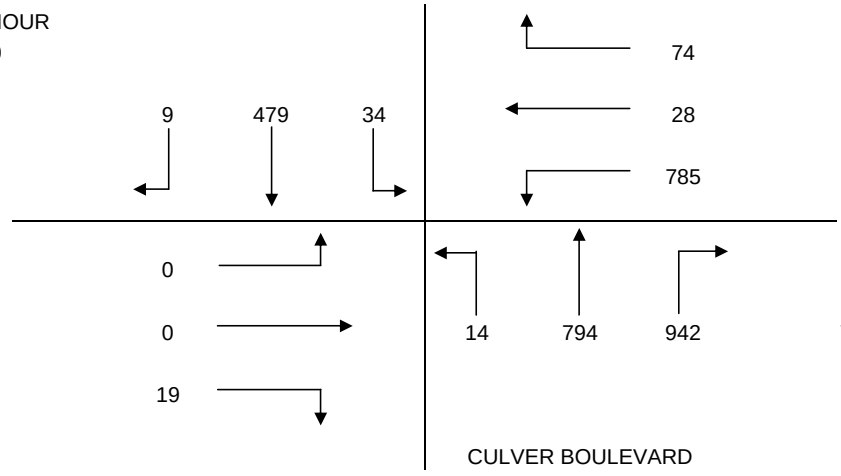
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	10	99	19	19	7	170	162	143	4	3	0	0	636
315-330	3	101	9	20	8	160	181	179	7	1	0	0	669
330-345	3	113	10	16	7	153	207	158	2	3	0	0	672
345-400	1	109	9	13	7	147	228	173	1	2	0	0	690
400-415	4	109	7	13	5	150	206	168	3	3	0	0	668
415-430	5	131	12	18	6	186	228	200	6	2	0	0	794
430-445	5	121	9	23	5	170	212	177	3	2	0	0	727
445-500	3	132	9	12	7	199	207	198	4	10	0	0	781
500-515	1	125	4	21	7	180	213	199	4	6	0	0	760
515-530	4	120	12	13	8	195	242	178	3	2	0	0	777
530-545	3	128	11	14	5	191	235	212	3	2	0	0	804
545-600	1	106	7	26	8	219	252	205	4	9	0	0	837

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	17	422	47	68	29	630	778	653	14	9	0	0	2667
315-415	11	432	35	62	27	610	822	678	13	9	0	0	2699
330-430	13	462	38	60	25	636	869	699	12	10	0	0	2824
345-445	15	470	37	67	23	653	874	718	13	9	0	0	2879
400-500	17	493	37	66	23	705	853	743	16	17	0	0	2970
415-515	14	509	34	74	25	735	860	774	17	20	0	0	3062
430-530	13	498	34	69	27	744	874	752	14	20	0	0	3045
445-545	11	505	36	60	27	765	897	787	14	20	0	0	3122
500-600	9	479	34	74	28	785	942	794	14	19	0	0	3178

P.M. PEAK HOUR
500-600



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 18 N/S ROBERTSON BOULEVARD / HIGUERA STREET
E/W WASHINGTON BOULEVARD

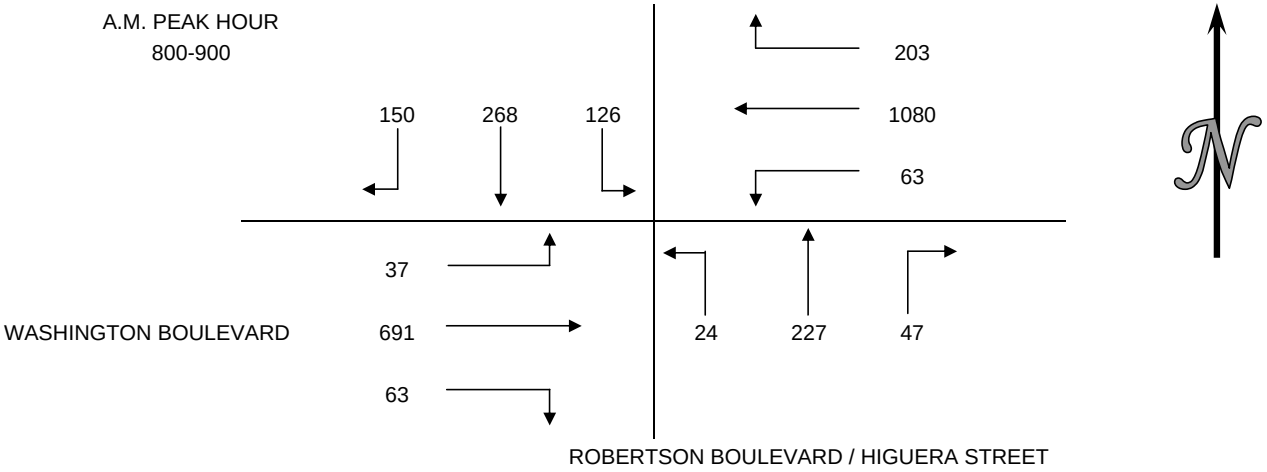
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	15	27	9	60	230	12	10	46	4	6	94	16	529
715-730	16	23	11	68	265	14	18	58	5	8	115	8	609
730-745	22	44	25	71	281	14	13	76	5	9	106	11	677
745-800	33	30	26	46	257	23	9	46	2	9	144	6	631
800-815	29	44	35	71	249	18	16	68	8	13	178	6	735
815-830	38	57	29	50	271	21	7	55	5	19	183	7	742
830-845	52	74	41	30	282	14	10	59	4	16	169	13	764
845-900	31	93	21	52	278	10	14	45	7	15	161	11	738
900-915	45	101	22	52	231	22	10	59	11	13	129	18	713
915-930	31	85	20	42	219	28	6	46	9	24	103	4	617
930-945	39	75	21	37	197	18	6	37	4	10	94	13	551
945-1000	21	56	24	28	210	12	10	22	8	21	88	17	517

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	86	124	71	245	1033	63	50	226	16	32	459	41	2446
715-815	100	141	97	256	1052	69	56	248	20	39	543	31	2652
730-830	122	175	115	238	1058	76	45	245	20	50	611	30	2785
745-845	152	205	131	197	1059	76	42	228	19	57	674	32	2872
800-900	150	268	126	203	1080	63	47	227	24	63	691	37	2979
815-815	166	325	113	184	1062	67	41	218	27	63	642	49	2957
830-930	159	353	104	176	1010	74	40	209	31	68	562	46	2832
845-945	146	354	84	183	925	78	36	187	31	62	487	46	2619
900-1000	136	317	87	159	857	80	32	164	32	68	414	52	2398

A.M. PEAK HOUR
800-900



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 18 N/S ROBERTSON BOULEVARD / HIGUERA STREET
E/W WASHINGTON BOULEVARD

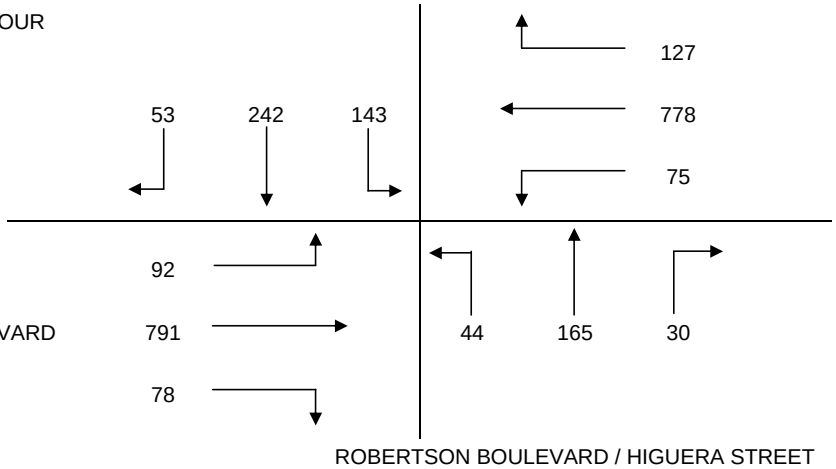
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	24	52	33	26	138	12	9	35	8	13	135	13	498
315-330	18	55	22	37	143	14	15	40	13	16	173	15	561
330-345	24	59	37	34	152	8	7	47	16	9	196	17	606
345-400	10	54	52	34	163	6	11	36	16	13	185	14	594
400-415	18	62	41	25	173	13	3	36	10	12	161	13	567
415-430	22	39	60	37	179	12	3	38	3	9	201	12	615
430-445	14	47	43	32	166	7	6	31	7	6	191	18	568
445-500	22	61	49	21	182	8	6	38	11	9	218	17	642
500-515	8	46	41	39	203	19	13	53	14	11	193	20	660
515-530	18	57	38	20	187	19	10	49	6	20	212	24	660
530-545	12	58	27	35	196	23	5	44	10	39	177	25	651
545-600	15	81	37	33	192	14	2	19	14	8	209	23	647

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	76	220	144	131	596	40	42	158	53	51	689	59	2259
315-415	70	230	152	130	631	41	36	159	55	50	715	59	2328
330-430	74	214	190	130	667	39	24	157	45	43	743	56	2382
345-445	64	202	196	128	681	38	23	141	36	40	738	57	2344
400-500	76	209	193	115	700	40	18	143	31	36	771	60	2392
415-515	66	193	193	129	730	46	28	160	35	35	803	67	2485
430-530	62	211	171	112	738	53	35	171	38	46	814	79	2530
445-545	60	222	155	115	768	69	34	184	41	79	800	86	2613
500-600	53	242	143	127	778	75	30	165	44	78	791	92	2618

P.M. PEAK HOUR
500-600



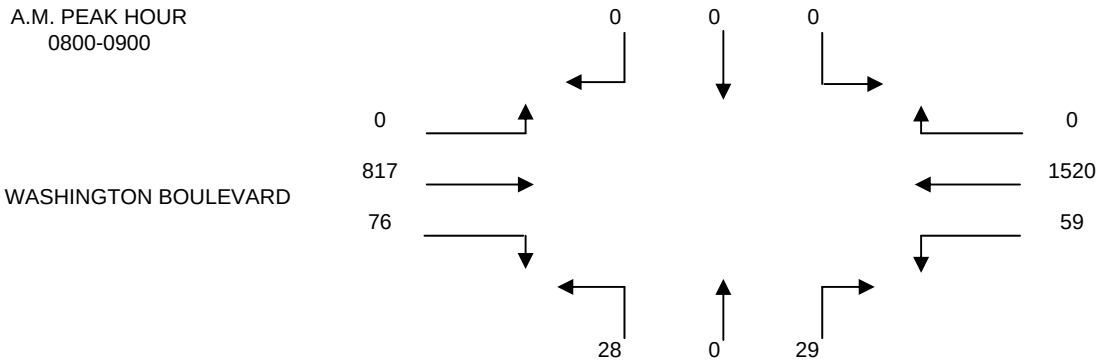
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: TUESDAY, OCTOBER 07, 2008
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S LANDMARK STREET
E/W WASHINGTON BOULEVARD
FILE NUMBER: 19-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	0	0	0	0	243	11	4	0	1	5	62	0
0715-0730	0	0	0	0	307	17	7	0	2	5	100	0
0730-0745	0	0	0	0	300	22	7	0	5	8	125	0
0745-0800	0	0	0	0	330	14	3	0	4	11	146	0
0800-0815	0	0	0	0	420	14	4	0	5	17	182	0
0815-0830	0	0	0	0	357	14	7	0	7	22	215	0
0830-0845	0	0	0	0	358	19	12	0	11	21	200	0
0845-0900	0	0	0	0	385	12	6	0	5	16	220	0
0900-0915	0	0	0	0	344	10	7	0	6	12	160	0
0915-0930	0	0	0	0	266	10	4	0	7	10	185	0
0930-0945	0	0	0	0	350	7	5	0	4	10	151	0
0940-1000	0	0	0	0	300	6	4	0	7	8	135	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	0	0	0	0	1180	64	21	0	12	29	433	0	1739
0715-0815	0	0	0	0	1357	67	21	0	16	41	553	0	2055
0730-0830	0	0	0	0	1407	64	21	0	21	58	668	0	2239
0745-0845	0	0	0	0	1465	61	26	0	27	71	743	0	2393
0800-0900	0	0	0	0	1520	59	29	0	28	76	817	0	2529
0815-0915	0	0	0	0	1444	55	32	0	29	71	795	0	2426
0830-0930	0	0	0	0	1353	51	29	0	29	59	765	0	2286
0845-0945	0	0	0	0	1345	39	22	0	22	48	716	0	2192
0900-1000	0	0	0	0	1260	33	20	0	24	40	631	0	2008

A.M. PEAK HOUR
0800-0900



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

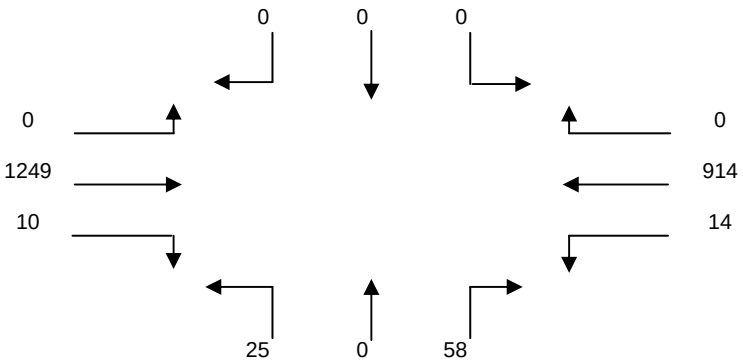
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
DATE: THURSDAY, OCTOBER 02, 2008
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S LANDMARK STREET
E/W WASHINGTON BOULEVARD
FILE NUMBER: 19-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	0	0	0	0	134	4	19	0	16	9	219	0
0315-0330	0	0	0	0	144	5	13	0	10	7	245	0
0330-0345	0	0	0	0	168	8	11	0	8	5	247	0
0345-0400	0	0	0	0	161	10	22	0	10	5	223	0
0400-0415	0	0	0	0	182	8	26	0	11	3	292	0
0415-0430	0	0	0	0	160	6	15	0	8	3	237	0
0430-0445	0	0	0	0	193	4	22	0	15	4	268	0
0445-0500	0	0	0	0	167	2	13	0	8	2	212	0
0500-0515	0	0	0	0	210	5	17	0	8	4	263	0
0515-0530	0	0	0	0	225	2	13	0	7	2	356	0
0530-0545	0	0	0	0	251	5	16	0	6	3	342	0
0545-0600	0	0	0	0	228	2	12	0	4	1	288	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	0	0	0	0	607	27	65	0	44	26	934	0	1703
0315-0415	0	0	0	0	655	31	72	0	39	20	1007	0	1824
0330-0430	0	0	0	0	671	32	74	0	37	16	999	0	1829
0345-0445	0	0	0	0	696	28	85	0	44	15	1020	0	1888
0400-0500	0	0	0	0	702	20	76	0	42	12	1009	0	1861
0415-0515	0	0	0	0	730	17	67	0	39	13	980	0	1846
0430-0530	0	0	0	0	795	13	65	0	38	12	1099	0	2022
0445-0545	0	0	0	0	853	14	59	0	29	11	1173	0	2139
0500-0600	0	0	0	0	914	14	58	0	25	10	1249	0	2270

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

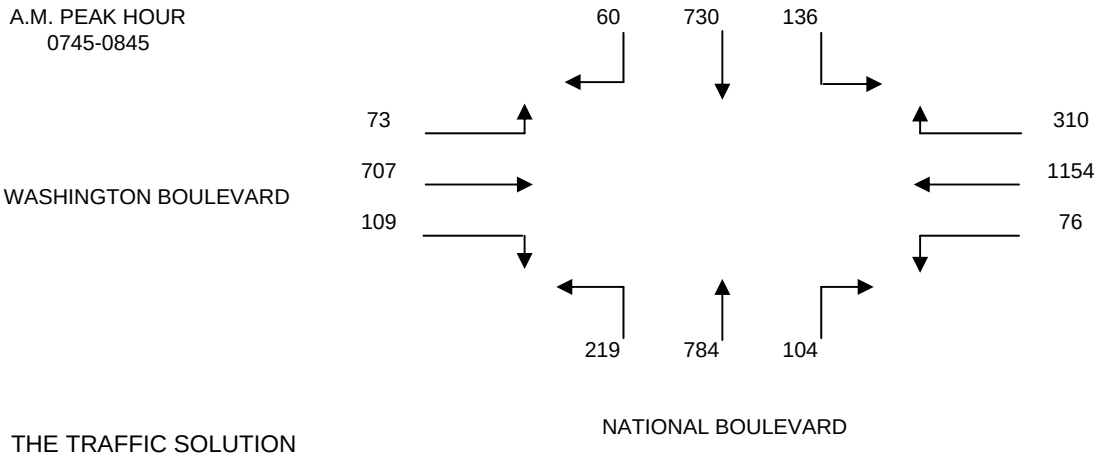
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S NATIONAL BOULEVARD
E/W WASHINGTON BOULEVARD
FILE NUMBER: 20-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	5	75	10	76	233	9	9	190	55	10	99	9
0715-0730	10	80	13	101	250	9	11	201	62	11	100	10
0730-0745	9	134	27	85	296	13	13	227	50	10	121	11
0745-0800	13	154	30	72	302	15	27	212	53	19	141	12
0800-0815	14	204	30	83	308	20	22	192	57	27	191	19
0815-0830	17	189	35	85	271	23	31	194	60	31	202	19
0830-0845	16	183	41	70	273	18	24	186	49	32	173	23
0845-0900	14	173	33	67	245	22	22	173	43	26	162	17
0900-0915	14	173	32	69	271	28	21	180	42	27	123	16
0915-0930	15	191	25	54	251	23	15	199	39	25	125	17
0930-0945	13	188	23	53	251	21	19	201	33	23	105	18
0945-1000	10	166	22	51	244	22	20	198	31	17	101	14

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	37	443	80	334	1081	46	60	830	220	50	461	42	3684
0715-0815	46	572	100	341	1156	57	73	832	222	67	553	52	4071
0730-0830	53	681	122	325	1177	71	93	825	220	87	655	61	4370
0745-0845	60	730	136	310	1154	76	104	784	219	109	707	73	4462
0800-0900	61	749	139	305	1097	83	99	745	209	116	728	78	4409
0815-0915	61	718	141	291	1060	91	98	733	194	116	660	75	4238
0830-0930	59	720	131	260	1040	91	82	738	173	110	583	73	4060
0845-0945	56	725	113	243	1018	94	77	753	157	101	515	68	3920
0900-1000	52	718	102	227	1017	94	75	778	145	92	454	65	3819

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

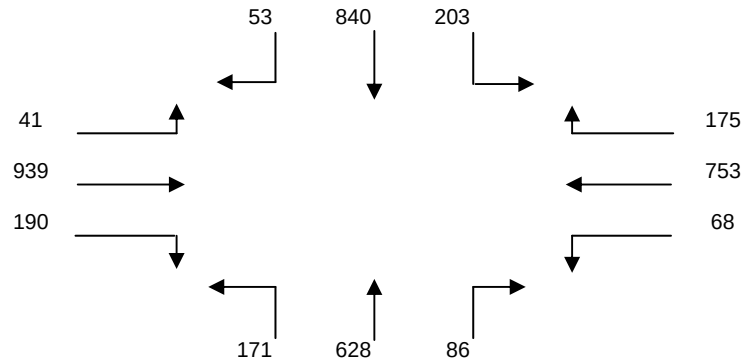
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S NATIONAL BOULEVARD
E/W WASHINGTON BOULEVARD
FILE NUMBER: 20-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	11	181	41	52	139	14	10	131	46	40	130	17
0315-0330	10	193	63	42	141	17	19	140	54	50	181	13
0330-0345	10	171	62	59	155	12	22	142	31	57	180	14
0345-0400	14	202	58	49	140	13	15	120	38	35	173	11
0400-0415	11	186	41	41	142	18	17	133	44	51	194	9
0415-0430	9	188	65	58	159	21	14	145	39	38	208	9
0430-0445	9	195	53	36	183	16	18	153	35	46	209	11
0445-0500	10	192	53	36	201	14	13	158	43	30	180	11
0500-0515	16	197	50	39	194	13	20	147	31	50	222	8
0515-0530	14	206	47	37	181	18	25	130	41	43	220	10
0530-0545	10	223	56	56	206	21	25	168	49	54	261	14
0545-0600	13	214	50	43	172	16	16	183	50	43	236	9

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	45	747	224	202	575	56	66	533	169	182	664	55	3518
0315-0415	45	752	224	191	578	60	73	535	167	193	728	47	3593
0330-0430	44	747	226	207	596	64	68	540	152	181	755	43	3623
0345-0445	43	771	217	184	624	68	64	551	156	170	784	40	3672
0400-0500	39	761	212	171	685	69	62	589	161	165	791	40	3745
0415-0515	44	772	221	169	737	64	65	603	148	164	819	39	3845
0430-0530	49	790	203	148	759	61	76	588	150	169	831	40	3864
0445-0545	50	818	206	168	782	66	83	603	164	177	883	43	4043
0500-0600	53	840	203	175	753	68	86	628	171	190	939	41	4147

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

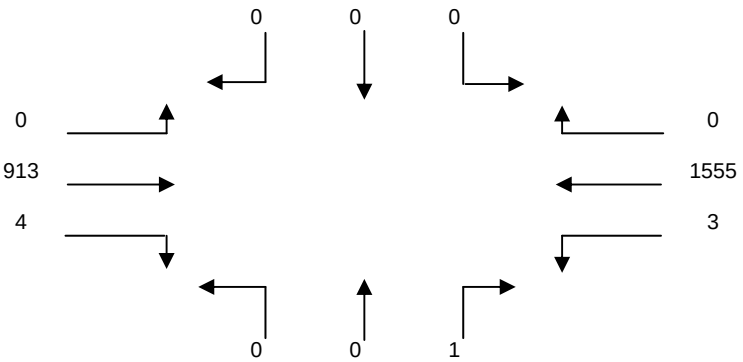
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S WESLEY AVENUE / DRIVEWAY
E/W WASHINGTON BOULEVARD
FILE NUMBER: 21-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	0	0	0	0	238	1	0	0	0	3	81	0
0715-0730	0	0	0	0	384	3	0	0	0	2	144	0
0730-0745	0	0	0	0	441	0	0	0	0	0	175	0
0745-0800	0	0	0	0	421	2	0	0	0	1	179	0
0800-0815	0	0	0	0	333	1	0	0	0	1	220	0
0815-0830	0	0	0	0	392	0	1	0	0	0	266	0
0830-0845	0	0	0	0	409	0	0	0	0	2	248	0
0845-0900	0	0	0	0	355	4	1	0	1	1	200	0
0900-0915	0	0	0	0	311	2	1	0	1	3	135	0
0915-0930	0	0	0	0	321	0	1	0	2	3	158	0
0930-0945	0	0	0	0	377	2	1	0	0	3	148	0
0945-1000	0	0	0	0	329	1	0	0	1	5	122	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	0	0	0	0	1484	6	0	0	0	6	579	0	2075
0715-0815	0	0	0	0	1579	6	0	0	0	4	718	0	2307
0730-0830	0	0	0	0	1587	3	1	0	0	2	840	0	2433
0745-0845	0	0	0	0	1555	3	1	0	0	4	913	0	2476
0800-0900	0	0	0	0	1489	5	2	0	1	4	934	0	2435
0815-0915	0	0	0	0	1467	6	3	0	2	6	849	0	2333
0830-0930	0	0	0	0	1396	6	3	0	4	9	741	0	2159
0845-0945	0	0	0	0	1364	8	4	0	4	10	641	0	2031
0900-1000	0	0	0	0	1338	5	3	0	4	14	563	0	1927

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

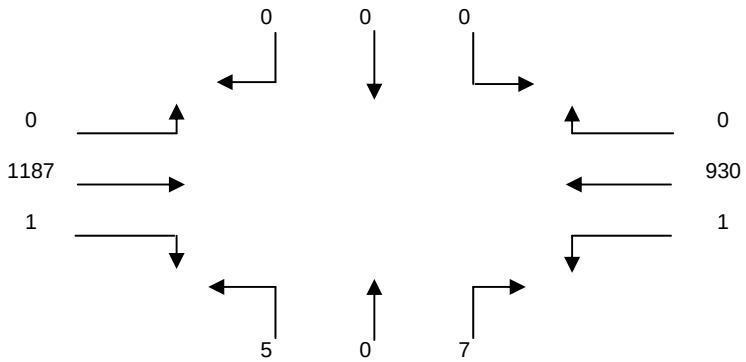
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S WESLEY STREET / DRIVEWAY
E/W WASHINGTON BOULEVARD
FILE NUMBER: 21-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	0	0	0	0	222	4	4	0	3	2	212	0
0315-0330	0	0	0	0	195	2	3	0	2	0	238	0
0330-0345	0	0	0	0	170	0	5	0	5	0	241	0
0345-0400	0	0	0	0	175	0	3	0	5	1	204	0
0400-0415	0	0	0	0	199	0	4	0	3	2	251	0
0415-0430	0	0	0	0	228	1	4	0	6	1	265	0
0430-0445	0	0	0	0	207	0	2	0	3	2	255	0
0445-0500	0	0	0	0	236	2	2	0	3	2	235	0
0500-0515	0	0	0	0	240	0	4	0	2	0	295	0
0515-0530	0	0	0	0	244	0	3	0	3	0	327	0
0530-0545	0	0	0	0	230	1	0	0	0	0	279	0
0545-0600	0	0	0	0	216	0	0	0	0	1	286	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	0	0	0	0	762	6	15	0	15	3	895	0	1696
0315-0415	0	0	0	0	739	2	15	0	15	3	934	0	1708
0330-0430	0	0	0	0	772	1	16	0	19	4	961	0	1773
0345-0445	0	0	0	0	809	1	13	0	17	6	975	0	1821
0400-0500	0	0	0	0	870	3	12	0	15	7	1006	0	1913
0415-0515	0	0	0	0	911	3	12	0	14	5	1050	0	1995
0430-0530	0	0	0	0	927	2	11	0	11	4	1112	0	2067
0445-0545	0	0	0	0	950	3	9	0	8	2	1136	0	2108
0500-0600	0	0	0	0	930	1	7	0	5	1	1187	0	2131

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

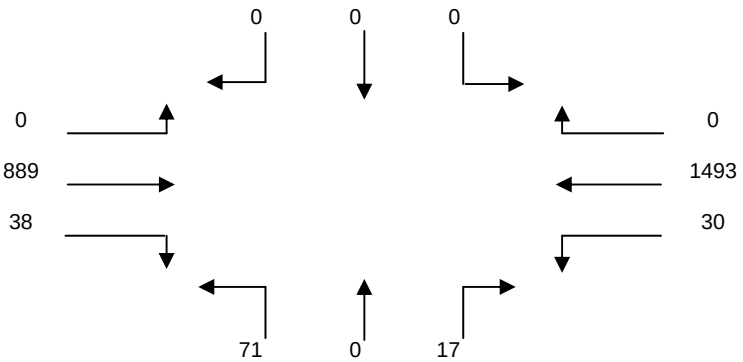
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S HELMS AVENUE
E/W WASHINGTON BOULEVARD
FILE NUMBER: 22-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	0	0	0	0	270	2	2	0	11	2	115	0
0715-0730	0	0	0	0	362	5	3	0	13	1	129	0
0730-0745	0	0	0	0	365	4	4	0	19	2	133	0
0745-0800	0	0	0	0	423	6	2	0	16	4	175	0
0800-0815	0	0	0	0	357	11	4	0	19	7	257	0
0815-0830	0	0	0	0	374	5	5	0	22	16	257	0
0830-0845	0	0	0	0	339	8	6	0	14	11	200	0
0845-0900	0	0	0	0	354	6	5	0	8	7	169	0
0900-0915	0	0	0	0	348	9	5	0	10	6	169	0
0915-0930	0	0	0	0	312	6	3	0	8	4	166	0
0930-0945	0	0	0	0	350	3	6	0	14	6	125	0
0945-1000	0	0	0	0	324	5	5	0	8	2	96	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	0	0	0	0	1420	17	11	0	59	9	552	0	2068
0715-0815	0	0	0	0	1507	26	13	0	67	14	694	0	2321
0730-0830	0	0	0	0	1519	26	15	0	76	29	822	0	2487
0745-0845	0	0	0	0	1493	30	17	0	71	38	889	0	2538
0800-0900	0	0	0	0	1424	30	20	0	63	41	883	0	2461
0815-0915	0	0	0	0	1415	28	21	0	54	40	795	0	2353
0830-0930	0	0	0	0	1353	29	19	0	40	28	704	0	2173
0845-0945	0	0	0	0	1364	24	19	0	40	23	629	0	2099
0900-1000	0	0	0	0	1334	23	19	0	40	18	556	0	1990

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

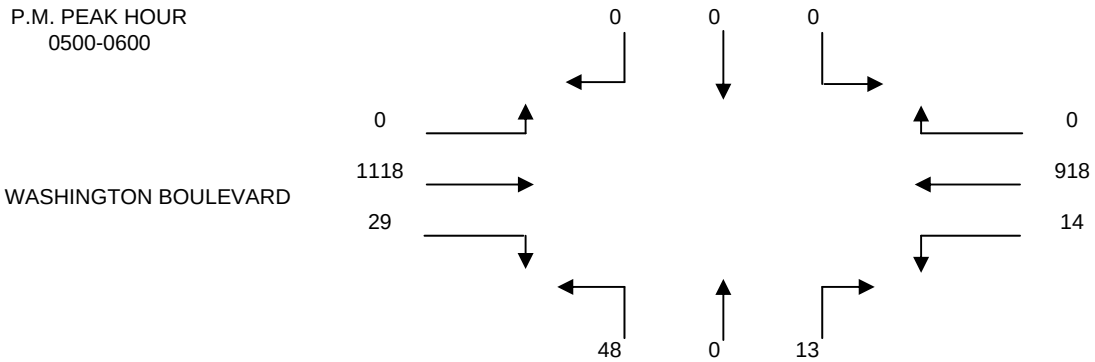
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S HELMS AVENUE
E/W WASHINGTON BOULEVARD
FILE NUMBER: 22-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	0	0	0	0	162	5	3	0	19	2	192	0
0315-0330	0	0	0	0	199	3	4	0	19	6	248	0
0330-0345	0	0	0	0	207	7	3	0	15	4	262	0
0345-0400	0	0	0	0	177	5	6	0	15	2	246	0
0400-0415	0	0	0	0	166	3	4	0	10	6	228	0
0415-0430	0	0	0	0	204	2	4	0	14	9	281	0
0430-0445	0	0	0	0	237	3	2	0	19	6	274	0
0445-0500	0	0	0	0	261	6	3	0	10	9	250	0
0500-0515	0	0	0	0	213	3	2	0	8	11	255	0
0515-0530	0	0	0	0	203	5	4	0	14	5	276	0
0530-0545	0	0	0	0	258	3	4	0	13	6	292	0
0545-0600	0	0	0	0	244	3	3	0	13	7	295	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	0	0	0	0	745	20	16	0	68	14	948	0	1811
0315-0415	0	0	0	0	749	18	17	0	59	18	984	0	1845
0330-0430	0	0	0	0	754	17	17	0	54	21	1017	0	1880
0345-0445	0	0	0	0	784	13	16	0	58	23	1029	0	1923
0400-0500	0	0	0	0	868	14	13	0	53	30	1033	0	2011
0415-0515	0	0	0	0	915	14	11	0	51	35	1060	0	2086
0430-0530	0	0	0	0	914	17	11	0	51	31	1055	0	2079
0445-0545	0	0	0	0	935	17	13	0	45	31	1073	0	2114
0500-0600	0	0	0	0	918	14	13	0	48	29	1118	0	2140

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

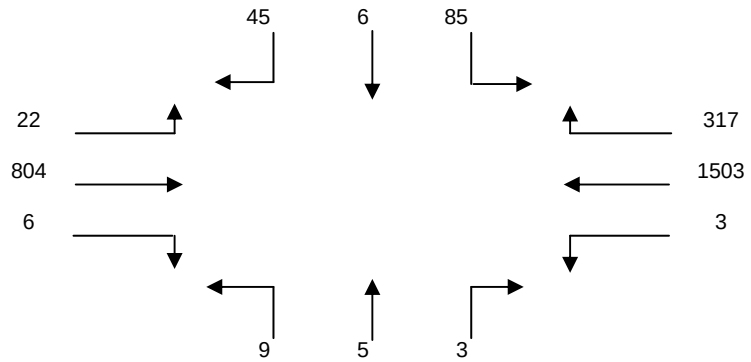
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: TUESDAY, MAY 04, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S CATTARAUGUS AVENUE
E/W WASHINGTON BOULEVARD
FILE NUMBER: 23-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	5	0	7	35	254	0	1	0	1	1	82	4
0715-0730	6	2	10	65	369	3	1	0	1	0	122	5
0730-0745	7	1	15	95	407	1	0	1	2	1	174	3
0745-0800	10	1	16	78	389	1	1	2	3	1	190	4
0800-0815	17	1	25	69	341	1	1	1	2	2	212	6
0815-0830	11	3	29	75	366	0	1	1	2	2	228	9
0830-0845	7	1	15	73	367	0	1	1	2	0	227	9
0845-0900	6	1	7	55	322	1	2	0	4	0	182	7
0900-0915	5	1	3	35	345	2	2	1	4	4	150	3
0915-0930	8	0	7	30	300	1	2	0	4	3	150	2
0930-0945	10	0	8	21	341	1	2	0	2	0	124	3
0945-1000	12	0	5	21	302	0	2	1	0	0	115	3

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	28	4	48	273	1419	5	3	3	7	3	568	16	2377
0715-0815	40	5	66	307	1506	6	3	4	8	4	698	18	2665
0730-0830	45	6	85	317	1503	3	3	5	9	6	804	22	2808
0745-0845	45	6	85	295	1463	2	4	5	9	5	857	28	2804
0800-0900	41	6	76	272	1396	2	5	3	10	4	849	31	2695
0815-0915	29	6	54	238	1400	3	6	3	12	6	787	28	2572
0830-0930	26	3	32	193	1334	4	7	2	14	7	709	21	2352
0845-0945	29	2	25	141	1308	5	8	1	14	7	606	15	2161
0900-1000	35	1	23	107	1288	4	8	2	10	7	539	11	2035

A.M. PEAK HOUR
0730-0830



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

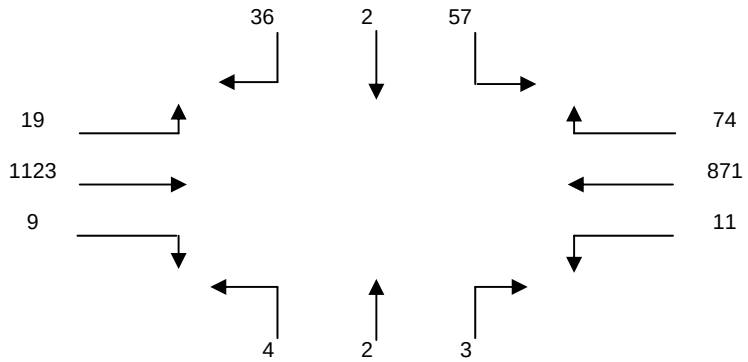
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: TUESDAY, MAY 04, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S CATTARAUGUS AVENUE
E/W WASHINGTON BOULEVARD
FILE NUMBER: 23-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	8	0	18	25	189	0	0	0	1	2	193	8
0315-0330	6	2	19	21	170	0	1	2	0	2	224	4
0330-0345	5	0	19	17	173	3	0	1	2	3	221	4
0345-0400	8	0	14	20	181	2	1	0	1	2	229	5
0400-0415	6	0	15	16	175	3	2	0	0	3	219	2
0415-0430	11	1	19	20	183	1	1	1	0	5	250	4
0430-0445	10	1	20	22	208	2	3	1	1	3	248	2
0445-0500	9	1	19	17	211	3	3	0	1	1	263	2
0500-0515	10	0	15	21	220	2	0	1	1	1	264	5
0515-0530	12	0	13	21	209	3	0	0	0	2	304	4
0530-0545	7	2	17	19	219	2	3	1	2	3	267	4
0545-0600	7	0	12	13	223	4	0	0	1	3	288	6

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	27	2	70	83	713	5	2	3	4	9	867	21	1806
0315-0415	25	2	67	74	699	8	4	3	3	10	893	15	1803
0330-0430	30	1	67	73	712	9	4	2	3	13	919	15	1848
0345-0445	35	2	68	78	747	8	7	2	2	13	946	13	1921
0400-0500	36	3	73	75	777	9	9	2	2	12	980	10	1988
0415-0515	40	3	73	80	822	8	7	3	3	10	1025	13	2087
0430-0530	41	2	67	81	848	10	6	2	3	7	1079	13	2159
0445-0545	38	3	64	78	859	10	6	2	4	7	1098	15	2184
0500-0600	36	2	57	74	871	11	3	2	4	9	1123	19	2211

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

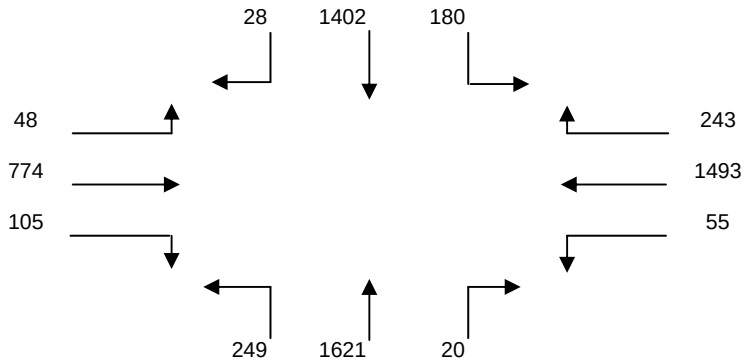
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: HELMS AVENUE CLOSURE PROJECT
DATE: TUESDAY, MAY 04, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S LA CIENEGA BOULEVARD
E/W WASHINGTON BOULEVARD
FILE NUMBER: 24-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	4	215	28	37	301	9	5	355	39	11	87	7
0715-0730	4	245	33	57	325	10	5	365	63	13	127	8
0730-0745	6	291	36	68	366	11	3	404	70	19	139	10
0745-0800	10	328	39	75	425	13	5	435	67	20	178	11
0800-0815	7	402	48	50	422	17	6	385	50	21	203	9
0815-0830	6	351	49	60	345	15	4	390	65	36	202	13
0830-0845	5	321	44	58	301	10	5	411	67	28	191	15
0845-0900	5	288	56	55	345	9	7	400	52	20	161	16
0900-0915	10	250	44	30	374	10	12	331	47	23	142	15
0915-0930	3	271	46	41	260	13	6	311	50	26	121	10
0930-0945	3	289	39	33	261	12	5	272	34	21	99	9
0945-1000	7	288	30	30	287	9	3	302	36	19	98	7

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	24	1079	136	237	1417	43	18	1559	239	63	531	36	5382
0715-0815	27	1266	156	250	1538	51	19	1589	250	73	647	38	5904
0730-0830	29	1372	172	253	1558	56	18	1614	252	96	722	43	6185
0745-0845	28	1402	180	243	1493	55	20	1621	249	105	774	48	6218
0800-0900	23	1362	197	223	1413	51	22	1586	234	105	757	53	6026
0815-0915	26	1210	193	203	1365	44	28	1532	231	107	696	59	5694
0830-0930	23	1130	190	184	1280	42	30	1453	216	97	615	56	5316
0845-0945	21	1098	185	159	1240	44	30	1314	183	90	523	50	4937
0900-1000	23	1098	159	134	1182	44	26	1216	167	89	460	41	4639

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

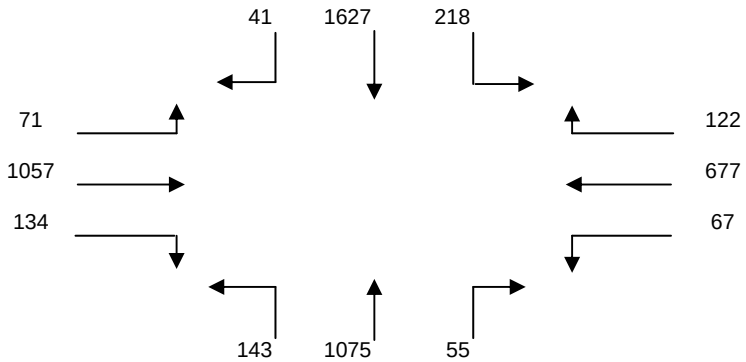
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: TUESDAY, MAY 04, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S LA CIENEGA BOULEVARD
E/W WASHINGTON BOULEVARD
FILE NUMBER: 24-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	10	345	45	13	137	12	10	264	28	29	199	13
0315-0330	11	350	50	15	128	12	9	250	30	30	222	11
0330-0345	9	342	51	20	141	15	13	259	32	37	227	11
0345-0400	11	361	44	16	132	17	11	265	37	34	230	9
0400-0415	13	376	53	19	141	18	10	273	33	31	225	12
0415-0430	10	401	58	23	137	13	8	268	30	38	214	15
0430-0445	9	423	61	26	163	13	13	274	32	41	238	18
0445-0500	10	411	72	29	160	11	15	256	26	42	234	20
0500-0515	8	408	65	34	173	19	14	261	31	34	249	21
0515-0530	12	430	59	28	164	19	16	264	40	30	257	17
0530-0545	11	388	51	30	169	15	12	270	41	37	268	18
0545-0600	10	401	43	30	171	14	13	280	31	33	283	15

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	41	1398	190	64	538	56	43	1038	127	130	878	44	4547
0315-0415	44	1429	198	70	542	62	43	1047	132	132	904	43	4646
0330-0430	43	1480	206	78	551	63	42	1065	132	140	896	47	4743
0345-0445	43	1561	216	84	573	61	42	1080	132	144	907	54	4897
0400-0500	42	1611	244	97	601	55	46	1071	121	152	911	65	5016
0415-0515	37	1643	256	112	633	56	50	1059	119	155	935	74	5129
0430-0530	39	1672	257	117	660	62	58	1055	129	147	978	76	5250
0445-0545	41	1637	247	121	666	64	57	1051	138	143	1008	76	5249
0500-0600	41	1627	218	122	677	67	55	1075	143	134	1057	71	5287

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 25 N/S LA CIENEGA BOULEVARD
E/W FAIRFAX AVENUE

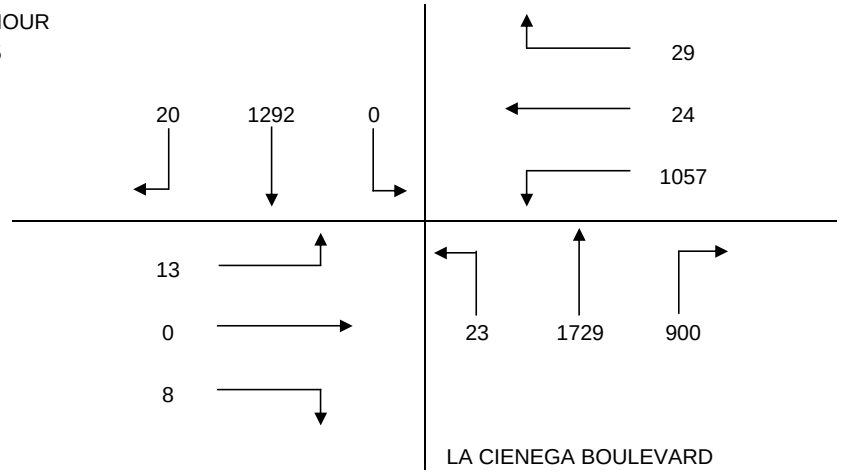
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	4	238	0	1	6	236	272	422	2	1	0	1	1183
715-730	5	286	0	1	3	226	298	446	3	0	0	2	1270
730-745	2	324	0	5	6	259	228	404	4	1	0	0	1233
745-800	5	278	0	4	8	271	253	419	6	3	0	3	1250
800-815	7	317	0	2	8	279	209	413	8	1	0	2	1246
815-830	6	340	0	0	7	242	219	446	8	3	0	1	1272
830-845	5	333	0	2	4	264	201	423	10	1	0	4	1247
845-900	6	297	0	15	9	276	251	436	2	3	0	3	1298
900-915	3	322	0	12	4	275	229	424	3	1	0	5	1278
915-930	5	308	0	0	4	248	224	380	5	0	0	1	1175
930-945	3	278	0	1	6	235	210	379	4	3	0	3	1122
945-1000	4	315	0	4	3	228	191	378	2	0	0	1	1126

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	16	1126	0	11	23	992	1051	1691	15	5	0	6	4936
715-815	19	1205	0	12	25	1035	988	1682	21	5	0	7	4999
730-830	20	1259	0	11	29	1051	909	1682	26	8	0	6	5001
745-845	23	1268	0	8	27	1056	882	1701	32	8	0	10	5015
800-900	24	1287	0	19	28	1061	880	1718	28	8	0	10	5063
815-815	20	1292	0	29	24	1057	900	1729	23	8	0	13	5095
830-930	19	1260	0	29	21	1063	905	1663	20	5	0	13	4998
845-945	17	1205	0	28	23	1034	914	1619	14	7	0	12	4873
900-1000	15	1223	0	17	17	986	854	1561	14	4	0	10	4701

A.M. PEAK HOUR
815-815



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 25 N/S LA CIENEGA BOULEVARD
E/W FAIRFAX AVENUE

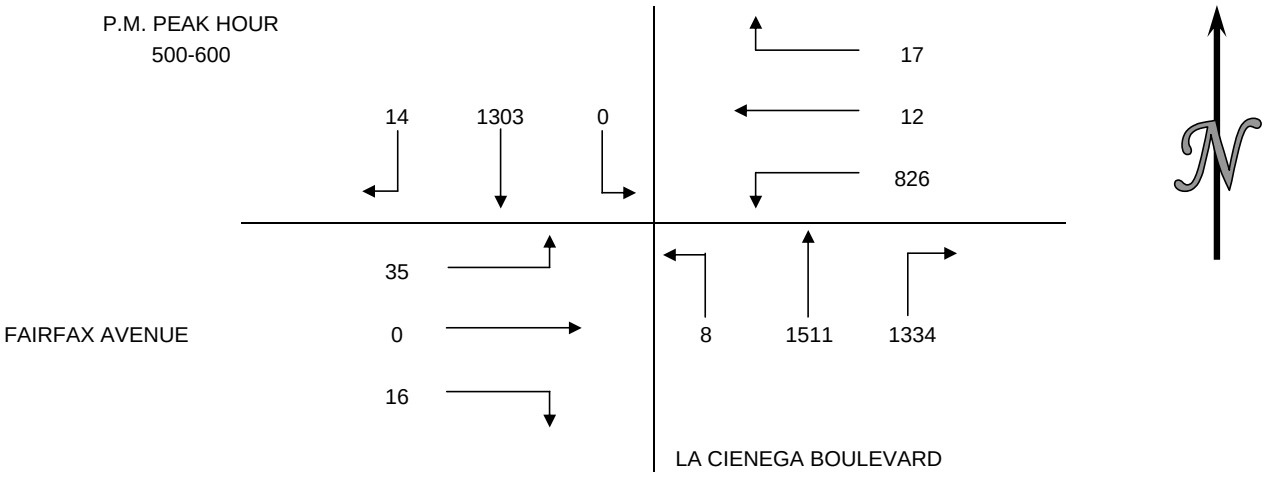
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	2	278	0	0	2	281	246	289	3	4	0	7	1112
315-330	1	296	0	2	3	271	264	323	4	5	0	8	1177
330-345	2	284	0	5	1	204	276	338	1	2	0	12	1125
345-400	3	318	0	4	3	211	389	351	3	4	0	6	1292
400-415	1	337	0	2	4	229	362	356	2	6	0	8	1307
415-430	4	385	0	0	2	202	320	347	2	2	0	22	1286
430-445	2	328	0	2	1	174	316	308	6	4	0	15	1156
445-500	5	312	0	15	2	201	285	338	4	4	0	3	1169
500-515	7	342	0	12	4	235	312	352	1	4	0	15	1284
515-530	4	338	0	0	3	208	340	381	3	6	0	11	1294
530-545	2	298	0	1	1	185	360	416	0	2	0	5	1270
545-600	1	325	0	4	4	198	322	362	4	4	0	4	1228

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	8	1176	0	11	9	967	1175	1301	11	15	0	33	4706
315-415	7	1235	0	13	11	915	1291	1368	10	17	0	34	4901
330-430	10	1324	0	11	10	846	1347	1392	8	14	0	48	5010
345-445	10	1368	0	8	10	816	1387	1362	13	16	0	51	5041
400-500	12	1362	0	19	9	806	1283	1349	14	16	0	48	4918
415-515	18	1367	0	29	9	812	1233	1345	13	14	0	55	4895
430-530	18	1320	0	29	10	818	1253	1379	14	18	0	44	4903
445-545	18	1290	0	28	10	829	1297	1487	8	16	0	34	5017
500-600	14	1303	0	17	12	826	1334	1511	8	16	0	35	5076

P.M. PEAK HOUR
500-600



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 26 N/S WESLEY STREET
E/W NATIONAL BOULEVARD

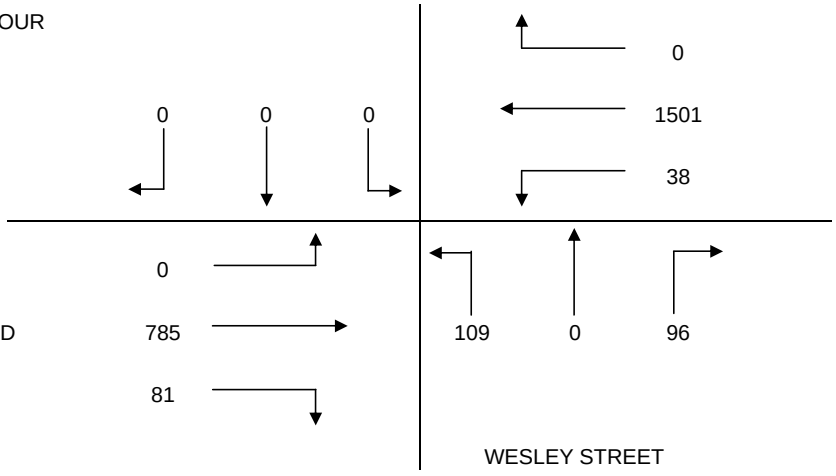
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	0	383	2	6	0	0	2	108	0	501
715-730	0	0	0	0	419	8	8	0	4	6	133	0	578
730-745	0	0	0	0	420	5	15	0	5	34	177	0	656
745-800	0	0	0	0	353	8	23	0	33	29	182	0	628
800-815	0	0	0	0	385	7	34	0	46	12	216	0	700
815-830	0	0	0	0	343	18	24	0	25	6	210	0	626
830-845	0	0	0	0	311	2	10	0	10	6	196	0	535
845-900	0	0	0	0	271	10	20	0	2	1	184	0	488
900-915	0	0	0	0	266	10	15	0	2	2	159	0	454
915-930	0	0	0	0	239	3	8	0	2	2	150	0	404
930-945	0	0	0	0	196	11	8	0	0	1	140	0	356
945-1000	0	0	0	0	174	6	9	0	1	2	145	0	337

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	0	1575	23	52	0	42	71	600	0	2363
715-815	0	0	0	0	1577	28	80	0	88	81	708	0	2562
730-830	0	0	0	0	1501	38	96	0	109	81	785	0	2610
745-845	0	0	0	0	1392	35	91	0	114	53	804	0	2489
800-900	0	0	0	0	1310	37	88	0	83	25	806	0	2349
815-815	0	0	0	0	1191	40	69	0	39	15	749	0	2103
830-930	0	0	0	0	1087	25	53	0	16	11	689	0	1881
845-945	0	0	0	0	972	34	51	0	6	6	633	0	1702
900-1000	0	0	0	0	875	30	40	0	5	7	594	0	1551

A.M. PEAK HOUR
730-830



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

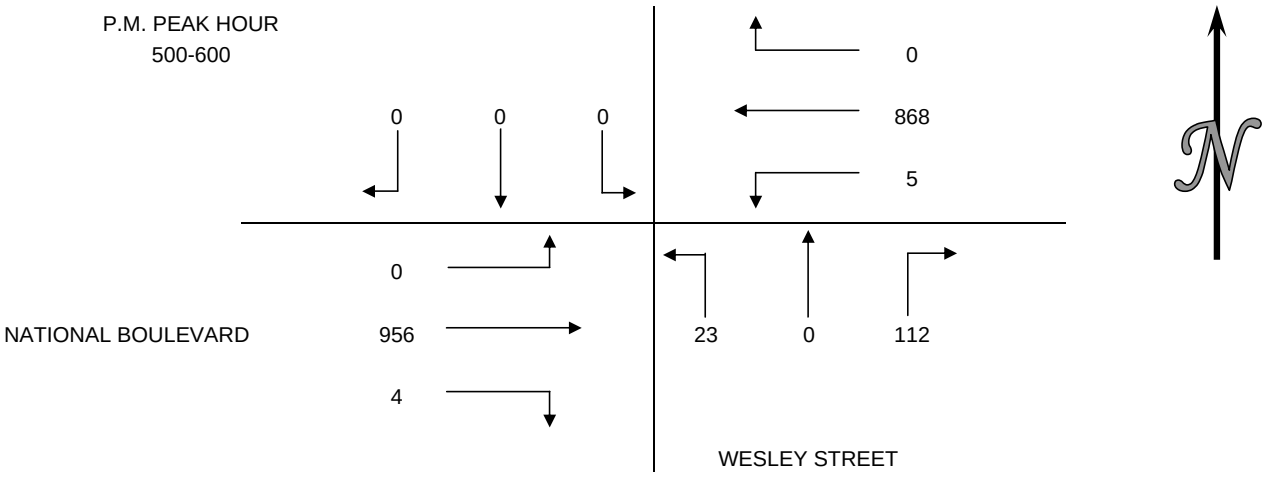
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 26 N/S WESLEY STREET
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	0	0	0	0	174	2	48	0	20	2	209	0	455
315-330	0	0	0	0	150	0	40	0	16	1	189	0	396
330-345	0	0	0	0	184	3	44	0	14	3	206	0	454
345-400	0	0	0	0	146	4	22	0	9	2	204	0	387
400-415	0	0	0	0	174	0	35	0	11	3	217	0	440
415-430	0	0	0	0	191	0	20	0	4	1	235	0	451
430-445	0	0	0	0	174	4	39	0	11	0	216	0	444
445-500	0	0	0	0	187	0	44	0	10	2	201	0	444
500-515	0	0	0	0	196	1	35	0	5	1	214	0	452
515-530	0	0	0	0	226	1	33	0	4	2	236	0	502
530-545	0	0	0	0	234	1	26	0	8	0	240	0	509
545-600	0	0	0	0	212	2	18	0	6	1	266	0	505

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	0	0	0	0	654	9	154	0	59	8	808	0	1692
315-415	0	0	0	0	654	7	141	0	50	9	816	0	1677
330-430	0	0	0	0	695	7	121	0	38	9	862	0	1732
345-445	0	0	0	0	685	8	116	0	35	6	872	0	1722
400-500	0	0	0	0	726	4	138	0	36	6	869	0	1779
415-515	0	0	0	0	748	5	138	0	30	4	866	0	1791
430-530	0	0	0	0	783	6	151	0	30	5	867	0	1842
445-545	0	0	0	0	843	3	138	0	27	5	891	0	1907
500-600	0	0	0	0	868	5	112	0	23	4	956	0	1968



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

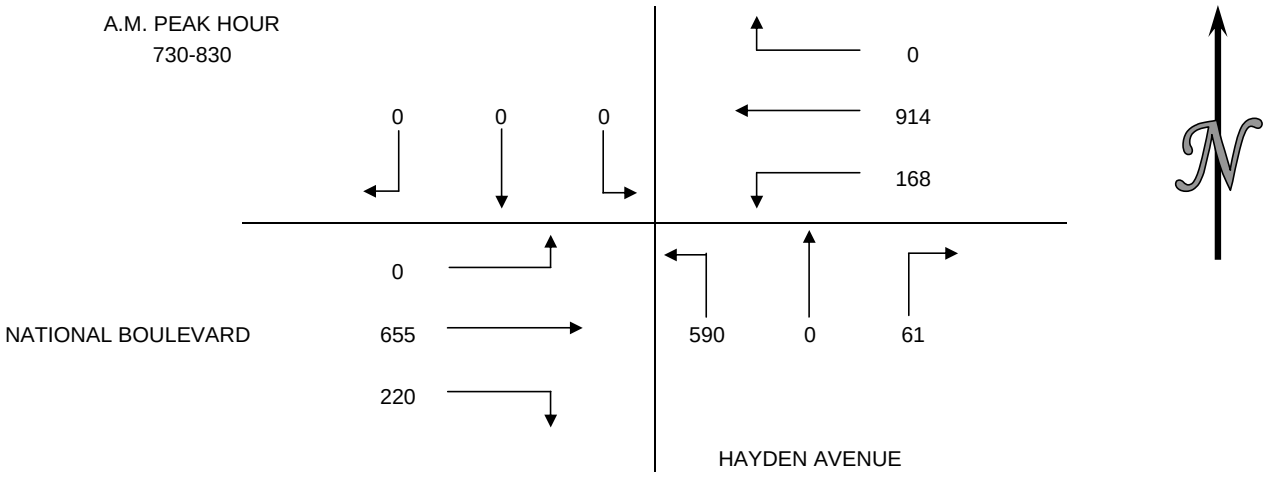
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 27 N/S HAYDEN AVENUE
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	0	254	31	6	0	113	21	99	0	524
715-730	0	0	0	0	264	26	2	0	144	33	110	0	579
730-745	0	0	0	0	284	31	11	0	147	42	143	0	658
745-800	0	0	0	0	233	50	18	0	141	62	181	0	685
800-815	0	0	0	0	200	35	20	0	146	57	145	0	603
815-830	0	0	0	0	197	52	12	0	156	59	186	0	662
830-845	0	0	0	0	166	52	13	0	148	67	180	0	626
845-900	0	0	0	0	176	49	11	0	142	77	148	0	603
900-915	0	0	0	0	140	69	12	0	119	66	136	0	542
915-930	0	0	0	0	115	33	9	0	114	59	110	0	440
930-945	0	0	0	0	93	41	9	0	103	41	100	0	387
945-1000	0	0	0	0	89	27	20	0	94	47	90	0	367

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	0	1035	138	37	0	545	158	533	0	2446
715-815	0	0	0	0	981	142	51	0	578	194	579	0	2525
730-830	0	0	0	0	914	168	61	0	590	220	655	0	2608
745-845	0	0	0	0	796	189	63	0	591	245	692	0	2576
800-900	0	0	0	0	739	188	56	0	592	260	659	0	2494
815-815	0	0	0	0	679	222	48	0	565	269	650	0	2433
830-930	0	0	0	0	597	203	45	0	523	269	574	0	2211
845-945	0	0	0	0	524	192	41	0	478	243	494	0	1972
900-1000	0	0	0	0	437	170	50	0	430	213	436	0	1736



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

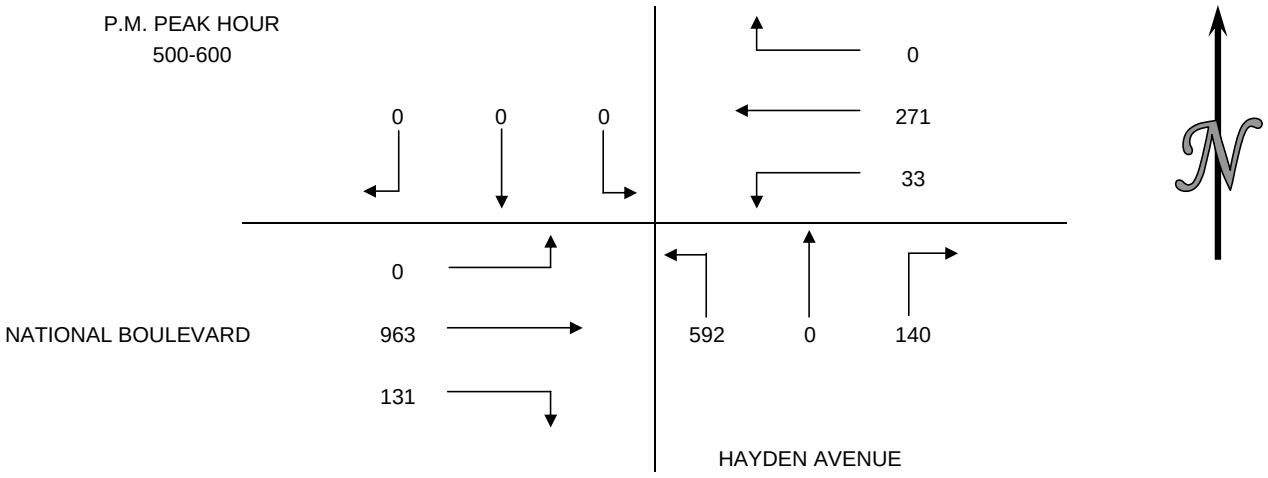
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 27 N/S HAYDEN AVENUE
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	0	0	0	0	59	6	26	0	84	34	157	0	366
315-330	0	0	0	0	56	17	23	0	112	30	194	0	432
330-345	0	0	0	0	78	11	17	0	103	31	206	0	446
345-400	0	0	0	0	65	10	24	0	90	54	241	0	484
400-415	0	0	0	0	53	13	24	0	112	48	205	0	455
415-430	0	0	0	0	69	12	24	0	106	48	243	0	502
430-445	0	0	0	0	66	11	49	0	134	41	251	0	552
445-500	0	0	0	0	80	7	21	0	116	29	196	0	449
500-515	0	0	0	0	77	8	37	0	142	42	245	0	551
515-530	0	0	0	0	55	7	38	0	133	30	264	0	527
530-545	0	0	0	0	78	12	36	0	166	32	232	0	556
545-600	0	0	0	0	61	6	29	0	151	27	222	0	496

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	0	0	0	0	258	44	90	0	389	149	798	0	1728
315-415	0	0	0	0	252	51	88	0	417	163	846	0	1817
330-430	0	0	0	0	265	46	89	0	411	181	895	0	1887
345-445	0	0	0	0	253	46	121	0	442	191	940	0	1993
400-500	0	0	0	0	268	43	118	0	468	166	895	0	1958
415-515	0	0	0	0	292	38	131	0	498	160	935	0	2054
430-530	0	0	0	0	278	33	145	0	525	142	956	0	2079
445-545	0	0	0	0	290	34	132	0	557	133	937	0	2083
500-600	0	0	0	0	271	33	140	0	592	131	963	0	2130



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 28 N/S JEFFERSON BOULEVARD
E/W NATIONAL BOULEVARD

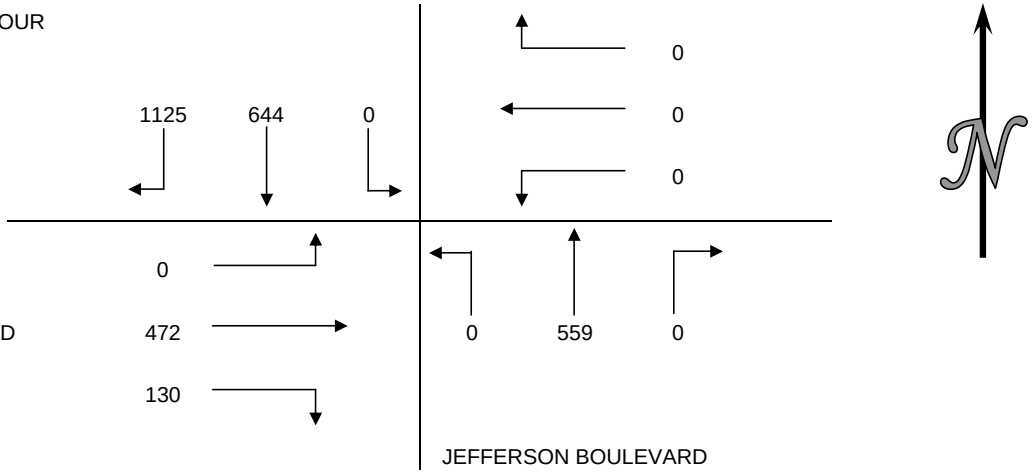
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	283	142	0	0	0	0	0	118	0	20	74	0	637
715-730	292	161	0	0	0	0	0	137	0	28	97	0	715
730-745	279	141	0	0	0	0	0	130	0	40	89	0	679
745-800	318	161	0	0	0	0	0	110	0	25	106	0	720
800-815	280	177	0	0	0	0	0	162	0	26	139	0	784
815-830	248	165	0	0	0	0	0	157	0	39	138	0	747
830-845	223	139	0	0	0	0	0	144	0	27	110	0	643
845-900	193	119	0	0	0	0	0	117	0	21	91	0	541
900-915	164	143	0	0	0	0	0	110	0	28	97	0	542
915-930	154	133	0	0	0	0	0	96	0	31	74	0	488
930-945	146	118	0	0	0	0	0	92	0	24	54	0	434
945-1000	134	113	0	0	0	0	0	86	0	18	49	0	400

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	1172	605	0	0	0	0	0	495	0	113	366	0	2751
715-815	1169	640	0	0	0	0	0	539	0	119	431	0	2898
730-830	1125	644	0	0	0	0	0	559	0	130	472	0	2930
745-845	1069	642	0	0	0	0	0	573	0	117	493	0	2894
800-900	944	600	0	0	0	0	0	580	0	113	478	0	2715
815-815	828	566	0	0	0	0	0	528	0	115	436	0	2473
830-930	734	534	0	0	0	0	0	467	0	107	372	0	2214
845-945	657	513	0	0	0	0	0	415	0	104	316	0	2005
900-1000	598	507	0	0	0	0	0	384	0	101	274	0	1864

A.M. PEAK HOUR
730-830



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 28 N/S JEFFERSON BOULEVARD
E/W NATIONAL BOULEVARD

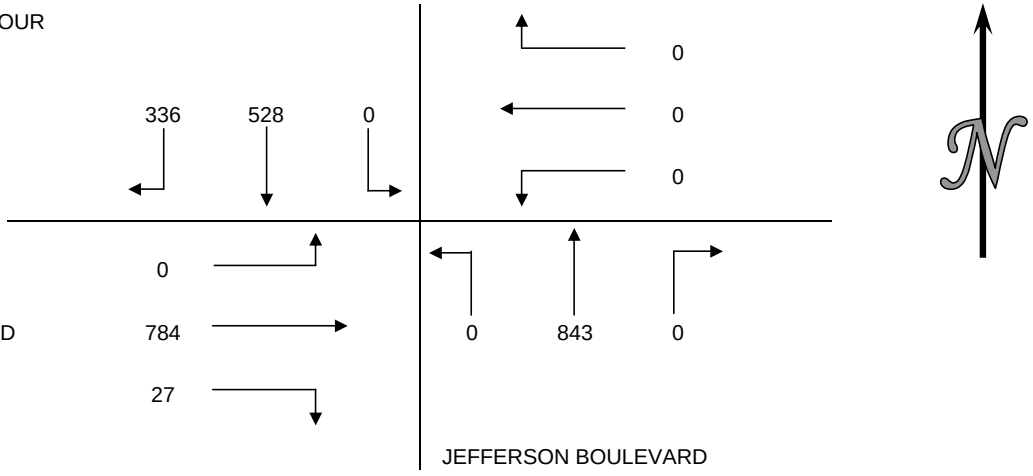
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	86	101	0	0	0	0	0	133	0	7	185	0	512
315-330	67	95	0	0	0	0	0	150	0	18	135	0	465
330-345	86	80	0	0	0	0	0	140	0	21	158	0	485
345-400	74	111	0	0	0	0	0	162	0	1	174	0	522
400-415	90	140	0	0	0	0	0	177	0	17	207	0	631
415-430	81	138	0	0	0	0	0	168	0	7	170	0	564
430-445	70	141	0	0	0	0	0	184	0	9	184	0	588
445-500	88	151	0	0	0	0	0	207	0	1	178	0	625
500-515	94	126	0	0	0	0	0	227	0	8	195	0	650
515-530	85	119	0	0	0	0	0	216	0	7	184	0	611
530-545	76	136	0	0	0	0	0	195	0	5	191	0	603
545-600	81	147	0	0	0	0	0	205	0	7	214	0	654

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	313	387	0	0	0	0	0	585	0	47	652	0	1984
315-415	317	426	0	0	0	0	0	629	0	57	674	0	2103
330-430	331	469	0	0	0	0	0	647	0	46	709	0	2202
345-445	315	530	0	0	0	0	0	691	0	34	735	0	2305
400-500	329	570	0	0	0	0	0	736	0	34	739	0	2408
415-515	333	556	0	0	0	0	0	786	0	25	727	0	2427
430-530	337	537	0	0	0	0	0	834	0	25	741	0	2474
445-545	343	532	0	0	0	0	0	845	0	21	748	0	2489
500-600	336	528	0	0	0	0	0	843	0	27	784	0	2518

P.M. PEAK HOUR
500-600



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 29 N/S LA CIENEGA BOUELVARD
E/W NATIONAL BOULEVARD

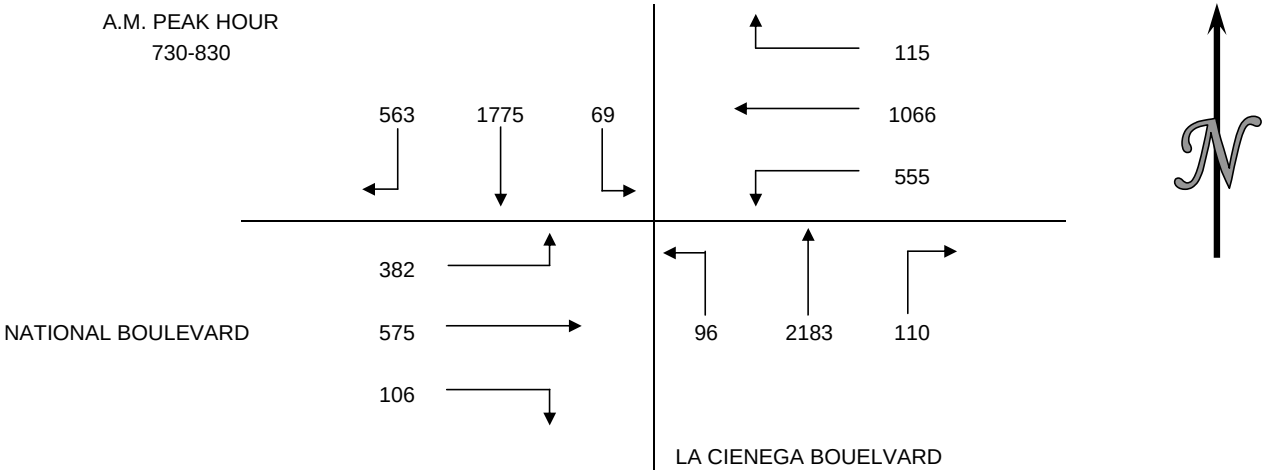
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	141	318	14	28	275	129	30	530	28	21	84	87	1685
715-730	134	350	18	35	298	169	31	512	18	21	92	75	1753
730-745	179	386	23	29	268	152	24	540	31	30	116	92	1870
745-800	147	428	19	28	247	170	31	574	19	28	131	95	1917
800-815	116	453	10	33	292	133	23	549	20	25	163	105	1922
815-830	121	508	17	25	259	100	32	520	26	23	165	90	1886
830-845	121	455	9	17	231	86	36	505	17	29	146	87	1739
845-900	117	443	8	28	219	68	43	557	26	33	138	82	1762
900-915	102	508	8	19	162	58	25	557	28	22	83	76	1648
915-930	83	466	5	15	147	49	38	521	19	18	76	78	1515
930-945	75	491	4	17	137	57	46	473	26	23	61	75	1485
945-1000	60	415	6	23	160	80	32	439	15	20	52	63	1365

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	601	1482	74	120	1088	620	116	2156	96	100	423	349	7225
715-815	576	1617	70	125	1105	624	109	2175	88	104	502	367	7462
730-830	563	1775	69	115	1066	555	110	2183	96	106	575	382	7595
745-845	505	1844	55	103	1029	489	122	2148	82	105	605	377	7464
800-900	475	1859	44	103	1001	387	134	2131	89	110	612	364	7309
815-815	461	1914	42	89	871	312	136	2139	97	107	532	335	7035
830-930	423	1872	30	79	759	261	142	2140	90	102	443	323	6664
845-945	377	1908	25	79	665	232	152	2108	99	96	358	311	6410
900-1000	320	1880	23	74	606	244	141	1990	88	83	272	292	6013

A.M. PEAK HOUR
730-830



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

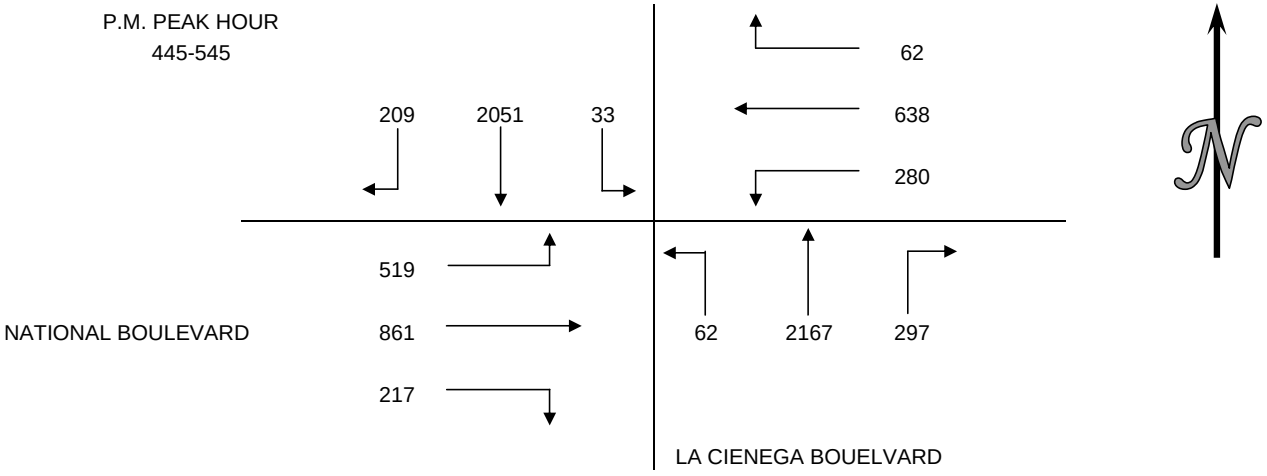
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 29 N/S LA CIENEGA BOUELVARD
E/W NATIONAL BOULEVARD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	55	475	19	15	86	61	71	519	14	27	142	87	1571
315-330	41	446	18	15	107	64	67	483	13	45	173	92	1564
330-345	47	482	20	7	94	42	72	509	26	34	166	92	1591
345-400	54	472	22	24	133	52	65	528	18	49	186	110	1713
400-415	34	451	12	12	141	47	71	497	17	38	187	92	1599
415-430	58	497	12	15	163	73	69	525	15	57	215	105	1804
430-445	43	469	8	13	157	49	58	510	15	41	197	137	1697
445-500	49	524	10	7	193	66	86	567	16	42	211	111	1882
500-515	52	498	6	11	173	63	60	504	13	51	210	149	1790
515-530	52	504	9	22	141	69	79	572	19	73	230	136	1906
530-545	56	525	8	22	131	82	72	524	14	51	210	123	1818
545-600	40	440	13	17	150	61	69	595	10	57	199	146	1797

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	197	1875	79	61	420	219	275	2039	71	155	667	381	6439
315-415	176	1851	72	58	475	205	275	2017	74	166	712	386	6467
330-430	193	1902	66	58	531	214	277	2059	76	178	754	399	6707
345-445	189	1889	54	64	594	221	263	2060	65	185	785	444	6813
400-500	184	1941	42	47	654	235	284	2099	63	178	810	445	6982
415-515	202	1988	36	46	686	251	273	2106	59	191	833	502	7173
430-530	196	1995	33	53	664	247	283	2153	63	207	848	533	7275
445-545	209	2051	33	62	638	280	297	2167	62	217	861	519	7396
500-600	200	1967	36	72	595	275	280	2195	56	232	849	554	7311



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 30 N/S JEFFERSON BOULEVARD
E/W HIGUERA STREET / RODEO ROAD

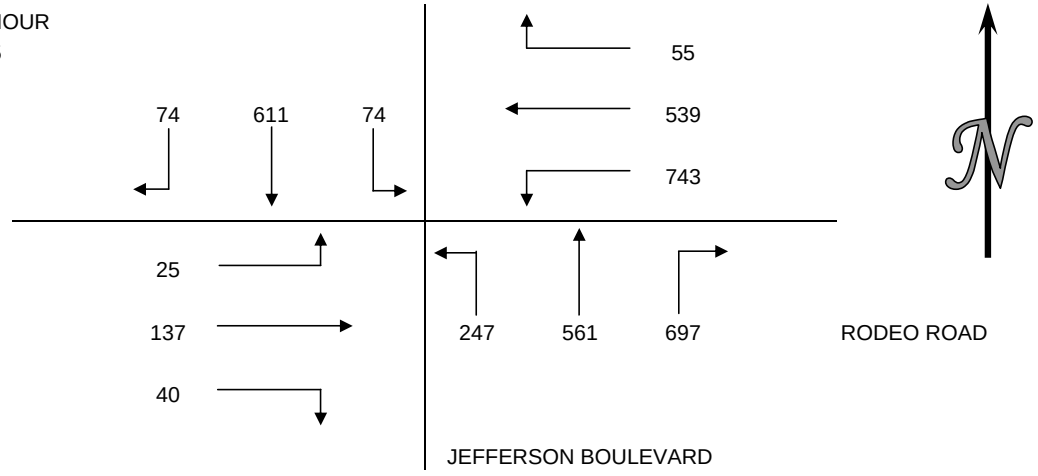
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	7	113	9	3	99	171	91	84	37	5	15	4	638
715-730	12	138	7	3	121	203	125	106	51	3	19	2	790
730-745	5	163	6	5	100	193	152	123	64	10	25	3	849
745-800	28	186	10	9	128	212	192	148	74	15	47	9	1058
800-815	15	156	22	11	118	190	196	133	81	8	21	3	954
815-830	16	137	25	20	133	158	164	154	55	13	39	10	924
830-845	15	132	17	15	160	183	145	126	37	4	30	3	867
845-900	15	168	11	12	164	203	187	114	65	5	21	6	971
900-915	13	148	8	27	135	186	150	100	98	6	16	4	891
915-930	9	155	7	9	122	143	134	77	74	9	18	12	769
930-945	11	126	7	19	140	159	117	66	66	11	28	9	759
945-1000	8	103	4	11	123	121	100	47	65	13	16	12	623

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	52	600	32	20	448	779	560	461	226	33	106	18	3335
715-815	60	643	45	28	467	798	665	510	270	36	112	17	3651
730-830	64	642	63	45	479	753	704	558	274	46	132	25	3785
745-845	74	611	74	55	539	743	697	561	247	40	137	25	3803
800-900	61	593	75	58	575	734	692	527	238	30	111	22	3716
815-815	59	585	61	74	592	730	646	494	255	28	106	23	3653
830-930	52	603	43	63	581	715	616	417	274	24	85	25	3498
845-945	48	597	33	67	561	691	588	357	303	31	83	31	3390
900-1000	41	532	26	66	520	609	501	290	303	39	78	37	3042

A.M. PEAK HOUR
745-845



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: WEDNESDAY SEPTEMBER 10, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 30 N/S JEFFERSON BOULEVARD
E/W HIGUERA STREET / RODEO ROAD

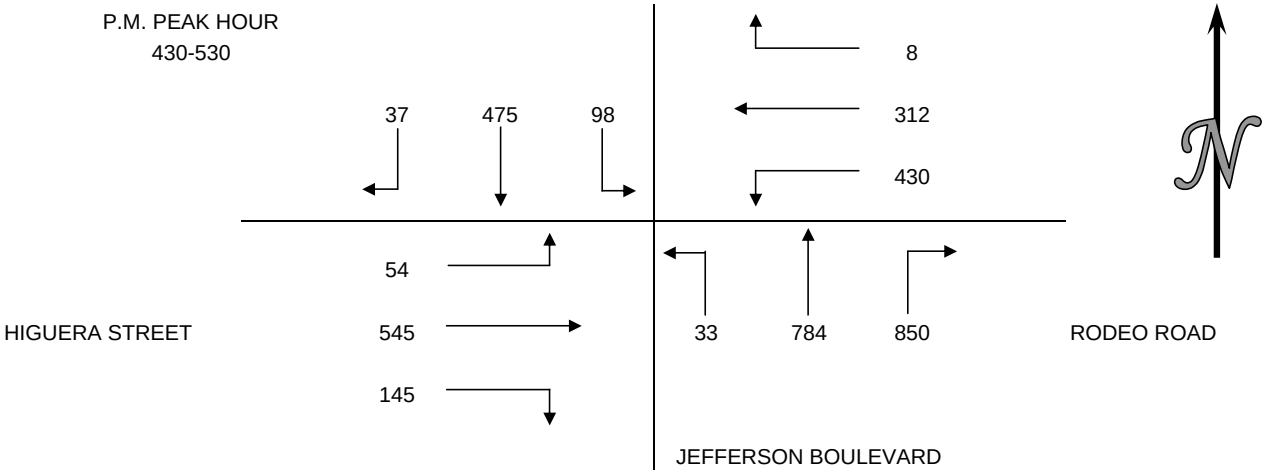
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	11	81	19	8	42	74	158	120	13	15	85	8	634
315-330	7	65	7	1	69	98	183	138	11	12	109	7	707
330-345	16	68	19	3	76	107	219	146	8	27	128	15	832
345-400	2	97	26	2	82	105	202	157	4	17	112	6	812
400-415	6	93	16	8	88	118	225	170	8	19	99	8	858
415-430	4	122	23	3	89	111	188	156	5	27	108	14	850
430-445	9	139	18	1	67	97	204	172	9	23	121	9	869
445-500	7	129	21	4	83	96	196	204	11	29	140	10	930
500-515	9	116	36	2	79	108	215	212	4	45	157	21	1004
515-530	12	91	23	1	83	129	235	196	9	48	127	14	968
530-545	8	87	19	4	71	101	209	179	8	40	116	12	854
545-600	10	112	17	2	56	90	240	194	12	22	98	7	860

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	36	311	71	14	269	384	762	561	36	71	434	36	2985
315-415	31	323	68	14	315	428	829	611	31	75	448	36	3209
330-430	28	380	84	16	335	441	834	629	25	90	447	43	3352
345-445	21	451	83	14	326	431	819	655	26	86	440	37	3389
400-500	26	483	78	16	327	422	813	702	33	98	468	41	3507
415-515	29	506	98	10	318	412	803	744	29	124	526	54	3653
430-530	37	475	98	8	312	430	850	784	33	145	545	54	3771
445-545	36	423	99	11	316	434	855	791	32	162	540	57	3756
500-600	39	406	95	9	289	428	899	781	33	155	498	54	3686

P.M. PEAK HOUR
430-530



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

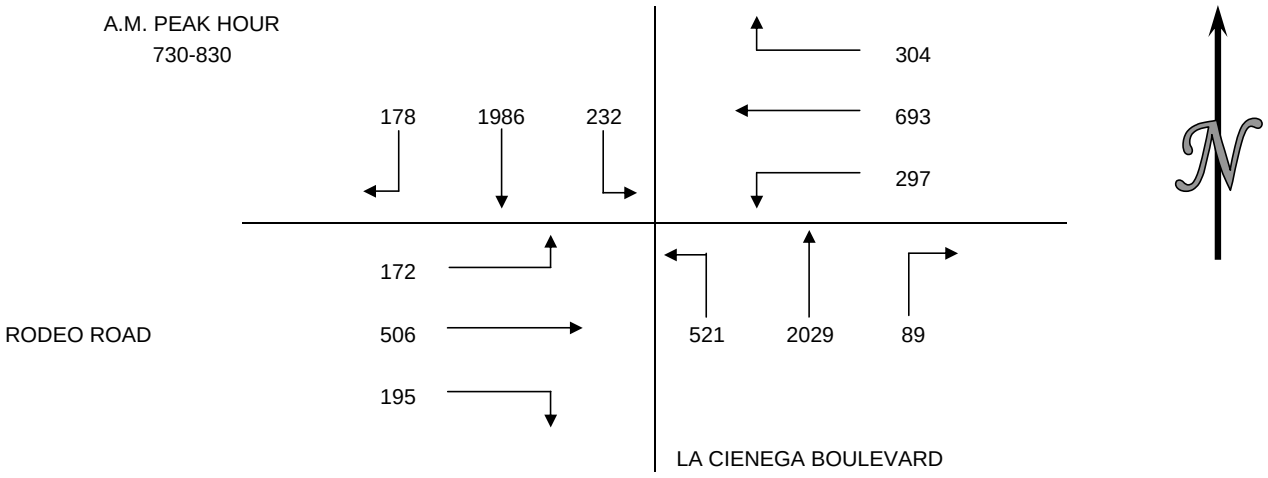
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 31 N/S LA CIENEGA BOULEVARD
E/W RODEO ROAD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	33	400	35	61	111	51	24	497	105	14	70	58	1459
715-730	51	452	72	79	141	67	17	535	136	20	92	38	1700
730-745	71	546	73	61	150	65	22	511	109	37	100	33	1778
745-800	33	405	46	87	172	76	18	521	134	56	128	44	1720
800-815	32	567	72	73	196	72	30	533	148	60	156	63	2002
815-830	42	468	41	83	175	84	19	464	130	42	122	32	1702
830-845	36	436	51	66	138	68	22	470	125	46	113	44	1615
845-900	81	475	36	46	153	72	16	455	112	23	112	56	1637
900-915	30	441	42	39	168	62	19	494	140	31	103	34	1603
915-930	25	483	39	45	142	58	19	472	128	25	86	39	1561
930-945	46	490	64	70	174	80	19	517	108	20	67	66	1721
945-1000	47	433	51	86	116	90	20	460	91	15	79	36	1524

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	188	1803	226	288	574	259	81	2064	484	127	390	173	6657
715-815	187	1970	263	300	659	280	87	2100	527	173	476	178	7200
730-830	178	1986	232	304	693	297	89	2029	521	195	506	172	7202
745-845	143	1876	210	309	681	300	89	1988	537	204	519	183	7039
800-900	191	1946	200	268	662	296	87	1922	515	171	503	195	6956
815-815	189	1820	170	234	634	286	76	1883	507	142	450	166	6557
830-930	172	1835	168	196	601	260	76	1891	505	125	414	173	6416
845-945	182	1889	181	200	637	272	73	1938	488	99	368	195	6522
900-1000	148	1847	196	240	600	290	77	1943	467	91	335	175	6409



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

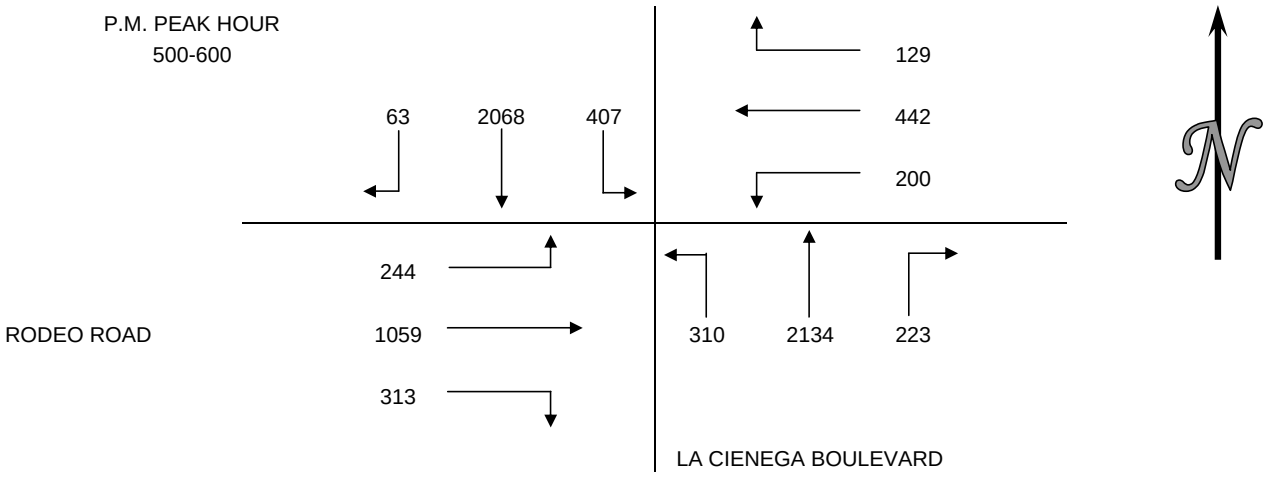
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 31 N/S LA CIENEGA BOULEVARD
E/W RODEO ROAD

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	20	462	109	60	110	53	42	449	36	55	222	51	1669
315-330	25	446	89	30	143	39	40	488	34	64	210	50	1658
330-345	15	454	98	44	132	55	29	493	40	52	193	47	1652
345-400	29	443	97	34	113	32	44	511	59	62	201	66	1691
400-415	26	455	106	46	128	34	35	475	66	82	205	42	1700
415-430	16	482	105	24	121	29	31	500	53	90	221	57	1729
430-445	18	510	100	45	105	33	49	532	67	76	233	34	1802
445-500	12	504	99	36	111	45	50	560	80	101	240	60	1898
500-515	13	536	106	29	123	57	70	510	78	98	260	82	1962
515-530	10	490	95	45	99	62	59	549	85	77	278	58	1907
530-545	17	498	100	30	100	35	51	516	73	78	252	62	1812
545-600	23	544	106	25	120	46	43	559	74	60	269	42	1911

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	89	1805	393	168	498	179	155	1941	169	233	826	214	6670
315-415	95	1798	390	154	516	160	148	1967	199	260	809	205	6701
330-430	86	1834	406	148	494	150	139	1979	218	286	820	212	6772
345-445	89	1890	408	149	467	128	159	2018	245	310	860	199	6922
400-500	72	1951	410	151	465	141	165	2067	266	349	899	193	7129
415-515	59	2032	410	134	460	164	200	2102	278	365	954	233	7391
430-530	53	2040	400	155	438	197	228	2151	310	352	1011	234	7569
445-545	52	2028	400	140	433	199	230	2135	316	354	1030	262	7579
500-600	63	2068	407	129	442	200	223	2134	310	313	1059	244	7592



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

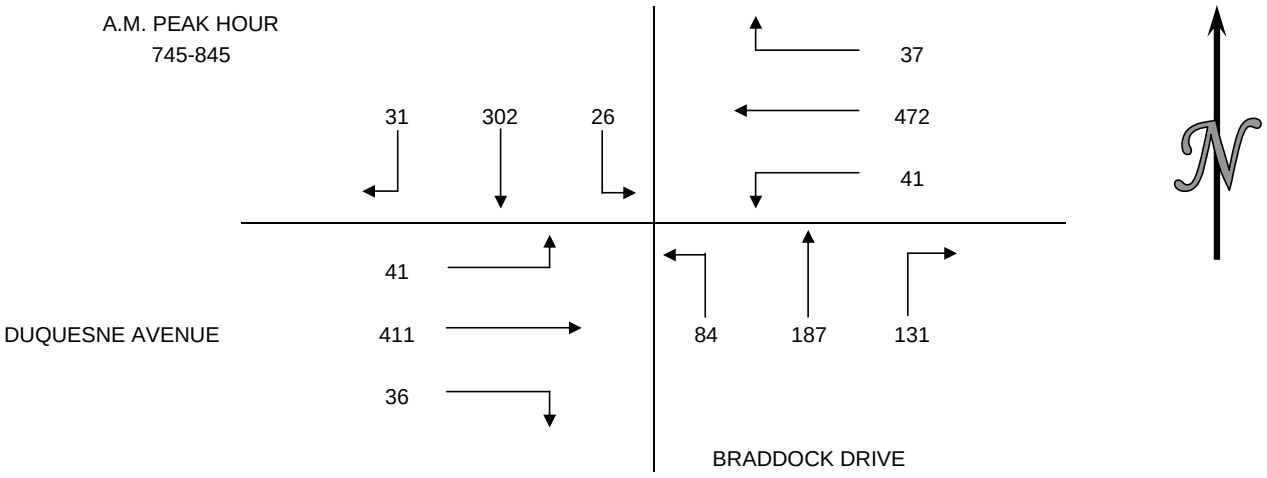
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 32 N/S BRADDOCK DRIVE
E/W DUQUESNE AVENUE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	4	23	2	3	102	8	14	21	7	6	47	4	241
715-730	5	27	1	5	91	7	18	20	13	2	64	6	259
730-745	10	38	2	5	101	16	25	31	15	4	73	9	329
745-800	6	54	5	7	112	10	32	44	16	5	99	16	406
800-815	5	78	3	13	127	9	37	43	27	10	115	12	479
815-830	13	87	13	11	110	15	39	56	15	15	110	9	493
830-845	7	83	5	6	123	7	23	44	26	6	87	4	421
845-900	5	52	3	2	101	8	22	33	16	5	75	4	326
900-915	6	68	4	1	102	2	38	47	27	10	86	9	400
915-930	12	73	3	6	90	6	24	50	26	13	97	14	414
930-945	6	53	5	1	68	1	16	43	19	5	75	9	301
945-1000	9	60	1	1	82	1	24	38	30	13	90	13	362

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	25	142	10	20	406	41	89	116	51	17	283	35	1235
715-815	26	197	11	30	431	42	112	138	71	21	351	43	1473
730-830	34	257	23	36	450	50	133	174	73	34	397	46	1707
745-845	31	302	26	37	472	41	131	187	84	36	411	41	1799
800-900	30	300	24	32	461	39	121	176	84	36	387	29	1719
815-815	31	290	25	20	436	32	122	180	84	36	358	26	1640
830-930	30	276	15	15	416	23	107	174	95	34	345	31	1561
845-945	29	246	15	10	361	17	100	173	88	33	333	36	1441
900-1000	33	254	13	9	342	10	102	178	102	41	348	45	1477



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

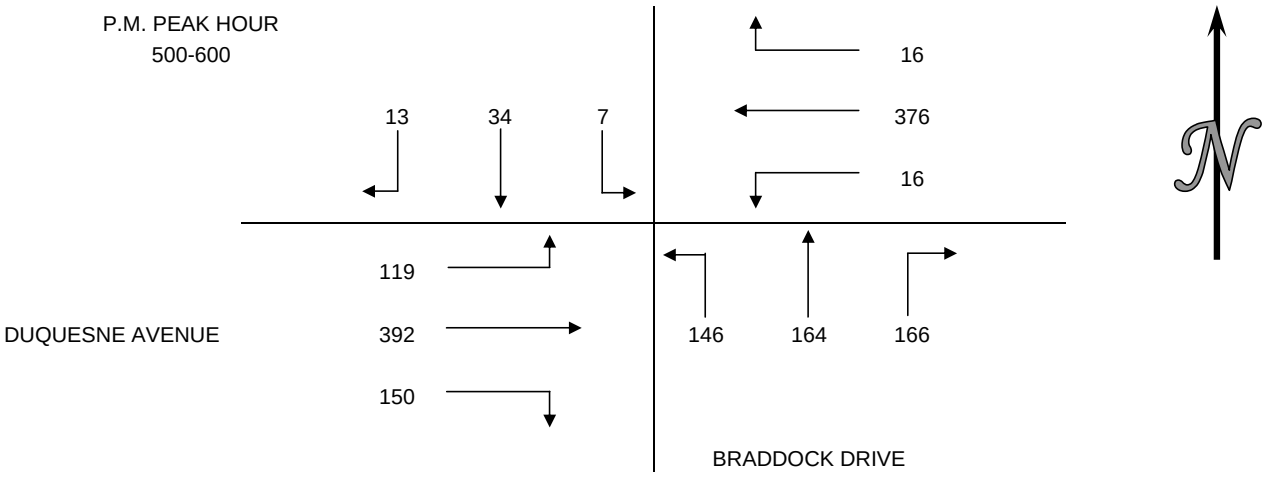
CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 32 N/S BRADDOCK DRIVE
E/W DUQUESNE AVENUE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	3	15	5	5	83	6	18	32	17	30	78	24	316
315-330	6	23	8	4	74	5	23	22	20	21	73	21	300
330-345	8	20	9	8	89	8	27	19	16	24	82	27	337
345-400	3	10	3	5	99	3	31	13	30	28	101	10	336
400-415	5	8	8	4	87	4	37	21	23	19	87	22	325
415-430	5	4	3	4	84	6	32	18	27	32	84	32	331
430-445	7	11	4	7	103	2	46	31	37	40	103	39	430
445-500	4	12	2	6	82	11	32	21	24	26	91	25	336
500-515	3	10	4	1	100	7	42	32	35	39	90	35	398
515-530	3	6	1	1	80	4	35	38	30	43	100	26	367
530-545	1	5	1	4	93	2	47	43	42	39	109	33	419
545-600	6	13	1	10	103	3	42	51	39	29	93	25	415

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	20	68	25	22	345	22	99	86	83	103	334	82	1289
315-415	22	61	28	21	349	20	118	75	89	92	343	80	1298
330-430	21	42	23	21	359	21	127	71	96	103	354	91	1329
345-445	20	33	18	20	373	15	146	83	117	119	375	103	1422
400-500	21	35	17	21	356	23	147	91	111	117	365	118	1422
415-515	19	37	13	18	369	26	152	102	123	137	368	131	1495
430-530	17	39	11	15	365	24	155	122	126	148	384	125	1531
445-545	11	33	8	12	355	24	156	134	131	147	390	119	1520
500-600	13	34	7	16	376	16	166	164	146	150	392	119	1599



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 33 N/S LUCERNE AVENUE
E/W DUQUESNE AVENUE

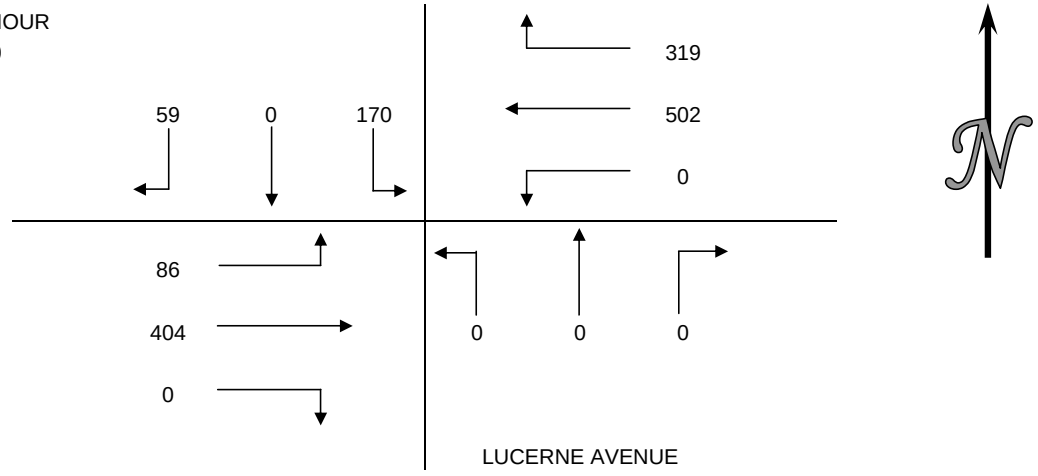
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	7	0	32	52	98	0	0	0	0	0	63	3	255
715-730	16	0	44	61	110	0	0	0	0	0	80	5	316
730-745	21	0	29	71	96	0	0	0	0	0	81	11	309
745-800	26	0	32	67	103	0	0	0	0	0	94	9	331
800-815	13	0	45	90	113	0	0	0	0	0	87	14	362
815-830	20	0	46	98	141	0	0	0	0	0	103	28	436
830-845	14	0	38	54	114	0	0	0	0	0	121	26	367
845-900	12	0	41	77	134	0	0	0	0	0	93	18	375
900-915	9	0	35	70	107	0	0	0	0	0	95	23	339
915-930	11	0	36	53	94	0	0	0	0	0	86	14	294
930-945	18	0	24	43	88	0	0	0	0	0	106	19	298
945-1000	10	0	23	36	60	0	0	0	0	0	78	22	229

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	70	0	137	251	407	0	0	0	0	0	318	28	1211
715-815	76	0	150	289	422	0	0	0	0	0	342	39	1318
730-830	80	0	152	326	453	0	0	0	0	0	365	62	1438
745-845	73	0	161	309	471	0	0	0	0	0	405	77	1496
800-900	59	0	170	319	502	0	0	0	0	0	404	86	1540
815-815	55	0	160	299	496	0	0	0	0	0	412	95	1517
830-930	46	0	150	254	449	0	0	0	0	0	395	81	1375
845-945	50	0	136	243	423	0	0	0	0	0	380	74	1306
900-1000	48	0	118	202	349	0	0	0	0	0	365	78	1160

A.M. PEAK HOUR
800-900



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 33 N/S LUCERNE AVENUE
E/W DUQUESNE AVENUE

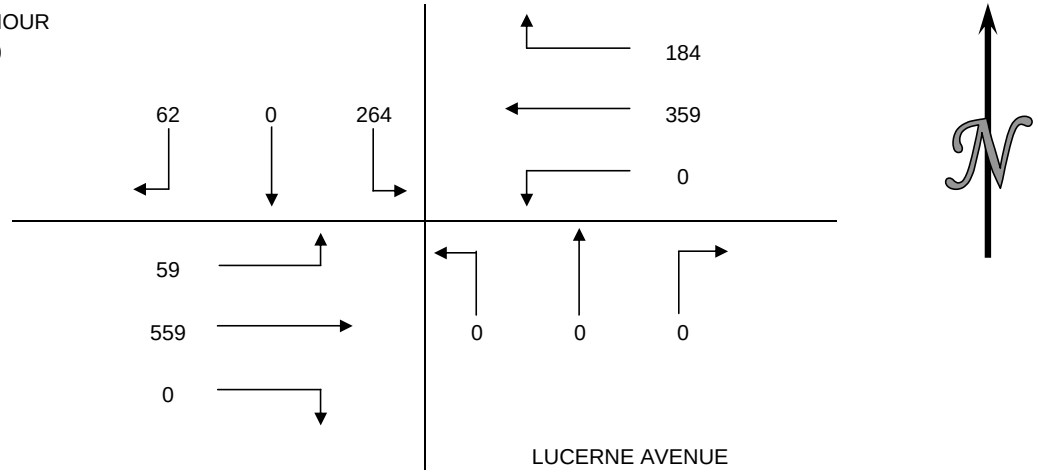
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	14	0	65	42	90	0	0	0	0	0	129	23	363
315-330	11	0	49	28	84	0	0	0	0	0	112	26	310
330-345	6	0	40	35	95	0	0	0	0	0	107	10	293
345-400	11	0	38	23	71	0	0	0	0	0	118	13	274
400-415	10	0	47	21	69	0	0	0	0	0	112	15	274
415-430	6	0	53	51	85	0	0	0	0	0	126	15	336
430-445	7	0	62	44	105	0	0	0	0	0	148	18	384
445-500	13	0	46	41	85	0	0	0	0	0	141	8	334
500-515	16	0	66	34	81	0	0	0	0	0	155	6	358
515-530	13	0	67	43	92	0	0	0	0	0	128	11	354
530-545	15	0	73	59	101	0	0	0	0	0	135	13	396
545-600	18	0	58	48	85	0	0	0	0	0	141	29	379

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	42	0	192	128	340	0	0	0	0	0	466	72	1240
315-415	38	0	174	107	319	0	0	0	0	0	449	64	1151
330-430	33	0	178	130	320	0	0	0	0	0	463	53	1177
345-445	34	0	200	139	330	0	0	0	0	0	504	61	1268
400-500	36	0	208	157	344	0	0	0	0	0	527	56	1328
415-515	42	0	227	170	356	0	0	0	0	0	570	47	1412
430-530	49	0	241	162	363	0	0	0	0	0	572	43	1430
445-545	57	0	252	177	359	0	0	0	0	0	559	38	1442
500-600	62	0	264	184	359	0	0	0	0	0	559	59	1487

P.M. PEAK HOUR
500-600



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: 34 N/S JEFFERSON BOUELVARD
E/W DUQUESNE AVENUE

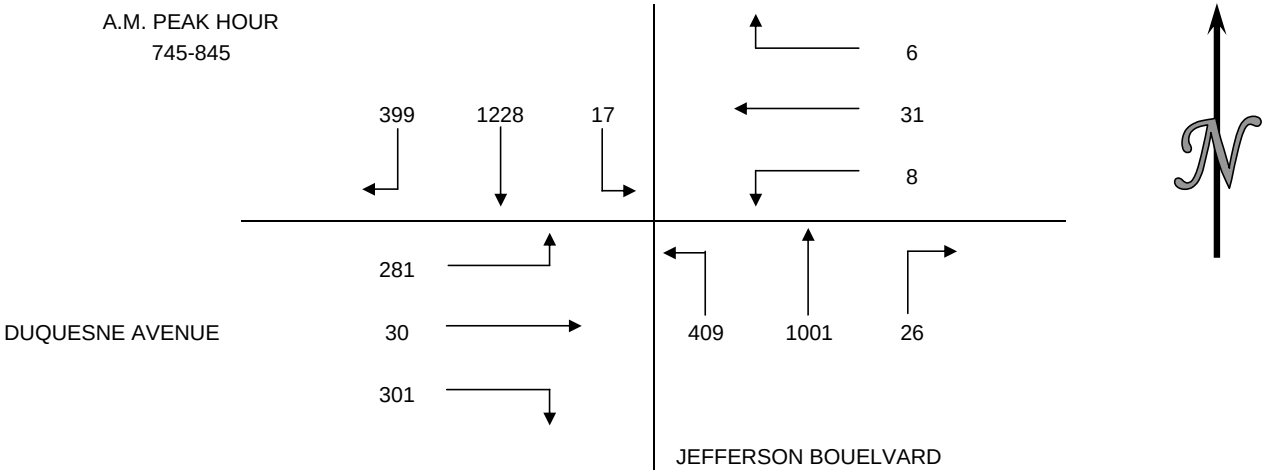
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	75	242	4	0	0	2	5	170	61	40	6	35	640
715-730	73	295	2	2	0	0	3	223	81	52	2	40	773
730-745	82	322	0	1	4	3	2	194	75	73	4	56	816
745-800	94	337	1	0	2	1	3	225	95	64	5	70	897
800-815	100	329	7	1	7	3	7	267	103	89	7	65	985
815-830	92	271	6	3	13	2	10	224	98	71	5	73	868
830-845	113	291	3	2	9	2	6	285	113	77	13	73	987
845-900	92	218	3	1	10	1	13	194	97	47	3	54	733
900-915	83	292	5	5	12	3	6	185	86	62	11	65	815
915-930	60	238	2	1	2	3	2	175	71	53	7	43	657
930-945	56	215	2	0	1	0	1	163	68	52	5	49	612
945-1000	44	196	6	0	2	0	2	144	60	59	9	49	571

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	324	1196	7	3	6	6	13	812	312	229	17	201	3126
715-815	349	1283	10	4	13	7	15	909	354	278	18	231	3471
730-830	368	1259	14	5	26	9	22	910	371	297	21	264	3566
745-845	399	1228	17	6	31	8	26	1001	409	301	30	281	3737
800-900	397	1109	19	7	39	8	36	970	411	284	28	265	3573
815-815	380	1072	17	11	44	8	35	888	394	257	32	265	3403
830-930	348	1039	13	9	33	9	27	839	367	239	34	235	3192
845-945	291	963	12	7	25	7	22	717	322	214	26	211	2817
900-1000	243	941	15	6	17	6	11	667	285	226	32	206	2655

A.M. PEAK HOUR
745-845



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: CULVER CITY TRAFFIC COUNTS
DATE: THURSDAY SEPTEMBER 11, 2008
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: 34 N/S JEFFERSON BOUELVARD
E/W DUQUESNE AVENUE

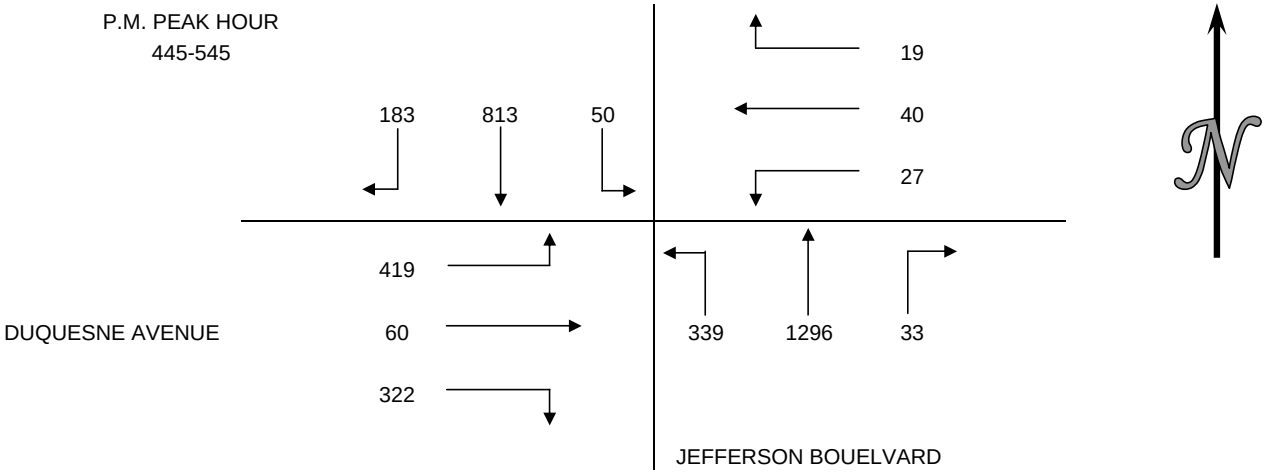
15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-315	55	192	2	2	2	1	4	297	66	66	3	90	780
315-330	35	174	2	0	1	0	5	285	70	60	5	77	714
330-345	31	165	1	1	1	0	1	327	79	66	7	99	778
345-400	39	176	1	4	3	0	4	303	93	71	4	103	801
400-415	35	188	8	1	1	0	7	272	85	63	3	102	765
415-430	52	172	5	2	1	0	2	291	65	56	8	93	747
430-445	33	173	2	1	2	7	3	284	89	69	15	117	795
445-500	49	197	19	7	5	5	8	302	91	69	17	110	879
500-515	51	209	11	4	6	7	5	336	76	91	18	97	911
515-530	34	192	12	4	18	8	12	340	89	82	12	113	916
530-545	49	215	8	4	11	7	8	318	83	80	13	99	895
545-600	35	224	12	1	5	6	10	214	94	90	15	99	805

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
300-400	160	707	6	7	7	1	14	1212	308	263	19	369	3073
315-415	140	703	12	6	6	0	17	1187	327	260	19	381	3058
330-430	157	701	15	8	6	0	14	1193	322	256	22	397	3091
345-445	159	709	16	8	7	7	16	1150	332	259	30	415	3108
400-500	169	730	34	11	9	12	20	1149	330	257	43	422	3186
415-515	185	751	37	14	14	19	18	1213	321	285	58	417	3332
430-530	167	771	44	16	31	27	28	1262	345	311	62	437	3501
445-545	183	813	50	19	40	27	33	1296	339	322	60	419	3601
500-600	169	840	43	13	40	28	35	1208	342	343	58	408	3527

P.M. PEAK HOUR
445-545



24-Hour Residential Street Counts

CITY OF CULVER CITY - ADT WORKSHEET

LOCATION: LUCERNE AVENUE BETWEEN DUQUESNE AVENUE AND INCE BOULEVARD

DATE: THURSDAY MAY 13, 2004

DIRECTION:	NORTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	3	1	2	8
01:00	0	0	0	3	3
02:00	1	1	0	1	3
03:00	0	1	0	0	1
04:00	0	2	0	1	3
05:00	2	2	10	5	19
06:00	8	9	18	16	51
07:00	35	42	66	69	212
08:00	72	55	68	56	251
09:00	42	34	31	32	139
10:00	19	13	21	24	77
11:00	14	22	33	35	104
12:00	24	33	27	30	114
13:00	37	26	39	28	130
14:00	39	34	33	43	149
15:00	29	49	42	49	169
16:00	37	44	30	40	151
17:00	49	38	54	37	178
18:00	48	53	38	29	168
19:00	24	16	18	21	79
20:00	16	16	17	18	67
21:00	19	10	8	18	55
22:00	9	10	8	8	35
23:00	5	6	2	2	15
				TOTAL	2181

AM PEAK HOUR	07:45-8:45
VOLUME	264
PM PEAK HOUR	17:30-18:30
VOLUME	192

DIRECTION:	SOUTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	1	3	1	7
01:00	1	3	3	1	8
02:00	1	5	0	1	7
03:00	1	1	2	0	4
04:00	2	3	2	2	9
05:00	3	4	9	9	25
06:00	13	20	20	23	76
07:00	32	54	53	98	237
08:00	106	58	54	53	271
09:00	46	27	37	39	149
10:00	30	29	25	45	129
11:00	41	38	36	56	171
12:00	38	45	31	42	156
13:00	50	49	41	40	180
14:00	47	47	51	66	211
15:00	62	48	48	68	226
16:00	45	64	56	73	238
17:00	71	91	63	76	301
18:00	79	55	52	45	231
19:00	50	32	32	25	139
20:00	43	28	21	19	111
21:00	21	18	17	10	66
22:00	8	15	6	3	32
23:00	10	11	3	2	26
				TOTAL	3010

AM PEAK HOUR	07:45-8:45
VOLUME	316
PM PEAK HOUR	17:15-18:15
VOLUME	309

TOTAL BI-DIRECTIONAL VOLUME	5191

CITY OF CULVER CITY - ADT WORKSHEET

LOCATION: LUCERNE AVENUE BETWEEN INCE BOULEVARD AND HIGUERA STREET

DATE: TUESDAY MAY 25, 2004

DIRECTION:	NORTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	1	1	0	1	3
01:00	0	0	0	0	0
02:00	0	1	0	0	1
03:00	0	0	0	1	1
04:00	1	0	0	2	3
05:00	1	2	2	7	12
06:00	8	11	7	9	35
07:00	17	27	36	47	127
08:00	55	57	58	49	219
09:00	35	35	20	21	111
10:00	23	13	8	12	56
11:00	32	15	21	31	99
12:00	27	26	23	29	105
13:00	32	20	34	21	107
14:00	29	20	33	33	115
15:00	37	32	34	38	141
16:00	43	34	38	44	159
17:00	47	38	36	35	156
18:00	38	46	30	27	141
19:00	18	22	11	13	64
20:00	10	12	7	9	38
21:00	14	13	10	5	42
22:00	6	3	2	5	16
23:00	9	2	3	2	16
				TOTAL	1767

AM PEAK HOUR	08:00-9:00
VOLUME	219
PM PEAK HOUR	16:30-17:30
VOLUME	167

DIRECTION:	SOUTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	1	2	1	0	4
01:00	0	0	0	1	1
02:00	1	0	1	0	2
03:00	0	0	0	0	0
04:00	0	0	1	0	1
05:00	5	0	4	2	11
06:00	3	8	3	9	23
07:00	7	26	32	31	96
08:00	67	57	30	34	188
09:00	38	18	21	23	100
10:00	14	14	10	20	58
11:00	19	18	25	18	80
12:00	18	20	20	20	78
13:00	13	28	18	23	82
14:00	22	18	19	34	93
15:00	41	28	24	33	126
16:00	40	28	34	33	135
17:00	44	37	54	44	179
18:00	34	33	35	26	128
19:00	27	14	13	11	65
20:00	12	5	17	6	40
21:00	16	3	9	7	35
22:00	4	6	3	2	15
23:00	0	4	2	0	6
				TOTAL	1546

AM PEAK HOUR	08:00-9:00
VOLUME	188
PM PEAK HOUR	17:00-18:00
VOLUME	179

TOTAL BI-DIRECTIONAL VOLUME	3313

WILTEC Phone: (626) 564-1944 Fax: (626) 564-0969

24-HOUR ADT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTANTS
PROJECT: CULVER CITY TRAFFIC COUNTS
LOCATION: WESLEY STREET NORTH OF HIGUERA STREET
DATE: WEDNESDAY SEPTEMBER 10, 2008

DIRECTION:	NB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	1	0	0	0	1
1:00	0	0	0	1	1
2:00	0	0	0	0	0
3:00	0	0	0	2	2
4:00	0	0	0	0	0
5:00	1	0	1	0	2
6:00	3	0	0	2	5
7:00	0	2	3	4	9
8:00	4	5	2	1	12
9:00	2	5	1	3	11
10:00	3	2	5	4	14
11:00	3	3	1	6	13
12:00	3	1	3	1	8
13:00	5	2	3	2	12
14:00	3	3	3	5	14
15:00	3	2	3	1	9
16:00	4	6	4	6	20
17:00	4	4	4	5	17
18:00	5	2	4	2	13
19:00	1	4	2	2	9
20:00	2	3	0	1	6
21:00	3	0	1	1	5
22:00	4	3	0	0	7
23:00	0	1	0	0	1
				TOTAL	191

AM PEAK HOUR	0730-0830
VOLUME	16
PM PEAK HOUR	1600-1700
VOLUME	20

DIRECTION:	SB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	1	2	0	1	4
1:00	1	0	1	0	2
2:00	0	0	0	0	0
3:00	0	0	0	1	1
4:00	0	0	0	0	0
5:00	1	1	1	1	4
6:00	0	1	1	1	3
7:00	5	2	9	14	30
8:00	9	4	10	11	34
9:00	12	12	2	5	31
10:00	2	3	2	1	8
11:00	6	4	2	4	16
12:00	1	5	5	8	19
13:00	4	2	2	3	11
14:00	4	5	1	2	12
15:00	2	2	5	9	18
16:00	3	7	4	6	20
17:00	8	12	12	2	34
18:00	4	10	0	3	17
19:00	6	3	5	2	16
20:00	0	3	0	2	5
21:00	3	1	0	1	5
22:00	0	1	1	0	2
23:00	1	0	0	1	2
				TOTAL	294

AM PEAK HOUR	0830-0930
VOLUME	45
PM PEAK HOUR	1645-1745
VOLUME	38

TOTAL BI-DIRECTIONAL VOLUME	485

THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
LOCATION: HELMS AVENUE BETWEEN NATIONAL BOULEVARD & HIGUERA STREET
DATE: WEDNESDAY NOVEMBER 12, 2008

DIRECTION:	NORTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	2	0	0	2
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	0	0	0	0
05:00	1	0	0	0	1
06:00	0	0	0	1	1
07:00	1	4	4	5	14
08:00	4	2	4	2	12
09:00	6	3	8	4	21
10:00	4	2	5	3	14
11:00	0	4	0	2	6
12:00	5	1	3	2	11
13:00	4	4	9	5	22
14:00	5	10	8	5	28
15:00	3	2	2	3	10
16:00	5	5	4	5	19
17:00	6	8	7	4	25
18:00	2	5	7	2	16
19:00	8	3	4	4	19
20:00	1	2	2	1	6
21:00	2	2	5	3	12
22:00	3	1	0	1	5
23:00	1	1	2	1	5
				TOTAL	249

AM PEAK HOUR	09:00-10:00
VOLUME	21
PM PEAK HOUR	13:30-14:30
VOLUME	29

DIRECTION:	SOUTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	1	0	0	1
01:00	0	0	0	0	0
02:00	0	0	1	0	1
03:00	0	0	0	0	0
04:00	0	1	1	0	2
05:00	0	2	3	0	5
06:00	0	1	0	1	2
07:00	10	9	11	15	45
08:00	27	21	19	7	74
09:00	7	6	3	7	23
10:00	3	3	5	2	13
11:00	0	5	3	6	14
12:00	3	2	6	7	18
13:00	5	7	6	6	24
14:00	4	6	8	7	25
15:00	9	11	7	5	32
16:00	4	6	3	6	19
17:00	18	2	1	6	27
18:00	3	4	7	2	16
19:00	7	4	4	2	17
20:00	3	1	5	4	13
21:00	4	2	3	5	14
22:00	0	1	2	0	3
23:00	1	2	0	0	3
				TOTAL	391

AM PEAK HOUR	07:45-08:45
VOLUME	82
PM PEAK HOUR	14:30-15:30
VOLUME	35

TOTAL BI-DIRECTIONAL VOLUME	640

THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON - NATIONAL EMC / CULVER CITY
LOCATION: SCHAEFFER STREET BETWEEN NATIONAL BOULEVARD & HIGUERA STREET
DATE: WEDNESDAY NOVEMBER 12, 2008

DIRECTION:	NORTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	0	3	0	2	5
01:00	4	0	0	0	4
02:00	0	0	0	1	1
03:00	0	0	0	0	0
04:00	0	1	0	1	2
05:00	0	0	0	0	0
06:00	0	3	1	2	6
07:00	1	4	3	2	10
08:00	3	6	10	5	24
09:00	3	7	2	2	14
10:00	4	3	2	2	11
11:00	2	0	3	0	5
12:00	5	2	5	1	13
13:00	6	1	2	5	14
14:00	4	2	5	6	17
15:00	6	7	2	1	16
16:00	11	9	5	2	27
17:00	6	8	7	8	29
18:00	8	10	3	9	30
19:00	8	2	2	1	13
20:00	6	0	3	1	10
21:00	3	2	5	1	11
22:00	1	0	1	2	4
23:00	1	2	0	1	4
				TOTAL	270

AM PEAK HOUR	08:00-09:00
VOLUME	24
PM PEAK HOUR	17:15-18:15
VOLUME	33

DIRECTION:	SOUTHBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	2	0	0	4
01:00	0	0	0	0	0
02:00	0	0	0	0	0
03:00	0	0	0	0	0
04:00	0	1	0	0	1
05:00	1	1	0	0	2
06:00	0	4	4	7	15
07:00	7	6	10	9	32
08:00	12	18	12	12	54
09:00	5	12	13	14	44
10:00	5	9	4	5	23
11:00	5	6	5	2	18
12:00	11	5	4	2	22
13:00	4	13	9	3	29
14:00	5	6	9	7	27
15:00	8	6	2	6	22
16:00	9	10	2	8	29
17:00	8	14	9	11	42
18:00	4	4	9	5	22
19:00	2	2	4	5	13
20:00	3	2	1	2	8
21:00	2	1	0	0	3
22:00	3	4	0	2	9
23:00	0	0	0	1	1
				TOTAL	420

AM PEAK HOUR	08:00-09:00
VOLUME	54
PM PEAK HOUR	17:00-18:00
VOLUME	42

TOTAL BI-DIRECTIONAL VOLUME	690

CITY OF CULVER CITY - ADT WORKSHEET

LOCATION: HIGUERA STREET BETWEEN WASHINGTON BOULEVARD AND LUCERNE AVENUE

DATE: THURSDAY MAY 13, 2004

DIRECTION:	WESTBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	2	3	2	9
01:00	6	2	0	0	8
02:00	3	1	2	1	7
03:00	2	0	0	0	2
04:00	1	1	0	4	6
05:00	11	8	7	5	31
06:00	8	11	33	38	90
07:00	45	69	72	72	258
08:00	84	74	59	69	286
09:00	51	26	48	36	161
10:00	39	46	34	35	154
11:00	32	36	59	39	166
12:00	50	40	36	53	179
13:00	44	41	35	41	161
14:00	46	44	39	47	176
15:00	54	32	52	54	192
16:00	52	41	52	40	185
17:00	62	42	52	54	210
18:00	57	48	52	38	195
19:00	21	28	23	22	94
20:00	24	28	15	15	82
21:00	22	11	17	13	63
22:00	13	5	5	5	28
23:00	3	6	2	3	14
				TOTAL	2757

AM PEAK HOUR	07:30-08:30
VOLUME	302
PM PEAK HOUR	17:30-18:30
VOLUME	211

DIRECTION:	EASTBOUND				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	2	4	1	1	8
01:00	3	8	4	2	17
02:00	0	2	1	1	4
03:00	2	1	2	0	5
04:00	1	1	3	6	11
05:00	5	2	7	13	27
06:00	4	19	11	21	55
07:00	19	27	45	51	142
08:00	54	61	44	56	215
09:00	67	42	44	42	195
10:00	31	41	35	40	147
11:00	30	42	34	36	142
12:00	37	49	47	59	192
13:00	75	54	54	49	232
14:00	42	34	45	56	177
15:00	40	43	56	61	200
16:00	73	54	67	73	267
17:00	76	75	83	77	311
18:00	70	48	63	45	226
19:00	37	40	28	33	138
20:00	24	23	14	16	77
21:00	19	17	18	18	72
22:00	19	10	12	7	48
23:00	11	12	4	5	32
				TOTAL	2940

AM PEAK HOUR	08:15-09:15
VOLUME	228
PM PEAK HOUR	17:00-18:00
VOLUME	311

TOTAL BI-DIRECTIONAL VOLUME	5697

CITY OF CULVER CITY - ADT WORKSHEET

LOCATION: HIGUERA STREET BETWEEN LUCERNE AVENUE AND HAYDEN AVENUE

DATE: TUESDAY MAY 25, 2004

DIRECTION:		WESTBOUND			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	1	2	1	1	5
01:00	0	1	0	3	4
02:00	0	2	2	0	4
03:00	1	1	2	2	6
04:00	0	0	0	0	0
05:00	5	3	3	3	14
06:00	1	9	12	12	34
07:00	18	33	35	42	128
08:00	36	45	65	38	184
09:00	35	14	26	17	92
10:00	21	18	13	17	69
11:00	15	17	28	24	84
12:00	33	32	30	31	126
13:00	34	35	34	25	128
14:00	33	29	34	38	134
15:00	41	32	45	47	165
16:00	46	29	36	26	137
17:00	48	26	42	47	163
18:00	38	36	41	16	131
19:00	22	19	20	16	77
20:00	18	10	15	9	52
21:00	15	8	10	9	42
22:00	7	2	4	4	17
23:00	4	2	1	2	9
				TOTAL	1805

AM PEAK HOUR	07:45-08:45
VOLUME	188
PM PEAK HOUR	15:15-16:15
VOLUME	170

DIRECTION:		EASTBOUND			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
00:00	3	1	2	2	8
01:00	0	0	4	1	5
02:00	2	1	3	1	7
03:00	0	0	0	1	1
04:00	1	0	1	9	11
05:00	2	5	8	15	30
06:00	12	7	17	18	54
07:00	25	19	29	50	123
08:00	64	46	56	77	243
09:00	91	52	45	54	242
10:00	56	33	26	25	140
11:00	34	35	25	25	119
12:00	41	38	61	69	209
13:00	49	40	56	43	188
14:00	52	36	43	51	182
15:00	49	44	50	60	203
16:00	50	52	74	58	234
17:00	60	56	73	64	253
18:00	61	45	32	38	176
19:00	30	19	14	18	81
20:00	11	11	9	4	35
21:00	19	8	9	11	47
22:00	7	2	8	7	24
23:00	3	3	7	5	18
				TOTAL	2633

AM PEAK HOUR	08:30-09:30
VOLUME	276
PM PEAK HOUR	17:15-18:15
VOLUME	254

TOTAL BI-DIRECTIONAL VOLUME	4438

APPENDIX C

PROJECT LOCAL/NEIGHBORHOOD STREET TRIP CALCULATIONS

Table C-1
Local/Residential Street Traffic Impact Analysis Summary
Net Project Average Daily and Peak Hour Traffic Volume Calculations

Street/Segment	Project Component Trip Distribution Percent: Residential [See Figure 5(a)] In	Residential Out	Commercial [See Figure 5(b)] In	Commercial Out	Net Project Component Trips (See Table 2): Time Period	Residential In	Residential Out	Residential Total	Commercial (Total) In	Commercial (Total) Out	Commercial (Total) Total	Project Component Net New Trips on Local/Residential Street Segments: Time Period	Residential In	Residential Out	Residential Total	Commercial (Total) In	Commercial (Total) Out	Commercial (Total) Total	Total Net New Project Trips
Lucerne Avenue																			
Between Ince Boulevard and Duquesne Avenue	2%	2%	2%	2%	Daily	309	309	618	1,148	1,148	2,296	Daily	6	6	12	23	23	46	58
					AM Peak Hour	8	39	47	61	46	107	AM Peak Hour	0	1	1	1	1	2	3
					PM Peak Hour	37	18	55	113	107	220	PM Peak Hour	1	0	1	2	2	4	5
South of Higuera Street	2%	2%	2%	2%								Daily	6	6	12	23	23	46	58
												AM Peak Hour	0	1	1	1	1	2	3
												PM Peak Hour	1	0	1	2	2	4	5
Wesley Street																			
Between Higuera Street and National Boulevard	0%	1%	1%	1%								Daily	0	3	3	12	11	23	26
												AM Peak Hour	0	1	1	0	0	0	1
												PM Peak Hour	0	0	0	1	1	2	2
Helms Avenue																			
Between Higuera Street and National Boulevard	0%	0%	0%	0%								Daily	0	0	0	0	0	0	0
												AM Peak Hour	0	0	0	0	0	0	0
												PM Peak Hour	0	0	0	0	0	0	0
Schaefer Street																			
Between Higuera Street and National Boulevard	0%	0%	0%	0%								Daily	0	0	0	0	0	0	0
												AM Peak Hour	0	0	0	0	0	0	0
												PM Peak Hour	0	0	0	0	0	0	0
Higuera Street																			
Between Washington Boulevard ar	2%	1%	1%	1%								Daily	6	3	9	11	12	23	32
Lucerne Avenue												AM Peak Hour	0	0	0	1	1	2	2
												PM Peak Hour	1	0	1	1	1	2	3
Between Lucerne Avenue and Wesley Street	0%	1%	1%	1%								Daily	0	3	3	12	11	23	26
												AM Peak Hour	0	1	1	1	0	1	2
												PM Peak Hour	0	0	0	1	1	2	2
Between Wesley Street and Jefferson Boulevard	3%	0%	4%	0%								Daily	9	0	9	46	0	46	55
												AM Peak Hour	0	0	0	3	0	3	3
												PM Peak Hour	1	0	1	5	0	5	6
Column Number	[1]	[2]	[3]	[4]		[5]	[6]	[7]	[8]	[9]	[10]		[11]	[12]	[13]	[14]	[15]	[16]	[17]
Column Formula (if applicable)								= [5] + [6]			= [8] + [9]		= [1] x [5]	= [2] x [6]	= [11] + [12]	= [3] x [8]	= [4] x [9]	= [14] + [15]	= [13] + [16]

APPENDIX D

CONCEPTUAL TRAFFIC MITIGATION IMPROVEMENTS AND SUPPORTING INFORMATION

Includes:

- **Washington Boulevard/Wesley Street Traffic Signal Warrant Analysis**
- **Washington Boulevard/Cattaraugus Avenue Traffic Signal Warrant Analysis**
- **Wesley Street Project Driveway Truck Turning Movement Analysis**
- **Wesley Street Project On-Street Loading Zone Sight Distance Analysis**
- **Venice Boulevard and National Boulevard On-Street Parking Utilization Summaries**
- **Wesley Street Existing On-Street Parking Layout**

FIGURE D-1

CONCEPTUAL IMPROVEMENT
VENICE BOULEVARD AT ROBERTSON BOULEVARD

LEGEND

- EXPOSITION LIGHT RAIL/ CITY OF CULVER CITY TOD SITE PROJECT IMPROVEMENTS
- 8770 WASHINGTON PROJECT IMPROVEMENTS

Hirsch/Green Transportation Consulting, Inc.

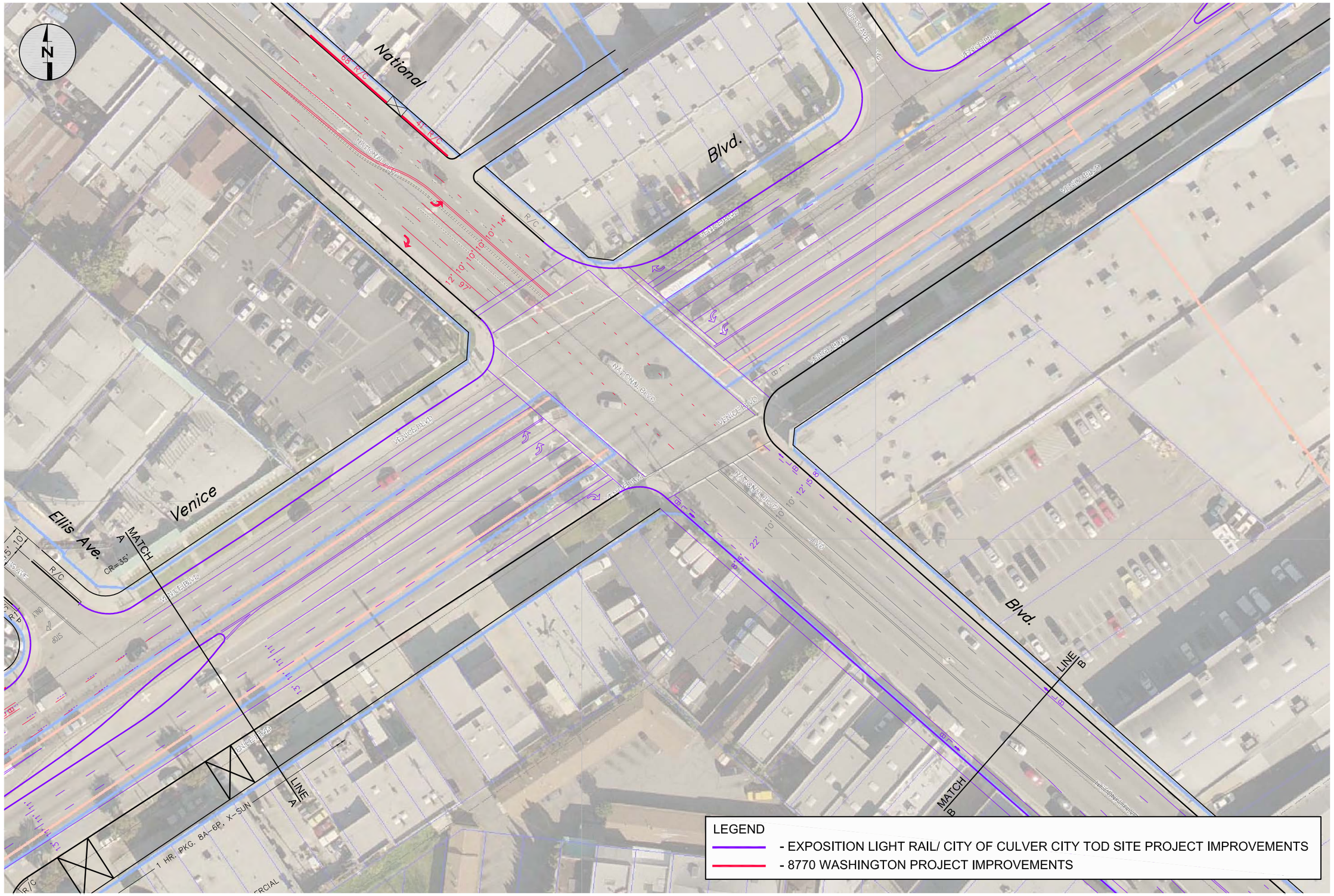


FIGURE D-2

CONCEPTUAL IMPROVEMENT
NATIONAL BOULEVARD AT VENICE BOULEVARD

IRSCH REEN
Hirsch/Green Transportation Consulting, Inc.

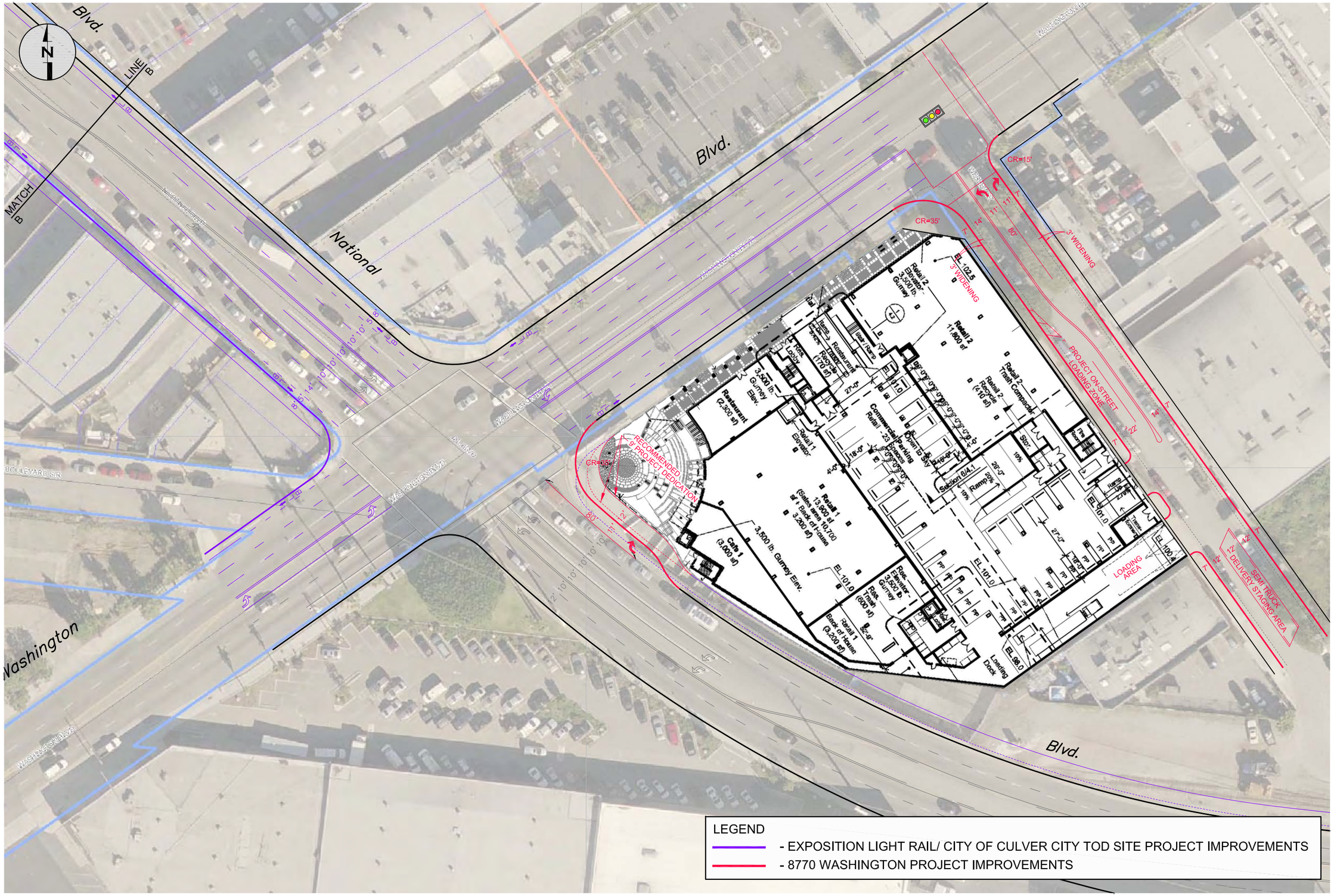


FIGURE D-3

CONCEPTUAL IMPROVEMENT
NATIONAL BOULEVARD AT WASHINGTON BOULEVARD
AND WESLEY STREET AT WASHINGTON BOULEVARD

IRSCH REEN
Hirsch/Green Transportation Consulting, Inc.

WASHINGTON-NATIONAL EMC (CULVER CITY) \ STRP WASHGINTON-CATTARAUGUS

FIGURE D-4

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

CONCEPTUAL IMPROVEMENT
WASHINGTON BOULEVARD AND CATTARAUGUS AVENUE

2/8/2011

Washington Boulevard/Wesley Street

and

Washington Boulevard/Cattaraugus Avenue

Traffic Signal Warrant Analysis

Washington Boulevard/Wesley Street
(With Project Conditions)

WASHINGTON-NATIONAL EMC (CULVER CITY) \ SIG-WARRANT (4C-3)

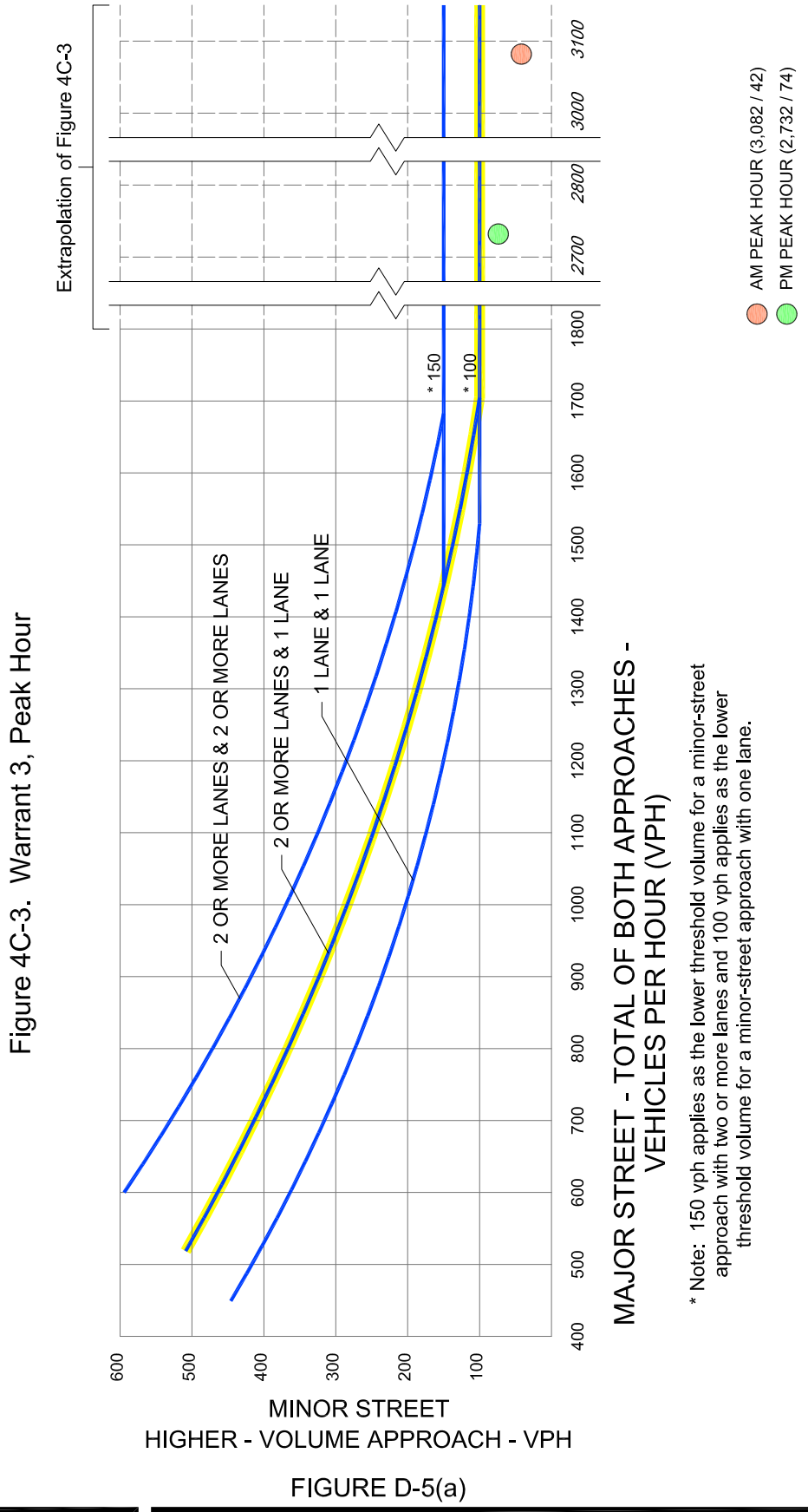


Figure 4C-3. Warrant 3, Peak Hour

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

FIGURE D-5(a)

7/28/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

TRAFFIC SIGNAL WARRANT ANALYSIS
PEAK HOUR VEHICULAR VOLUMES
(WITH PROJECT CONDITIONS)
WASHINGTON BOULEVARD AND WESLEY STREET

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Wesley Street
AM Peak Hour (With Project Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☐ **NO** ☒
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☐ **NO** ☒

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☐ **NO** ☒

APPROACH LANES	One	2 or More	Hour 7:45 – 8:45 AM
Both Approaches – Major Street	☐	☒	**3,082**
Higher Approach – Minor Street	☒	☐	**42**

The plotted point falls above the curve in Figure 4C-3.	Yes ☐ No ☒
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Wesley Street
PM Peak Hour (With Project Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☐ **NO** ☒
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☐ **NO** ☒

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☐ **NO** ☒

APPROACH LANES	One	2 or More	Hour 5:00 - 6:00 PM
Both Approaches – Major Street	☐	☒	**2,732**
Higher Approach – Minor Street	☒	☐	**74**

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☒
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

WASHINGTON-NATIONAL EMC (CULVER CITY) \ SIGNAL WARRANT CA-MUTCD 4C-103

California MUTCD Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)
Figure 4C-103 (CA)

Major St: Washington Boulevard — Critical Approach Speed 40 mph
Minor St: Wesley Street — Critical Approach Speed 15 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)..... ☑ *
or
In built up area of isolated community of < 10,000 population..... ☐

☑ RURAL (R)
☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... ✓

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More	1
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
~~Urban~~	Rural	~~Urban~~	Rural
~~8,000~~	5,600	~~2,400~~	1,680
~~9,600~~ 35,839	6,720	~~2,400~~ 869	1,680
~~9,600~~	6,720	~~3,200~~	2,240
~~8,000~~	5,600	~~3,200~~	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ✓ Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More	1
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
~~Urban~~	Rural	~~Urban~~	Rural
~~12,000~~	8,400	~~1,200~~	850
~~14,400~~ 35,839	10,080	~~1,200~~ 869	850
~~14,400~~	10,080	~~1,600~~	1,120
~~12,000~~	8,400	~~1,600~~	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied _____

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

* Note: Although located in an "Urban" enironment, high approach speed on Washington Boulevard makes use of "Rural" criteria appropriate.

FIGURE D-5(b)

2/10/2011

Note: Daily traffic volume estimates for both Washington Boulevard and Wesley Street are based on the existing three-hour AM and PM intersection peak period counts performed for that location. These counts were factored to estimate 24-hour traffic volumes using adjustment factors identified by the Los Angeles County Public Works Department, as provided by the City of Culver City. The volumes used in the Estimated Average Daily Traffic Warrant are derived as noted below:

Washington Boulevard

Existing (2010) Total Two-way Traffic Volumes - from April 29, 2010 counts

AM (7:00 - 10:00) = 6,427
PM (3:00 - 6:00) = 5,671
12,098 = 39.50% of ADT (per LACo DPW Traffic & Lighting)

$$\text{Estimated 2010 ADT} = \frac{12{,}098}{0.3950} = 30{,}628 \text{ vehicles per day (total both directions)}$$

Forecast (2013) Total Two-way Traffic Volumes

30,628	x 1.01% ambient growth for 3 years =	31,556
	plus related projects daily traffic =	2,821
	plus traffic from proposed project =	1,462
		35,839 "With Project" vehicles per day

Wesley Street

Existing (2010) Total Northbound Approach Traffic Volumes - from April 29, 2010 counts

AM (7:00 - 10:00) = 10
PM (3:00 - 6:00) = 69
79 = 38.12% of ADT (per LACo DPW Traffic & Lighting)

$$\text{Estimated 2010 ADT} = \frac{79}{0.3812} = 207 \text{ vehicles per day (northbound approach)}$$

Forecast (2013) Total Two-way Traffic Volumes

207	x 1.01% ambient growth for 3 years =	213 *
	plus related projects daily traffic =	0
	plus traffic from proposed project =	656 (northbound volumes using potential signal)
		869 "With Project" vehicles per day

* For EADT Traffic Signal Warrant, only northbound Wesley Street approach volume (traveling toward signal) is used.

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH GREEN TRANSPORTATION CONSULTANTS, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION N/S WESLEY AVENUE / DRIVEWAY
E/W WASHINGTON BOULEVARD
FILE NUMBER: 21-AM

					Washington Blvd.		Wesley St.			Washington Blvd.		
15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	0	0	0	0	238	1	0	0	0	3	81	0
0715-0730	0	0	0	0	384	3	0	0	0	2	144	0
0730-0745	0	0	0	0	441	0	0	0	0	0	175	0
0745-0800	0	0	0	0	421	2	0	0	0	1	179	0
0800-0815	1	0	0	0	333	1	0	0	0	1	220	0
0815-0830	3	0	1	0	392	0	1	0	0	0	266	0
0830-0845	1	0	1	0	409	0	0	0	0	2	248	0
0845-0900	1	0	0	0	355	4	1	0	1	1	200	0
0900-0915	1	0	0	0	311	2	1	0	1	3	135	0
0915-0930	3	0	0	0	321	0	1	0	2	3	158	0
0930-0945	2	0	0	0	377	2	1	0	0	3	148	0
0945-1000	4	0	2	0	329	1	0	0	1	5	122	0
					4311	16	5		5	24	2076	
					4327		10			2100		

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	0	0	0	0	1484	6	0	0	0	6	579	0	2075
0715-0815	1	0	0	0	1579	6	0	0	0	4	718	0	2308
0730-0830	4	0	1	0	1587	3	1	0	0	2	840	0	2438
0745-0845	5	0	2	0	1555	3	1	0	0	4	913	0	2483
0800-0900	6	0	2	0	1489	5	2	0	1	4	934	0	2443
0815-0915	6	0	2	0	1467	6	3	0	2	6	849	0	2341
0830-0930	6	0	1	0	1396	6	3	0	4	9	741	0	2166
0845-0945	7	0	0	0	1364	8	4	0	4	10	641	0	2038
0900-1000	10	0	2	0	1338	5	3	0	4	14	563	0	1939

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH GREEN TRANSPORTATION CONSULTANTS, INC.
PROJECT: WASHINGTON / NATIONAL EMC
DATE: THURSDAY, APRIL 29, 2010
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION N/S WESLEY STREET / DRIVEWAY
E/W WASHINGTON BOULEVARD
FILE NUMBER: 21-PM

					Washington Blvd.		Wesley St.			Washington Blvd.		
15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	4	0	0	0	222	4	4	0	3	2	212	0
0315-0330	6	0	1	0	195	2	3	0	2	0	238	0
0330-0345	8	0	2	0	170	0	5	0	5	0	241	0
0345-0400	5	0	2	0	175	0	3	0	5	1	204	0
0400-0415	8	0	3	0	199	0	4	0	3	2	251	0
0415-0430	4	0	1	0	228	1	4	0	6	1	265	0
0430-0445	4	0	2	0	207	0	2	0	3	2	255	0
0445-0500	2	0	3	0	236	2	2	0	3	2	235	0
0500-0515	4	0	2	0	240	0	4	0	2	0	295	0
0515-0530	4	0	0	0	244	0	3	0	3	0	327	0
0530-0545	4	0	2	0	230	1	0	0	0	0	279	0
0545-0600	4	0	0	0	216	0	0	0	0	1	286	0
					2562	10	34		35	11	3088	
					2572		69			3099		

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	23	0	5	0	762	6	15	0	15	3	895	0	1724
0315-0415	27	0	8	0	739	2	15	0	15	3	934	0	1743
0330-0430	25	0	8	0	772	1	16	0	19	4	961	0	1806
0345-0445	21	0	8	0	809	1	13	0	17	6	975	0	1850
0400-0500	18	0	9	0	870	3	12	0	15	7	1006	0	1940
0415-0515	14	0	8	0	911	3	12	0	14	5	1050	0	2017
0430-0530	14	0	7	0	927	2	11	0	11	4	1112	0	2088
0445-0545	14	0	7	0	950	3	9	0	8	2	1136	0	2129
0500-0600	16	0	4	0	930	1	7	0	5	1	1187	0	2151

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

LOS ANGELES COUNTY PUBLIC WORKS DEPARTMENT
TRAFFIC AND LIGHTING DIVISION
1993 SHORT COUNT CONVERSION FACTORS

% OF 24 HOUR COUNT

	HOUR	LOCAL < 6,000	MASTER < 10,000	MASTER > 10,000
AM				
	12-1	0.72	0.78	0.83
	1-2	0.40	0.35	0.49
	2-3	0.32	0.36	0.40
	3-4	0.23	0.34	0.39
	4-5	0.45	0.85	0.80
	5-6	1.26	2.68	2.18
	6-7	2.96	5.28	4.35
	7-8	5.47	6.69	6.49
	8-9	5.87	5.93	5.93
	9-10	4.79	4.93	4.90
	10-11	4.88	4.76	4.90
	11-12	5.49	5.18	5.39
PM				
	12-1	6.22	5.53	5.91
	1-2	5.94	5.71	5.79
	2-3	6.74	6.70	6.28
	3-4	7.45	7.82	7.09
	4-5	7.98	8.50	7.64
	5-6	8.39	8.01	8.00
	6-7	7.26	6.27	6.55
	7-8	5.58	4.32	4.94
	8-9	4.38	3.27	3.73
	9-10	3.42	2.53	3.15
	10-11	2.29	1.97	2.32
	11-12	1.51	1.24	1.55
	NO. OF SAMPLES	251	539	1314

TIME PERIOD	LOCAL < 6,000	MASTER <10,000	MASTER >10,000
6A-12N	29.46	32.77	31.96
12N-6P	42.72	42.27	40.71
6A-6P	72.18	75.04	72.67
7A-1P	32.72	33.02	31.52
7A-9A	11.34	12.62	11.42
2P-6P	30.56	31.03	29.01
7A-9A & 2P-6P	41.90	43.65	41.43
6A-9A	14.30	17.90	16.77
3P-6P	23.82	24.33	22.73
6A-9A & 3P-6P	38.12	42.23	39.50

HIGHEST HOUR	CORRESPONDING HOUR		
	LOCAL	MASTER < 10,000	MASTER >10,000
1	5-6PM	4-5PM	5-6PM
2	4-5PM	5-6PM	4-5PM
3	3-4PM	3-4PM	3-4PM
4	6-7PM	2-3PM	6-7PM
5	2-3PM	7-8AM	7-8AM
6	12-1PM	6-7PM	2-3PM
7	1-2PM	8-9AM	8-9AM
8	8-9AM	1-2PM	12-1PM

File:EXPCF.XLS
Date Printed:6/1/94

Washington Boulevard/Cattaraugus Avenue
(Without Project Conditions)

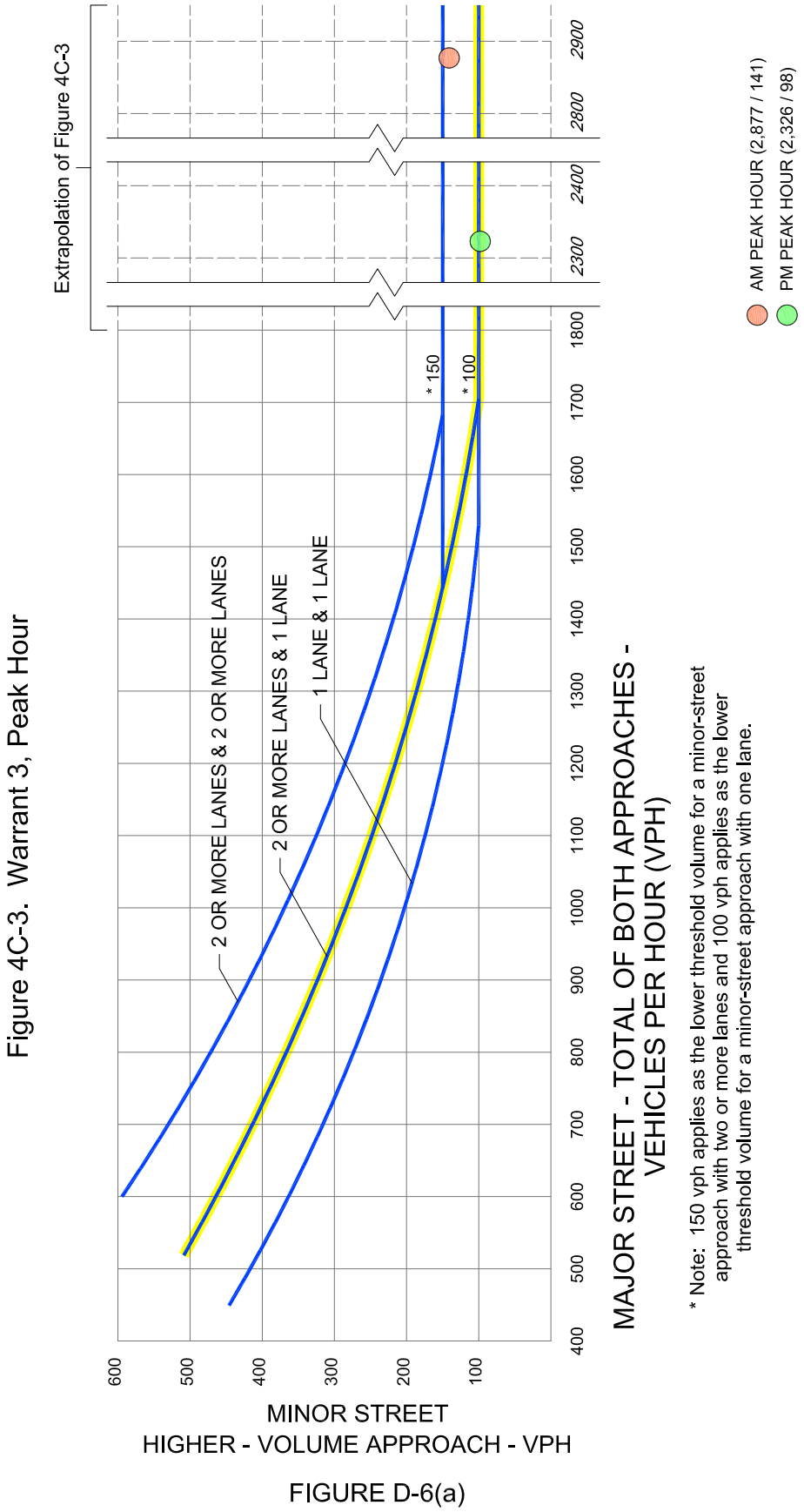


Figure 4C-3. Warrant 3, Peak Hour

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

FIGURE D-6(a)

5/25/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

TRAFFIC SIGNAL WARRANT ANALYSIS
PEAK HOUR VEHICULAR VOLUMES
(WITHOUT PROJECT CONDITIONS)
WASHINGTON BOULEVARD AND CATTARAUGUS AVENUE

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Cattaraugus Avenue
AM Peak Hour (Without Project Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☒ **NO** ☐
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☒ **NO** ☐

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	Hour 7:30 – 8:30 AM
Both Approaches – Major Street	☐	☒	**2,877**
Higher Approach – Minor Street	☒	☐	**141**

The plotted point falls above the curve in Figure 4C-3.	Yes ☒ No ☐
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Cattaraugus Avenue
PM Peak Hour (Without Project Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☐ **NO** ☒
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☐ **NO** ☒

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☐ **NO** ☒

APPROACH LANES	One	2 or More	Hour 5:00 - 6:00 PM
Both Approaches – Major Street	☐	☒	**2,326**
Higher Approach – Minor Street	☒	☐	**98**

The plotted point falls above the curve in Figure 4C-3.	Yes ☐	No ☒
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Washington Boulevard/Cattaraugus Avenue
(With Project Conditions)

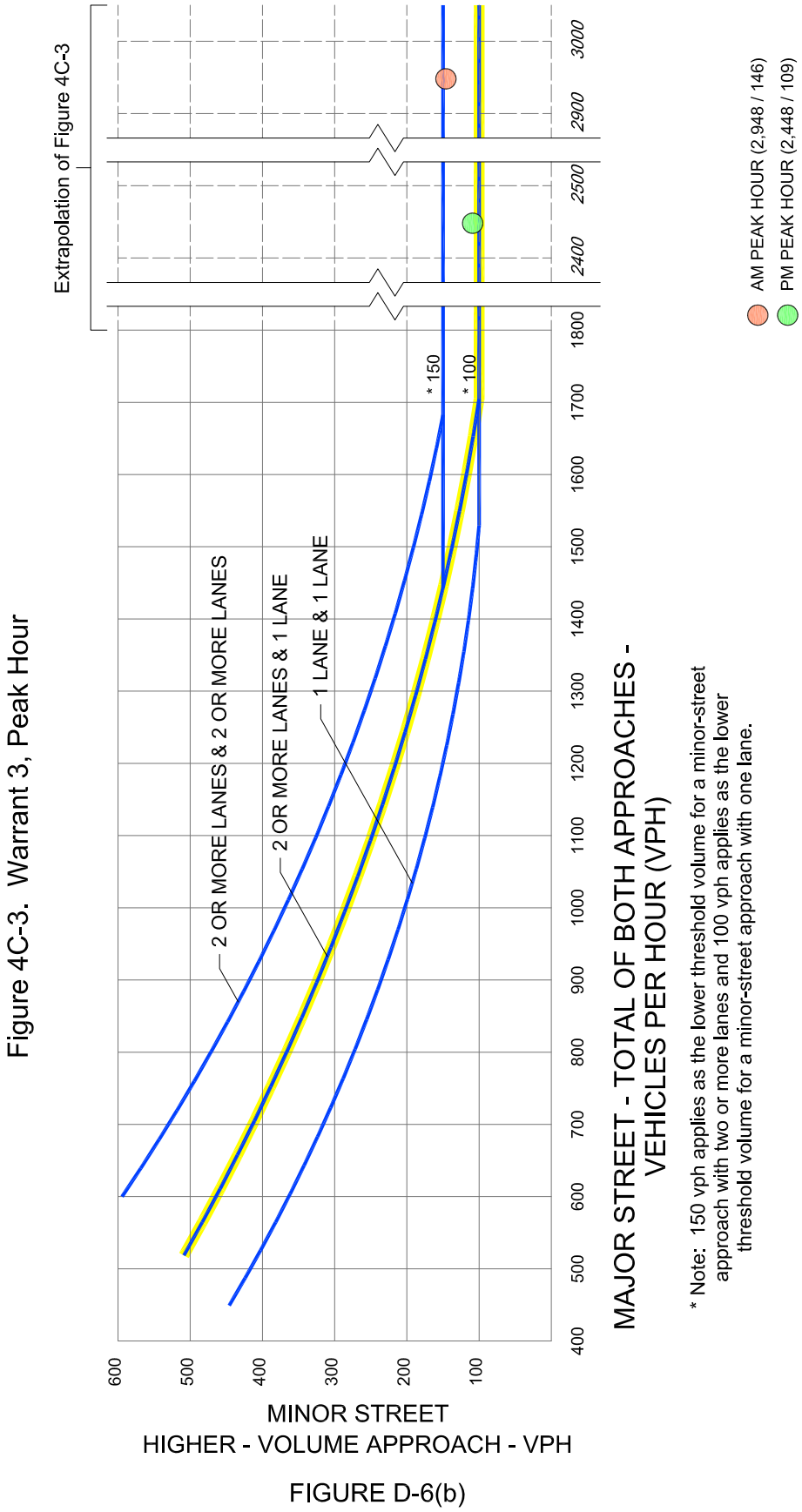


Figure 4C-3. Warrant 3, Peak Hour

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

FIGURE D-6(b)

5/25/2010

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

TRAFFIC SIGNAL WARRANT ANALYSIS
PEAK HOUR VEHICULAR VOLUMES
(WITH PROJECT CONDITIONS)
WASHINGTON BOULEVARD AND CATTARAUGUS AVENUE

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Cattaraugus Avenue
AM Peak Hour (With Project Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☒ **NO** ☐
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☒ **NO** ☐

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	Hour 7:30 – 8:30 AM
Both Approaches – Major Street	☐	☒	**2,948**
Higher Approach – Minor Street	☒	☐	**146**

The plotted point falls above the curve in Figure 4C-3.	Yes ☒ No ☐
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Cattaraugus Avenue
PM Peak Hour (With Project Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☒ **NO** ☐
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☒ **NO** ☐

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	Hour 5:00 - 6:00 PM
Both Approaches – Major Street	☐	☒	**2,448**
Higher Approach – Minor Street	☒	☐	**109**

The plotted point falls above the curve in Figure 4C-3.	Yes ☒ No ☐
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Washington Boulevard/Cattaraugus Avenue
(With Project Traffic Redistribution Conditions)

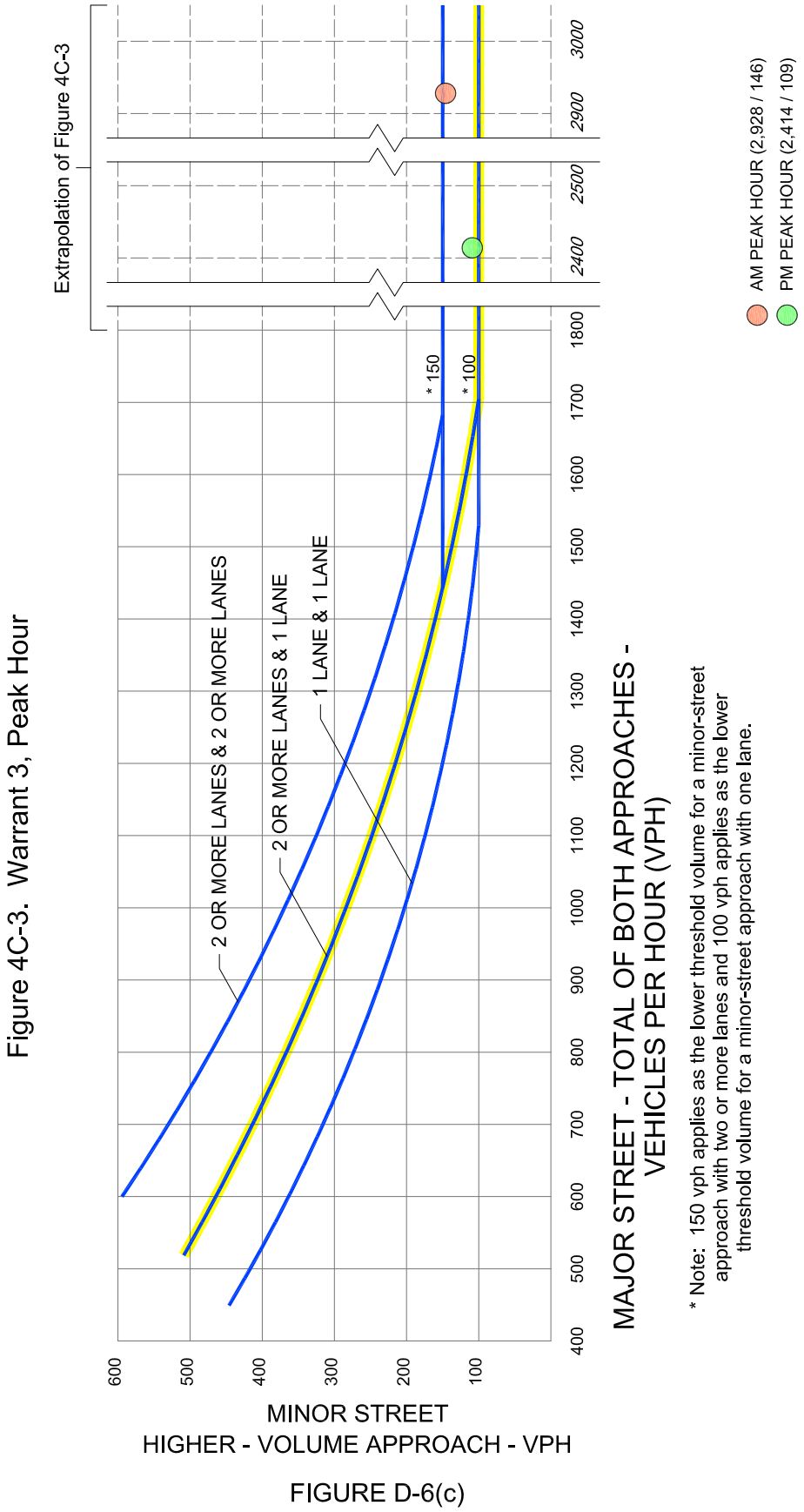


Figure 4C-3. Warrant 3, Peak Hour

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

FIGURE D-6(c)

7/23/2010

HIRSCH GREEN

Hirsch/Green Transportation Consulting, Inc.

TRAFFIC SIGNAL WARRANT ANALYSIS
PEAK HOUR VEHICULAR VOLUMES
(WITH PROJECT PLUS REDISTRIBUTION CONDITIONS) **
WASHINGTON BOULEVARD AND CATTARAUGUS AVENUE

** Project traffic redistributions due to new traffic signal mitigation at Washington Blvd./Wesley St.

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Cattaraugus Avenue
AM Peak Hour (With Project Traffic Redistribution Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☒ **NO** ☐
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☒ **NO** ☐

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	Hour 7:30 – 8:30 AM
Both Approaches – Major Street	☐	☒	**2,928**
Higher Approach – Minor Street	☒	☐	**146**

The plotted point falls above the curve in Figure 4C-3.	Yes ☒ No ☐
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

CAMUTCD Traffic Signal Warrant 3 Analysis Worksheet
Washington Boulevard and Cattaraugus Avenue
PM Peak Hour (With Project Traffic Redistribution Conditions)

WARRANT 3 – Peak Hour **SATISFIED** **YES** ☒ **NO** ☐
(Part A or Part B must be satisfied)

PART A **SATISFIED** **YES** ☒ **NO** ☐

(All parts 1, 2 and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; **AND**	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; **AND**	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B **SATISFIED** **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	Hour 5:00 - 6:00 PM
Both Approaches – Major Street	☐	☒	**2,414**
Higher Approach – Minor Street	☒	☐	**109**

The plotted point falls above the curve in Figure 4C-3.	Yes ☒ No ☐
OR, The plotted point falls above the curve in Figure 4C-4. (Not Applicable)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Wesley Street Project Driveway Truck Turning Movement Analysis

N

CR=15'

3' WIDENING

7'
11'
11'
80'
7'
14'
7'
2'
7'
12'
7'

PROJECT ON-STREET
LOADING ZONE

CR=35'

EL. 102.5

3' WIDENING

Retail 2
Trash Compactor

Retail 2
Elevator -
3,500 lb.
Gurney

Retail 2
11,800 sf

Retail 2
Recycle
(410 sf)

Fire
Room

Ramp
Up
2.78%

Trans-
former

EL. 101.0

Stor.

10%

29'-0"

20%
Ramp
10%

27'-0"

18'-0"

9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0"

4'-0"

18'-0"

Section 6/4.1

1
4.2

Stair / Ramp

EL. 101.0

Ramp
Dn
5.42%

Restaurant
Trash/
Recycle
(170 sf)

27'-0"

Open to Sky

Commercial Parking
Retail - 23 Spaces

9'-0" 9'-0" 9'-0"

18'-0"

4'-0"

Res.
Lobby

3,500 lb.
Gurney
Elev.

Retail 1
Elevator

Retail 1
13,900 sf
(Sales area 10,700

Res.
Elevator -
3,500 lb.
Gurney

Res.
Lobby

Res.

EL. 101.0

EL. 98.0

Loading
Dock

PP

AREA

Blvd.

FIGURE D-7(a)

55' TRUCK ACCESS TO LOADING DOCK
(ENTERING)

HIRSCH GREEN

Hirsch/Green Transportation Consulting, Inc.

N

CR=15'

3' WIDENING

7'
11'
11'
80'
14'
7'

7'
22'
7'

7'
12'
12'
12'
7'

SEMI TRUCK
DELIVERY STAGING AREA

PROJECT ON-STREET
LOADING ZONE

CR=35'

EL. 102.5

3' WIDENING

Retail 2
Trash Compactor

Retail 2
Elevator -
3,500 lb.
Gurney

Retail 2
11,800 sf

Retail 2
Recycle
(410 sf)

Stor.

Fire
Room

Ramp
Up
2.78%

Trans-
former

EL. 101.0

10%

29'-0"

20%
Ramp
10%

27'-0"

18'-0"

PP

1
4.2

9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0"

4'-0"

Stair / Ramp

EL. 101.0

18'-0"

Section 6/4.1

Open to Sky

Ramp
Dn
5.42%

Restaurant
Trash/
Recycle
(170 sf)

27'-0"

Commercial Parking
Retail - 23 Spaces

9'-0" 9'-0" 9'-0"

EL. 101.0

Res.
Lobby

18'-0"

4'-0"

PP PP PP PP PP

EL. 98.0

Loading
Dock

3,500 lb.
Gurney
Elev.

Retail 1
Elevator

Retail 1
13,900 sf
(Sales area 10,700

Res.
Elevator -
3,500 lb.
Gurney

Res.
Lobby

Res.

Blvd.

FIGURE D-7(b)

55' TRUCK ACCESS TO LOADING DOCK
(EXITING)

Hirsch/Green Transportation Consulting, Inc.

Wesley Street Project On-Street Loading Zone Sight Distance Analysis

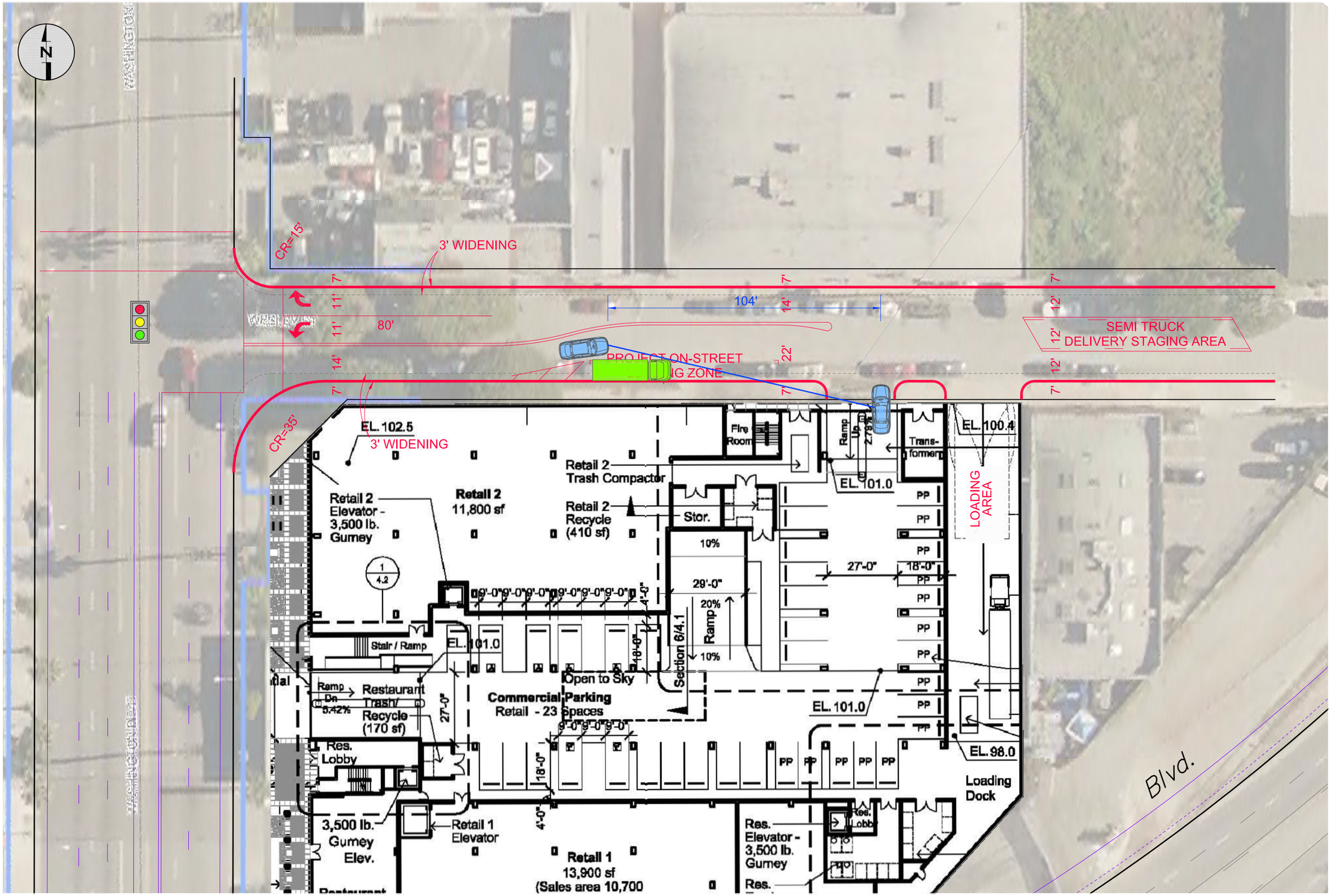


FIGURE D-8(a)

PROJECT ON-STREET LOADING ZONE
SIGHT DISTANCE DIAGRAM
ONE SINGLE-UNIT (30-FOOT) TRUCK

Hirsch/Green Transportation Consulting, Inc.

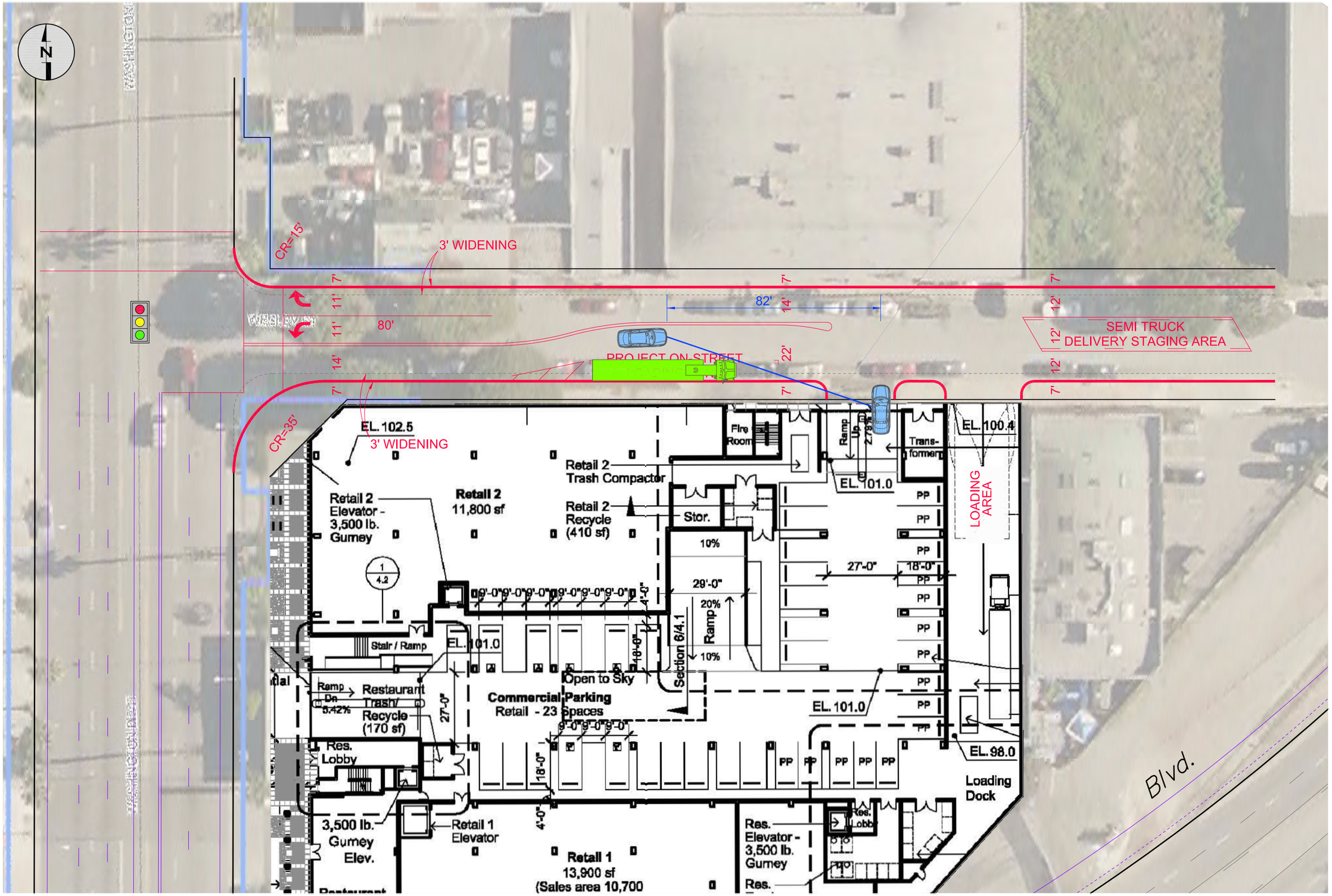


FIGURE D-8(b)

PROJECT ON-STREET LOADING ZONE
SIGHT DISTANCE DIAGRAM
ONE SEMI-TRAILER (55-FOOT) TRUCK

Hirsch/Green Transportation Consulting, Inc.

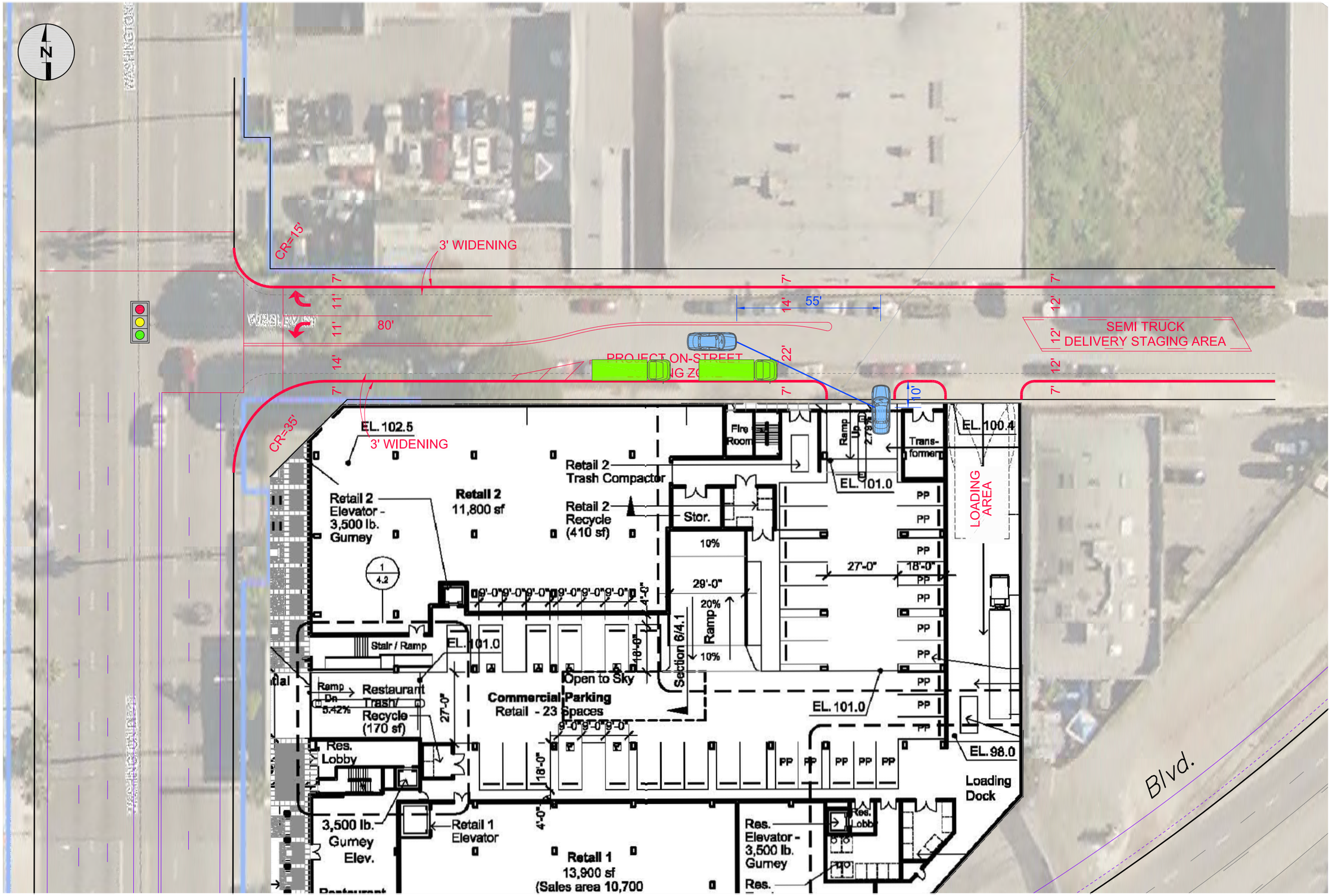


FIGURE D-8(c)

PROJECT ON-STREET LOADING ZONE
SIGHT DISTANCE DIAGRAM
TWO SINGLE-UNIT (30-FOOT) TRUCKS

Hirsch/Green Transportation Consulting, Inc.

Venice Boulevard (at Robertson Boulevard)
and
National Boulevard (north of Venice Boulevard)
On-Street Parking Utilization Summaries

Table D-1
Venice Boulevard On-Street Parking Utilizations
Westbound Approach (North Side of Venice Boulevard) at Robertson Boulevard/Exposition Boulevard
Thursday September 9, 2009

Time of Day	Spaces Available [1]	Spaces Utilized
8:30 AM	6	1
9:00 AM	6	4
9:30 AM	6	3
10:00 AM	6	4
10:30 AM	6	3
11:00 AM	6	4
11:30 AM	6	4
12:00 PM	6	4
12:30 PM	6	5
1:00 PM	6	2
1:30 PM	6	2
2:00 PM	6	2
2:30 PM	6	2
3:00 PM	6	2
3:30 PM	6	3
4:00 PM	0 [2]	0
4:30 PM	0 [2]	0
5:00 PM	0 [2]	0
5:30 PM	0 [2]	0
6:00 PM	0 [2]	0

Notes:

[1] "Spaces Available" refers to maximum number of parking spaces potentially removed by recommended project mitigation. Number of available spaces estimated; parking spaces are unstriped.

[2] "Tow Away No Parking 4 - 7 PM" restrictions in effect.

Table D-2
National Boulevard On-Street Parking Utilizations
East Side of National Boulevard North of Venice Boulevard
Tuesday June 8, 2010

Time of Day	North Segment Spaces Occupied	North Segment Spaces Available	South Segment Spaces Occupied	Net Spaces Available *
7:00 AM	0	11	0	11
7:30 AM	0	11	0	11
8:00 AM	0	11	0	11
8:30 AM	1	10	0	10
9:00 AM	1	10	0	10
9:30 AM	1	10	0	10
10:00 AM	1	10	1	9
10:30 AM	0	11	0	11
11:00 AM	2	9	0	9
11:30 AM	5	6	0	6
12:00 PM	5	6	2	4
12:30 PM	3	8	1	7
1:00 PM	3	8	0	8
1:30 PM	3	8	2	6
2:00 PM	4	7	1	6
2:30 PM	3	8	1	7
3:00 PM	3	8	1	7
3:30 PM	3	8	0	8
4:00 PM	3	8	0	8
4:30 PM	4	7	0	7
5:00 PM	3	8	0	8
5:30 PM	0	11	0	11
6:00 PM	0	11	0	11

* Net unused spaces following proposed removal of south segment parking.

Wesley Street Existing On-Street Parking Layout

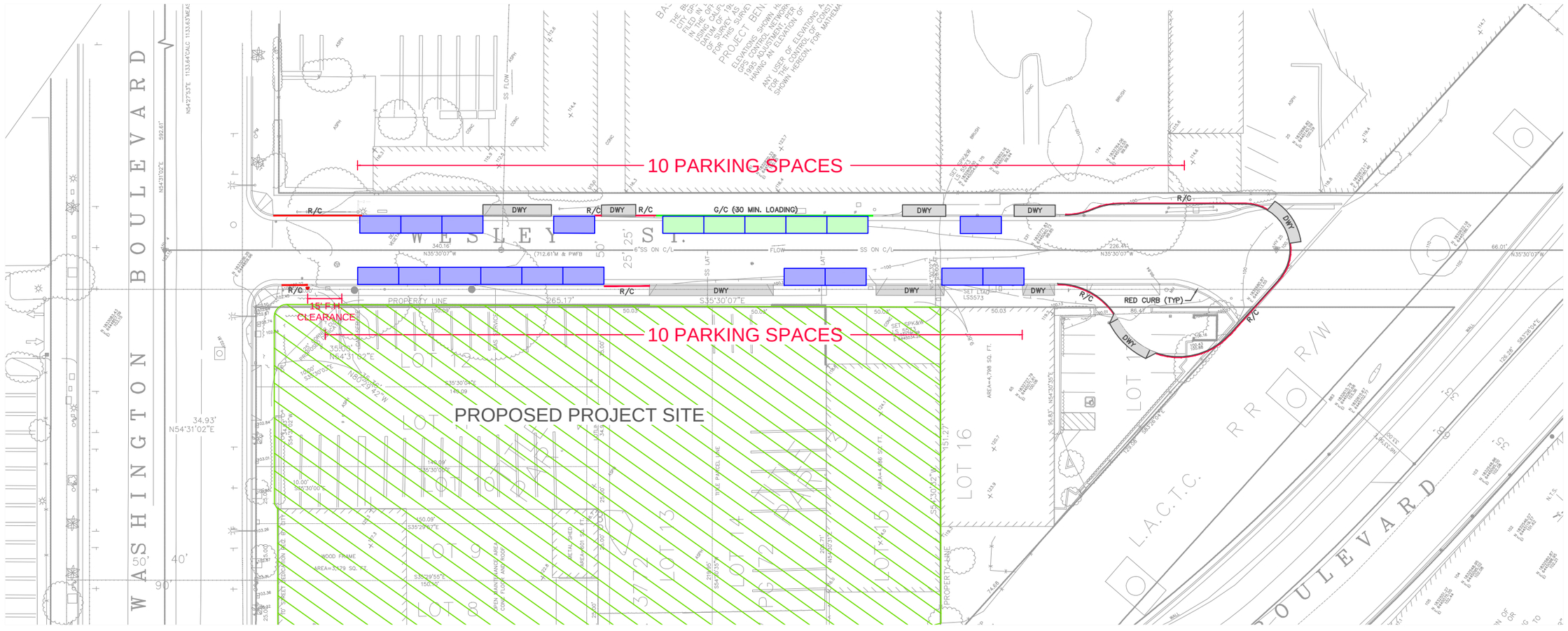


FIGURE D-9

EXISTING ON-STREET PARKING
WESLEY STREET SOUTH OF WASHINGTON BOULEVARD

TOTAL EXISTING PARKING = 20 SPACES
BASED ON 18' PER VEHICLE

Hirsch/Green Transportation Consulting, Inc.

TRAFFIC IMPACT ANALYSIS REPORT - APPENDIX II

Proposed Mixed-Use Development
(115-Unit Residential and 31,240 Square Foot Retail)
Located at 8770 Washington Boulevard
in Culver City, California

Prepared for:

EMC Development, LLC
8383 Wilshire Boulevard, Suite 630
Beverly Hills, California 90211

Prepared by:

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.
13333 Ventura Boulevard, #204
Sherman Oaks, California 91423

REGISTERED PROFESSIONAL ENGINEER
RONALD R. HIRSCH
NO. 2318
6-30-2011
TRAFFIC
STATE OF CALIFORNIA

REVISED JULY 2010

APPENDICES
TABLE OF CONTENTS

VOLUME I

A – Related Projects Trip Generation Rates/Equations

B – Intersection Geometrics/Controls and Traffic Count Data Sheets

C – Project Local/Residential Street Trip Calculations

D – Conceptual Traffic Mitigation Improvements and Supporting Analyses

VOLUME II

E – CMA Calculation Worksheets

- *Existing (2010) Conditions*
- *Future (2013) Without Project Conditions*

VOLUME III

E – CMA Calculation Worksheets

- *Future (2013) With Project Conditions*
- *Future (2013) With Project Plus Mitigation Conditions*

APPENDIX E

CRITICAL MOVEMENT ANALYSIS/HIGHWAY CAPACITY MANUAL INTERSECTION OPERATIONS CALCULATION WORKSHEETS

Existing (2010)

AM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 1 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: Cattaraugus Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	77		77	77
	Left/Through	0				
Northbound	Through	1	1,244		624	
	Through/Right	1			624	
	Right	0	5	0		
	Total Lanes	3				
	Left	1	37		37	
	Left/Through	0				
Southbound	Through	1	1,586		828	828
	Through/Right	1			828	
	Right	0	71	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**905**
	Left	0	106			106
	Left/Through	0				
Eastbound	Left/Through/Right	1	134		349	
	Through/Right	0				
	Right	0	109	0		
	Total Lanes	1				
	Left	0	83			
	Left/Through	0				
Westbound	Left/Through/Right	1	233		386	386
	Through/Right	0				
	Right	0	70	0		
	Total Lanes	1				
				Sum of East/West Critical Volumes		**492**
				Total Intersection Critical Volumes		**1,397**
Number of Clearance Intervals	**2**			**Intersection Capacity**		**1,500**
				Base CMA		**0.931**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**0.831**
				Level of Service (LOS)		**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 2 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: I-405 WB Off-Ramp/Kincardine Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	37		37	37
	Left/Through	0				
	Through	2	1,104		552	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	1	1,493		782	782
	Through/Right	1			782	
	Right	0	72	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**819**
Eastbound	Left	0	114			
	Left/Through	0				
	Left/Through/Right	1	0		159	159
	Through/Right	0				
	Right	0	45	0		
	Total Lanes	1				
Westbound	Left	0	63			63
	Left/Through	0				
	Left/Through/Right	1	13		76	
	Through/Right	0				
	Right	1	168	134	34	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**222**
			Total Intersection Critical Volumes			**1,041**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.694**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.594**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 3 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	110		110	
	Left/Through	0				
	Through	1	587		316	316
	Through/Right	1			316	
	Right	0	44	0		
	Total Lanes	3				
Southbound	Left	2	590		324	324
	Left/Through	0				
	Through	1	806		502	
	Through/Right	1			502	
	Right	0	198	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**640**
Eastbound	Left	1	151		151	151
	Left/Through	0				
	Through	1	632		442	
	Through/Right	1			442	
	Right	0	252	0		
	Total Lanes	3				
Westbound	Left	1	144		144	
	Left/Through	0				
	Through	1	568		568	568
	Through/Right	0				
	Right	1	453	324	129	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**719**
			Total Intersection Critical Volumes			**1,359**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.988**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.888**
			Level of Service (LOS)			**D**

WB Rt. Turn Overlap with SB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 4 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: I-405 EB On-Ramp
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	98		98	98
	Left/Through	0				
	Through	2	1,112		556	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	763		382	
	Through/Right	0				
	Right	1	590	0	590	590
	Total Lanes	3				
			Sum of North/South Critical Volumes			**688**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**0**
			Total Intersection Critical Volumes			**688**
Number of Clearance Intervals		**2**	**Intersection Capacity**			**1,500**
			Base CMA			**0.459**
Signal Coordination		**ATSAC + ATCS**	**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.359**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 5 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	92			92
	Left/Through	0				
	Left/Through/Right	1	180		320	
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
Southbound	Left	0	64			
	Left/Through	0				
	Left/Through/Right	1	197		306	306
	Through/Right	0				
	Right	0	45	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**398**
Eastbound	Left	1	40		40	
	Left/Through	0				
	Through	3	1,742		581	581
	Through/Right	0				
	Right	1	116	46	70	
	Total Lanes	5				
Westbound	Left	1	173		173	173
	Left/Through	0				
	Through	3	1,786		595	
	Through/Right	0				
	Right	1	42	39	3	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**754**
			Total Intersection Critical Volumes			**1,152**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.768**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.698**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 6 **Date** July 26, 2010
Intersection Name North/South: Bagley Avenue/Main Street
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	47		47	47
	Left/Through	0				
	Through	0	148			
	Through/Right	1			190	
	Right	0	42	0		
	Total Lanes	2				
Southbound	Left	0	74			
	Left/Through	0				
	Left/Through/Right	1	169		310	310
	Through/Right	0				
	Right	0	67	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**357**
Eastbound	Left	1	69		69	69
	Left/Through	0				
	Through	2	1,799		616	
	Through/Right	1			616	
	Right	0	49	0		
	Total Lanes	4				
Westbound	Left	1	59		59	
	Left/Through	0				
	Through	3	1,907		636	636
	Through/Right	0				
	Right	1	39	39	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**705**
			Total Intersection Critical Volumes			**1,062**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.772**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.702**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 7 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	39		39	
	Left/Through	0				
	Through	1	84		84	84
	Through/Right	0				
	Right	2	601	432	84	
	Total Lanes	4				
Southbound	Left	1	176		126	
	Left/Through	0				
	Left/Through/Right	1	44		126	126
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**210**
Eastbound	Left	1	29		29	
	Left/Through	0				
	Through	2	1,801		609	609
	Through/Right	1			609	
	Right	0	26	0		
	Total Lanes	4				
Westbound	Left	2	392		216	216
	Left/Through	0				
	Through	2	1,803		650	
	Through/Right	1			650	
	Right	0	147	0		
	Total Lanes	5				
			Sum of East/West Critical Volumes			**824**
			Total Intersection Critical Volumes			**1,034**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.752**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.652**
			Level of Service (LOS)			**B**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	176		176	
	Left/Through	0				
	Through	1	430		430	430
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	508			
	Left/Through	1			508	508
	Through	1	321		321	
	Through/Right	0				
	Right	1	141	141	0	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**938**
Eastbound	Left	2	536		295	295
	Left/Through	0				
	Through	2	2,066		732	
	Through/Right	1			732	
	Right	0	131	0		
	Total Lanes	5				
Westbound	Left	1	79		79	
	Left/Through	0				
	Through	2	2,076		802	802
	Through/Right	1			802	
	Right	0	331	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,097**
			Total Intersection Critical Volumes			**2,035**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.480**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.380**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	196		196	
	Left/Through	0				
	Through	1	897		460	460
	Through/Right	1			460	
	Right	0	22	0		
	Total Lanes	3				
Southbound	Left	1	130		130	130
	Left/Through	0				
	Through	1	561		330	
	Through/Right	1			330	
	Right	0	100	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**590**
Eastbound	Left	1	180		180	
	Left/Through	0				
	Through	2	2,049		778	778
	Through/Right	1			778	
	Right	0	285	0		
	Total Lanes	4				
Westbound	Left	1	89		89	89
	Left/Through	0				
	Through	2	1,920		678	
	Through/Right	1			678	
	Right	0	115	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**867**
			Total Intersection Critical Volumes			**1,457**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.060**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.960**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	11			11
	Left/Through	1			20	
Northbound	Through	0	9			
	Through/Right	0				
	Right	1	4	4	0	
	Total Lanes	2				
	Left	0	12			
	Left/Through	0				
Southbound	Left/Through/Right	1	2		38	38
	Through/Right	0				
	Right	0	24	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**49**
	Left	1	74		74	74
	Left/Through	0				
Eastbound	Through	2	2,112		711	
	Through/Right	1			711	
	Right	0	21	0		
	Total Lanes	4				
	Left	1	22		22	
	Left/Through	0				
Westbound	Through	2	2,093		705	705
	Through/Right	1			705	
	Right	0	22	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**779**
			Total Intersection Critical Volumes			**828**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.552**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.452**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	47			
	Left/Through	0				
	Left/Through/Right	1	243		316	316
	Through/Right	0				
	Right	0	26	0		
	Total Lanes	1				
Southbound	Left	0	158			158
	Left/Through	0				
	Left/Through/Right	1	83		258	
	Through/Right	0				
	Right	0	17	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**474**
Eastbound	Left	1	69		69	69
	Left/Through	0				
	Through	2	1,911		641	
	Through/Right	1			641	
	Right	0	11	0		
	Total Lanes	4				
Westbound	Left	1	68		68	
	Left/Through	0				
	Through	2	2,020		707	707
	Through/Right	1			707	
	Right	0	100	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**776**
			Total Intersection Critical Volumes			**1,250**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.833**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.733**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 12 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	123		123	123
	Left/Through	0				
	Through	2	1,753		599	
	Through/Right	1			599	
	Right	0	45	0		
	Total Lanes	4				
Southbound	Left	1	35		35	
	Left/Through	0				
	Through	2	1,312		552	552
	Through/Right	1			552	
	Right	0	345	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**675**
Eastbound	Left	2	345		190	190
	Left/Through	0				
	Through	3	1,674		558	
	Through/Right	0				
	Right	1	155	62	93	
	Total Lanes	6				
Westbound	Left	1	126		126	
	Left/Through	0				
	Through	3	1,741		580	580
	Through/Right	0				
	Right	1	15	15	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**770**
			Total Intersection Critical Volumes			**1,445**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.051**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.981**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 13 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue/Duquesne Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	162		162	162
	Left/Through	0				
	Through	0	303			
	Through/Right	1			342	
	Right	0	39	0		
	Total Lanes	2				
Southbound	Left	1	12		12	
	Left/Through	0				
	Through	0	287			
	Through/Right	1			333	333
	Right	0	46	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**495**
Eastbound	Left	1	40		40	40
	Left/Through	0				
	Through	1	489		332	
	Through/Right	1			332	
	Right	0	176	0		
	Total Lanes	3				
Westbound	Left	1	53		53	
	Left/Through	0				
	Through	1	677		361	361
	Through/Right	1			361	
	Right	0	45	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**401**
			Total Intersection Critical Volumes			**896**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.597**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.527**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 14 **Date** July 26, 2010
Intersection Name North/South: Duquesne Avenue
East/West: Culver Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	90		90	
	Left/Through	0				
Northbound	Through	1	349		349	349
	Through/Right	0				
	Right	1	99	45	54	
	Total Lanes	3				
	Left	1	50		50	50
	Left/Through	0				
Southbound	Through	1	367		217	
	Through/Right	1			217	
	Right	0	67	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**399**
	Left	1	103		103	
	Left/Through	0				
Eastbound	Through	1	726		381	381
	Through/Right	1			381	
	Right	0	36	0		
	Total Lanes	3				
	Left	1	90		90	90
	Left/Through	0				
Westbound	Through	1	670		362	
	Through/Right	1			362	
	Right	0	54	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**471**
			Total Intersection Critical Volumes			**870**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.633**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.563**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 15 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Irving Place
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	0			
	Left/Through	0				
	Through	2	846		296	
	Through/Right	1			296	
	Right	0	42	0		
	Total Lanes	3				
Southbound	Left	1	66		66	
	Left/Through	0				
	Through	1	734		405	405
	Through/Right	1			405	
	Right	1	728	248	405	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**405**
Eastbound	Left	1	472		248	248
	Left/Through	1			248	
	Through	0	23			
	Through/Right	0				
	Right	1	22	0	22	
	Total Lanes	3				
Westbound	Left	0	66			
	Left/Through	1			120	120
	Through	0	54			
	Through/Right	0				
	Right	1	113	54	59	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**368**
			Total Intersection Critical Volumes			**773**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.562**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.492**
			Level of Service (LOS)			**A**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 16 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Main Street
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	159		159	159
	Left/Through	0				
	Through	3	1,277		426	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,339		498	498
	Through/Right	1			498	
	Right	0	155	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**657**
Eastbound	Left	1	146		146	146
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	129	80	49	
	Total Lanes	2				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**146**
			Total Intersection Critical Volumes			**803**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.564**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.494**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 17 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Canfield Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	12		12	
	Left/Through	0				
	Through	2	667		334	334
	Through/Right	0				
	Right	2	750	750	0	
	Total Lanes	5				
Southbound	Left	1	36		36	36
	Left/Through	0				
	Through	1	405		204	
	Through/Right	1			204	
	Right	0	4	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**370**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	1				
Westbound	Left	1	1,023		529	529
	Left/Through	1			529	
	Through	0	35			
	Through/Right	0				
	Right	1	72	18	54	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**529**
			Total Intersection Critical Volumes			**899**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.631**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.561**
			Level of Service (LOS)			**A**

NB Rt. Turn Overlap with WB Left

East/West Opposed Phasing
EB Rt. Turn Overlap with NB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	24		24	24
	Left/Through	0				
	Through	1	232		140	
	Through/Right	1			140	
	Right	0	48	0		
	Total Lanes	3				
Southbound	Left	1	129		129	
	Left/Through	0				
	Through	1	273		273	273
	Through/Right	0				
	Right	1	153	0	153	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**297**
Eastbound	Left	1	38		38	38
	Left/Through	0				
	Through	1	705		384	
	Through/Right	1			384	
	Right	0	64	0		
	Total Lanes	3				
Westbound	Left	1	64		64	
	Left/Through	0				
	Through	1	1,102		654	654
	Through/Right	1			654	
	Right	0	207	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**692**
			Total Intersection Critical Volumes			**989**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.694**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.624**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 19 **Date** July 26, 2010
Intersection Name North/South: Landmark Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	29		29	29
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	30	30	0	
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**29**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	833		456	
	Through/Right	1			456	
	Right	0	78	0		
	Total Lanes	2				
Westbound	Left	0	60			
	Left/Through	1			699	
	Through	1	1,551		912	912
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**912**
			Total Intersection Critical Volumes			**941**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.627**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.557**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	219		120	
	Left/Through	0				
	Through	1	784		444	444
	Through/Right	1			444	
	Right	0	104	0		
	Total Lanes	4				
Southbound	Left	2	136		75	75
	Left/Through	0				
	Through	1	730		395	
	Through/Right	1			395	
	Right	0	60	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**519**
Eastbound	Left	1	73		73	73
	Left/Through	0				
	Through	2	707		354	
	Through/Right	0				
	Right	1	109	62	47	
	Total Lanes	4				
Westbound	Left	1	76		76	
	Left/Through	0				
	Through	2	1,154		577	577
	Through/Right	0				
	Right	1	310	0	310	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**650**
			Total Intersection Critical Volumes			**1,169**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.850**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.780**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 21 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		1	1
	Through/Right	0				
	Right	0	1	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**1**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	913		458	
	Through/Right	1			458	
	Right	0	4	0		
	Total Lanes	2				
	Left	1	3		3	
	Left/Through	0				
Westbound	Through	2	1,555		778	778
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**778**
			Total Intersection Critical Volumes			**779**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.649**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.649**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Existing*

Site Information

Intersection	*21*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Wesley Street*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*913*	*4*	*3*	*1555*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*913*	*4*	*3*	*1555*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*	*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*1*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LTR*				
v (veh/h)		*3*		*1*				
C (m) (veh/h)		*752*		*607*				
v/c		*0.00*		*0.00*				
95% queue length		*0.01*		*0.00*				
Control Delay (s/veh)		*9.8*		*10.9*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*10.9*					
Approach LOS	--	--	*B*					

Copyright © 2007 University of Florida, All Rights Reserved

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	71			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		88	88
	Through/Right	0				
	Right	0	17	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**88**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	889		464	
	Through/Right	1			464	
	Right	0	38	0		
	Total Lanes	2				
	Left	1	30		30	
	Left/Through	0				
Westbound	Through	2	1,493		746	746
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**746**
			Total Intersection Critical Volumes			**834**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.556**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.486**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	9			9
	Left/Through	0				
	Left/Through/Right	1	5		17	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
Southbound	Left	0	85			
	Left/Through	0				
	Left/Through/Right	1	6		136	136
	Through/Right	0				
	Right	0	45	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**145**
Eastbound	Left	0	22			22
	Left/Through	1			361	
	Through	0	804			
	Through/Right	1			471	
	Right	0	6	0		
	Total Lanes	2				
Westbound	Left	0	3			
	Left/Through	1			907	
	Through	0	1,503			
	Through/Right	1			916	916
	Right	0	317	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**938**
			Total Intersection Critical Volumes			**1,083**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.903**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.903**
			Level of Service (LOS)			**E**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Existing*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*22*	*804*	*6*	*3*	*1503*	*317*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*804*	*6*	*3*	*1503*	*317*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*5*	*3*	*85*	*6*	*45*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*5*	*3*	*85*	*6*	*45*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*22*	*3*		*17*			*136*	
C (m) (veh/h)	*341*	*825*		*40*			*33*	
v/c	*0.06*	*0.00*		*0.43*			*4.12*	
95% queue length	*0.21*	*0.01*		*1.90*			*55.20*	
Control Delay (s/veh)	*16.3*	*9.4*		*157.7*			*5873*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*157.7*			*5873*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 24 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	249		249	
	Left/Through	0				
	Through	2	1,621		547	547
	Through/Right	1			547	
	Right	0	20	0		
	Total Lanes	4				
Southbound	Left	1	180		180	180
	Left/Through	0				
	Through	2	1,402		477	
	Through/Right	1			477	
	Right	0	28	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**727**
Eastbound	Left	1	48		48	48
	Left/Through	0				
	Through	2	774		387	
	Through/Right	0				
	Right	1	105	105	0	
	Total Lanes	4				
Westbound	Left	1	55		55	
	Left/Through	0				
	Through	2	1,493		746	746
	Through/Right	0				
	Right	1	243	90	153	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**794**
			Total Intersection Critical Volumes			**1,521**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.106**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.036**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 25 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Fairfax Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	23		23	
	Left/Through	0				
	Through	1	1,764		882	882
	Through/Right	1			882	
	Right	1	918	918	0	
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,318		446	
	Through/Right	1			446	
	Right	0	20	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**882**
Eastbound	Left	0	13			
	Left/Through	0				
	Left/Through/Right	1	0		21	21
	Through/Right	0				
	Right	0	8	0		
	Total Lanes	1				
Westbound	Left	2	1,078		593	
	Left/Through	0				
	Through	0	24			
	Through/Right	1			54	54
	Right	0	30	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**614**
			Total Intersection Critical Volumes			**1,496**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.050**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.950**
			Level of Service (LOS)			**E**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	111			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		209	209
	Through/Right	0				
	Right	0	98	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**209**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	2	801		400	
	Through/Right	0				
	Right	1	83	83	0	
	Total Lanes	3				
	Left	1	39		39	
	Left/Through	0				
Westbound	Through	2	1,531		766	766
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**766**
			Total Intersection Critical Volumes			**975**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.650**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.580**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 27 **Date** July 26, 2010
Intersection Name North/South: Hayden Avenue
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	602		332	
	Left/Through	0				
	Left/Through/Right	1	0		332	332
	Through/Right	0				
	Right	0	62	0		
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**332**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	668		446	
	Through/Right	1			446	
	Right	0	224	0		
	Total Lanes	2				
Westbound	Left	1	171		171	
	Left/Through	0				
	Through	1	932		932	932
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**932**
			Total Intersection Critical Volumes			**1,264**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.887**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
Note: Intersection Currently Under Construction			**Final CMA**			**0.817**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 28 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	1	570		570	570
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	2	657		328	
	Through/Right	0				
	Right	1	1,148	1,148	0	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**570**
	Left	0	481			
	Left/Through	0				
Eastbound	Left/Through/Right	1	0		614	614
	Through/Right	0				
	Right	0	133	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Westbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**614**
			Total Intersection Critical Volumes			**1,184**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.789**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
Note: Intersection Currently Under Construction			**Final CMA**			**0.689**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 29 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Jefferson Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	98		98	
	Left/Through	0				
	Through	2	2,227		780	780
	Through/Right	1			780	
	Right	0	112	0		
	Total Lanes	4				
Southbound	Left	1	70		70	70
	Left/Through	0				
	Through	3	1,811		604	
	Through/Right	0				
	Right	1	574	214	360	
	Total Lanes	5				
			Sum of North/South Critical Volumes			**850**
Eastbound	Left	2	390		214	214
	Left/Through	0				
	Through	1	587		348	
	Through/Right	1			348	
	Right	0	108	0		
	Total Lanes	4				
Westbound	Left	2	566		311	
	Left/Through	0				
	Through	2	1,087		544	544
	Through/Right	0				
	Right	1	117	0	117	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**758**
			Total Intersection Critical Volumes			**1,608**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.169**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.069**
			Level of Service (LOS)			**F**

SB Rt. Turn Overlap with EB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 30 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Higuera Street/Rodeo Road
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	252		252	252
	Left/Through	0				
	Through	2	572		286	
	Through/Right	0				
	Right	1	711	711	0	
	Total Lanes	4				
Southbound	Left	1	75		75	
	Left/Through	0				
	Through	2	623		312	312
	Through/Right	0				
	Right	1	75	35	40	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**564**
Eastbound	Left	1	26		26	
	Left/Through	0				
	Through	2	140		70	70
	Through/Right	0				
	Right	1	41	41	0	
	Total Lanes	4				
Westbound	Left	2	758		417	
	Left/Through	0				
	Through	1	550		550	550
	Through/Right	0				
	Right	1	56	56	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**620**
			Total Intersection Critical Volumes			**1,184**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.831**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.731**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 31 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Rodeo Road
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	531		292	292
	Left/Through	0				
	Through	2	2,070		720	
	Through/Right	1			720	
	Right	0	91	0		
	Total Lanes	5				
Southbound	Left	2	237		130	
	Left/Through	0				
	Through	2	2,026		736	736
	Through/Right	1			736	
	Right	0	182	0		
	Total Lanes	5				
			Sum of North/South Critical Volumes			**1,028**
Eastbound	Left	1	175		175	
	Left/Through	0				
	Through	2	516		258	258
	Through/Right	0				
	Right	1	199	199	0	
	Total Lanes	4				
Westbound	Left	1	303		303	303
	Left/Through	0				
	Through	2	707		354	
	Through/Right	0				
	Right	1	310	130	180	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**561**
			Total Intersection Critical Volumes			**1,589**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.156**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.056**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 32 **Date** July 26, 2010
Intersection Name North/South: Braddock Drive
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	86			86
	Left/Through	0				
Northbound	Left/Through/Right	1	191		411	
	Through/Right	0				
	Right	0	134	0		
	Total Lanes	1				
	Left	0	27			
	Left/Through	0				
Southbound	Left/Through/Right	1	308		367	367
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**453**
	Left	0	42			42
	Left/Through	0				
Eastbound	Left/Through/Right	1	419		498	
	Through/Right	0				
	Right	0	37	0		
	Total Lanes	1				
	Left	0	42			
	Left/Through	0				
Westbound	Left/Through/Right	1	481		561	561
	Through/Right	0				
	Right	0	38	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**603**
			Total Intersection Critical Volumes			**1,056**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.056**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.056**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Existing*

Site Information

Intersection	*32*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue*

North/South Street: *Braddock Drive*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*42*	*419*	*37*	*42*	*481*	*38*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*86*	*191*	*134*	*27*	*308*	*32*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*1.00*		*1.00*		*1.00*		*1.00*	
Flow Rate (veh/h)	*498*		*561*		*411*		*367*	
% Heavy Vehicles	*0*		*0*		*0*		*0*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.1*		*0.1*		*0.2*		*0.1*	
Prop. Right-Turns	*0.1*		*0.1*		*0.3*		*0.1*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.0*		*-0.0*		*-0.2*		*-0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.44*		*0.50*		*0.37*		*0.33*	
hd, final value (s)	*9.78*		*9.78*		*9.64*		*9.77*	
x, final value	*1.35*		*1.52*		*1.10*		*1.00*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*7.8*		*7.8*		*7.6*		*7.8*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*498*		*561*		*411*		*369*	
Delay (s/veh)	*682.30*		*982.93*		*268.72*		*142.01*	
LOS	*F*		*F*		*F*		*F*	
Approach: Delay (s/veh)	*682.30*		*982.93*		*268.72*		*142.01*	
LOS	*F*		*F*		*F*		*F*	
Intersection Delay (s/veh)	*573.64*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 8/3/2010 7:54 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 33 **Date** July 26, 2010
Intersection Name North/South: Lucerne Avenue
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
	Left	0	173			
	Left/Through	0				
Southbound	Left/Through/Right	1	0		233	233
	Through/Right	0				
	Right	0	60	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**233**
	Left	0	88			88
	Left/Through	1			500	
Eastbound	Through	0	412			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Westbound	Through	1	512		512	512
	Through/Right	0				
	Right	1	325	116	209	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**600**
			Total Intersection Critical Volumes			**833**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**0.833**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.833**
			Level of Service (LOS)			**D**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Existing*

Site Information

Intersection	*33*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue*

North/South Street: *Lucerne Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*88*	*412*	*0*	*0*	*512*	*325*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*173*	*0*	*60*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LT*		*T*	*R*			*LTR*	
PHF	*1.00*		*1.00*	*1.00*			*1.00*	
Flow Rate (veh/h)	*500*		*512*	*325*			*233*	
% Heavy Vehicles	*0*		*0*	*0*			*0*	
No. Lanes	*1*		*2*		*0*		*1*	
Geometry Group	*3a*		*5*				*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.2*		*0.0*	*0.0*			*0.7*	
Prop. Right-Turns	*0.0*		*0.0*	*1.0*			*0.3*	
Prop. Heavy Vehicle	*0.0*		*0.0*	*0.0*			*0.0*	
hLT-adj	*0.2*	*0.2*	*0.5*	*0.5*			*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.7*	*-0.7*			*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*			*1.7*	*1.7*
hadj, computed	*0.0*		*0.0*	*-0.7*			*-0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*	*3.20*			*3.20*	
x, initial	*0.44*		*0.46*	*0.29*			*0.21*	
hd, final value (s)	*5.84*		*6.06*	*5.35*			*6.74*	
x, final value	*0.81*		*0.86*	*0.48*			*0.44*	
Move-up time, m (s)	*2.0*		*2.3*				*2.0*	
Service Time, t_s (s)	*3.8*		*3.8*	*3.0*			*4.7*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*610*		*592*	*575*			*483*	
Delay (s/veh)	*32.30*		*42.02*	*13.01*			*14.94*	
LOS	*D*		*E*	*B*			*B*	
Approach: Delay (s/veh)	*32.30*		*30.75*				*14.94*	
LOS	*D*		*D*				*B*	
Intersection Delay (s/veh)	*28.90*							
Intersection LOS	*D*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 8/3/2010 7:59 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 34 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Duquesne Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	417		417	417
	Left/Through	0				
	Through	1	1,021		524	
	Through/Right	1			524	
	Right	0	27	0		
	Total Lanes	3				
Southbound	Left	1	17		17	
	Left/Through	0				
	Through	2	1,253		626	626
	Through/Right	0				
	Right	1	407	157	250	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**1,043**
Eastbound	Left	1	287		287	
	Left/Through	0				
	Through	0	31			
	Through/Right	1			338	338
	Right	0	307	0		
	Total Lanes	2				
Westbound	Left	1	8		8	8
	Left/Through	0				
	Through	1	32		32	
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**346**
			Total Intersection Critical Volumes			**1,389**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.010**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.940**
			Level of Service (LOS)			**E**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Existing (2010)

PM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 1 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: Cattaraugus Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	66		66	66
	Left/Through	0				
	Through	1	1,533		774	
	Through/Right	1			774	
	Right	0	15	0		
	Total Lanes	3				
Southbound	Left	1	54		54	
	Left/Through	0				
	Through	1	1,598		830	830
	Through/Right	1			830	
	Right	0	63	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**896**
Eastbound	Left	0	97			
	Left/Through	0				
	Left/Through/Right	1	221		428	428
	Through/Right	0				
	Right	0	110	0		
	Total Lanes	1				
Westbound	Left	0	60			60
	Left/Through	0				
	Left/Through/Right	1	77		177	
	Through/Right	0				
	Right	0	40	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**488**
			Total Intersection Critical Volumes			**1,384**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.923**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.823**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 2 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: I-405 WB Off-Ramp/Kincardine Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	14		14	14
	Left/Through	0				
	Through	2	1,210		605	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	1	1,202		618	618
	Through/Right	1			618	
	Right	0	34	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**632**
Eastbound	Left	0	74			74
	Left/Through	0				
	Left/Through/Right	1	0		158	
	Through/Right	0				
	Right	0	84	0		
	Total Lanes	1				
Westbound	Left	0	369			
	Left/Through	0				
	Left/Through/Right	1	21		458	458
	Through/Right	0				
	Right	1	540	14	458	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**532**
			Total Intersection Critical Volumes			**1,164**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.776**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.676**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 3 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	75		75	
	Left/Through	0				
	Through	1	776		452	452
	Through/Right	1			452	
	Right	0	129	0		
	Total Lanes	3				
Southbound	Left	2	539		296	296
	Left/Through	0				
	Through	1	922		568	
	Through/Right	1			568	
	Right	0	214	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**748**
Eastbound	Left	1	160		160	
	Left/Through	0				
	Through	1	850		492	492
	Through/Right	1			492	
	Right	0	135	0		
	Total Lanes	3				
Westbound	Left	1	113		113	113
	Left/Through	0				
	Through	1	368		368	
	Through/Right	0				
	Right	1	227	227	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**605**
			Total Intersection Critical Volumes			**1,353**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.984**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.884**
			Level of Service (LOS)			**D**

WB Rt. Turn Overlap with SB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 4 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: I-405 EB On-Ramp
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	83		83	83
	Left/Through	0				
	Through	2	650		325	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	971		486	486
	Through/Right	0				
	Right	1	478	0	478	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**569**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**0**
			Total Intersection Critical Volumes			**569**
Number of Clearance Intervals		**2**	**Intersection Capacity**			**1,500**
			Base CMA			**0.379**
Signal Coordination		**ATSAC + ATCS**	**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.279**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 5 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	103			
	Left/Through	0				
	Left/Through/Right	1	171		351	351
	Through/Right	0				
	Right	0	77	0		
	Total Lanes	1				
Southbound	Left	0	39			39
	Left/Through	0				
	Left/Through/Right	1	176		267	
	Through/Right	0				
	Right	0	52	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**390**
Eastbound	Left	1	57		57	
	Left/Through	0				
	Through	3	1,634		545	545
	Through/Right	0				
	Right	1	95	62	33	
	Total Lanes	5				
Westbound	Left	1	118		118	118
	Left/Through	0				
	Through	3	1,528		509	
	Through/Right	0				
	Right	1	43	20	23	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**663**
			Total Intersection Critical Volumes			**1,053**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.702**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.632**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 6 **Date** July 26, 2010
Intersection Name North/South: Bagley Avenue/Main Street
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	38		38	38
	Left/Through	0				
	Through	0	100			
	Through/Right	1			140	
	Right	0	40	0		
	Total Lanes	2				
Southbound	Left	0	88			
	Left/Through	0				
	Left/Through/Right	1	164		345	345
	Through/Right	0				
	Right	0	93	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**383**
Eastbound	Left	1	109		109	
	Left/Through	0				
	Through	2	1,569		558	558
	Through/Right	1			558	
	Right	0	106	0		
	Total Lanes	4				
Westbound	Left	1	77		77	77
	Left/Through	0				
	Through	3	1,523		508	
	Through/Right	0				
	Right	1	70	70	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**635**
			Total Intersection Critical Volumes			**1,018**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.740**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.670**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 7 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	84		84	
	Left/Through	0				
	Through	1	81		81	
	Through/Right	0				
	Right	2	728	428	150	150
	Total Lanes	4				
Southbound	Left	1	296		208	
	Left/Through	0				
	Left/Through/Right	1	71		208	208
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**358**
Eastbound	Left	1	51		51	
	Left/Through	0				
	Through	2	1,718		593	593
	Through/Right	1			593	
	Right	0	61	0		
	Total Lanes	4				
Westbound	Left	2	389		214	214
	Left/Through	0				
	Through	2	1,636		614	
	Through/Right	1			614	
	Right	0	206	0		
	Total Lanes	5				
			Sum of East/West Critical Volumes			**806**
			Total Intersection Critical Volumes			**1,164**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.847**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.747**
			Level of Service (LOS)			**C**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	122		122	
	Left/Through	0				
	Through	1	485		485	485
	Through/Right	0				
	Right	1	58	58	0	
	Total Lanes	3				
Southbound	Left	0	532			
	Left/Through	1			532	532
	Through	1	304		304	
	Through/Right	0				
	Right	1	159	126	33	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,017**
Eastbound	Left	2	460		253	253
	Left/Through	0				
	Through	2	1,983		712	
	Through/Right	1			712	
	Right	0	154	0		
	Total Lanes	5				
Westbound	Left	1	104		104	
	Left/Through	0				
	Through	2	1,932		685	685
	Through/Right	1			685	
	Right	0	123	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**938**
			Total Intersection Critical Volumes			**1,955**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.422**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.322**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	213		213	213
	Left/Through	0				
	Through	1	502		300	
	Through/Right	1			300	
	Right	0	98	0		
	Total Lanes	3				
Southbound	Left	1	181		181	
	Left/Through	0				
	Through	1	695		396	396
	Through/Right	1			396	
	Right	0	97	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**609**
Eastbound	Left	1	166		166	
	Left/Through	0				
	Through	2	1,971		758	758
	Through/Right	1			758	
	Right	0	304	0		
	Total Lanes	4				
Westbound	Left	1	67		67	67
	Left/Through	0				
	Through	2	1,479		513	
	Through/Right	1			513	
	Right	0	59	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**825**
			Total Intersection Critical Volumes			**1,434**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.043**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.943**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	16			16
	Left/Through	1			17	
Northbound	Through	0	1			
	Through/Right	0				
	Right	1	9	9	0	
	Total Lanes	2				
	Left	0	28			
	Left/Through	0				
Southbound	Left/Through/Right	1	9		63	63
	Through/Right	0				
	Right	0	26	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**79**
	Left	1	72		72	
	Left/Through	0				
Eastbound	Through	2	2,219		751	751
	Through/Right	1			751	
	Right	0	33	0		
	Total Lanes	4				
	Left	1	32		32	32
	Left/Through	0				
Westbound	Through	2	1,618		542	
	Through/Right	1			542	
	Right	0	8	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**783**
			Total Intersection Critical Volumes			**862**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.575**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.475**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	13			13
	Left/Through	0				
Northbound	Left/Through/Right	1	61		85	
	Through/Right	0				
	Right	0	11	0		
	Total Lanes	1				
	Left	0	183			
	Left/Through	0				
Southbound	Left/Through/Right	1	72		286	286
	Through/Right	0				
	Right	0	31	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**299**
	Left	1	110		110	
	Left/Through	0				
Eastbound	Through	2	2,078		697	697
	Through/Right	1			697	
	Right	0	13	0		
	Total Lanes	4				
	Left	1	77		77	77
	Left/Through	0				
Westbound	Through	2	1,532		536	
	Through/Right	1			536	
	Right	0	75	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**774**
			Total Intersection Critical Volumes			**1,073**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.715**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.615**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 12 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	93		93	93
	Left/Through	0				
	Through	2	1,093		371	
	Through/Right	1			371	
	Right	0	20	0		
	Total Lanes	4				
Southbound	Left	1	36		36	
	Left/Through	0				
	Through	2	1,498		600	600
	Through/Right	1			600	
	Right	0	303	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**693**
Eastbound	Left	2	274		151	
	Left/Through	0				
	Through	3	1,721		574	574
	Through/Right	0				
	Right	1	235	46	189	
	Total Lanes	6				
Westbound	Left	1	197		197	197
	Left/Through	0				
	Through	3	1,250		417	
	Through/Right	0				
	Right	1	34	34	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**771**
			Total Intersection Critical Volumes			**1,464**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.065**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.995**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 13 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue/Duquesne Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	59		59	59
	Left/Through	0				
	Through	0	320			
	Through/Right	1			339	
	Right	0	19	0		
	Total Lanes	2				
Southbound	Left	1	29		29	
	Left/Through	0				
	Through	0	319			
	Through/Right	1			378	378
	Right	0	59	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**437**
Eastbound	Left	1	46		46	
	Left/Through	0				
	Through	1	664		446	446
	Through/Right	1			446	
	Right	0	229	0		
	Total Lanes	3				
Westbound	Left	1	78		78	78
	Left/Through	0				
	Through	1	356		196	
	Through/Right	1			196	
	Right	0	37	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**524**
			Total Intersection Critical Volumes			**961**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.641**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.571**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 14 **Date** July 26, 2010
Intersection Name North/South: Duquesne Avenue
East/West: Culver Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	107		107	
	Left/Through	0				
Northbound	Through	1	286		286	286
	Through/Right	0				
	Right	1	147	52	95	
	Total Lanes	3				
	Left	1	118		118	118
	Left/Through	0				
Southbound	Through	1	466		269	
	Through/Right	1			269	
	Right	0	72	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**404**
	Left	1	67		67	
	Left/Through	0				
Eastbound	Through	1	861		474	474
	Through/Right	1			474	
	Right	0	86	0		
	Total Lanes	3				
	Left	1	103		103	103
	Left/Through	0				
Westbound	Through	1	741		381	
	Through/Right	1			381	
	Right	0	21	0		
	Total Lanes	3				
				Sum of East/West Critical Volumes		**577**
				Total Intersection Critical Volumes		**981**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**0.713**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**0.643**
				Level of Service (LOS)		**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 15 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Irving Place
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	0			
	Left/Through	0				
	Through	2	1,044		366	366
	Through/Right	1			366	
	Right	0	55	0		
	Total Lanes	3				
Southbound	Left	1	79		79	79
	Left/Through	0				
	Through	1	831		416	
	Through/Right	1			416	
	Right	1	465	337	128	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**445**
Eastbound	Left	1	655		337	337
	Left/Through	1			337	
	Through	0	19			
	Through/Right	0				
	Right	1	6	0	6	
	Total Lanes	3				
Westbound	Left	0	13			
	Left/Through	1			37	37
	Through	0	24			
	Through/Right	0				
	Right	1	53	40	13	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**374**
			Total Intersection Critical Volumes			**819**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.596**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.526**
			Level of Service (LOS)			**A**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 16 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Main Street
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	112		112	112
	Left/Through	0				
	Through	3	1,576		525	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,204		439	439
	Through/Right	1			439	
	Right	0	114	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**551**
Eastbound	Left	1	273		273	273
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	161	56	105	
	Total Lanes	2				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**273**
			Total Intersection Critical Volumes			**824**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.578**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.508**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 17 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Canfield Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	14		14	
	Left/Through	0				
	Through	2	810		405	405
	Through/Right	0				
	Right	2	961	830	66	
	Total Lanes	5				
Southbound	Left	1	35		35	35
	Left/Through	0				
	Through	1	489		249	
	Through/Right	1			249	
	Right	0	9	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**440**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	19	14	5	5
	Total Lanes	1				
Westbound	Left	1	801		415	415
	Left/Through	1			415	
	Through	0	29			
	Through/Right	0				
	Right	1	75	18	57	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**420**
			Total Intersection Critical Volumes			**860**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.604**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.534**
			Level of Service (LOS)			**A**

NB Rt. Turn Overlap with WB Left

East/West Opposed Phasing
EB Rt. Turn Overlap with NB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	45		45	45
	Left/Through	0				
	Through	1	168		100	
	Through/Right	1			100	
	Right	0	31	0		
	Total Lanes	3				
Southbound	Left	1	146		146	
	Left/Through	0				
	Through	1	247		247	247
	Through/Right	0				
	Right	1	54	0	54	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**292**
Eastbound	Left	1	94		94	94
	Left/Through	0				
	Through	1	807		444	
	Through/Right	1			444	
	Right	0	80	0		
	Total Lanes	3				
Westbound	Left	1	77		77	
	Left/Through	0				
	Through	1	794		462	462
	Through/Right	1			462	
	Right	0	130	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**556**
			Total Intersection Critical Volumes			**848**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.595**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.525**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 19 **Date** July 26, 2010
Intersection Name North/South: Landmark Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	26		26	
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	59	7	52	52
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**52**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,274		642	642
	Through/Right	1			642	
	Right	0	10	0		
	Total Lanes	2				
Westbound	Left	0	14			14
	Left/Through	1			438	
	Through	1	932		508	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**656**
			Total Intersection Critical Volumes			**708**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.472**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.402**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	171		94	94
	Left/Through	0				
	Through	1	628		357	
	Through/Right	1			357	
	Right	0	86	0		
	Total Lanes	4				
Southbound	Left	2	203		112	
	Left/Through	0				
	Through	1	840		446	446
	Through/Right	1			446	
	Right	0	53	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**540**
Eastbound	Left	1	41		41	
	Left/Through	0				
	Through	2	939		470	470
	Through/Right	0				
	Right	1	190	47	143	
	Total Lanes	4				
Westbound	Left	1	68		68	68
	Left/Through	0				
	Through	2	753		376	
	Through/Right	0				
	Right	1	175	0	175	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**538**
			Total Intersection Critical Volumes			**1,078**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.784**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.714**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 21 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	5			
	Left/Through	0				
	Left/Through/Right	1	0		12	12
	Through/Right	0				
	Right	0	7	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**12**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,187		594	594
	Through/Right	1			594	
	Right	0	1	0		
	Total Lanes	2				
Westbound	Left	1	1		1	1
	Left/Through	0				
	Through	2	930		465	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**595**
			Total Intersection Critical Volumes			**607**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.506**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.506**
			Level of Service (LOS)			**A**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Existing*

Site Information

Intersection	*21*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Wesley Street*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1187*	*1*	*1*	*930*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1187*	*1*	*1*	*930*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*	*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*7*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*5*	*0*	*7*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LTR*				
v (veh/h)		*1*		*12*				
C (m) (veh/h)		*595*		*175*				
v/c		*0.00*		*0.07*				
95% queue length		*0.01*		*0.22*				
Control Delay (s/veh)		*11.1*		*27.1*				
LOS		*B*		*D*				
Approach Delay (s/veh)	--	--	*27.1*					
Approach LOS	--	--	*D*					

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:39 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	48			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		61	61
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**61**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,118		574	574
	Through/Right	1			574	
	Right	0	29	0		
	Total Lanes	2				
	Left	1	14		14	14
	Left/Through	0				
Westbound	Through	2	918		459	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**588**
			Total Intersection Critical Volumes			**649**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.433**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.363**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	4			4
	Left/Through	0				
	Left/Through/Right	1	2		9	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
Southbound	Left	0	57			
	Left/Through	0				
	Left/Through/Right	1	2		95	95
	Through/Right	0				
	Right	0	36	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**99**
Eastbound	Left	0	19			
	Left/Through	1			540	
	Through	0	1,123			
	Through/Right	1			611	611
	Right	0	9	0		
	Total Lanes	2				
Westbound	Left	0	11			11
	Left/Through	1			452	
	Through	0	871			
	Through/Right	1			504	
	Right	0	74	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**622**
			Total Intersection Critical Volumes			**721**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.601**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.601**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Existing*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*19*	*1123*	*9*	*11*	*871*	*74*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*19*	*1123*	*9*	*11*	*871*	*74*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*4*	*2*	*3*	*57*	*2*	*36*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*2*	*3*	*57*	*2*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*19*	*11*		*9*			*95*	
C (m) (veh/h)	*734*	*625*		*80*			*112*	
v/c	*0.03*	*0.02*		*0.11*			*0.85*	
95% queue length	*0.08*	*0.05*		*0.38*			*8.42*	
Control Delay (s/veh)	*10.0*	*10.9*		*55.7*			*160.8*	
LOS	*B*	*B*		*F*			*F*	
Approach Delay (s/veh)	--	--	*55.7*			*160.8*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:45 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 24 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	143		143	143
	Left/Through	0				
	Through	2	1,075		377	
	Through/Right	1			377	
	Right	0	55	0		
	Total Lanes	4				
Southbound	Left	1	218		218	
	Left/Through	0				
	Through	2	1,627		556	556
	Through/Right	1			556	
	Right	0	41	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**699**
Eastbound	Left	1	71		71	
	Left/Through	0				
	Through	2	1,057		528	528
	Through/Right	0				
	Right	1	134	72	62	
	Total Lanes	4				
Westbound	Left	1	67		67	67
	Left/Through	0				
	Through	2	677		338	
	Through/Right	0				
	Right	1	122	122	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**595**
			Total Intersection Critical Volumes			**1,294**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.941**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.871**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 25 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Fairfax Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	8		8	
	Left/Through	0				
	Through	1	1,541		770	770
	Through/Right	1			770	
	Right	1	1,361	1,361	0	
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,329		448	
	Through/Right	1			448	
	Right	0	14	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**770**
Eastbound	Left	0	36			
	Left/Through	0				
	Left/Through/Right	1	0		52	52
	Through/Right	0				
	Right	0	16	0		
	Total Lanes	1				
Westbound	Left	2	843		464	
	Left/Through	0				
	Through	0	12			
	Through/Right	1			29	29
	Right	0	17	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**516**
			Total Intersection Critical Volumes			**1,286**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.902**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.802**
			Level of Service (LOS)			**D**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	23			
	Left/Through	0				
	Left/Through/Right	1	0		137	137
	Through/Right	0				
	Right	0	114	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**137**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	975		488	488
	Through/Right	0				
	Right	1	4	4	0	
	Total Lanes	3				
Westbound	Left	1	5		5	5
	Left/Through	0				
	Through	2	885		442	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**493**
			Total Intersection Critical Volumes			**630**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.420**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.350**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 27 **Date** July 26, 2010
Intersection Name North/South: Hayden Avenue
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	604		374	
	Left/Through	0				
	Left/Through/Right	1	0		374	374
	Through/Right	0				
	Right	0	143	0		
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**374**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	982		558	558
	Through/Right	1			558	
	Right	0	134	0		
	Total Lanes	2				
Westbound	Left	1	34		34	34
	Left/Through	0				
	Through	1	276		276	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**592**
			Total Intersection Critical Volumes			**966**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.678**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
Note: Intersection Currently Under Construction			**Final CMA**			**0.608**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 28 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	1	860		860	860
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	2	539		270	
	Through/Right	0				
	Right	1	343	343	0	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**860**
	Left	0	800			
	Left/Through	0				
Eastbound	Left/Through/Right	1	0		828	828
	Through/Right	0				
	Right	0	28	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Westbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**828**
			Total Intersection Critical Volumes			**1,688**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**1.125**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
Note: Intersection Currently Under Construction			**Final CMA**			**1.025**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 29 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Jefferson Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	63		63	
	Left/Through	0				
	Through	2	2,211		838	838
	Through/Right	1			838	
	Right	0	303	0		
	Total Lanes	4				
Southbound	Left	1	34		34	34
	Left/Through	0				
	Through	3	2,092		697	
	Through/Right	0				
	Right	1	213	213	0	
	Total Lanes	5				
			Sum of North/South Critical Volumes			**872**
Eastbound	Left	2	529		291	
	Left/Through	0				
	Through	1	878		550	550
	Through/Right	1			550	
	Right	0	221	0		
	Total Lanes	4				
Westbound	Left	2	286		157	157
	Left/Through	0				
	Through	2	651		326	
	Through/Right	0				
	Right	1	63	0	63	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**707**
			Total Intersection Critical Volumes			**1,579**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.148**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.048**
			Level of Service (LOS)			**F**

SB Rt. Turn Overlap with EB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 30 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Higuera Street/Rodeo Road
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	34		34	
	Left/Through	0				
	Through	2	800		400	400
	Through/Right	0				
	Right	1	867	867	0	
	Total Lanes	4				
Southbound	Left	1	100		100	100
	Left/Through	0				
	Through	2	485		242	
	Through/Right	0				
	Right	1	38	38	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**500**
Eastbound	Left	1	55		55	
	Left/Through	0				
	Through	2	556		278	278
	Through/Right	0				
	Right	1	148	129	19	
	Total Lanes	4				
Westbound	Left	2	439		241	
	Left/Through	0				
	Through	1	318		318	318
	Through/Right	0				
	Right	1	8	8	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**596**
			Total Intersection Critical Volumes			**1,096**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.769**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.669**
			Level of Service (LOS)			**B**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 31 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Rodeo Road
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	316		174	
	Left/Through	0				
	Through	2	2,177		801	801
	Through/Right	1			801	
	Right	0	227	0		
	Total Lanes	5				
Southbound	Left	2	415		228	228
	Left/Through	0				
	Through	2	2,110		725	
	Through/Right	1			725	
	Right	0	64	0		
	Total Lanes	5				
			Sum of North/South Critical Volumes			**1,029**
Eastbound	Left	1	249		249	
	Left/Through	0				
	Through	2	1,080		540	540
	Through/Right	0				
	Right	1	319	174	145	
	Total Lanes	4				
Westbound	Left	1	204		204	204
	Left/Through	0				
	Through	2	451		226	
	Through/Right	0				
	Right	1	132	132	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**744**
			Total Intersection Critical Volumes			**1,773**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.289**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.189**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 32 **Date** July 26, 2010
Intersection Name North/South: Braddock Drive
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	149			
	Left/Through	0				
	Left/Through/Right	1	167		485	485
	Through/Right	0				
	Right	0	169	0		
	Total Lanes	1				
Southbound	Left	0	7			7
	Left/Through	0				
	Left/Through/Right	1	35		55	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**492**
Eastbound	Left	0	121			
	Left/Through	0				
	Left/Through/Right	1	400		674	674
	Through/Right	0				
	Right	0	153	0		
	Total Lanes	1				
Westbound	Left	0	16			16
	Left/Through	0				
	Left/Through/Right	1	384		416	
	Through/Right	0				
	Right	0	16	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**690**
			Total Intersection Critical Volumes			**1,182**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.182**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.182**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Existing*

Site Information

Intersection	*32*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue*

North/South Street: *Braddock Drive*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*121*	*400*	*153*	*16*	*384*	*16*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*149*	*167*	*169*	*7*	*35*	*13*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*1.00*		*1.00*		*1.00*		*1.00*	
Flow Rate (veh/h)	*674*		*416*		*485*		*55*	
% Heavy Vehicles	*0*		*0*		*0*		*0*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.2*		*0.0*		*0.3*		*0.1*	
Prop. Right-Turns	*0.2*		*0.0*		*0.3*		*0.2*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.1*		*-0.0*		*-0.1*		*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.60*		*0.37*		*0.43*		*0.05*	
hd, final value (s)	*7.08*		*7.39*		*7.13*		*9.20*	
x, final value	*1.33*		*0.85*		*0.96*		*0.14*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*5.1*		*5.4*		*5.1*		*7.2*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*674*		*482*		*504*		*305*	
Delay (s/veh)	*624.53*		*48.01*		*91.03*		*13.70*	
LOS	*F*		*E*		*F*		*B*	
Approach: Delay (s/veh)	*624.53*		*48.01*		*91.03*		*13.70*	
LOS	*F*		*E*		*F*		*B*	
Intersection Delay (s/veh)	*298.04*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 8/3/2010 7:56 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 33 **Date** July 26, 2010
Intersection Name North/South: Lucerne Avenue
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Southbound	Left	0	269			
	Left/Through	0				
	Left/Through/Right	1	0		332	332
	Through/Right	0				
	Right	0	63	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**332**
Eastbound	Left	0	60			
	Left/Through	1			630	630
	Through	0	570			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
Westbound	Left	0	0			
	Left/Through	0				
	Through	1	366		366	
	Through/Right	0				
	Right	1	188	166	22	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**630**
			Total Intersection Critical Volumes			**962**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**0.962**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.962**
			Level of Service (LOS)			**E**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Existing*

Site Information

Intersection	*33*
Jurisdiction	*Culver City*
Analysis Year	*2010*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Lucerne Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*60*	*570*	*0*	*0*	*366*	*188*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*269*	*0*	*63*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LT*		*T*	*R*			*LTR*	
PHF	*1.00*		*1.00*	*1.00*			*1.00*	
Flow Rate (veh/h)	*630*		*366*	*188*			*332*	
% Heavy Vehicles	*0*		*0*	*0*			*0*	
No. Lanes	*1*		*2*		*0*		*1*	
Geometry Group	*3a*		*5*				*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.1*		*0.0*	*0.0*			*0.8*	
Prop. Right-Turns	*0.0*		*0.0*	*1.0*			*0.2*	
Prop. Heavy Vehicle	*0.0*		*0.0*	*0.0*			*0.0*	
hLT-adj	*0.2*	*0.2*	*0.5*	*0.5*			*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.7*	*-0.7*			*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*			*1.7*	*1.7*
hadj, computed	*0.0*		*0.0*	*-0.7*			*0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*	*3.20*			*3.20*	
x, initial	*0.56*		*0.33*	*0.17*			*0.30*	
hd, final value (s)	*6.15*		*6.76*	*6.04*			*6.87*	
x, final value	*1.08*		*0.69*	*0.32*			*0.63*	
Move-up time, m (s)	*2.0*		*2.3*				*2.0*	
Service Time, t_s (s)	*4.2*		*4.5*	*3.7*			*4.9*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*630*		*527*	*438*			*516*	
Delay (s/veh)	*206.88*		*23.94*	*11.52*			*21.54*	
LOS	*F*		*C*	*B*			*C*	
Approach: Delay (s/veh)	*206.88*		*19.73*				*21.54*	
LOS	*F*		*C*				*C*	
Intersection Delay (s/veh)	*97.90*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 8:01 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 34 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Duquesne Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2010)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	346		346	346
	Left/Through	0				
	Through	1	1,322		678	
	Through/Right	1			678	
	Right	0	34	0		
	Total Lanes	3				
Southbound	Left	1	51		51	
	Left/Through	0				
	Through	2	829		414	414
	Through/Right	0				
	Right	1	187	187	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**760**
Eastbound	Left	1	427		427	427
	Left/Through	0				
	Through	0	61			
	Through/Right	1			389	
	Right	0	328	0		
	Total Lanes	2				
Westbound	Left	1	28		28	
	Left/Through	0				
	Through	1	41		41	41
	Through/Right	0				
	Right	1	19	19	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**468**
			Total Intersection Critical Volumes			**1,228**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.893**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.823**
			Level of Service (LOS)			**D**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Future (2013) Without Project

AM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 1 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: Cattaraugus Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	79		79	79
	Left/Through	0				
Northbound	Through	1	1,346		676	
	Through/Right	1			676	
	Right	0	5	0		
	Total Lanes	3				
	Left	1	38		38	
	Left/Through	0				
Southbound	Through	1	1,862		968	968
	Through/Right	1			968	
	Right	0	73	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,047**
	Left	0	109			109
	Left/Through	0				
Eastbound	Left/Through/Right	1	138		359	
	Through/Right	0				
	Right	0	112	0		
	Total Lanes	1				
	Left	0	86			
	Left/Through	0				
Westbound	Left/Through/Right	1	240		398	398
	Through/Right	0				
	Right	0	72	0		
	Total Lanes	1				
				Sum of East/West Critical Volumes		**507**
				Total Intersection Critical Volumes		**1,554**
Number of Clearance Intervals	**2**			**Intersection Capacity**		**1,500**
				Base CMA		**1.036**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**0.936**
				Level of Service (LOS)		**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 2 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: I-405 WB Off-Ramp/Kincardine Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	38		38	38
	Left/Through	0				
	Through	2	1,201		600	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	1	1,766		920	920
	Through/Right	1			920	
	Right	0	74	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**958**
Eastbound	Left	0	117			
	Left/Through	0				
	Left/Through/Right	1	0		163	163
	Through/Right	0				
	Right	0	46	0		
	Total Lanes	1				
Westbound	Left	0	450			450
	Left/Through	0				
	Left/Through/Right	1	13		463	
	Through/Right	0				
	Right	1	173	173	0	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**613**
			Total Intersection Critical Volumes			**1,571**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**1.047**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.947**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 3 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	113		113	113
	Left/Through	0				
	Through	1	637		360	
	Through/Right	1			360	
	Right	0	84	0		
	Total Lanes	3				
Southbound	Left	2	790		435	
	Left/Through	0				
	Through	1	1,238		732	732
	Through/Right	1			732	
	Right	0	227	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**845**
Eastbound	Left	1	169		169	169
	Left/Through	0				
	Through	1	696		480	
	Through/Right	1			480	
	Right	0	264	0		
	Total Lanes	3				
Westbound	Left	1	148		148	
	Left/Through	0				
	Through	1	598		598	598
	Through/Right	0				
	Right	1	486	435	51	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**767**
			Total Intersection Critical Volumes			**1,612**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.172**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.072**
			Level of Service (LOS)			**F**

WB Rt. Turn Overlap with SB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 4 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: I-405 EB On-Ramp
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	188		188	188
	Left/Through	0				
	Through	2	1,169		584	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,006		503	
	Through/Right	0				
	Right	1	654	0	654	654
	Total Lanes	3				
			Sum of North/South Critical Volumes			**842**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**0**
			Total Intersection Critical Volumes			**842**
Number of Clearance Intervals		**2**	**Intersection Capacity**			**1,500**
			Base CMA			**0.561**
Signal Coordination		**ATSAC + ATCS**	**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.461**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 5 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	107			107
	Left/Through	0				
Northbound	Left/Through/Right	1	188		344	
	Through/Right	0				
	Right	0	49	0		
	Total Lanes	1				
	Left	0	67			
	Left/Through	0				
Southbound	Left/Through/Right	1	207		342	342
	Through/Right	0				
	Right	0	68	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**449**
	Left	1	46		46	
	Left/Through	0				
Eastbound	Through	3	2,066		689	689
	Through/Right	0				
	Right	1	124	54	70	
	Total Lanes	5				
	Left	1	178		178	178
	Left/Through	0				
Westbound	Through	3	1,978		659	
	Through/Right	0				
	Right	1	43	43	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**867**
			Total Intersection Critical Volumes			**1,316**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.877**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.807**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 6 **Date** July 26, 2010
Intersection Name North/South: Bagley Avenue/Main Street
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	48		48	48
	Left/Through	0				
	Through	0	149			
	Through/Right	1			191	
	Right	0	42	0		
	Total Lanes	2				
Southbound	Left	0	75			
	Left/Through	0				
	Left/Through/Right	1	170		312	312
	Through/Right	0				
	Right	0	67	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**360**
Eastbound	Left	1	69		69	
	Left/Through	0				
	Through	2	2,130		726	726
	Through/Right	1			726	
	Right	0	48	0		
	Total Lanes	4				
Westbound	Left	1	60		60	60
	Left/Through	0				
	Through	3	2,105		702	
	Through/Right	0				
	Right	1	39	39	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**786**
			Total Intersection Critical Volumes			**1,146**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.833**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.763**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 7 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	39		39	
	Left/Through	0				
	Through	1	86		86	86
	Through/Right	0				
	Right	2	781	781	0	
	Total Lanes	4				
Southbound	Left	1	180		128	
	Left/Through	0				
	Left/Through/Right	1	45		128	128
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**214**
Eastbound	Left	1	31		31	
	Left/Through	0				
	Through	2	2,141		723	723
	Through/Right	1			723	
	Right	0	27	0		
	Total Lanes	4				
Westbound	Left	2	962		529	529
	Left/Through	0				
	Through	2	2,002		717	
	Through/Right	1			717	
	Right	0	149	0		
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,252**
			Total Intersection Critical Volumes			**1,466**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.066**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.966**
			Level of Service (LOS)			**E**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	205		205	
	Left/Through	0				
	Through	1	479		479	479
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	634			
	Left/Through	1			634	634
	Through	1	421		421	
	Through/Right	0				
	Right	1	537	172	365	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,113**
Eastbound	Left	2	627		345	345
	Left/Through	0				
	Through	2	2,468		880	
	Through/Right	1			880	
	Right	0	172	0		
	Total Lanes	5				
Westbound	Left	1	99		99	
	Left/Through	0				
	Through	2	2,460		944	944
	Through/Right	1			944	
	Right	0	371	0		
	Total Lanes	4				
				Sum of East/West Critical Volumes		**1,289**
				Total Intersection Critical Volumes		**2,402**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.747**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.647**
				Level of Service (LOS)		**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	335		335	335
	Left/Through	0				
	Through	1	1,020		544	
	Through/Right	1			544	
	Right	0	69	0		
	Total Lanes	3				
Southbound	Left	1	132		132	
	Left/Through	0				
	Through	1	739		423	423
	Through/Right	1			423	
	Right	0	107	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**758**
Eastbound	Left	2	210		116	116
	Left/Through	0				
	Through	3	2,149		716	
	Through/Right	0				
	Right	1	672	168	504	
	Total Lanes	6				
Westbound	Left	2	210		116	
	Left/Through	0				
	Through	3	2,199		733	733
	Through/Right	0				
	Right	1	115	107	8	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**849**
			Total Intersection Critical Volumes			**1,607**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.169**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.069**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	11			11
	Left/Through	1			20	
Northbound	Through	0	9			
	Through/Right	0				
	Right	1	4	4	0	
	Total Lanes	2				
	Left	0	12			
	Left/Through	0				
Southbound	Left/Through/Right	1	2		39	39
	Through/Right	0				
	Right	0	25	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**50**
	Left	1	76		76	76
	Left/Through	0				
Eastbound	Through	2	2,260		761	
	Through/Right	1			761	
	Right	0	22	0		
	Total Lanes	4				
	Left	1	23		23	
	Left/Through	0				
Westbound	Through	2	2,499		841	841
	Through/Right	1			841	
	Right	0	23	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**917**
			Total Intersection Critical Volumes			**967**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.645**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.545**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	48			
	Left/Through	0				
	Left/Through/Right	1	250		326	326
	Through/Right	0				
	Right	0	28	0		
	Total Lanes	1				
Southbound	Left	0	163			163
	Left/Through	0				
	Left/Through/Right	1	86		267	
	Through/Right	0				
	Right	0	18	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**489**
Eastbound	Left	1	71		71	71
	Left/Through	0				
	Through	2	2,053		688	
	Through/Right	1			688	
	Right	0	11	0		
	Total Lanes	4				
Westbound	Left	1	71		71	
	Left/Through	0				
	Through	2	2,424		842	842
	Through/Right	1			842	
	Right	0	103	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**913**
			Total Intersection Critical Volumes			**1,402**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.935**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.835**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 12 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	150		150	150
	Left/Through	0				
	Through	2	1,773		606	
	Through/Right	1			606	
	Right	0	45	0		
	Total Lanes	4				
Southbound	Left	1	35		35	
	Left/Through	0				
	Through	2	1,338		574	574
	Through/Right	1			574	
	Right	0	383	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**724**
Eastbound	Left	2	353		194	194
	Left/Through	0				
	Through	3	1,805		602	
	Through/Right	0				
	Right	1	169	75	94	
	Total Lanes	6				
Westbound	Left	1	136		136	
	Left/Through	0				
	Through	3	2,094		698	698
	Through/Right	0				
	Right	1	15	15	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**892**
			Total Intersection Critical Volumes			**1,616**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.175**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.105**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 13 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue/Duquesne Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	200		200	200
	Left/Through	0				
Northbound	Through	0	327			
	Through/Right	1			367	
	Right	0	40	0		
	Total Lanes	2				
	Left	1	12		12	
	Left/Through	0				
Southbound	Through	0	304			
	Through/Right	1			351	351
	Right	0	47	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**551**
	Left	1	41		41	41
	Left/Through	0				
Eastbound	Through	1	688		438	
	Through/Right	1			438	
	Right	0	188	0		
	Total Lanes	3				
	Left	1	55		55	
	Left/Through	0				
Westbound	Through	1	1,286		667	667
	Through/Right	1			667	
	Right	0	48	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**708**
			Total Intersection Critical Volumes			**1,259**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.839**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.769**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 14 **Date** July 26, 2010
Intersection Name North/South: Duquesne Avenue
East/West: Culver Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	96		96	
	Left/Through	0				
Northbound	Through	1	408		408	408
	Through/Right	0				
	Right	1	108	46	62	
	Total Lanes	3				
	Left	1	52		52	52
	Left/Through	0				
Southbound	Through	1	393		231	
	Through/Right	1			231	
	Right	0	69	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**460**
	Left	1	106		106	
	Left/Through	0				
Eastbound	Through	1	935		487	487
	Through/Right	1			487	
	Right	0	39	0		
	Total Lanes	3				
	Left	1	93		93	93
	Left/Through	0				
Westbound	Through	1	795		426	
	Through/Right	1			426	
	Right	0	56	0		
	Total Lanes	3				
				Sum of East/West Critical Volumes		**580**
				Total Intersection Critical Volumes		**1,040**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**0.756**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**0.686**
				Level of Service (LOS)		**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 15 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Irving Place
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	0			
	Left/Through	0				
	Through	2	1,070		371	
	Through/Right	1			371	
	Right	0	43	0		
	Total Lanes	3				
Southbound	Left	1	68		68	
	Left/Through	0				
	Through	1	864		619	619
	Through/Right	1			619	
	Right	1	1,340	347	619	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**619**
Eastbound	Left	1	670		347	347
	Left/Through	1			347	
	Through	0	24			
	Through/Right	0				
	Right	1	23	0	23	
	Total Lanes	3				
Westbound	Left	0	68			
	Left/Through	1			124	124
	Through	0	56			
	Through/Right	0				
	Right	1	116	116	0	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**471**
			Total Intersection Critical Volumes			**1,090**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.793**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.723**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 16 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Main Street
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	164		164	164
	Left/Through	0				
	Through	3	1,698		566	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	2,078		746	746
	Through/Right	1			746	
	Right	0	160	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**910**
Eastbound	Left	1	150		150	150
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	133	82	51	
	Total Lanes	2				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**150**
			Total Intersection Critical Volumes			**1,060**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.744**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.674**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 17 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Canfield Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	12		12	
	Left/Through	0				
	Through	2	847		424	424
	Through/Right	0				
	Right	2	945	945	0	
	Total Lanes	5				
Southbound	Left	1	137		137	137
	Left/Through	0				
	Through	1	875		440	
	Through/Right	1			440	
	Right	0	4	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**561**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	1				
Westbound	Left	1	1,294		665	665
	Left/Through	1			665	
	Through	0	36			
	Through/Right	0				
	Right	1	74	68	6	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**665**
			Total Intersection Critical Volumes			**1,226**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.860**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.790**
			Level of Service (LOS)			**C**

NB Rt. Turn Overlap with WB Left

East/West Opposed Phasing
EB Rt. Turn Overlap with NB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	32		32	
	Left/Through	0				
Northbound	Through	1	275		275	275
	Through/Right	0				
	Right	1	46	46	0	
	Total Lanes	3				
	Left	1	183		183	183
	Left/Through	0				
Southbound	Through	1	373		373	
	Through/Right	0				
	Right	1	156	0	156	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**458**
	Left	1	42		42	42
	Left/Through	0				
Eastbound	Through	1	901		488	
	Through/Right	1			488	
	Right	0	76	0		
	Total Lanes	3				
	Left	1	72		72	
	Left/Through	0				
Westbound	Through	1	1,325		786	786
	Through/Right	1			786	
	Right	0	248	0		
	Total Lanes	3				
				Sum of East/West Critical Volumes		**828**
				Total Intersection Critical Volumes		**1,286**
Number of Clearance Intervals	**3**			**Intersection Capacity**		**1,425**
				Base CMA		**0.902**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**0.832**
				Level of Service (LOS)		**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 19 **Date** July 26, 2010
Intersection Name North/South: Landmark Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	94		94	94
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	1	112	112	0	
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**94**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	992		585	
	Through/Right	1			585	
	Right	0	178	0		
	Total Lanes	2				
	Left	0	96			
	Left/Through	1			698	
Westbound	Through	1	1,765		1,164	1,164
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**1,164**
			Total Intersection Critical Volumes			**1,258**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.839**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.769**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	302		166	
	Left/Through	0				
	Through	1	890		514	514
	Through/Right	1			514	
	Right	0	139	0		
	Total Lanes	4				
Southbound	Left	2	366		201	201
	Left/Through	0				
	Through	1	895		493	
	Through/Right	1			493	
	Right	0	91	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**715**
Eastbound	Left	1	130		130	130
	Left/Through	0				
	Through	2	799		400	
	Through/Right	0				
	Right	1	201	111	90	
	Total Lanes	4				
Westbound	Left	1	80		80	
	Left/Through	0				
	Through	2	1,271		544	544
	Through/Right	1			544	
	Right	0	361	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**674**
			Total Intersection Critical Volumes			**1,389**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.010**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.940**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name	8770 Washington Mixed-Use		
Intersection Number	21	**Date**	July 26, 2010
Intersection Name	North/South: Wesley Street East/West: Washington Boulevard		
Intersection Control	Two-Way STOP		
Analysis Period	AM Peak Hour		
Analysis Scenario	Future (2013) Without Project		

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	2			
	Left/Through	0				
	Left/Through/Right	1	0		3	3
	Through/Right	0				
	Right	0	1	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**3**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,264		636	
	Through/Right	1			636	
	Right	0	9	0		
	Total Lanes	2				
Westbound	Left	1	4		4	
	Left/Through	0				
	Through	2	1,726		863	863
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**863**
			Total Intersection Critical Volumes			**866**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.722**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.722**
			Level of Service (LOS)			**C**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Without Project*

Site Information

Intersection	*21*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Wesley Street*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1264*	*9*	*4*	*1726*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1264*	*9*	*4*	*1726*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*	*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*2*	*0*	*1*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LTR*				
v (veh/h)		*4*		*3*				
C (m) (veh/h)		*552*		*62*				
v/c		*0.01*		*0.05*				
95% queue length		*0.02*		*0.15*				
Control Delay (s/veh)		*11.6*		*66.0*				
LOS		*B*		*F*				
Approach Delay (s/veh)	--	--	*66.0*					
Approach LOS	--	--	*F*					

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:38 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	73			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		91	91
	Through/Right	0				
	Right	0	18	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**91**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	959		499	
	Through/Right	1			499	
	Right	0	39	0		
	Total Lanes	2				
	Left	1	31		31	
	Left/Through	0				
Westbound	Through	2	1,637		818	818
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**818**
			Total Intersection Critical Volumes			**909**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.606**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.536**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	9			9
	Left/Through	0				
Northbound	Left/Through/Right	1	5		17	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
	Left	0	88			
	Left/Through	0				
Southbound	Left/Through/Right	1	6		141	141
	Through/Right	0				
	Right	0	47	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**150**
	Left	0	24			24
	Left/Through	1			390	
Eastbound	Through	0	870			
	Through/Right	1			510	
	Right	0	6	0		
	Total Lanes	2				
	Left	0	3			
	Left/Through	1			983	
Westbound	Through	0	1,647			
	Through/Right	1			994	994
	Right	0	327	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**1,018**
			Total Intersection Critical Volumes			**1,168**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.973**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.973**
			Level of Service (LOS)			**E**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Without Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*24*	*870*	*6*	*3*	*1647*	*327*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*24*	*870*	*6*	*3*	*1647*	*327*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*5*	*3*	*88*	*6*	*47*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*5*	*3*	*88*	*6*	*47*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*24*	*3*		*17*			*141*	
C (m) (veh/h)	*297*	*779*		*28*			*22*	
v/c	*0.08*	*0.00*		*0.61*			*6.41*	
95% queue length	*0.26*	*0.01*		*3.00*			*62.86*	
Control Delay (s/veh)	*18.2*	*9.6*		*295.3*			*10095*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*295.3*			*10095*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:43 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 24 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	255		255	
	Left/Through	0				
	Through	2	1,684		568	568
	Through/Right	1			568	
	Right	0	21	0		
	Total Lanes	4				
Southbound	Left	1	194		194	194
	Left/Through	0				
	Through	2	1,483		504	
	Through/Right	1			504	
	Right	0	29	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**762**
Eastbound	Left	1	49		49	49
	Left/Through	0				
	Through	2	836		418	
	Through/Right	0				
	Right	1	111	111	0	
	Total Lanes	4				
Westbound	Left	1	66		66	
	Left/Through	0				
	Through	2	1,624		812	812
	Through/Right	0				
	Right	1	285	97	188	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**861**
			Total Intersection Critical Volumes			**1,623**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.180**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.110**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 25 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Fairfax Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	24		24	
	Left/Through	0				
	Through	1	1,804		902	902
	Through/Right	1			902	
	Right	1	979	979	0	
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,405		475	
	Through/Right	1			475	
	Right	0	21	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**902**
Eastbound	Left	0	13			
	Left/Through	0				
	Left/Through/Right	1	0		21	21
	Through/Right	0				
	Right	0	8	0		
	Total Lanes	1				
Westbound	Left	2	1,406		773	
	Left/Through	0				
	Through	0	24			
	Through/Right	1			54	54
	Right	0	30	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**794**
			Total Intersection Critical Volumes			**1,696**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.190**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.090**
			Level of Service (LOS)			**F**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	109			
	Left/Through	0				
	Left/Through/Right	1	0		210	210
	Through/Right	0				
	Right	0	101	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**210**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,079		540	
	Through/Right	0				
	Right	1	86	86	0	
	Total Lanes	3				
Westbound	Left	1	40		40	
	Left/Through	0				
	Through	2	1,656		828	828
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**828**
			Total Intersection Critical Volumes			**1,038**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.692**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.622**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 27 **Date** July 26, 2010
Intersection Name North/South: Hayden Avenue
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	634		358	
	Left/Through	0				
	Left/Through/Right	1	0		358	358
	Through/Right	0				
	Right	0	83	0		
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**358**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	937		468	468
	Through/Right	0				
	Right	1	236	179	57	
	Total Lanes	3				
Westbound	Left	1	196		196	196
	Left/Through	0				
	Through	2	1,125		562	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**664**
			Total Intersection Critical Volumes			**1,022**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.717**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.647**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 28 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	68		68	68
	Left/Through	0				
Northbound	Through	2	599		300	
	Through/Right	0				
	Right	1	75	20	55	
	Total Lanes	4				
	Left	1	30		30	
	Left/Through	0				
Southbound	Through	1	717		717	
	Through/Right	0				
	Right	1	1,290	186	1,104	1,104
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,172**
	Left	1	609		372	372
	Left/Through	1			372	
Eastbound	Through	0	135			
	Through/Right	0				
	Right	1	157	34	123	
	Total Lanes	3				
	Left	0	20			
	Left/Through	0				
Westbound	Left/Through/Right	1	10		40	40
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
				Sum of East/West Critical Volumes		**412**
				Total Intersection Critical Volumes		**1,584**
Number of Clearance Intervals	**3**			**Intersection Capacity**		**1,425**
				Base CMA		**1.112**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.012**
				Level of Service (LOS)		**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 29 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Jefferson Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	119		119	
	Left/Through	0				
	Through	2	2,281		799	799
	Through/Right	1			799	
	Right	0	116	0		
	Total Lanes	4				
Southbound	Left	1	176		176	176
	Left/Through	0				
	Through	3	2,026		675	
	Through/Right	0				
	Right	1	661	238	423	
	Total Lanes	5				
			Sum of North/South Critical Volumes			**975**
Eastbound	Left	2	432		238	238
	Left/Through	0				
	Through	1	664		408	
	Through/Right	1			408	
	Right	0	153	0		
	Total Lanes	4				
Westbound	Left	2	608		334	
	Left/Through	0				
	Through	2	1,210		605	605
	Through/Right	0				
	Right	1	126	0	126	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**843**
			Total Intersection Critical Volumes			**1,818**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.322**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.222**
			Level of Service (LOS)			**F**

SB Rt. Turn Overlap with EB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 30 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Higuera Street/Rodeo Road
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	323		323	323
	Left/Through	0				
	Through	2	617		308	
	Through/Right	0				
	Right	1	772	772	0	
	Total Lanes	4				
Southbound	Left	1	95		95	
	Left/Through	0				
	Through	2	660		330	330
	Through/Right	0				
	Right	1	86	36	50	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**653**
Eastbound	Left	1	27		27	
	Left/Through	0				
	Through	2	142		71	71
	Through/Right	0				
	Right	1	46	46	0	
	Total Lanes	4				
Westbound	Left	2	1,050		578	
	Left/Through	0				
	Through	1	555		555	555
	Through/Right	0				
	Right	1	116	116	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**649**
			Total Intersection Critical Volumes			**1,302**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.914**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.814**
			Level of Service (LOS)			**D**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 31 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Rodeo Road
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	564		310	310
	Left/Through	0				
	Through	2	2,178		757	
	Through/Right	1			757	
	Right	0	93	0		
	Total Lanes	5				
Southbound	Left	2	251		138	
	Left/Through	0				
	Through	2	2,055		823	823
	Through/Right	1			823	
	Right	0	414	0		
	Total Lanes	5				
			Sum of North/South Critical Volumes			**1,133**
Eastbound	Left	1	214		214	214
	Left/Through	0				
	Through	2	553		276	
	Through/Right	0				
	Right	1	200	200	0	
	Total Lanes	4				
Westbound	Left	2	317		174	
	Left/Through	0				
	Through	2	840		420	420
	Through/Right	0				
	Right	1	347	138	209	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**634**
			Total Intersection Critical Volumes			**1,767**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.285**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.185**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 32 **Date** July 26, 2010
Intersection Name North/South: Braddock Drive
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	89			89
	Left/Through	0				
Northbound	Left/Through/Right	1	197		424	
	Through/Right	0				
	Right	0	138	0		
	Total Lanes	1				
	Left	0	28			
	Left/Through	0				
Southbound	Left/Through/Right	1	318		384	384
	Through/Right	0				
	Right	0	38	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**473**
	Left	0	46			46
	Left/Through	0				
Eastbound	Left/Through/Right	1	444		528	
	Through/Right	0				
	Right	0	38	0		
	Total Lanes	1				
	Left	0	43			
	Left/Through	0				
Westbound	Left/Through/Right	1	546		628	628
	Through/Right	0				
	Right	0	39	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**674**
			Total Intersection Critical Volumes			**1,147**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.147**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.147**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Without Project*

Site Information

Intersection	*32*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue*

North/South Street: *Braddock Drive*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*46*	*444*	*38*	*43*	*546*	*39*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*89*	*197*	*138*	*28*	*318*	*38*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*1.00*		*1.00*		*1.00*		*1.00*	
Flow Rate (veh/h)	*528*		*628*		*424*		*384*	
% Heavy Vehicles	*0*		*0*		*0*		*0*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.1*		*0.1*		*0.2*		*0.1*	
Prop. Right-Turns	*0.1*		*0.1*		*0.3*		*0.1*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.0*		*-0.0*		*-0.2*		*-0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.47*		*0.56*		*0.38*		*0.34*	
hd, final value (s)	*9.79*		*9.79*		*9.65*		*9.77*	
x, final value	*1.44*		*1.71*		*1.14*		*1.04*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*7.8*		*7.8*		*7.7*		*7.8*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*528*		*628*		*424*		*384*	
Delay (s/veh)	*827.52*		*1310*		*322.65*		*190.83*	
LOS	*F*		*F*		*F*		*F*	
Approach: Delay (s/veh)	*827.52*		*1310*		*322.65*		*190.83*	
LOS	*F*		*F*		*F*		*F*	
Intersection Delay (s/veh)	*748.24*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 8/3/2010 7:55 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 33 **Date** July 26, 2010
Intersection Name North/South: Lucerne Avenue
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
	Left	0	192			
	Left/Through	0				
Southbound	Left/Through/Right	1	0		256	256
	Through/Right	0				
	Right	0	64	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**256**
	Left	0	91			91
	Left/Through	1			528	
Eastbound	Through	0	437			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Westbound	Through	1	574		574	574
	Through/Right	0				
	Right	1	350	128	222	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**665**
			Total Intersection Critical Volumes			**921**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**0.921**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.921**
			Level of Service (LOS)			**E**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - Without Project*

Site Information

Intersection	*33*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Lucerne Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*91*	*437*	*0*	*0*	*574*	*350*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*192*	*0*	*64*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LT*		*T*	*R*			*LTR*	
PHF	*1.00*		*1.00*	*1.00*			*1.00*	
Flow Rate (veh/h)	*528*		*574*	*350*			*256*	
% Heavy Vehicles	*0*		*0*	*0*			*0*	
No. Lanes	*1*		*2*		*0*		*1*	
Geometry Group	*3a*		*5*				*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.2*		*0.0*	*0.0*			*0.8*	
Prop. Right-Turns	*0.0*		*0.0*	*1.0*			*0.3*	
Prop. Heavy Vehicle	*0.0*		*0.0*	*0.0*			*0.0*	
hLT-adj	*0.2*	*0.2*	*0.5*	*0.5*			*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.7*	*-0.7*			*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*			*1.7*	*1.7*
hadj, computed	*0.0*		*0.0*	*-0.7*			*-0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*	*3.20*			*3.20*	
x, initial	*0.47*		*0.51*	*0.31*			*0.23*	
hd, final value (s)	*6.06*		*6.28*	*5.56*			*6.96*	
x, final value	*0.89*		*1.00*	*0.54*			*0.49*	
Move-up time, m (s)	*2.0*		*2.3*				*2.0*	
Service Time, t_s (s)	*4.1*		*4.0*	*3.3*			*5.0*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*592*		*574*	*600*			*506*	
Delay (s/veh)	*49.20*		*116.27*	*14.77*			*16.72*	
LOS	*E*		*F*	*B*			*C*	
Approach: Delay (s/veh)	*49.20*		*77.82*				*16.72*	
LOS	*E*		*F*				*C*	
Intersection Delay (s/veh)	*59.82*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:59 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 34 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Duquesne Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	449		449	449
	Left/Through	0				
	Through	1	1,163		596	
	Through/Right	1			596	
	Right	0	28	0		
	Total Lanes	3				
Southbound	Left	1	18		18	
	Left/Through	0				
	Through	2	1,530		765	765
	Through/Right	0				
	Right	1	461	168	293	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**1,214**
Eastbound	Left	1	311		311	
	Left/Through	0				
	Through	0	32			
	Through/Right	1			360	360
	Right	0	328	0		
	Total Lanes	2				
Westbound	Left	1	8		8	8
	Left/Through	0				
	Through	1	33		33	
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**368**
			Total Intersection Critical Volumes			**1,582**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.151**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.081**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Future (2013) Without Project

PM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 1 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: Cattaraugus Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	68		68	68
	Left/Through	0				
	Through	1	1,771		893	
	Through/Right	1			893	
	Right	0	15	0		
	Total Lanes	3				
Southbound	Left	1	56		56	
	Left/Through	0				
	Through	1	1,743		904	904
	Through/Right	1			904	
	Right	0	65	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**972**
Eastbound	Left	0	100			
	Left/Through	0				
	Left/Through/Right	1	228		441	441
	Through/Right	0				
	Right	0	113	0		
	Total Lanes	1				
Westbound	Left	0	62			62
	Left/Through	0				
	Left/Through/Right	1	79		182	
	Through/Right	0				
	Right	0	41	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**503**
			Total Intersection Critical Volumes			**1,475**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.983**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.883**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 2 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: I-405 WB Off-Ramp/Kincardine Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	14		14	
	Left/Through	0				
Northbound	Through	2	1,439		720	720
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
	Left	0	0			
	Left/Through	0				
Southbound	Through	1	1,335		685	
	Through/Right	1			685	
	Right	0	35	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**720**
	Left	0	76			
	Left/Through	0				
Eastbound	Left/Through/Right	1	0		163	163
	Through/Right	0				
	Right	0	87	0		
	Total Lanes	1				
	Left	0	550			550
	Left/Through	0				
Westbound	Left/Through/Right	1	22		572	
	Through/Right	0				
	Right	1	556	0	556	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**713**
			Total Intersection Critical Volumes			**1,433**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.955**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.855**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 3 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	77		77	
	Left/Through	0				
	Through	1	901		617	617
	Through/Right	1			617	
	Right	0	333	0		
	Total Lanes	3				
Southbound	Left	2	647		356	356
	Left/Through	0				
	Through	1	1,106		672	
	Through/Right	1			672	
	Right	0	239	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**973**
Eastbound	Left	1	182		182	
	Left/Through	0				
	Through	1	888		514	514
	Through/Right	1			514	
	Right	0	140	0		
	Total Lanes	3				
Westbound	Left	1	116		116	116
	Left/Through	0				
	Through	1	418		418	
	Through/Right	0				
	Right	1	315	315	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**630**
			Total Intersection Critical Volumes			**1,603**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.166**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.066**
			Level of Service (LOS)			**F**

WB Rt. Turn Overlap with SB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 4 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: I-405 EB On-Ramp
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	243		243	243
	Left/Through	0				
	Through	2	789		394	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,049		524	
	Through/Right	0				
	Right	1	696	0	696	696
	Total Lanes	3				
			Sum of North/South Critical Volumes			**939**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**0**
			Total Intersection Critical Volumes			**939**
Number of Clearance Intervals		**2**	**Intersection Capacity**			**1,500**
			Base CMA			**0.626**
Signal Coordination		**ATSAC + ATCS**	**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.526**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 5 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	113			
	Left/Through	0				
	Left/Through/Right	1	180		372	372
	Through/Right	0				
	Right	0	79	0		
	Total Lanes	1				
Southbound	Left	0	41			41
	Left/Through	0				
	Left/Through/Right	1	186		293	
	Through/Right	0				
	Right	0	66	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**413**
Eastbound	Left	1	80		80	
	Left/Through	0				
	Through	3	1,906		635	635
	Through/Right	0				
	Right	1	107	60	47	
	Total Lanes	5				
Westbound	Left	1	122		122	122
	Left/Through	0				
	Through	3	1,882		627	
	Through/Right	0				
	Right	1	45	20	25	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**757**
			Total Intersection Critical Volumes			**1,170**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.780**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.710**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 6 **Date** July 26, 2010
Intersection Name North/South: Bagley Avenue/Main Street
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	42		42	42
	Left/Through	0				
	Through	0	103			
	Through/Right	1			143	
	Right	0	40	0		
	Total Lanes	2				
Southbound	Left	0	90			
	Left/Through	0				
	Left/Through/Right	1	165		350	350
	Through/Right	0				
	Right	0	95	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**392**
Eastbound	Left	1	109		109	109
	Left/Through	0				
	Through	2	1,844		651	
	Through/Right	1			651	
	Right	0	108	0		
	Total Lanes	4				
Westbound	Left	1	78		78	
	Left/Through	0				
	Through	3	1,876		625	625
	Through/Right	0				
	Right	1	71	71	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**734**
			Total Intersection Critical Volumes			**1,126**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.819**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.749**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 7 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	86		86	
	Left/Through	0				
	Through	1	83		83	
	Through/Right	0				
	Right	2	1,271	666	302	302
	Total Lanes	4				
Southbound	Left	1	302		212	
	Left/Through	0				
	Left/Through/Right	1	72		212	212
	Through/Right	0				
	Right	0	49	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**514**
Eastbound	Left	1	53		53	
	Left/Through	0				
	Through	2	2,013		692	692
	Through/Right	1			692	
	Right	0	62	0		
	Total Lanes	4				
Westbound	Left	2	606		333	333
	Left/Through	0				
	Through	2	2,016		742	
	Through/Right	1			742	
	Right	0	209	0		
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,024**
			Total Intersection Critical Volumes			**1,538**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.119**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.019**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	160		160	
	Left/Through	0				
	Through	1	546		546	546
	Through/Right	0				
	Right	1	60	60	0	
	Total Lanes	3				
Southbound	Left	0	596			
	Left/Through	1			596	596
	Through	1	391		391	
	Through/Right	0				
	Right	1	292	214	78	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,142**
Eastbound	Left	2	778		428	428
	Left/Through	0				
	Through	2	2,435		867	
	Through/Right	1			867	
	Right	0	166	0		
	Total Lanes	5				
Westbound	Left	1	112		112	
	Left/Through	0				
	Through	2	2,352		868	868
	Through/Right	1			868	
	Right	0	252	0		
	Total Lanes	4				
				Sum of East/West Critical Volumes		**1,296**
				Total Intersection Critical Volumes		**2,438**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.773**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.673**
				Level of Service (LOS)		**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	630		630	630
	Left/Through	0				
	Through	1	759		490	
	Through/Right	1			490	
	Right	0	221	0		
	Total Lanes	3				
Southbound	Left	1	183		183	
	Left/Through	0				
	Through	1	818		460	460
	Through/Right	1			460	
	Right	0	101	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,090**
Eastbound	Left	2	206		113	
	Left/Through	0				
	Through	3	2,223		741	741
	Through/Right	0				
	Right	1	539	315	224	
	Total Lanes	6				
Westbound	Left	2	123		68	68
	Left/Through	0				
	Through	3	1,593		531	
	Through/Right	0				
	Right	1	59	59	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**809**
			Total Intersection Critical Volumes			**1,899**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.381**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.281**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	16			16
	Left/Through	1			17	
Northbound	Through	0	1			
	Through/Right	0				
	Right	1	9	9	0	
	Total Lanes	2				
	Left	0	29			
	Left/Through	0				
Southbound	Left/Through/Right	1	9		65	65
	Through/Right	0				
	Right	0	27	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**81**
	Left	1	74		74	
	Left/Through	0				
Eastbound	Through	2	2,589		874	874
	Through/Right	1			874	
	Right	0	34	0		
	Total Lanes	4				
	Left	1	33		33	33
	Left/Through	0				
Westbound	Through	2	1,787		598	
	Through/Right	1			598	
	Right	0	8	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**907**
			Total Intersection Critical Volumes			**988**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.659**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.559**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	13			13
	Left/Through	0				
	Left/Through/Right	1	63		89	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	189			
	Left/Through	0				
	Left/Through/Right	1	74		295	295
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**308**
Eastbound	Left	1	113		113	
	Left/Through	0				
	Through	2	2,444		819	819
	Through/Right	1			819	
	Right	0	13	0		
	Total Lanes	4				
Westbound	Left	1	79		79	79
	Left/Through	0				
	Through	2	1,698		592	
	Through/Right	1			592	
	Right	0	77	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**898**
			Total Intersection Critical Volumes			**1,206**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.804**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.704**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 12 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	107		107	107
	Left/Through	0				
	Through	2	1,100		373	
	Through/Right	1			373	
	Right	0	20	0		
	Total Lanes	4				
Southbound	Left	1	36		36	
	Left/Through	0				
	Through	2	1,516		609	609
	Through/Right	1			609	
	Right	0	311	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**716**
Eastbound	Left	2	301		166	
	Left/Through	0				
	Through	3	2,037		679	679
	Through/Right	0				
	Right	1	259	54	205	
	Total Lanes	6				
Westbound	Left	1	202		202	202
	Left/Through	0				
	Through	3	1,397		466	
	Through/Right	0				
	Right	1	34	34	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**881**
			Total Intersection Critical Volumes			**1,597**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.161**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.091**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 13 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue/Duquesne Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	72		72	72
	Left/Through	0				
Northbound	Through	0	341			
	Through/Right	1			361	
	Right	0	20	0		
	Total Lanes	2				
	Left	1	34		34	
	Left/Through	0				
Southbound	Through	0	343			
	Through/Right	1			404	404
	Right	0	61	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**476**
	Left	1	47		47	
	Left/Through	0				
Eastbound	Through	1	1,252		760	760
	Through/Right	1			760	
	Right	0	267	0		
	Total Lanes	3				
	Left	1	80		80	80
	Left/Through	0				
Westbound	Through	1	576		308	
	Through/Right	1			308	
	Right	0	41	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**840**
			Total Intersection Critical Volumes			**1,316**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.877**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.807**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 14 **Date** July 26, 2010
Intersection Name North/South: Duquesne Avenue
East/West: Culver Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	113		113	
	Left/Through	0				
Northbound	Through	1	316		316	316
	Through/Right	0				
	Right	1	153	54	99	
	Total Lanes	3				
	Left	1	122		122	122
	Left/Through	0				
Southbound	Through	1	525		300	
	Through/Right	1			300	
	Right	0	74	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**438**
	Left	1	69		69	
	Left/Through	0				
Eastbound	Through	1	1,008		550	550
	Through/Right	1			550	
	Right	0	92	0		
	Total Lanes	3				
	Left	1	108		108	108
	Left/Through	0				
Westbound	Through	1	912		467	
	Through/Right	1			467	
	Right	0	22	0		
	Total Lanes	3				
				Sum of East/West Critical Volumes		**658**
				Total Intersection Critical Volumes		**1,096**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**0.797**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**0.727**
				Level of Service (LOS)		**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 15 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Irving Place
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	2	1,203		420	
	Through/Right	1			420	
	Right	0	57	0		
	Total Lanes	3				
	Left	1	81		81	
	Left/Through	0				
Southbound	Through	1	1,011		506	506
	Through/Right	1			506	
	Right	1	691	634	57	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**506**
	Left	1	1,247		634	634
	Left/Through	1			634	
Eastbound	Through	0	20			
	Through/Right	0				
	Right	1	6	0	6	
	Total Lanes	3				
	Left	0	13			
	Left/Through	1			38	38
Westbound	Through	0	25			
	Through/Right	0				
	Right	1	55	43	12	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**672**
			Total Intersection Critical Volumes			**1,178**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.857**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.787**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 16 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Main Street
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	115		115	
	Left/Through	0				
	Through	3	2,323		774	774
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,483		533	
	Through/Right	1			533	
	Right	0	117	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**774**
Eastbound	Left	1	281		281	281
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	166	120	46	
	Total Lanes	2				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**281**
			Total Intersection Critical Volumes			**1,055**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.740**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.670**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 17 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Canfield Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	14		14	
	Left/Through	0				
	Through	2	1,365		682	682
	Through/Right	0				
	Right	2	1,156	1,086	35	
	Total Lanes	5				
Southbound	Left	1	116		116	116
	Left/Through	0				
	Through	1	640		324	
	Through/Right	1			324	
	Right	0	9	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**798**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	20	14	6	6
	Total Lanes	1				
Westbound	Left	1	1,056		543	543
	Left/Through	1			543	
	Through	0	30			
	Through/Right	0				
	Right	1	77	58	19	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**549**
			Total Intersection Critical Volumes			**1,347**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.945**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.875**
			Level of Service (LOS)			**D**

NB Rt. Turn Overlap with WB Left

East/West Opposed Phasing
EB Rt. Turn Overlap with NB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	56		56	
	Left/Through	0				
	Through	1	221		221	221
	Through/Right	0				
	Right	1	34	34	0	
	Total Lanes	3				
Southbound	Left	1	184		184	184
	Left/Through	0				
	Through	1	331		331	
	Through/Right	0				
	Right	1	54	0	54	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**405**
Eastbound	Left	1	97		97	97
	Left/Through	0				
	Through	1	1,007		550	
	Through/Right	1			550	
	Right	0	94	0		
	Total Lanes	3				
Westbound	Left	1	89		89	
	Left/Through	0				
	Through	1	963		568	568
	Through/Right	1			568	
	Right	0	173	0		
	Total Lanes	3				
				Sum of East/West Critical Volumes		**665**
				Total Intersection Critical Volumes		**1,070**
Number of Clearance Intervals	**3**			**Intersection Capacity**		**1,425**
				Base CMA		**0.751**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**0.681**
				Level of Service (LOS)		**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 19 **Date** July 26, 2010
Intersection Name North/South: Landmark Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	56		56	
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	1	113	31	82	82
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**82**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,524		792	792
	Through/Right	1			792	
	Right	0	61	0		
	Total Lanes	2				
	Left	0	62			62
	Left/Through	1			414	
Westbound	Through	1	1,075		724	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**854**
			Total Intersection Critical Volumes			**936**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.624**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.554**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	269		148	148
	Left/Through	0				
	Through	1	849		472	
	Through/Right	1			472	
	Right	0	96	0		
	Total Lanes	4				
Southbound	Left	2	250		137	
	Left/Through	0				
	Through	1	1,071		572	572
	Through/Right	1			572	
	Right	0	73	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**720**
Eastbound	Left	1	85		85	
	Left/Through	0				
	Through	2	1,048		524	524
	Through/Right	0				
	Right	1	288	74	214	
	Total Lanes	4				
Westbound	Left	1	95		95	95
	Left/Through	0				
	Through	2	845		406	
	Through/Right	1			406	
	Right	0	372	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**619**
			Total Intersection Critical Volumes			**1,339**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.974**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.904**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 21 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	10			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		18	18
	Through/Right	0				
	Right	0	8	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**18**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,350		676	676
	Through/Right	1			676	
	Right	0	3	0		
	Total Lanes	2				
	Left	1	1		1	1
	Left/Through	0				
Westbound	Through	2	1,238		619	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**677**
			Total Intersection Critical Volumes			**695**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.579**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.579**
			Level of Service (LOS)			**A**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Without Project*

Site Information

Intersection	*21*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Wesley Street*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1350*	*3*	*1*	*1238*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1350*	*3*	*1*	*1238*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*	*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*	*0*	*8*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*8*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LTR*				
v (veh/h)		*1*		*18*				
C (m) (veh/h)		*515*		*92*				
v/c		*0.00*		*0.20*				
95% queue length		*0.01*		*0.72*				
Control Delay (s/veh)		*12.0*		*53.6*				
LOS		*B*		*F*				
Approach Delay (s/veh)	--	--	*53.6*					
Approach LOS	--	--	*F*					

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:40 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	49			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		62	62
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**62**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,254		642	642
	Through/Right	1			642	
	Right	0	30	0		
	Total Lanes	2				
	Left	1	14		14	14
	Left/Through	0				
Westbound	Through	2	1,000		500	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**656**
			Total Intersection Critical Volumes			**718**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.479**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.409**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	4			4
	Left/Through	0				
Northbound	Left/Through/Right	1	2		9	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
	Left	0	59			
	Left/Through	0				
Southbound	Left/Through/Right	1	2		98	98
	Through/Right	0				
	Right	0	37	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**102**
	Left	0	22			
	Left/Through	1			599	
Eastbound	Through	0	1,257			
	Through/Right	1			690	690
	Right	0	9	0		
	Total Lanes	2				
	Left	0	11			11
	Left/Through	1			492	
Westbound	Through	0	951			
	Through/Right	1			546	
	Right	0	76	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**701**
			Total Intersection Critical Volumes			**803**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.669**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.669**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Without Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*22*	*1257*	*9*	*11*	*951*	*76*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*1257*	*9*	*11*	*951*	*76*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*4*	*2*	*3*	*59*	*2*	*37*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*2*	*3*	*59*	*2*	*37*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*22*	*11*		*9*			*98*	
C (m) (veh/h)	*684*	*556*		*58*			*85*	
v/c	*0.03*	*0.02*		*0.16*			*1.15*	
95% queue length	*0.10*	*0.06*		*0.54*			*15.80*	
Control Delay (s/veh)	*10.4*	*11.6*		*78.4*			*511.9*	
LOS	*B*	*B*		*F*			*F*	
Approach Delay (s/veh)	--	--	*78.4*			*511.9*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:47 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 24 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	149		149	149
	Left/Through	0				
	Through	2	1,114		394	
	Through/Right	1			394	
	Right	0	68	0		
	Total Lanes	4				
Southbound	Left	1	243		243	
	Left/Through	0				
	Through	2	1,663		569	569
	Through/Right	1			569	
	Right	0	44	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**718**
Eastbound	Left	1	72		72	
	Left/Through	0				
	Through	2	1,191		596	596
	Through/Right	0				
	Right	1	137	74	63	
	Total Lanes	4				
Westbound	Left	1	81		81	81
	Left/Through	0				
	Through	2	748		374	
	Through/Right	0				
	Right	1	137	137	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**677**
			Total Intersection Critical Volumes			**1,395**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.015**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.945**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 25 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Fairfax Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	8		8	
	Left/Through	0				
	Through	1	1,615		808	808
	Through/Right	1			808	
	Right	1	1,508	1,508	0	
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,377		464	
	Through/Right	1			464	
	Right	0	14	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**808**
Eastbound	Left	0	36			
	Left/Through	0				
	Left/Through/Right	1	0		52	52
	Through/Right	0				
	Right	0	16	0		
	Total Lanes	1				
Westbound	Left	2	1,057		581	
	Left/Through	0				
	Through	0	12			
	Through/Right	1			30	30
	Right	0	18	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**633**
			Total Intersection Critical Volumes			**1,441**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.011**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.911**
			Level of Service (LOS)			**E**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	19			
	Left/Through	0				
	Left/Through/Right	1	0		136	136
	Through/Right	0				
	Right	0	117	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**136**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,212		606	
	Through/Right	0				
	Right	1	4	4	0	
	Total Lanes	3				
Westbound	Left	1	5		5	
	Left/Through	0				
	Through	2	1,228		614	614
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**614**
			Total Intersection Critical Volumes			**750**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.500**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.430**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 27 **Date** July 26, 2010
Intersection Name North/South: Hayden Avenue
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	701		438	
	Left/Through	0				
	Left/Through/Right	1	0		438	438
	Through/Right	0				
	Right	0	176	0		
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**438**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,213		606	606
	Through/Right	0				
	Right	1	144	144	0	
	Total Lanes	3				
Westbound	Left	1	56		56	56
	Left/Through	0				
	Through	2	521		260	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**662**
			Total Intersection Critical Volumes			**1,100**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.772**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.702**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 28 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	89		89	89
	Left/Through	0				
	Through	2	890		445	
	Through/Right	0				
	Right	1	15	15	0	
	Total Lanes	4				
Southbound	Left	1	5		5	
	Left/Through	0				
	Through	1	631		631	631
	Through/Right	0				
	Right	1	462	254	208	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**720**
Eastbound	Left	1	959		507	507
	Left/Through	1			507	
	Through	0	55			
	Through/Right	0				
	Right	1	62	44	18	
	Total Lanes	3				
Westbound	Left	0	140			
	Left/Through	0				
	Left/Through/Right	1	60		215	215
	Through/Right	0				
	Right	0	15	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**722**
			Total Intersection Critical Volumes			**1,442**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.012**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.912**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 29 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Jefferson Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	94		94	
	Left/Through	0				
	Through	2	2,356		892	892
	Through/Right	1			892	
	Right	0	319	0		
	Total Lanes	4				
Southbound	Left	1	49		49	49
	Left/Through	0				
	Through	3	2,240		747	
	Through/Right	0				
	Right	1	311	311	0	
	Total Lanes	5				
			Sum of North/South Critical Volumes			**941**
Eastbound	Left	2	601		331	
	Left/Through	0				
	Through	1	1,011		636	636
	Through/Right	1			636	
	Right	0	262	0		
	Total Lanes	4				
Westbound	Left	2	310		170	170
	Left/Through	0				
	Through	2	740		370	
	Through/Right	0				
	Right	1	93	0	93	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**806**
			Total Intersection Critical Volumes			**1,747**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.271**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.171**
			Level of Service (LOS)			**F**

SB Rt. Turn Overlap with EB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 30 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Higuera Street/Rodeo Road
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	73		73	
	Left/Through	0				
	Through	2	823		412	412
	Through/Right	0				
	Right	1	1,050	1,050	0	
	Total Lanes	4				
Southbound	Left	1	153		153	153
	Left/Through	0				
	Through	2	564		282	
	Through/Right	0				
	Right	1	113	113	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**565**
Eastbound	Left	1	56		56	
	Left/Through	0				
	Through	2	567		284	284
	Through/Right	0				
	Right	1	186	142	44	
	Total Lanes	4				
Westbound	Left	2	600		330	
	Left/Through	0				
	Through	1	328		328	328
	Through/Right	0				
	Right	1	22	22	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**614**
			Total Intersection Critical Volumes			**1,179**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.827**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.727**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 31 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Rodeo Road
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	328		180	
	Left/Through	0				
	Through	2	2,234		822	822
	Through/Right	1			822	
	Right	0	232	0		
	Total Lanes	5				
Southbound	Left	2	461		254	254
	Left/Through	0				
	Through	2	2,183		793	
	Through/Right	1			793	
	Right	0	196	0		
	Total Lanes	5				
			Sum of North/South Critical Volumes			**1,076**
Eastbound	Left	1	383		383	
	Left/Through	0				
	Through	2	1,200		600	600
	Through/Right	0				
	Right	1	324	180	144	
	Total Lanes	4				
Westbound	Left	2	253		139	139
	Left/Through	0				
	Through	2	494		247	
	Through/Right	0				
	Right	1	152	152	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**739**
			Total Intersection Critical Volumes			**1,815**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.320**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.220**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 32 **Date** July 26, 2010
Intersection Name North/South: Braddock Drive
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	154			
	Left/Through	0				
	Left/Through/Right	1	173		501	501
	Through/Right	0				
	Right	0	174	0		
	Total Lanes	1				
Southbound	Left	0	7			7
	Left/Through	0				
	Left/Through/Right	1	37		61	
	Through/Right	0				
	Right	0	17	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**508**
Eastbound	Left	0	129			
	Left/Through	0				
	Left/Through/Right	1	457		744	744
	Through/Right	0				
	Right	0	158	0		
	Total Lanes	1				
Westbound	Left	0	16			16
	Left/Through	0				
	Left/Through/Right	1	415		447	
	Through/Right	0				
	Right	0	16	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**760**
			Total Intersection Critical Volumes			**1,268**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.268**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.268**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Without Project*

Site Information

Intersection	*32*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Braddock Drive*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*129*	*457*	*158*	*16*	*415*	*16*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*154*	*173*	*174*	*7*	*37*	*17*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*1.00*		*1.00*		*1.00*		*1.00*	
Flow Rate (veh/h)	*744*		*447*		*501*		*61*	
% Heavy Vehicles	*0*		*0*		*0*		*0*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.2*		*0.0*		*0.3*		*0.1*	
Prop. Right-Turns	*0.2*		*0.0*		*0.3*		*0.3*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.1*		*-0.0*		*-0.1*		*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.66*		*0.40*		*0.45*		*0.05*	
hd, final value (s)	*7.36*		*7.54*		*7.30*		*9.49*	
x, final value	*1.52*		*0.94*		*1.02*		*0.16*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*5.4*		*5.5*		*5.3*		*7.5*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*744*		*478*		*501*		*311*	
Delay (s/veh)	*969.41*		*79.53*		*141.71*		*14.30*	
LOS	*F*		*F*		*F*		*B*	
Approach: Delay (s/veh)	*969.41*		*79.53*		*141.71*		*14.30*	
LOS	*F*		*F*		*F*		*B*	
Intersection Delay (s/veh)	*472.71*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:57 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 33 **Date** July 26, 2010
Intersection Name North/South: Lucerne Avenue
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Southbound	Left	0	294			
	Left/Through	0				
	Left/Through/Right	1	0		360	360
	Through/Right	0				
	Right	0	66	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**360**
Eastbound	Left	0	64			
	Left/Through	1			691	691
	Through	0	627			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
Westbound	Left	0	0			
	Left/Through	0				
	Through	1	396		396	
	Through/Right	0				
	Right	1	210	180	30	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**691**
			Total Intersection Critical Volumes			**1,051**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.051**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.051**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - Without Project*

Site Information

Intersection	*33*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Lucerne Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*64*	*627*	*0*	*0*	*396*	*210*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*294*	*0*	*66*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LT*		*T*	*R*			*LTR*	
PHF	*1.00*		*1.00*	*1.00*			*1.00*	
Flow Rate (veh/h)	*691*		*396*	*210*			*360*	
% Heavy Vehicles	*0*		*0*	*0*			*0*	
No. Lanes	*1*		*2*		*0*		*1*	
Geometry Group	*3a*		*5*				*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.1*		*0.0*	*0.0*			*0.8*	
Prop. Right-Turns	*0.0*		*0.0*	*1.0*			*0.2*	
Prop. Heavy Vehicle	*0.0*		*0.0*	*0.0*			*0.0*	
hLT-adj	*0.2*	*0.2*	*0.5*	*0.5*			*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.7*	*-0.7*			*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*			*1.7*	*1.7*
hadj, computed	*0.0*		*0.0*	*-0.7*			*0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*	*3.20*			*3.20*	
x, initial	*0.61*		*0.35*	*0.19*			*0.32*	
hd, final value (s)	*6.37*		*6.93*	*6.21*			*6.96*	
x, final value	*1.22*		*0.76*	*0.36*			*0.70*	
Move-up time, m (s)	*2.0*		*2.3*				*2.0*	
Service Time, t_s (s)	*4.4*		*4.6*	*3.9*			*5.0*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*691*		*516*	*460*			*511*	
Delay (s/veh)	*442.46*		*30.82*	*12.43*			*25.45*	
LOS	*F*		*D*	*B*			*D*	
Approach: Delay (s/veh)	*442.46*		*24.44*				*25.45*	
LOS	*F*		*C*				*D*	
Intersection Delay (s/veh)	*198.99*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 8:01 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 34 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Duquesne Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	373		373	373
	Left/Through	0				
	Through	1	1,484		760	
	Through/Right	1			760	
	Right	0	35	0		
	Total Lanes	3				
Southbound	Left	1	53		53	
	Left/Through	0				
	Through	2	1,109		554	554
	Through/Right	0				
	Right	1	211	211	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**927**
Eastbound	Left	1	481		481	481
	Left/Through	0				
	Through	0	63			
	Through/Right	1			417	
	Right	0	354	0		
	Total Lanes	2				
Westbound	Left	1	29		29	
	Left/Through	0				
	Through	1	42		42	42
	Through/Right	0				
	Right	1	20	20	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**523**
			Total Intersection Critical Volumes			**1,450**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.055**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.985**
			Level of Service (LOS)			**E**

EB/WB Rt. Turn Overlap With NB/SB Lefts

TRAFFIC IMPACT ANALYSIS REPORT - APPENDIX III

Proposed Mixed-Use Development
(115-Unit Residential and 31,240 Square Foot Retail)
Located at 8770 Washington Boulevard
in Culver City, California

Prepared for:

EMC Development, LLC
8383 Wilshire Boulevard, Suite 630
Beverly Hills, California 90211

Prepared by:

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.
13333 Ventura Boulevard, #204
Sherman Oaks, California 91423

REGISTERED PROFESSIONAL ENGINEER
RONALD R. HIRSCH
NO. 2318
6-30-2011
TRAFFIC
STATE OF CALIFORNIA

REVISED JULY 2010

APPENDICES
TABLE OF CONTENTS

VOLUME I

A – Related Projects Trip Generation Rates/Equations

B – Intersection Geometrics/Controls and Traffic Count Data Sheets

C – Project Local/Residential Street Trip Calculations

D – Conceptual Traffic Mitigation Improvements and Supporting Analyses

VOLUME II

E – CMA Calculation Worksheets

- *Existing (2010) Conditions*
- *Future (2013) Without Project Conditions*

VOLUME III

E – CMA Calculation Worksheets

- *Future (2013) With Project Conditions*
- *Future (2013) With Project Plus Mitigation Conditions*

APPENDIX E (Continued)

CRITICAL MOVEMENT ANALYSIS/HIGHWAY CAPACITY MANUAL INTERSECTION OPERATIONS CALCULATION WORKSHEETS

Future (2013) With Project
AM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 1 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: Cattaraugus Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	80		80	80
	Left/Through	0				
Northbound	Through	1	1,350		678	
	Through/Right	1			678	
	Right	0	5	0		
	Total Lanes	3				
	Left	1	38		38	
	Left/Through	0				
Southbound	Through	1	1,866		970	970
	Through/Right	1			970	
	Right	0	73	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,050**
	Left	0	109			109
	Left/Through	0				
Eastbound	Left/Through/Right	1	138		360	
	Through/Right	0				
	Right	0	113	0		
	Total Lanes	1				
	Left	0	86			
	Left/Through	0				
Westbound	Left/Through/Right	1	240		398	398
	Through/Right	0				
	Right	0	72	0		
	Total Lanes	1				
				Sum of East/West Critical Volumes		**507**
				Total Intersection Critical Volumes		**1,557**
Number of Clearance Intervals	**2**			**Intersection Capacity**		**1,500**
				Base CMA		**1.038**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**0.938**
				Level of Service (LOS)		**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 2 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: I-405 WB Off-Ramp/Kincardine Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	38		38	38
	Left/Through	0				
	Through	2	1,206		603	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	1	1,771		922	922
	Through/Right	1			922	
	Right	0	74	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**960**
Eastbound	Left	0	117			
	Left/Through	0				
	Left/Through/Right	1	0		163	163
	Through/Right	0				
	Right	0	46	0		
	Total Lanes	1				
Westbound	Left	0	451			451
	Left/Through	0				
	Left/Through/Right	1	13		464	
	Through/Right	0				
	Right	1	173	173	0	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**614**
			Total Intersection Critical Volumes			**1,574**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**1.049**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.949**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 3 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	113		113	113
	Left/Through	0				
Northbound	Through	1	637		360	
	Through/Right	1			360	
	Right	0	84	0		
	Total Lanes	3				
	Left	2	796		438	
	Left/Through	0				
Southbound	Through	1	1,238		732	732
	Through/Right	1			732	
	Right	0	227	0		
	Total Lanes	4				
				Sum of North/South Critical Volumes		**845**
	Left	1	169		169	169
	Left/Through	0				
Eastbound	Through	1	697		480	
	Through/Right	1			480	
	Right	0	264	0		
	Total Lanes	3				
	Left	1	148		148	
	Left/Through	0				
Westbound	Through	1	598		598	598
	Through/Right	0				
	Right	1	491	438	53	
	Total Lanes	3				
				Sum of East/West Critical Volumes		**767**
				Total Intersection Critical Volumes		**1,612**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.172**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.072**
				Level of Service (LOS)		**F**

WB Rt. Turn Overlap with SB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 4 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: I-405 EB On-Ramp
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	188		188	188
	Left/Through	0				
	Through	2	1,174		587	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,013		506	
	Through/Right	0				
	Right	1	654	0	654	654
	Total Lanes	3				
			Sum of North/South Critical Volumes			**842**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**0**
			Total Intersection Critical Volumes			**842**
Number of Clearance Intervals		**2**	**Intersection Capacity**			**1,500**
			Base CMA			**0.561**
Signal Coordination		**ATSAC + ATCS**	**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.461**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 5 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	107			107
	Left/Through	0				
Northbound	Left/Through/Right	1	188		344	
	Through/Right	0				
	Right	0	49	0		
	Total Lanes	1				
	Left	0	67			
	Left/Through	0				
Southbound	Left/Through/Right	1	207		342	342
	Through/Right	0				
	Right	0	68	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**449**
	Left	1	46		46	
	Left/Through	0				
Eastbound	Through	3	2,076		692	692
	Through/Right	0				
	Right	1	124	54	70	
	Total Lanes	5				
	Left	1	178		178	178
	Left/Through	0				
Westbound	Through	3	1,992		664	
	Through/Right	0				
	Right	1	43	43	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**870**
			Total Intersection Critical Volumes			**1,319**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.879**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.809**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 6 **Date** July 26, 2010
Intersection Name North/South: Bagley Avenue/Main Street
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	48		48	48
	Left/Through	0				
	Through	0	149			
	Through/Right	1			191	
	Right	0	42	0		
	Total Lanes	2				
Southbound	Left	0	75			
	Left/Through	0				
	Left/Through/Right	1	170		312	312
	Through/Right	0				
	Right	0	67	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**360**
Eastbound	Left	1	69		69	
	Left/Through	0				
	Through	2	2,140		729	729
	Through/Right	1			729	
	Right	0	48	0		
	Total Lanes	4				
Westbound	Left	1	60		60	60
	Left/Through	0				
	Through	3	2,119		706	
	Through/Right	0				
	Right	1	39	39	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**789**
			Total Intersection Critical Volumes			**1,149**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.836**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.766**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 7 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	39		39	
	Left/Through	0				
	Through	1	86		86	86
	Through/Right	0				
	Right	2	781	781	0	
	Total Lanes	4				
Southbound	Left	1	180		128	
	Left/Through	0				
	Left/Through/Right	1	45		128	128
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**214**
Eastbound	Left	1	31		31	
	Left/Through	0				
	Through	2	2,151		726	726
	Through/Right	1			726	
	Right	0	27	0		
	Total Lanes	4				
Westbound	Left	2	965		531	531
	Left/Through	0				
	Through	2	2,016		722	
	Through/Right	1			722	
	Right	0	149	0		
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,256**
			Total Intersection Critical Volumes			**1,470**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.069**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.969**
			Level of Service (LOS)			**E**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	205		205	
	Left/Through	0				
	Through	1	479		479	479
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	641			
	Left/Through	1			641	641
	Through	1	421		421	
	Through/Right	0				
	Right	1	537	172	365	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,120**
Eastbound	Left	2	627		345	345
	Left/Through	0				
	Through	2	2,478		883	
	Through/Right	1			883	
	Right	0	172	0		
	Total Lanes	5				
Westbound	Left	1	99		99	
	Left/Through	0				
	Through	2	2,477		953	953
	Through/Right	1			953	
	Right	0	382	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,298**
			Total Intersection Critical Volumes			**2,418**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.759**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.659**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	345		345	345
	Left/Through	0				
	Through	1	1,023		546	
	Through/Right	1			546	
	Right	0	69	0		
	Total Lanes	3				
Southbound	Left	1	132		132	
	Left/Through	0				
	Through	1	746		426	426
	Through/Right	1			426	
	Right	0	107	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**771**
Eastbound	Left	2	210		116	116
	Left/Through	0				
	Through	3	2,149		716	
	Through/Right	0				
	Right	1	689	172	517	
	Total Lanes	6				
Westbound	Left	2	213		117	
	Left/Through	0				
	Through	3	2,217		739	739
	Through/Right	0				
	Right	1	117	112	5	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**855**
			Total Intersection Critical Volumes			**1,626**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.183**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.083**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	11			11
	Left/Through	1			20	
Northbound	Through	0	9			
	Through/Right	0				
	Right	1	4	4	0	
	Total Lanes	2				
	Left	0	12			
	Left/Through	0				
Southbound	Left/Through/Right	1	2		39	39
	Through/Right	0				
	Right	0	25	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**50**
	Left	1	76		76	76
	Left/Through	0				
Eastbound	Through	2	2,260		761	
	Through/Right	1			761	
	Right	0	22	0		
	Total Lanes	4				
	Left	1	23		23	
	Left/Through	0				
Westbound	Through	2	2,522		848	848
	Through/Right	1			848	
	Right	0	23	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**924**
			Total Intersection Critical Volumes			**974**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.649**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.549**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	68			
	Left/Through	0				
	Left/Through/Right	1	250		353	353
	Through/Right	0				
	Right	0	35	0		
	Total Lanes	1				
Southbound	Left	0	163			163
	Left/Through	0				
	Left/Through/Right	1	86		267	
	Through/Right	0				
	Right	0	18	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**516**
Eastbound	Left	1	71		71	71
	Left/Through	0				
	Through	2	2,053		688	
	Through/Right	1			688	
	Right	0	11	0		
	Total Lanes	4				
Westbound	Left	1	76		76	
	Left/Through	0				
	Through	2	2,427		843	843
	Through/Right	1			843	
	Right	0	103	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**914**
			Total Intersection Critical Volumes			**1,430**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.953**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.853**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 12 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	150		150	150
	Left/Through	0				
	Through	2	1,773		607	
	Through/Right	1			607	
	Right	0	48	0		
	Total Lanes	4				
Southbound	Left	1	35		35	
	Left/Through	0				
	Through	2	1,339		574	574
	Through/Right	1			574	
	Right	0	384	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**724**
Eastbound	Left	2	355		195	195
	Left/Through	0				
	Through	3	1,810		603	
	Through/Right	0				
	Right	1	169	75	94	
	Total Lanes	6				
Westbound	Left	1	138		138	
	Left/Through	0				
	Through	3	2,101		700	700
	Through/Right	0				
	Right	1	15	15	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**895**
			Total Intersection Critical Volumes			**1,619**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.177**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.107**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 13 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue/Duquesne Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	200		200	200
	Left/Through	0				
Northbound	Through	0	327			
	Through/Right	1			367	
	Right	0	40	0		
	Total Lanes	2				
	Left	1	12		12	
	Left/Through	0				
Southbound	Through	0	304			
	Through/Right	1			351	351
	Right	0	47	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**551**
	Left	1	41		41	41
	Left/Through	0				
Eastbound	Through	1	692		440	
	Through/Right	1			440	
	Right	0	188	0		
	Total Lanes	3				
	Left	1	55		55	
	Left/Through	0				
Westbound	Through	1	1,290		669	669
	Through/Right	1			669	
	Right	0	48	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**710**
			Total Intersection Critical Volumes			**1,261**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.841**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.771**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 14 **Date** July 26, 2010
Intersection Name North/South: Duquesne Avenue
East/West: Culver Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	96		96	
	Left/Through	0				
	Through	1	408		408	408
	Through/Right	0				
	Right	1	109	47	62	
	Total Lanes	3				
Southbound	Left	1	52		52	52
	Left/Through	0				
	Through	1	393		231	
	Through/Right	1			231	
	Right	0	69	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**460**
Eastbound	Left	1	106		106	
	Left/Through	0				
	Through	1	938		488	488
	Through/Right	1			488	
	Right	0	39	0		
	Total Lanes	3				
Westbound	Left	1	94		94	94
	Left/Through	0				
	Through	1	799		428	
	Through/Right	1			428	
	Right	0	56	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**582**
			Total Intersection Critical Volumes			**1,042**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.758**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.688**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 15 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Irving Place
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	2	1,074		372	
	Through/Right	1			372	
	Right	0	43	0		
	Total Lanes	3				
	Left	1	68		68	
	Left/Through	0				
Southbound	Through	1	869		621	621
	Through/Right	1			621	
	Right	1	1,344	349	621	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**621**
	Left	1	674		349	349
	Left/Through	1			349	
Eastbound	Through	0	24			
	Through/Right	0				
	Right	1	23	0	23	
	Total Lanes	3				
	Left	0	68			
	Left/Through	1			124	124
Westbound	Through	0	56			
	Through/Right	0				
	Right	1	116	116	0	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**473**
			Total Intersection Critical Volumes			**1,094**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.796**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.726**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 16 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Main Street
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	164		164	164
	Left/Through	0				
	Through	3	1,706		569	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	2,087		749	749
	Through/Right	1			749	
	Right	0	160	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**913**
Eastbound	Left	1	150		150	150
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	133	82	51	
	Total Lanes	2				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**150**
			Total Intersection Critical Volumes			**1,063**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.746**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.676**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 17 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Canfield Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	12		12	
	Left/Through	0				
	Through	2	847		424	424
	Through/Right	0				
	Right	2	953	953	0	
	Total Lanes	5				
Southbound	Left	1	137		137	137
	Left/Through	0				
	Through	1	878		441	
	Through/Right	1			441	
	Right	0	4	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**561**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	1				
Westbound	Left	1	1,300		668	668
	Left/Through	1			668	
	Through	0	36			
	Through/Right	0				
	Right	1	74	68	6	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**668**
			Total Intersection Critical Volumes			**1,229**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.862**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.792**
			Level of Service (LOS)			**C**

NB Rt. Turn Overlap with WB Left

East/West Opposed Phasing
EB Rt. Turn Overlap with NB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	32		32	
	Left/Through	0				
	Through	1	275		275	275
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	1	183		183	183
	Left/Through	0				
	Through	1	373		373	
	Through/Right	0				
	Right	1	156	0	156	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**458**
Eastbound	Left	1	42		42	42
	Left/Through	0				
	Through	1	909		492	
	Through/Right	1			492	
	Right	0	76	0		
	Total Lanes	3				
Westbound	Left	1	73		73	
	Left/Through	0				
	Through	1	1,331		790	790
	Through/Right	1			790	
	Right	0	248	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**832**
			Total Intersection Critical Volumes			**1,290**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.905**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.835**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 19 **Date** July 26, 2010
Intersection Name North/South: Landmark Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	94		94	94
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	1	112	112	0	
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**94**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,001		590	
	Through/Right	1			590	
	Right	0	178	0		
	Total Lanes	2				
	Left	0	96			
	Left/Through	1			699	
Westbound	Through	1	1,772		1,169	1,169
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**1,169**
			Total Intersection Critical Volumes			**1,263**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.842**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.772**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	2	302		166	
	Left/Through	0				
Northbound	Through	1	890		522	522
	Through/Right	1			522	
	Right	0	153	0		
	Total Lanes	4				
	Left	2	393		216	216
	Left/Through	0				
Southbound	Through	1	895		493	
	Through/Right	1			493	
	Right	0	91	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**738**
	Left	1	130		130	130
	Left/Through	0				
Eastbound	Through	2	808		404	
	Through/Right	0				
	Right	1	201	122	79	
	Total Lanes	4				
	Left	1	88		88	
	Left/Through	0				
Westbound	Through	2	1,278		551	551
	Through/Right	1			551	
	Right	0	374	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**681**
			Total Intersection Critical Volumes			**1,419**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.032**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.962**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 21 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	30			
	Left/Through	0				
	Left/Through/Right	1	0		42	42
	Through/Right	0				
	Right	0	12	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**42**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,310		666	
	Through/Right	1			666	
	Right	0	23	0		
	Total Lanes	2				
Westbound	Left	1	23		23	
	Left/Through	0				
	Through	2	1,726		863	863
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**863**
			Total Intersection Critical Volumes			**905**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.754**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.754**
			Level of Service (LOS)			**C**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - With Project*

Site Information

Intersection	*21*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Wesley Street*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1310*	*23*	*23*	*1726*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1310*	*23*	*23*	*1726*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*	*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*30*	*0*	*12*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*30*	*0*	*12*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LTR*				
v (veh/h)		*23*		*42*				
C (m) (veh/h)		*524*		*48*				
v/c		*0.04*		*0.88*				
95% queue length		*0.14*		*6.58*				
Control Delay (s/veh)		*12.2*		*329.1*				
LOS		*B*		*F*				
Approach Delay (s/veh)	--	--	*329.1*					
Approach LOS	--	--	*F*					

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:39 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	73			
	Left/Through	0				
	Left/Through/Right	1	0		91	91
	Through/Right	0				
	Right	0	18	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**91**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,016		528	
	Through/Right	1			528	
	Right	0	39	0		
	Total Lanes	2				
Westbound	Left	1	31		31	
	Left/Through	0				
	Through	2	1,656		828	828
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**828**
			Total Intersection Critical Volumes			**919**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.613**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.543**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	9			9
	Left/Through	0				
Northbound	Left/Through/Right	1	5		17	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
	Left	0	88			
	Left/Through	0				
Southbound	Left/Through/Right	1	6		146	146
	Through/Right	0				
	Right	0	52	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**155**
	Left	0	51			51
	Left/Through	1			351	
Eastbound	Through	0	900			
	Through/Right	1			606	
	Right	0	6	0		
	Total Lanes	2				
	Left	0	3			
	Left/Through	1			990	
Westbound	Through	0	1,661			
	Through/Right	1			1,001	1,001
	Right	0	327	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**1,052**
			Total Intersection Critical Volumes			**1,207**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**1.006**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.006**
			Level of Service (LOS)			**F**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - With Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*51*	*900*	*6*	*3*	*1661*	*327*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*51*	*900*	*6*	*3*	*1661*	*327*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*5*	*3*	*88*	*6*	*52*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*5*	*3*	*88*	*6*	*52*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*51*	*3*		*17*			*146*	
C (m) (veh/h)	*294*	*759*		*21*			*17*	
v/c	*0.17*	*0.00*		*0.81*			*8.59*	
95% queue length	*0.63*	*0.01*		*4.15*			*67.73*	
Control Delay (s/veh)	*19.8*	*9.8*		*533.4*			*14111*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*533.4*			*14111*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:44 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 24 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	255		255	
	Left/Through	0				
	Through	2	1,684		568	568
	Through/Right	1			568	
	Right	0	21	0		
	Total Lanes	4				
Southbound	Left	1	194		194	194
	Left/Through	0				
	Through	2	1,483		505	
	Through/Right	1			505	
	Right	0	32	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**762**
Eastbound	Left	1	52		52	52
	Left/Through	0				
	Through	2	855		428	
	Through/Right	0				
	Right	1	119	119	0	
	Total Lanes	4				
Westbound	Left	1	66		66	
	Left/Through	0				
	Through	2	1,635		818	818
	Through/Right	0				
	Right	1	285	97	188	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**870**
			Total Intersection Critical Volumes			**1,632**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.187**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.117**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 25 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Fairfax Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	24		24	
	Left/Through	0				
	Through	1	1,804		902	902
	Through/Right	1			902	
	Right	1	979	979	0	
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,413		478	
	Through/Right	1			478	
	Right	0	21	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**902**
Eastbound	Left	0	13			
	Left/Through	0				
	Left/Through/Right	1	0		21	21
	Through/Right	0				
	Right	0	8	0		
	Total Lanes	1				
Westbound	Left	2	1,406		773	
	Left/Through	0				
	Through	0	24			
	Through/Right	1			54	54
	Right	0	30	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**794**
			Total Intersection Critical Volumes			**1,696**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.190**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.090**
			Level of Service (LOS)			**F**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	109			
	Left/Through	0				
	Left/Through/Right	1	0		210	210
	Through/Right	0				
	Right	0	101	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**210**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,086		543	
	Through/Right	0				
	Right	1	87	87	0	
	Total Lanes	3				
Westbound	Left	1	40		40	
	Left/Through	0				
	Through	2	1,670		835	835
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**835**
			Total Intersection Critical Volumes			**1,045**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.697**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.627**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 27 **Date** July 26, 2010
Intersection Name North/South: Hayden Avenue
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	637		360	
	Left/Through	0				
	Left/Through/Right	1	0		360	360
	Through/Right	0				
	Right	0	83	0		
	Total Lanes	2				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**360**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	944		472	472
	Through/Right	0				
	Right	1	236	180	56	
	Total Lanes	3				
Westbound	Left	1	196		196	196
	Left/Through	0				
	Through	2	1,136		568	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**668**
			Total Intersection Critical Volumes			**1,028**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.721**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.651**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 28 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	68		68	68
	Left/Through	0				
	Through	2	599		300	
	Through/Right	0				
	Right	1	75	20	55	
	Total Lanes	4				
Southbound	Left	1	30		30	
	Left/Through	0				
	Through	1	717		717	
	Through/Right	0				
	Right	1	1,301	187	1,114	1,114
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,182**
Eastbound	Left	1	612		374	374
	Left/Through	1			374	
	Through	0	135			
	Through/Right	0				
	Right	1	161	34	127	
	Total Lanes	3				
Westbound	Left	0	20			
	Left/Through	0				
	Left/Through/Right	1	10		40	40
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**414**
			Total Intersection Critical Volumes			**1,596**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.120**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.020**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 29 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Jefferson Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	123		123	
	Left/Through	0				
	Through	2	2,281		799	799
	Through/Right	1			799	
	Right	0	116	0		
	Total Lanes	4				
Southbound	Left	1	179		179	179
	Left/Through	0				
	Through	3	2,031		677	
	Through/Right	0				
	Right	1	661	238	423	
	Total Lanes	5				
			Sum of North/South Critical Volumes			**978**
Eastbound	Left	2	432		238	238
	Left/Through	0				
	Through	1	667		410	
	Through/Right	1			410	
	Right	0	153	0		
	Total Lanes	4				
Westbound	Left	2	608		334	
	Left/Through	0				
	Through	2	1,217		608	608
	Through/Right	0				
	Right	1	126	0	126	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**846**
			Total Intersection Critical Volumes			**1,824**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.327**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.227**
			Level of Service (LOS)			**F**

SB Rt. Turn Overlap with EB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 30 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Higuera Street/Rodeo Road
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	324		324	324
	Left/Through	0				
	Through	2	617		308	
	Through/Right	0				
	Right	1	772	772	0	
	Total Lanes	4				
Southbound	Left	1	98		98	
	Left/Through	0				
	Through	2	661		330	330
	Through/Right	0				
	Right	1	86	36	50	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**654**
Eastbound	Left	1	27		27	
	Left/Through	0				
	Through	2	142		71	71
	Through/Right	0				
	Right	1	46	46	0	
	Total Lanes	4				
Westbound	Left	2	1,050		578	
	Left/Through	0				
	Through	1	557		557	557
	Through/Right	0				
	Right	1	116	116	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**649**
			Total Intersection Critical Volumes			**1,303**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.914**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.814**
			Level of Service (LOS)			**D**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 31 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Rodeo Road
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	564		310	310
	Left/Through	0				
	Through	2	2,181		758	
	Through/Right	1			758	
	Right	0	93	0		
	Total Lanes	5				
Southbound	Left	2	254		140	
	Left/Through	0				
	Through	2	2,057		824	824
	Through/Right	1			824	
	Right	0	414	0		
	Total Lanes	5				
			Sum of North/South Critical Volumes			**1,134**
Eastbound	Left	1	214		214	214
	Left/Through	0				
	Through	2	554		277	
	Through/Right	0				
	Right	1	202	202	0	
	Total Lanes	4				
Westbound	Left	2	317		174	
	Left/Through	0				
	Through	2	842		421	421
	Through/Right	0				
	Right	1	348	140	208	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**635**
			Total Intersection Critical Volumes			**1,769**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.287**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.187**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 32 **Date** July 26, 2010
Intersection Name North/South: Braddock Drive
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	89			89
	Left/Through	0				
Northbound	Left/Through/Right	1	197		424	
	Through/Right	0				
	Right	0	138	0		
	Total Lanes	1				
	Left	0	28			
	Left/Through	0				
Southbound	Left/Through/Right	1	318		384	384
	Through/Right	0				
	Right	0	38	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**473**
	Left	0	46			46
	Left/Through	0				
Eastbound	Left/Through/Right	1	445		529	
	Through/Right	0				
	Right	0	38	0		
	Total Lanes	1				
	Left	0	43			
	Left/Through	0				
Westbound	Left/Through/Right	1	547		629	629
	Through/Right	0				
	Right	0	39	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**675**
			Total Intersection Critical Volumes			**1,148**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.148**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.148**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - With Project*

Site Information

Intersection	*32*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Braddock Drive*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*46*	*445*	*38*	*43*	*547*	*39*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*89*	*197*	*138*	*28*	*318*	*38*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*1.00*		*1.00*		*1.00*		*1.00*	
Flow Rate (veh/h)	*529*		*629*		*424*		*384*	
% Heavy Vehicles	*0*		*0*		*0*		*0*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.1*		*0.1*		*0.2*		*0.1*	
Prop. Right-Turns	*0.1*		*0.1*		*0.3*		*0.1*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.0*		*-0.0*		*-0.2*		*-0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.47*		*0.56*		*0.38*		*0.34*	
hd, final value (s)	*9.79*		*9.79*		*9.65*		*9.77*	
x, final value	*1.44*		*1.71*		*1.14*		*1.04*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*7.8*		*7.8*		*7.7*		*7.8*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*529*		*629*		*424*		*384*	
Delay (s/veh)	*832.31*		*1315*		*322.65*		*190.83*	
LOS	*F*		*F*		*F*		*F*	
Approach: Delay (s/veh)	*832.31*		*1315*		*322.65*		*190.83*	
LOS	*F*		*F*		*F*		*F*	
Intersection Delay (s/veh)	*751.40*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:56 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 33 **Date** July 26, 2010
Intersection Name North/South: Lucerne Avenue
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
	Left	0	194			
	Left/Through	0				
Southbound	Left/Through/Right	1	0		258	258
	Through/Right	0				
	Right	0	64	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**258**
	Left	0	91			91
	Left/Through	1			529	
Eastbound	Through	0	438			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Westbound	Through	1	575		575	575
	Through/Right	0				
	Right	1	351	129	222	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**666**
			Total Intersection Critical Volumes			**924**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**0.924**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.924**
			Level of Service (LOS)			**E**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - With Project*

Site Information

Intersection	*33*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Lucerne Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*91*	*438*	*0*	*0*	*575*	*351*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*194*	*0*	*64*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LT*		*T*	*R*			*LTR*	
PHF	*1.00*		*1.00*	*1.00*			*1.00*	
Flow Rate (veh/h)	*529*		*575*	*351*			*258*	
% Heavy Vehicles	*0*		*0*	*0*			*0*	
No. Lanes	*1*		*2*		*0*		*1*	
Geometry Group	*3a*		*5*				*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.2*		*0.0*	*0.0*			*0.8*	
Prop. Right-Turns	*0.0*		*0.0*	*1.0*			*0.2*	
Prop. Heavy Vehicle	*0.0*		*0.0*	*0.0*			*0.0*	
hLT-adj	*0.2*	*0.2*	*0.5*	*0.5*			*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.7*	*-0.7*			*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*			*1.7*	*1.7*
hadj, computed	*0.0*		*0.0*	*-0.7*			*0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*	*3.20*			*3.20*	
x, initial	*0.47*		*0.51*	*0.31*			*0.23*	
hd, final value (s)	*6.07*		*6.29*	*5.58*			*6.96*	
x, final value	*0.89*		*1.01*	*0.54*			*0.50*	
Move-up time, m (s)	*2.0*		*2.3*				*2.0*	
Service Time, t_s (s)	*4.1*		*4.0*	*3.3*			*5.0*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*591*		*575*	*601*			*507*	
Delay (s/veh)	*50.27*		*120.46*	*14.88*			*16.85*	
LOS	*F*		*F*	*B*			*C*	
Approach: Delay (s/veh)	*50.27*		*80.44*				*16.85*	
LOS	*F*		*F*				*C*	
Intersection Delay (s/veh)	*61.55*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 8:00 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 34 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Duquesne Avenue
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	451		451	451
	Left/Through	0				
Northbound	Through	1	1,164		596	
	Through/Right	1			596	
	Right	0	28	0		
	Total Lanes	3				
	Left	1	18		18	
	Left/Through	0				
Southbound	Through	2	1,531		766	766
	Through/Right	0				
	Right	1	461	169	292	
	Total Lanes	4				
				Sum of North/South Critical Volumes		**1,217**
	Left	1	311		311	
	Left/Through	0				
Eastbound	Through	0	32			
	Through/Right	1			363	363
	Right	0	331	0		
	Total Lanes	2				
	Left	1	8		8	8
	Left/Through	0				
Westbound	Through	1	33		33	
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	3				
				Sum of East/West Critical Volumes		**371**
				Total Intersection Critical Volumes		**1,588**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.155**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**1.085**
				Level of Service (LOS)		**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Future (2013) With Project
PM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 1 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: Cattaraugus Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	69		69	69
	Left/Through	0				
Northbound	Through	1	1,777		896	
	Through/Right	1			896	
	Right	0	15	0		
	Total Lanes	3				
	Left	1	56		56	
	Left/Through	0				
Southbound	Through	1	1,751		908	908
	Through/Right	1			908	
	Right	0	65	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**977**
	Left	0	100			
	Left/Through	0				
Eastbound	Left/Through/Right	1	228		442	442
	Through/Right	0				
	Right	0	114	0		
	Total Lanes	1				
	Left	0	62			62
	Left/Through	0				
Westbound	Left/Through/Right	1	79		182	
	Through/Right	0				
	Right	0	41	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**504**
			Total Intersection Critical Volumes			**1,481**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.987**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.887**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 2 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: I-405 WB Off-Ramp/Kincardine Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	14		14	
	Left/Through	0				
	Through	2	1,446		723	723
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	1	1,344		690	
	Through/Right	1			690	
	Right	0	35	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**723**
Eastbound	Left	0	76			
	Left/Through	0				
	Left/Through/Right	1	0		163	163
	Through/Right	0				
	Right	0	87	0		
	Total Lanes	1				
Westbound	Left	0	552			552
	Left/Through	0				
	Left/Through/Right	1	22		574	
	Through/Right	0				
	Right	1	556	0	556	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**715**
			Total Intersection Critical Volumes			**1,438**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.959**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.859**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 3 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	77		77	
	Left/Through	0				
	Through	1	901		617	617
	Through/Right	1			617	
	Right	0	333	0		
	Total Lanes	3				
Southbound	Left	2	658		362	362
	Left/Through	0				
	Through	1	1,106		672	
	Through/Right	1			672	
	Right	0	239	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**979**
Eastbound	Left	1	182		182	
	Left/Through	0				
	Through	1	890		515	515
	Through/Right	1			515	
	Right	0	140	0		
	Total Lanes	3				
Westbound	Left	1	116		116	116
	Left/Through	0				
	Through	1	419		419	
	Through/Right	0				
	Right	1	322	322	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**631**
			Total Intersection Critical Volumes			**1,610**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.171**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.071**
			Level of Service (LOS)			**F**

WB Rt. Turn Overlap with SB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 4 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: I-405 EB On-Ramp
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	243		243	243
	Left/Through	0				
	Through	2	797		398	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,062		531	
	Through/Right	0				
	Right	1	696	0	696	696
	Total Lanes	3				
			Sum of North/South Critical Volumes			**939**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**0**
			Total Intersection Critical Volumes			**939**
Number of Clearance Intervals		**2**	**Intersection Capacity**			**1,500**
			Base CMA			**0.626**
Signal Coordination		**ATSAC + ATCS**	**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.526**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 5 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	113			
	Left/Through	0				
	Left/Through/Right	1	180		372	372
	Through/Right	0				
	Right	0	79	0		
	Total Lanes	1				
Southbound	Left	0	41			41
	Left/Through	0				
	Left/Through/Right	1	186		293	
	Through/Right	0				
	Right	0	66	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**413**
Eastbound	Left	1	80		80	
	Left/Through	0				
	Through	3	1,928		643	643
	Through/Right	0				
	Right	1	108	60	48	
	Total Lanes	5				
Westbound	Left	1	122		122	122
	Left/Through	0				
	Through	3	1,901		634	
	Through/Right	0				
	Right	1	45	20	25	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**765**
			Total Intersection Critical Volumes			**1,178**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.785**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.715**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 6 **Date** July 26, 2010
Intersection Name North/South: Bagley Avenue/Main Street
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	42		42	42
	Left/Through	0				
	Through	0	103			
	Through/Right	1			143	
	Right	0	40	0		
	Total Lanes	2				
Southbound	Left	0	90			
	Left/Through	0				
	Left/Through/Right	1	165		350	350
	Through/Right	0				
	Right	0	95	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**392**
Eastbound	Left	1	109		109	109
	Left/Through	0				
	Through	2	1,866		658	
	Through/Right	1			658	
	Right	0	108	0		
	Total Lanes	4				
Westbound	Left	1	78		78	
	Left/Through	0				
	Through	3	1,895		632	632
	Through/Right	0				
	Right	1	71	71	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**741**
			Total Intersection Critical Volumes			**1,133**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.824**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.754**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 7 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	86		86	
	Left/Through	0				
	Through	1	83		83	
	Through/Right	0				
	Right	2	1,271	672	300	300
	Total Lanes	4				
Southbound	Left	1	302		212	
	Left/Through	0				
	Left/Through/Right	1	72		212	212
	Through/Right	0				
	Right	0	49	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**512**
Eastbound	Left	1	53		53	
	Left/Through	0				
	Through	2	2,035		699	699
	Through/Right	1			699	
	Right	0	62	0		
	Total Lanes	4				
Westbound	Left	2	611		336	336
	Left/Through	0				
	Through	2	2,035		748	
	Through/Right	1			748	
	Right	0	209	0		
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,034**
			Total Intersection Critical Volumes			**1,546**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.124**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.024**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	160		160	
	Left/Through	0				
	Through	1	546		546	546
	Through/Right	0				
	Right	1	60	60	0	
	Total Lanes	3				
Southbound	Left	0	611			
	Left/Through	1			611	611
	Through	1	393		393	
	Through/Right	0				
	Right	1	292	214	78	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,157**
Eastbound	Left	2	778		428	428
	Left/Through	0				
	Through	2	2,457		874	
	Through/Right	1			874	
	Right	0	166	0		
	Total Lanes	5				
Westbound	Left	1	112		112	
	Left/Through	0				
	Through	2	2,376		881	881
	Through/Right	1			881	
	Right	0	266	0		
	Total Lanes	4				
				Sum of East/West Critical Volumes		**1,308**
				Total Intersection Critical Volumes		**2,465**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.793**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.693**
				Level of Service (LOS)		**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	638		638	638
	Left/Through	0				
	Through	1	763		492	
	Through/Right	1			492	
	Right	0	221	0		
	Total Lanes	3				
Southbound	Left	1	183		183	
	Left/Through	0				
	Through	1	831		466	466
	Through/Right	1			466	
	Right	0	101	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,104**
Eastbound	Left	2	206		113	
	Left/Through	0				
	Through	3	2,223		741	741
	Through/Right	0				
	Right	1	576	319	257	
	Total Lanes	6				
Westbound	Left	2	129		71	71
	Left/Through	0				
	Through	3	1,623		541	
	Through/Right	0				
	Right	1	63	63	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**812**
			Total Intersection Critical Volumes			**1,916**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.393**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.293**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	16			16
	Left/Through	1			17	
Northbound	Through	0	1			
	Through/Right	0				
	Right	1	9	9	0	
	Total Lanes	2				
	Left	0	29			
	Left/Through	0				
Southbound	Left/Through/Right	1	9		65	65
	Through/Right	0				
	Right	0	27	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**81**
	Left	1	74		74	
	Left/Through	0				
Eastbound	Through	2	2,589		874	874
	Through/Right	1			874	
	Right	0	34	0		
	Total Lanes	4				
	Left	1	33		33	33
	Left/Through	0				
Westbound	Through	2	1,827		612	
	Through/Right	1			612	
	Right	0	8	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**907**
			Total Intersection Critical Volumes			**988**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.659**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.559**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	47			47
	Left/Through	0				
Northbound	Left/Through/Right	1	63		135	
	Through/Right	0				
	Right	0	25	0		
	Total Lanes	1				
	Left	0	189			
	Left/Through	0				
Southbound	Left/Through/Right	1	74		295	295
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**342**
	Left	1	113		113	
	Left/Through	0				
Eastbound	Through	2	2,444		819	819
	Through/Right	1			819	
	Right	0	13	0		
	Total Lanes	4				
	Left	1	90		90	90
	Left/Through	0				
Westbound	Through	2	1,704		594	
	Through/Right	1			594	
	Right	0	77	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**909**
			Total Intersection Critical Volumes			**1,251**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.834**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.734**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 12 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	107		107	107
	Left/Through	0				
Northbound	Through	2	1,101		375	
	Through/Right	1			375	
	Right	0	23	0		
	Total Lanes	4				
	Left	1	36		36	
	Left/Through	0				
Southbound	Through	2	1,518		611	611
	Through/Right	1			611	
	Right	0	314	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**718**
	Left	2	303		167	
	Left/Through	0				
Eastbound	Through	3	2,047		682	682
	Through/Right	0				
	Right	1	259	54	205	
	Total Lanes	6				
	Left	1	207		207	207
	Left/Through	0				
Westbound	Through	3	1,411		470	
	Through/Right	0				
	Right	1	34	34	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**889**
			Total Intersection Critical Volumes			**1,607**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.169**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**1.099**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 13 **Date** July 26, 2010
Intersection Name North/South: Hughes Avenue/Duquesne Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	72		72	72
	Left/Through	0				
Northbound	Through	0	341			
	Through/Right	1			361	
	Right	0	20	0		
	Total Lanes	2				
	Left	1	35		35	
	Left/Through	0				
Southbound	Through	0	343			
	Through/Right	1			404	404
	Right	0	61	0		
	Total Lanes	2				
			Sum of North/South Critical Volumes			**476**
	Left	1	47		47	
	Left/Through	0				
Eastbound	Through	1	1,260		764	764
	Through/Right	1			764	
	Right	0	267	0		
	Total Lanes	3				
	Left	1	80		80	80
	Left/Through	0				
Westbound	Through	1	583		312	
	Through/Right	1			312	
	Right	0	41	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**844**
			Total Intersection Critical Volumes			**1,320**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.880**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.810**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 14 **Date** July 26, 2010
Intersection Name North/South: Duquesne Avenue
East/West: Culver Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	113		113	
	Left/Through	0				
Northbound	Through	1	316		316	316
	Through/Right	0				
	Right	1	155	55	100	
	Total Lanes	3				
	Left	1	122		122	122
	Left/Through	0				
Southbound	Through	1	525		300	
	Through/Right	1			300	
	Right	0	74	0		
	Total Lanes	3				
				Sum of North/South Critical Volumes		**438**
	Left	1	69		69	
	Left/Through	0				
Eastbound	Through	1	1,015		554	554
	Through/Right	1			554	
	Right	0	92	0		
	Total Lanes	3				
	Left	1	110		110	110
	Left/Through	0				
Westbound	Through	1	917		470	
	Through/Right	1			470	
	Right	0	22	0		
	Total Lanes	3				
				Sum of East/West Critical Volumes		**664**
				Total Intersection Critical Volumes		**1,102**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**0.801**
Signal Coordination	**ATSAC**			**Signal Coordination Adjustment**		**-0.070**
				Final CMA		**0.731**
				Level of Service (LOS)		**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 15 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Irving Place
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	0			
	Left/Through	0				
Northbound	Through	2	1,212		423	
	Through/Right	1			423	
	Right	0	57	0		
	Total Lanes	3				
	Left	1	81		81	
	Left/Through	0				
Southbound	Through	1	1,018		509	509
	Through/Right	1			509	
	Right	1	698	638	60	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**509**
	Left	1	1,256		638	638
	Left/Through	1			638	
Eastbound	Through	0	20			
	Through/Right	0				
	Right	1	6	0	6	
	Total Lanes	3				
	Left	0	13			
	Left/Through	1			38	38
Westbound	Through	0	25			
	Through/Right	0				
	Right	1	55	43	12	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**676**
			Total Intersection Critical Volumes			**1,185**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.862**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.792**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 16 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Main Street
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	115		115	
	Left/Through	0				
	Through	3	2,341		780	780
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,497		538	
	Through/Right	1			538	
	Right	0	117	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**780**
Eastbound	Left	1	281		281	281
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	166	121	45	
	Total Lanes	2				
Westbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of East/West Critical Volumes			**281**
			Total Intersection Critical Volumes			**1,061**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.745**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.675**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 17 **Date** July 26, 2010
Intersection Name North/South: Culver Boulevard
East/West: Washington Boulevard/Canfield Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	14		14	
	Left/Through	0				
	Through	2	1,365		682	682
	Through/Right	0				
	Right	2	1,174	1,096	39	
	Total Lanes	5				
Southbound	Left	1	116		116	116
	Left/Through	0				
	Through	1	645		327	
	Through/Right	1			327	
	Right	0	9	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**798**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	1	20	14	6	6
	Total Lanes	1				
Westbound	Left	1	1,065		548	548
	Left/Through	1			548	
	Through	0	30			
	Through/Right	0				
	Right	1	77	58	19	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**554**
			Total Intersection Critical Volumes			**1,352**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.949**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.879**
			Level of Service (LOS)			**D**

NB Rt. Turn Overlap with WB Left

East/West Opposed Phasing
EB Rt. Turn Overlap with NB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	56		56	
	Left/Through	0				
	Through	1	221		221	221
	Through/Right	0				
	Right	1	36	36	0	
	Total Lanes	3				
Southbound	Left	1	186		186	186
	Left/Through	0				
	Through	1	331		331	
	Through/Right	0				
	Right	1	54	0	54	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**407**
Eastbound	Left	1	97		97	97
	Left/Through	0				
	Through	1	1,025		560	
	Through/Right	1			560	
	Right	0	94	0		
	Total Lanes	3				
Westbound	Left	1	90		90	
	Left/Through	0				
	Through	1	972		572	572
	Through/Right	1			572	
	Right	0	173	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**669**
			Total Intersection Critical Volumes			**1,076**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.755**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.685**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 19 **Date** July 26, 2010
Intersection Name North/South: Landmark Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	56		56	
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	1	113	31	82	82
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**82**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,546		804	804
	Through/Right	1			804	
	Right	0	61	0		
	Total Lanes	2				
	Left	0	62			62
	Left/Through	1			418	
Westbound	Through	1	1,085		728	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**866**
			Total Intersection Critical Volumes			**948**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.632**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.562**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	2	269		148	148
	Left/Through	0				
Northbound	Through	1	849		488	
	Through/Right	1			488	
	Right	0	126	0		
	Total Lanes	4				
	Left	2	306		168	
	Left/Through	0				
Southbound	Through	1	1,071		572	572
	Through/Right	1			572	
	Right	0	73	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**720**
	Left	1	85		85	
	Left/Through	0				
Eastbound	Through	2	1,070		535	535
	Through/Right	0				
	Right	1	288	74	214	
	Total Lanes	4				
	Left	1	107		107	107
	Left/Through	0				
Westbound	Through	2	855		413	
	Through/Right	1			413	
	Right	0	384	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**642**
			Total Intersection Critical Volumes			**1,362**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.991**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.921**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name	8770 Washington Mixed-Use
Intersection Number	21 **Date** July 26, 2010
Intersection Name	North/South: Wesley Street East/West: Washington Boulevard
Intersection Control	Two-Way STOP
Analysis Period	PM Peak Hour
Analysis Scenario	Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	44			
	Left/Through	0				
	Left/Through/Right	1	0		74	74
	Through/Right	0				
	Right	0	30	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**74**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,419		726	726
	Through/Right	1			726	
	Right	0	32	0		
	Total Lanes	2				
Westbound	Left	1	43		43	43
	Left/Through	0				
	Through	2	1,238		619	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**769**
			Total Intersection Critical Volumes			**843**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.703**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.703**
			Level of Service (LOS)			**C**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - With Project*

Site Information

Intersection	*21*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Wesley Street*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1419*	*32*	*43*	*1238*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1419*	*32*	*43*	*1238*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*	*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*44*	*0*	*30*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*44*	*0*	*30*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*0*	*0*
Configuration		*LTR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LTR*				
v (veh/h)		*43*		*74*				
C (m) (veh/h)		*473*		*62*				
v/c		*0.09*		*1.19*				
95% queue length		*0.30*		*13.95*				
Control Delay (s/veh)		*13.4*		*631.1*				
LOS		*B*		*F*				
Approach Delay (s/veh)	--	--	*631.1*					
Approach LOS	--	--	*F*					

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:41 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	49			
	Left/Through	0				
	Left/Through/Right	1	0		62	62
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**62**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,345		688	688
	Through/Right	1			688	
	Right	0	30	0		
	Total Lanes	2				
Westbound	Left	1	14		14	14
	Left/Through	0				
	Through	2	1,042		521	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**702**
			Total Intersection Critical Volumes			**764**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.509**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.439**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	4			4
	Left/Through	0				
	Left/Through/Right	1	2		9	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
Southbound	Left	0	59			
	Left/Through	0				
	Left/Through/Right	1	2		109	109
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**113**
Eastbound	Left	0	68			
	Left/Through	1			544	
	Through	0	1,302			
	Through/Right	1			836	836
	Right	0	9	0		
	Total Lanes	2				
Westbound	Left	0	11			11
	Left/Through	1			507	
	Through	0	982			
	Through/Right	1			562	
	Right	0	76	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**847**
			Total Intersection Critical Volumes			**960**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.800**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.800**
			Level of Service (LOS)			**C**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - With Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*68*	*1302*	*9*	*11*	*982*	*76*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*68*	*1302*	*9*	*11*	*982*	*76*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*4*	*2*	*3*	*59*	*2*	*48*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*2*	*3*	*59*	*2*	*48*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*68*	*11*		*9*			*109*	
C (m) (veh/h)	*666*	*534*		*41*			*70*	
v/c	*0.10*	*0.02*		*0.22*			*1.56*	
95% queue length	*0.34*	*0.06*		*0.80*			*25.83*	
Control Delay (s/veh)	*11.0*	*11.9*		*117.1*			*1187*	
LOS	*B*	*B*		*F*			*F*	
Approach Delay (s/veh)	--	--	*117.1*			*1187*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 7:48 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 24 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	149		149	149
	Left/Through	0				
	Through	2	1,114		394	
	Through/Right	1			394	
	Right	0	68	0		
	Total Lanes	4				
Southbound	Left	1	243		243	
	Left/Through	0				
	Through	2	1,663		571	571
	Through/Right	1			571	
	Right	0	51	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**720**
Eastbound	Left	1	76		76	
	Left/Through	0				
	Through	2	1,217		608	608
	Through/Right	0				
	Right	1	152	74	78	
	Total Lanes	4				
Westbound	Left	1	81		81	81
	Left/Through	0				
	Through	2	772		386	
	Through/Right	0				
	Right	1	137	137	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**689**
			Total Intersection Critical Volumes			**1,409**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.025**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.955**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 25 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Fairfax Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	8		8	
	Left/Through	0				
	Through	1	1,615		808	808
	Through/Right	1			808	
	Right	1	1,508	1,508	0	
	Total Lanes	4				
Southbound	Left	0	0			
	Left/Through	0				
	Through	2	1,392		469	
	Through/Right	1			469	
	Right	0	14	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**808**
Eastbound	Left	0	36			
	Left/Through	0				
	Left/Through/Right	1	0		52	52
	Through/Right	0				
	Right	0	16	0		
	Total Lanes	1				
Westbound	Left	2	1,057		581	
	Left/Through	0				
	Through	0	12			
	Through/Right	1			30	30
	Right	0	18	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**633**
			Total Intersection Critical Volumes			**1,441**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.011**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.911**
			Level of Service (LOS)			**E**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	20			
	Left/Through	0				
	Left/Through/Right	1	0		137	137
	Through/Right	0				
	Right	0	117	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**137**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,223		612	
	Through/Right	0				
	Right	1	5	5	0	
	Total Lanes	3				
Westbound	Left	1	5		5	
	Left/Through	0				
	Through	2	1,257		628	628
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**628**
			Total Intersection Critical Volumes			**765**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.510**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.440**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 27 **Date** July 26, 2010
Intersection Name North/South: Hayden Avenue
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	707		442	
	Left/Through	0				
Northbound	Left/Through/Right	1	0		442	442
	Through/Right	0				
	Right	0	176	0		
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**442**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	2	1,224		612	612
	Through/Right	0				
	Right	1	144	144	0	
	Total Lanes	3				
	Left	1	56		56	56
	Left/Through	0				
Westbound	Through	2	544		272	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**668**
			Total Intersection Critical Volumes			**1,110**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.779**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.709**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 28 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	89		89	89
	Left/Through	0				
	Through	2	890		445	
	Through/Right	0				
	Right	1	15	15	0	
	Total Lanes	4				
Southbound	Left	1	5		5	
	Left/Through	0				
	Through	1	631		631	631
	Through/Right	0				
	Right	1	485	255	230	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**720**
Eastbound	Left	1	966		510	510
	Left/Through	1			510	
	Through	0	55			
	Through/Right	0				
	Right	1	66	44	22	
	Total Lanes	3				
Westbound	Left	0	140			
	Left/Through	0				
	Left/Through/Right	1	60		215	215
	Through/Right	0				
	Right	0	15	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**725**
			Total Intersection Critical Volumes			**1,445**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**1.014**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.914**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 29 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Jefferson Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	104		104	
	Left/Through	0				
	Through	2	2,356		892	892
	Through/Right	1			892	
	Right	0	319	0		
	Total Lanes	4				
Southbound	Left	1	55		55	55
	Left/Through	0				
	Through	3	2,249		750	
	Through/Right	0				
	Right	1	311	311	0	
	Total Lanes	5				
			Sum of North/South Critical Volumes			**947**
Eastbound	Left	2	601		331	
	Left/Through	0				
	Through	1	1,018		640	640
	Through/Right	1			640	
	Right	0	262	0		
	Total Lanes	4				
Westbound	Left	2	310		170	170
	Left/Through	0				
	Through	2	753		376	
	Through/Right	0				
	Right	1	93	0	93	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**810**
			Total Intersection Critical Volumes			**1,757**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.278**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.178**
			Level of Service (LOS)			**F**

SB Rt. Turn Overlap with EB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 30 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Higuera Street/Rodeo Road
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	74		74	
	Left/Through	0				
	Through	2	823		412	412
	Through/Right	0				
	Right	1	1,050	1,050	0	
	Total Lanes	4				
Southbound	Left	1	156		156	156
	Left/Through	0				
	Through	2	565		282	
	Through/Right	0				
	Right	1	113	113	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**568**
Eastbound	Left	1	56		56	
	Left/Through	0				
	Through	2	567		284	284
	Through/Right	0				
	Right	1	186	143	43	
	Total Lanes	4				
Westbound	Left	2	600		330	
	Left/Through	0				
	Through	1	333		333	333
	Through/Right	0				
	Right	1	22	22	0	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**617**
			Total Intersection Critical Volumes			**1,185**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.832**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.732**
			Level of Service (LOS)			**C**

East/West Opposed Phasing

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 31 **Date** July 26, 2010
Intersection Name North/South: La Cienega Boulevard
East/West: Rodeo Road
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	329		181	
	Left/Through	0				
	Through	2	2,241		824	824
	Through/Right	1			824	
	Right	0	232	0		
	Total Lanes	5				
Southbound	Left	2	465		256	256
	Left/Through	0				
	Through	2	2,188		795	
	Through/Right	1			795	
	Right	0	196	0		
	Total Lanes	5				
			Sum of North/South Critical Volumes			**1,080**
Eastbound	Left	1	383		383	
	Left/Through	0				
	Through	2	1,201		600	600
	Through/Right	0				
	Right	1	326	181	145	
	Total Lanes	4				
Westbound	Left	2	253		139	139
	Left/Through	0				
	Through	2	498		249	
	Through/Right	0				
	Right	1	155	155	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**739**
			Total Intersection Critical Volumes			**1,819**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.323**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.223**
			Level of Service (LOS)			**F**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 32 **Date** July 26, 2010
Intersection Name North/South: Braddock Drive
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	154			
	Left/Through	0				
	Left/Through/Right	1	173		501	501
	Through/Right	0				
	Right	0	174	0		
	Total Lanes	1				
Southbound	Left	0	7			7
	Left/Through	0				
	Left/Through/Right	1	37		61	
	Through/Right	0				
	Right	0	17	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**508**
Eastbound	Left	0	129			
	Left/Through	0				
	Left/Through/Right	1	459		746	746
	Through/Right	0				
	Right	0	158	0		
	Total Lanes	1				
Westbound	Left	0	16			16
	Left/Through	0				
	Left/Through/Right	1	417		449	
	Through/Right	0				
	Right	0	16	0		
	Total Lanes	1				
			Sum of East/West Critical Volumes			**762**
			Total Intersection Critical Volumes			**1,270**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.270**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.270**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - With Project*

Site Information

Intersection	*32*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue*

North/South Street: *Braddock Drive*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*129*	*459*	*158*	*16*	*417*	*16*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*154*	*173*	*174*	*7*	*37*	*17*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LTR*		*LTR*		*LTR*		*LTR*	
PHF	*1.00*		*1.00*		*1.00*		*1.00*	
Flow Rate (veh/h)	*746*		*449*		*501*		*61*	
% Heavy Vehicles	*0*		*0*		*0*		*0*	
No. Lanes	*1*		*1*		*1*		*1*	
Geometry Group	*1*		*1*		*1*		*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.2*		*0.0*		*0.3*		*0.1*	
Prop. Right-Turns	*0.2*		*0.0*		*0.3*		*0.3*	
Prop. Heavy Vehicle	*0.0*		*0.0*		*0.0*		*0.0*	
hLT-adj	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
hadj, computed	*-0.1*		*-0.0*		*-0.1*		*-0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.66*		*0.40*		*0.45*		*0.05*	
hd, final value (s)	*7.37*		*7.54*		*7.31*		*9.50*	
x, final value	*1.53*		*0.94*		*1.02*		*0.16*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*5.4*		*5.5*		*5.3*		*7.5*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*746*		*478*		*501*		*311*	
Delay (s/veh)	*979.36*		*81.91*		*142.82*		*14.32*	
LOS	*F*		*F*		*F*		*B*	
Approach: Delay (s/veh)	*979.36*		*81.91*		*142.82*		*14.32*	
LOS	*F*		*F*		*F*		*B*	
Intersection Delay (s/veh)	*477.98*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 8/3/2010 7:58 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 33 **Date** July 26, 2010
Intersection Name North/South: Lucerne Avenue
East/West: Duquesne Avenue
Intersection Control Four-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
Southbound	Left	0	296			
	Left/Through	0				
	Left/Through/Right	1	0		362	362
	Through/Right	0				
	Right	0	66	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**362**
Eastbound	Left	0	64			
	Left/Through	1			693	693
	Through	0	629			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	1				
Westbound	Left	0	0			
	Left/Through	0				
	Through	1	398		398	
	Through/Right	0				
	Right	1	213	181	32	
	Total Lanes	2				
			Sum of East/West Critical Volumes			**693**
			Total Intersection Critical Volumes			**1,055**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,000**
			Base CMA			**1.055**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**1.055**
			Level of Service (LOS)			**F**

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - With Project*

Site Information

Intersection	*33*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project ID *8770 Washington Mixed-Use*

East/West Street: *Duquesne Avenue* | North/South Street: *Lucerne Avenue*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*64*	*629*	*0*	*0*	*398*	*213*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*296*	*0*	*66*
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	*LT*		*T*	*R*			*LTR*	
PHF	*1.00*		*1.00*	*1.00*			*1.00*	
Flow Rate (veh/h)	*693*		*398*	*213*			*362*	
% Heavy Vehicles	*0*		*0*	*0*			*0*	
No. Lanes	*1*		*2*		*0*		*1*	
Geometry Group	*3a*		*5*				*1*	
Duration, T	*1.00*							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	*0.1*		*0.0*	*0.0*			*0.8*	
Prop. Right-Turns	*0.0*		*0.0*	*1.0*			*0.2*	
Prop. Heavy Vehicle	*0.0*		*0.0*	*0.0*			*0.0*	
hLT-adj	*0.2*	*0.2*	*0.5*	*0.5*			*0.2*	*0.2*
hRT-adj	*-0.6*	*-0.6*	*-0.7*	*-0.7*			*-0.6*	*-0.6*
hHV-adj	*1.7*	*1.7*	*1.7*	*1.7*			*1.7*	*1.7*
hadj, computed	*0.0*		*0.0*	*-0.7*			*0.1*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*	*3.20*			*3.20*	
x, initial	*0.62*		*0.35*	*0.19*			*0.32*	
hd, final value (s)	*6.39*		*6.94*	*6.22*			*6.97*	
x, final value	*1.23*		*0.77*	*0.37*			*0.70*	
Move-up time, m (s)	*2.0*		*2.3*				*2.0*	
Service Time, t_s (s)	*4.4*		*4.6*	*3.9*			*5.0*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*693*		*515*	*463*			*511*	
Delay (s/veh)	*453.94*		*31.44*	*12.54*			*25.80*	
LOS	*F*		*D*	*B*			*D*	
Approach: Delay (s/veh)	*453.94*		*24.85*				*25.80*	
LOS	*F*		*C*				*D*	
Intersection Delay (s/veh)	*203.55*							
Intersection LOS	*F*							

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 8/3/2010 8:02 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 34 **Date** July 26, 2010
Intersection Name North/South: Jefferson Boulevard
East/West: Duquesne Avenue
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	378		378	378
	Left/Through	0				
	Through	1	1,485		760	
	Through/Right	1			760	
	Right	0	35	0		
	Total Lanes	3				
Southbound	Left	1	53		53	
	Left/Through	0				
	Through	2	1,110		555	555
	Through/Right	0				
	Right	1	211	211	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**933**
Eastbound	Left	1	481		481	481
	Left/Through	0				
	Through	0	63			
	Through/Right	1			421	
	Right	0	358	0		
	Total Lanes	2				
Westbound	Left	1	29		29	
	Left/Through	0				
	Through	1	42		42	42
	Through/Right	0				
	Right	1	20	20	0	
	Total Lanes	3				
			Sum of East/West Critical Volumes			**523**
			Total Intersection Critical Volumes			**1,456**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.059**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.989**
			Level of Service (LOS)			**E**

EB/WB Rt. Turn Overlap With NB/SB Lefts

Future (2013) With Project Plus Mitigation
AM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	205		205	
	Left/Through	0				
	Through	1	479		479	479
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	641			
	Left/Through	1			641	641
	Through	1	421		421	
	Through/Right	0				
	Right	1	537	172	365	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,120**
Eastbound	Left	2	627		345	345
	Left/Through	0				
	Through	2	2,478		883	
	Through/Right	1			883	
	Right	0	172	0		
	Total Lanes	5				
Westbound	Left	1	99		99	
	Left/Through	0				
	Through	3	2,477		826	826
	Through/Right	0				
	Right	1	382	320	62	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,171**
			Total Intersection Critical Volumes			**2,291**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.666**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.566**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	363		363	363
	Left/Through	0				
	Through	1	1,025		547	
	Through/Right	1			547	
	Right	0	69	0		
	Total Lanes	3				
Southbound	Left	1	132		132	
	Left/Through	0				
	Through	2	746		373	373
	Through/Right	0				
	Right	1	107	58	49	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**736**
Eastbound	Left	2	210		116	116
	Left/Through	0				
	Through	3	2,149		716	
	Through/Right	0				
	Right	1	689	182	507	
	Total Lanes	6				
Westbound	Left	2	213		117	
	Left/Through	0				
	Through	3	2,199		733	733
	Through/Right	0				
	Right	1	115	94	21	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**849**
			Total Intersection Critical Volumes			**1,585**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.153**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.053**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	11			11
	Left/Through	1			20	
Northbound	Through	0	9			
	Through/Right	0				
	Right	1	4	4	0	
	Total Lanes	2				
	Left	0	12			
	Left/Through	0				
Southbound	Left/Through/Right	1	2		39	39
	Through/Right	0				
	Right	0	25	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**50**
	Left	1	76		76	76
	Left/Through	0				
Eastbound	Through	2	2,260		761	
	Through/Right	1			761	
	Right	0	22	0		
	Total Lanes	4				
	Left	1	23		23	
	Left/Through	0				
Westbound	Through	2	2,502		842	842
	Through/Right	1			842	
	Right	0	23	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**918**
			Total Intersection Critical Volumes			**968**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.645**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.545**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	48			
	Left/Through	0				
Northbound	Left/Through/Right	1	250		333	333
	Through/Right	0				
	Right	0	35	0		
	Total Lanes	1				
	Left	0	163			163
	Left/Through	0				
Southbound	Left/Through/Right	1	86		267	
	Through/Right	0				
	Right	0	18	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**496**
	Left	1	71		71	71
	Left/Through	0				
Eastbound	Through	2	2,053		688	
	Through/Right	1			688	
	Right	0	11	0		
	Total Lanes	4				
	Left	1	76		76	
	Left/Through	0				
Westbound	Through	2	2,427		843	843
	Through/Right	1			843	
	Right	0	103	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**914**
			Total Intersection Critical Volumes			**1,410**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.940**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.840**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	302		166	
	Left/Through	0				
	Through	2	890		445	445
	Through/Right	0				
	Right	1	153	142	11	
	Total Lanes	5				
Southbound	Left	2	393		216	216
	Left/Through	0				
	Through	1	895		493	
	Through/Right	1			493	
	Right	0	91	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**661**
Eastbound	Left	1	130		130	130
	Left/Through	0				
	Through	2	808		404	
	Through/Right	0				
	Right	1	201	84	117	
	Total Lanes	4				
Westbound	Left	1	88		88	
	Left/Through	0				
	Through	2	1,278		557	557
	Through/Right	1			557	
	Right	0	394	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**687**
			Total Intersection Critical Volumes			**1,348**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.980**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.910**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 21 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	50		50	50
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	1	6	6	0	
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**50**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,296		660	
	Through/Right	1			660	
	Right	0	23	0		
	Total Lanes	2				
	Left	1	23		23	
	Left/Through	0				
Westbound	Through	2	1,726		863	863
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**863**
			Total Intersection Critical Volumes			**913**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.609**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.539**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	73			
	Left/Through	0				
Northbound	Left/Through/Right	1	0		91	91
	Through/Right	0				
	Right	0	18	0		
	Total Lanes	1				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**91**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	996		518	
	Through/Right	1			518	
	Right	0	39	0		
	Total Lanes	2				
	Left	1	31		31	
	Left/Through	0				
Westbound	Through	2	1,656		828	828
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**828**
			Total Intersection Critical Volumes			**919**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.613**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.543**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation (Eastbound Left-turn Lane Only)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	9			9
	Left/Through	0				
	Left/Through/Right	1	5		17	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
Southbound	Left	0	88			
	Left/Through	0				
	Left/Through/Right	1	6		146	146
	Through/Right	0				
	Right	0	52	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**155**
Eastbound	Left	1	31		31	31
	Left/Through	0				
	Through	1	900		453	
	Through/Right	1			453	
	Right	0	6	0		
	Total Lanes	3				
Westbound	Left	0	3			
	Left/Through	1			990	
	Through	0	1,661			
	Through/Right	1			1,001	1,001
	Right	0	327	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**1,032**
			Total Intersection Critical Volumes			**1,187**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.989**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.989**
			Level of Service (LOS)			**E**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*AM Peak Hour - With Mitigation*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*31*	*900*	*6*	*3*	*1661*	*327*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*31*	*900*	*6*	*3*	*1661*	*327*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*	*5*	*3*	*88*	*6*	*52*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*5*	*3*	*88*	*6*	*52*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*31*	*3*		*17*			*146*	
C (m) (veh/h)	*294*	*759*		*24*			*20*	
v/c	*0.11*	*0.00*		*0.71*			*7.30*	
95% queue length	*0.35*	*0.01*		*3.59*			*66.30*	
Control Delay (s/veh)	*18.7*	*9.8*		*402.6*			*11730*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*402.6*			*11730*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 12/16/2010 12:45 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation (EB Left-turn Lane plus Traffic Signal)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	9			9
	Left/Through	0				
Northbound	Left/Through/Right	1	5		17	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
	Left	0	88			
	Left/Through	0				
Southbound	Left/Through/Right	1	6		146	146
	Through/Right	0				
	Right	0	52	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**155**
	Left	1	31		31	31
	Left/Through	0				
Eastbound	Through	1	900		453	
	Through/Right	1			453	
	Right	0	6	0		
	Total Lanes	3				
	Left	0	3			
	Left/Through	1			990	
Westbound	Through	0	1,661			
	Through/Right	1			1,001	1,001
	Right	0	327	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**1,032**
			Total Intersection Critical Volumes			**1,187**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.833**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.763**
			Level of Service (LOS)			**C**

Future (2013) With Project Plus Mitigation
PM Peak Hour

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** July 26, 2010
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	160		160	
	Left/Through	0				
	Through	1	546		546	546
	Through/Right	0				
	Right	1	60	60	0	
	Total Lanes	3				
Southbound	Left	0	611			
	Left/Through	1			611	611
	Through	1	393		393	
	Through/Right	0				
	Right	1	292	214	78	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**1,157**
Eastbound	Left	2	778		428	428
	Left/Through	0				
	Through	2	2,457		874	
	Through/Right	1			874	
	Right	0	166	0		
	Total Lanes	5				
Westbound	Left	1	112		112	
	Left/Through	0				
	Through	3	2,376		792	792
	Through/Right	0				
	Right	1	266	266	0	
	Total Lanes	5				
				Sum of East/West Critical Volumes		**1,220**
				Total Intersection Critical Volumes		**2,377**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.729**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.629**
				Level of Service (LOS)		**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	668		668	668
	Left/Through	0				
	Through	1	767		494	
	Through/Right	1			494	
	Right	0	221	0		
	Total Lanes	3				
Southbound	Left	1	183		183	
	Left/Through	0				
	Through	2	831		416	416
	Through/Right	0				
	Right	1	101	101	0	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**1,084**
Eastbound	Left	2	206		113	
	Left/Through	0				
	Through	3	2,223		741	741
	Through/Right	0				
	Right	1	576	334	242	
	Total Lanes	6				
Westbound	Left	2	129		71	71
	Left/Through	0				
	Through	3	1,593		531	
	Through/Right	0				
	Right	1	59	59	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**812**
			Total Intersection Critical Volumes			**1,896**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.379**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.279**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 10 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	16			16
	Left/Through	1			17	
	Through	0	1			
	Through/Right	0				
	Right	1	9	9	0	
	Total Lanes	2				
Southbound	Left	0	29			
	Left/Through	0				
	Left/Through/Right	1	9		65	65
	Through/Right	0				
	Right	0	27	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**81**
Eastbound	Left	1	74		74	
	Left/Through	0				
	Through	2	2,589		874	874
	Through/Right	1			874	
	Right	0	34	0		
	Total Lanes	4				
Westbound	Left	1	33		33	33
	Left/Through	0				
	Through	2	1,793		600	
	Through/Right	1			600	
	Right	0	8	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**907**
			Total Intersection Critical Volumes			**988**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.659**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.559**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 11 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	13			13
	Left/Through	0				
	Left/Through/Right	1	63		101	
	Through/Right	0				
	Right	0	25	0		
	Total Lanes	1				
Southbound	Left	0	189			
	Left/Through	0				
	Left/Through/Right	1	74		295	295
	Through/Right	0				
	Right	0	32	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**308**
Eastbound	Left	1	113		113	
	Left/Through	0				
	Through	2	2,444		819	819
	Through/Right	1			819	
	Right	0	13	0		
	Total Lanes	4				
Westbound	Left	1	90		90	90
	Left/Through	0				
	Through	2	1,704		594	
	Through/Right	1			594	
	Right	0	77	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**909**
			Total Intersection Critical Volumes			**1,217**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.811**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.711**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** July 26, 2010
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	269		148	148
	Left/Through	0				
	Through	2	849		424	
	Through/Right	0				
	Right	1	126	54	72	
	Total Lanes	5				
Southbound	Left	2	306		168	
	Left/Through	0				
	Through	1	1,071		572	572
	Through/Right	1			572	
	Right	0	73	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**720**
Eastbound	Left	1	85		85	
	Left/Through	0				
	Through	2	1,070		535	535
	Through/Right	0				
	Right	1	288	74	214	
	Total Lanes	4				
Westbound	Left	1	107		107	107
	Left/Through	0				
	Through	2	855		424	
	Through/Right	1			424	
	Right	0	418	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**642**
			Total Intersection Critical Volumes			**1,362**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.991**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.921**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 21 **Date** July 26, 2010
Intersection Name North/South: Wesley Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	1	78		78	78
	Left/Through	0				
Northbound	Through	0	0			
	Through/Right	0				
	Right	1	22	22	0	
	Total Lanes	2				
	Left	0	0			
	Left/Through	0				
Southbound	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**78**
	Left	0	0			
	Left/Through	0				
Eastbound	Through	1	1,393		712	712
	Through/Right	1			712	
	Right	0	32	0		
	Total Lanes	2				
	Left	1	43		43	43
	Left/Through	0				
Westbound	Through	2	1,238		619	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**755**
			Total Intersection Critical Volumes			**833**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.555**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.485**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 22 **Date** July 26, 2010
Intersection Name North/South: Helms Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	49			
	Left/Through	0				
	Left/Through/Right	1	0		62	62
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**62**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	1	1,311		670	670
	Through/Right	1			670	
	Right	0	30	0		
	Total Lanes	2				
Westbound	Left	1	14		14	14
	Left/Through	0				
	Through	2	1,042		521	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**684**
			Total Intersection Critical Volumes			**746**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.497**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.427**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation (Eastbound Left-turn Lane Only)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	4			4
	Left/Through	0				
	Left/Through/Right	1	2		9	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
Southbound	Left	0	59			
	Left/Through	0				
	Left/Through/Right	1	2		109	109
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**113**
Eastbound	Left	1	34		34	
	Left/Through	0				
	Through	1	1,302		656	656
	Through/Right	1			656	
	Right	0	9	0		
	Total Lanes	3				
Westbound	Left	0	11			11
	Left/Through	1			507	
	Through	0	982			
	Through/Right	1			562	
	Right	0	76	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**667**
			Total Intersection Critical Volumes			**780**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.650**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.650**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*7/26/2010*
Analysis Time Period	*PM Peak Hour - With Mitigation*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2013*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*34*	*1302*	*9*	*11*	*982*	*76*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*34*	*1302*	*9*	*11*	*982*	*76*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*4*	*2*	*3*	*59*	*2*	*48*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*4*	*2*	*3*	*59*	*2*	*48*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*34*	*11*		*9*			*109*	
C (m) (veh/h)	*666*	*534*		*48*			*80*	
v/c	*0.05*	*0.02*		*0.19*			*1.36*	
95% queue length	*0.16*	*0.06*		*0.67*			*21.95*	
Control Delay (s/veh)	*10.7*	*11.9*		*97.1*			*841.9*	
LOS	*B*	*B*		*F*			*F*	
Approach Delay (s/veh)	--	--	*97.1*			*841.9*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 12/16/2010 12:47 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** July 26, 2010
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2013) With Project Plus Mitigation (EB Left-turn Lane plus Traffic Signal)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	4			4
	Left/Through	0				
Northbound	Left/Through/Right	1	2		9	
	Through/Right	0				
	Right	0	3	0		
	Total Lanes	1				
	Left	0	59			
	Left/Through	0				
Southbound	Left/Through/Right	1	2		109	109
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**113**
	Left	1	34		34	
	Left/Through	0				
Eastbound	Through	1	1,302		656	656
	Through/Right	1			656	
	Right	0	9	0		
	Total Lanes	3				
	Left	0	11			11
	Left/Through	1			507	
Westbound	Through	0	982			
	Through/Right	1			562	
	Right	0	76	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**667**
			Total Intersection Critical Volumes			**780**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.547**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.477**
			Level of Service (LOS)			**A**

SUPPLEMENT TO
TRAFFIC IMPACT ANALYSIS REPORT

Proposed Mixed-Use Development
(115-Unit Residential and 31,240 Square Foot Retail)
Located at 8770 Washington Boulevard
in Culver City, California

Prepared by:

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.
13333 Ventura Boulevard, #204
Sherman Oaks, California 91423

REGISTERED PROFESSIONAL ENGINEER
RONALD R. HIRSCH
NO. 2318
6-30-2013
TRAFFIC
STATE OF CALIFORNIA

JUNE 2012

INTRODUCTION

Pursuant to the request of the City of Culver City's Community Development Department Planning Division, and the Department of Public Works, this document has been prepared to supplement the current traffic study (dated "Revised July 2010") for the residential and commercial mixed-use project proposed by Legado Companies at 8770 Washington Boulevard, located at the southeast corner of Washington Boulevard and National Boulevard in the City of Culver City. The purpose of this supplemental document is to provide updated traffic data and project-related impact analyses for the proposed project, in order to assure that the traffic study prepared for the project continues to accurately reflect current conditions in the project vicinity. Additionally, this supplement includes expanded analyses to examine the potential effects of the proposed project on area traffic conditions should date of its completion and occupancy be delayed beyond the future year 2013 buildout timeline assumed in the analyses.

Therefore, this supplemental analysis has been prepared to identify the current (year 2012) traffic volumes and operational conditions at a total of six key intersections evaluated in the Revised July 2010 project traffic study, in order to compare these existing conditions to the "existing" (year 2010) intersection conditions identified in the current traffic study. Additionally, this supplemental analysis includes an evaluation of forecast future (year 2014) conditions, based on the current 2012 traffic volume data, in order to provide a comparison to the forecast future (year 2013) conditions shown in the Revised July 2010 analyses. The six intersections selected for this supplemental evaluation are listed below and are shown in relation to the project site in Figure 1 (note that for ease of comparison, the intersection identification numbers shown are consistent with the designations used in the Revised July 2010 traffic study).

8. Venice Boulevard and Robertson Boulevard [1]
9. Venice Boulevard and National Boulevard [1]
18. Washington Boulevard and Robertson Boulevard/Higuera Street
20. Washington Boulevard and National Boulevard
23. Washington Boulevard and Cattaraugus Avenue [2]
26. National Boulevard and Wesley Street

Notes:

[1] Intersection under jurisdiction of City of Los Angeles

[2] Unsignalized (two-way STOP controlled) intersection

WASHINGTON-NATIONAL EMC (CULVER CITY) \ CORRELATION COUNT LOCATIONS

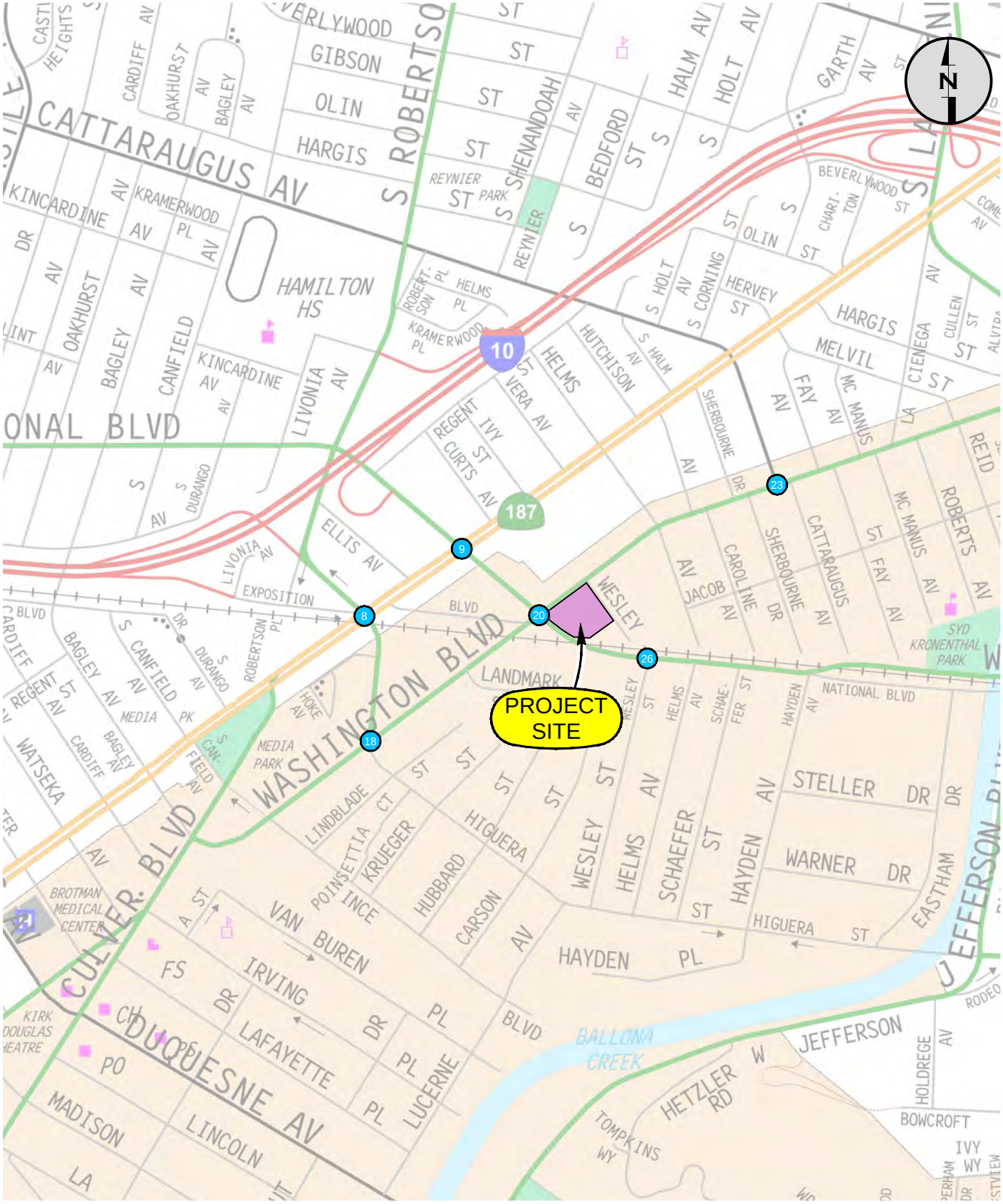


FIGURE 1

4/19/2012

IRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

YEAR 2012 "CORRELATION" COUNT LOCATIONS

634

These six intersections represent locations along each of the four directions of approach to the project site via both National Boulevard and Washington Boulevard, and also include four of the five significantly impacted locations identified in the project traffic study (Venice Boulevard and Robertson Boulevard, Venice Boulevard and National Boulevard, Washington Boulevard and National Boulevard, and Washington Boulevard and Cattaraugus Avenue). The remaining significantly impacted intersection, the intersection of Washington Boulevard and Wesley Street, was not selected for inclusion in this supplemental analysis for several reasons, including that Wesley Street is currently a lightly used cul-de-sac roadway that terminates just south of the project site, and that although the project will utilize Wesley Street as an access location, the significant impact at Washington Boulevard and Wesley Street is due primarily to the intersection's current unsignalized operations; this impact will be mitigated by the installation of a new traffic signal, which is a recommended improvement in order to facilitate project access (particularly left-turns from Wesley Street onto westbound Washington Boulevard) regardless of whether or not a "significant" impact would occur at this intersection.

EXISTING (2012) TRAFFIC CONDITIONS AND COMPARISON TO 2010 CONDITIONS

The supplemental traffic counts at these six intersections were collected in early May 2012, during both the AM (7:00 to 10:00 AM) and PM (4:00 to 7:00 PM) peak commute traffic periods, with the "peak hour" volumes described in this analysis reflecting the highest total traffic (sum of all moves through the intersection) from four consecutive 15-minute periods within these larger three-hour count windows; note that the peak hour traffic volumes were determined individually for each of the study intersections, assuring that the "worst case" operational conditions at each location were analyzed. Additionally, as with the traffic counts utilized in the Revised July 2011 traffic study, the 2012 data represent typical mid-week conditions for weeks with no holidays or other notable special events, with area schools and businesses generally in normal operation. Based on these data and evaluation methodologies, the current 2012 AM and PM peak hour traffic volumes at the six subject intersections are shown in Figures 2(a) and 2(b), respectively.

These current traffic volumes were then compared to the corresponding year 2010 "Existing" conditions volumes, as identified in Figures 11(a) and 11(b) for the AM and PM peak hours, respectively, in the Revised July 2010 project traffic study. For convenience, the year 2010 peak hour volumes at the six subject "comparison" intersection locations are excerpted from the project traffic study, and are shown in Figure 3(a) for the AM peak hour and in Figure 3(b) for the PM peak hour conditions. This comparison indicated that there is no definitive pattern of

WASHINGTON-NATIONAL EMC (CULVER CITY) \ EX2012-AM (FOR CORRELATION)

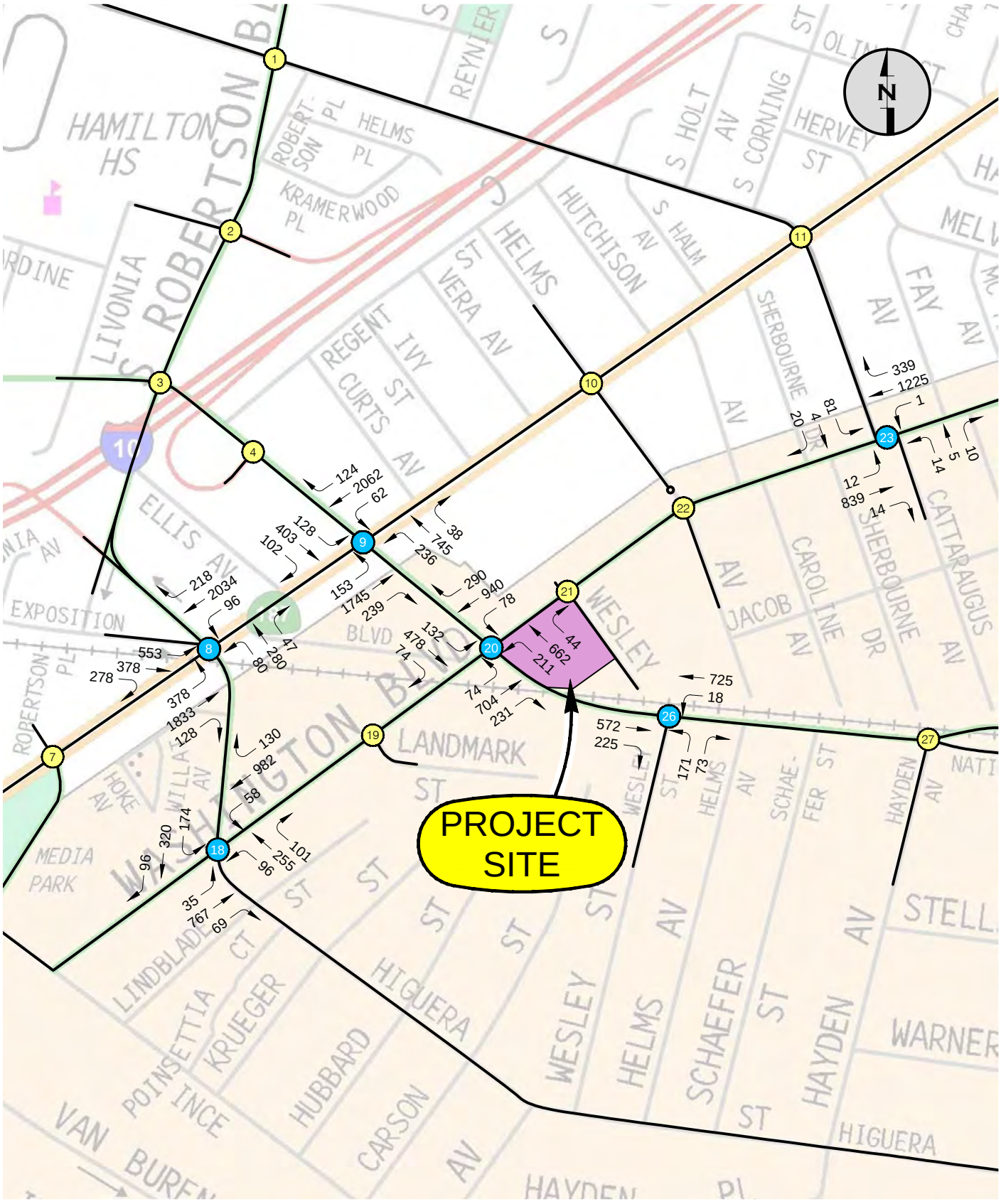


FIGURE 2(a)

6/1/2012

IRSCH REEN
Hirsch/Green Transportation Consulting, Inc.

EXISTING (2012) TRAFFIC VOLUMES
AM PEAK HOUR
(2012 CORRELATION COUNTS)

636

WASHINGTON-NATIONAL EMC (CULVER CITY) \ EX2012-PM (FOR CORRELATION)

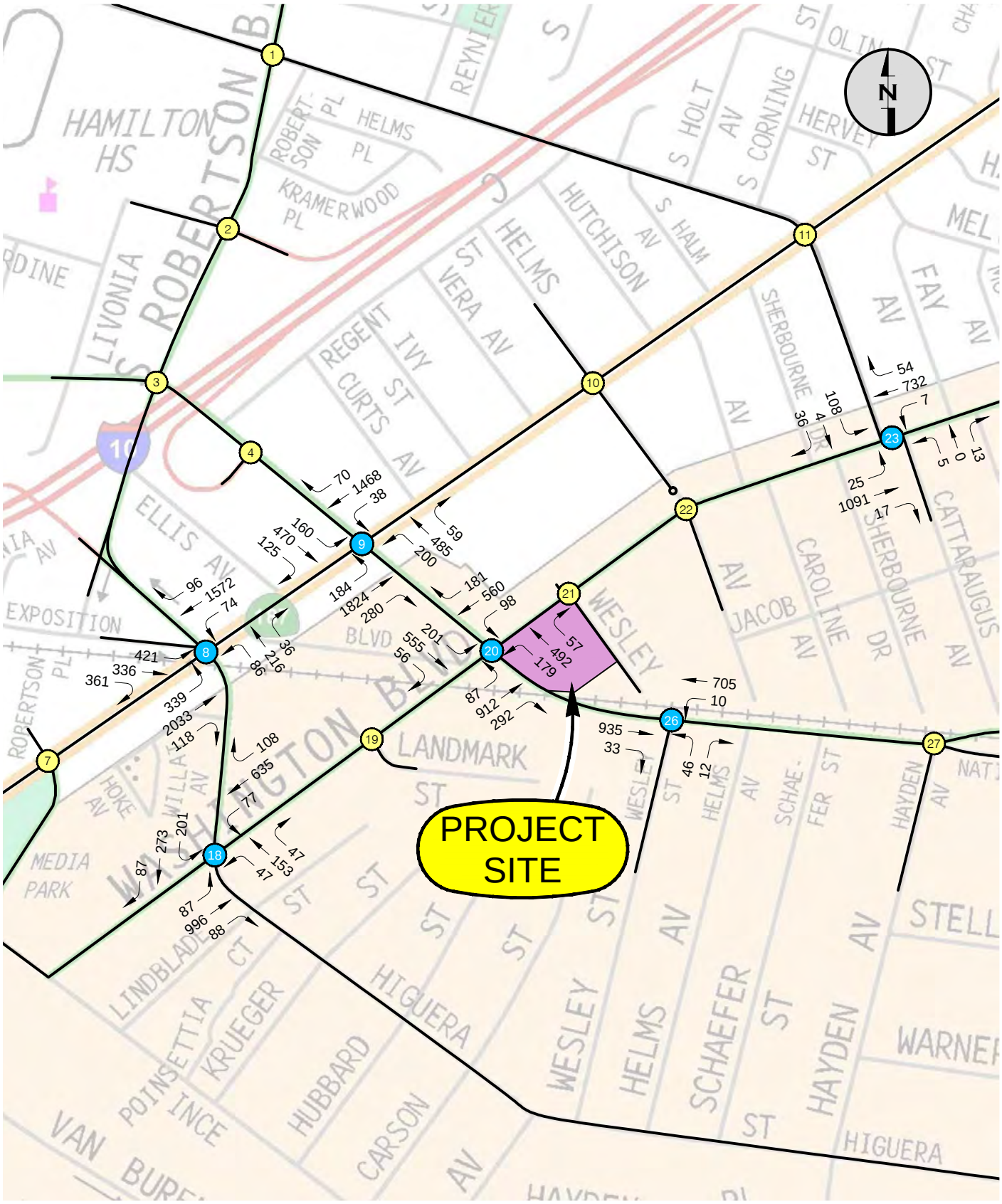


FIGURE 2(b)

6/1/2012

HIRSCH GREEN
Hirsch/Green Transportation Consulting, Inc.

EXISTING (2012) TRAFFIC VOLUMES
PM PEAK HOUR
(2012 CORRELATION COUNTS)

637

WASHINGTON-NATIONAL EMC (CULVER CITY) \ EX2010-AM (FOR CORRELATION)

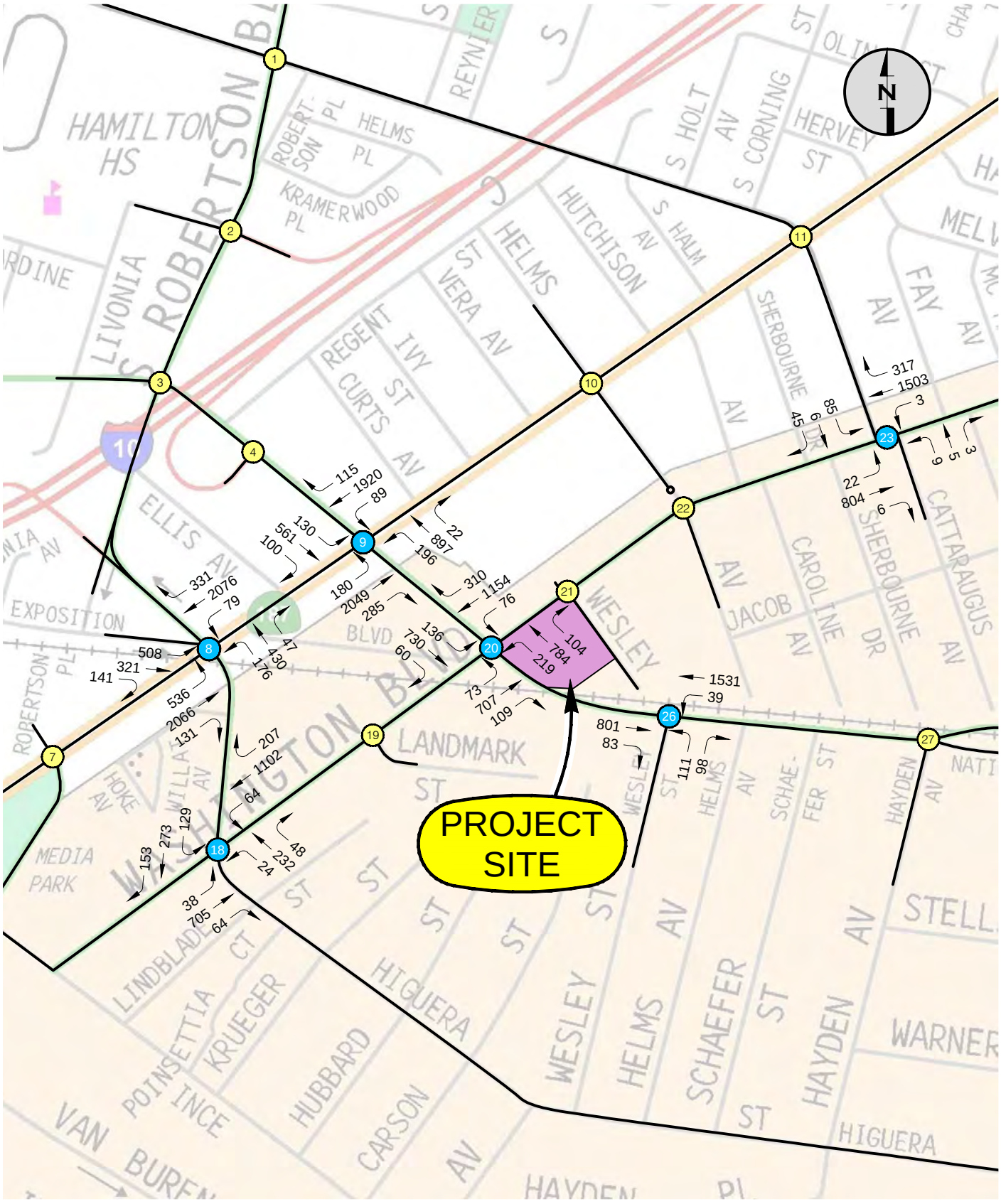


FIGURE 3(a)

6/1/2012

IRSCH REEN
Hirsch/Green Transportation Consulting, Inc.

EXISTING (2010) TRAFFIC VOLUMES
AM PEAK HOUR
(EXCERPT FROM FIGURE 11(a) - REVISED JULY 2010 TRAFFIC STUDY)

638

WASHINGTON-NATIONAL EMC (CULVER CITY) \ EX2010-PM (FOR CORRELATION)

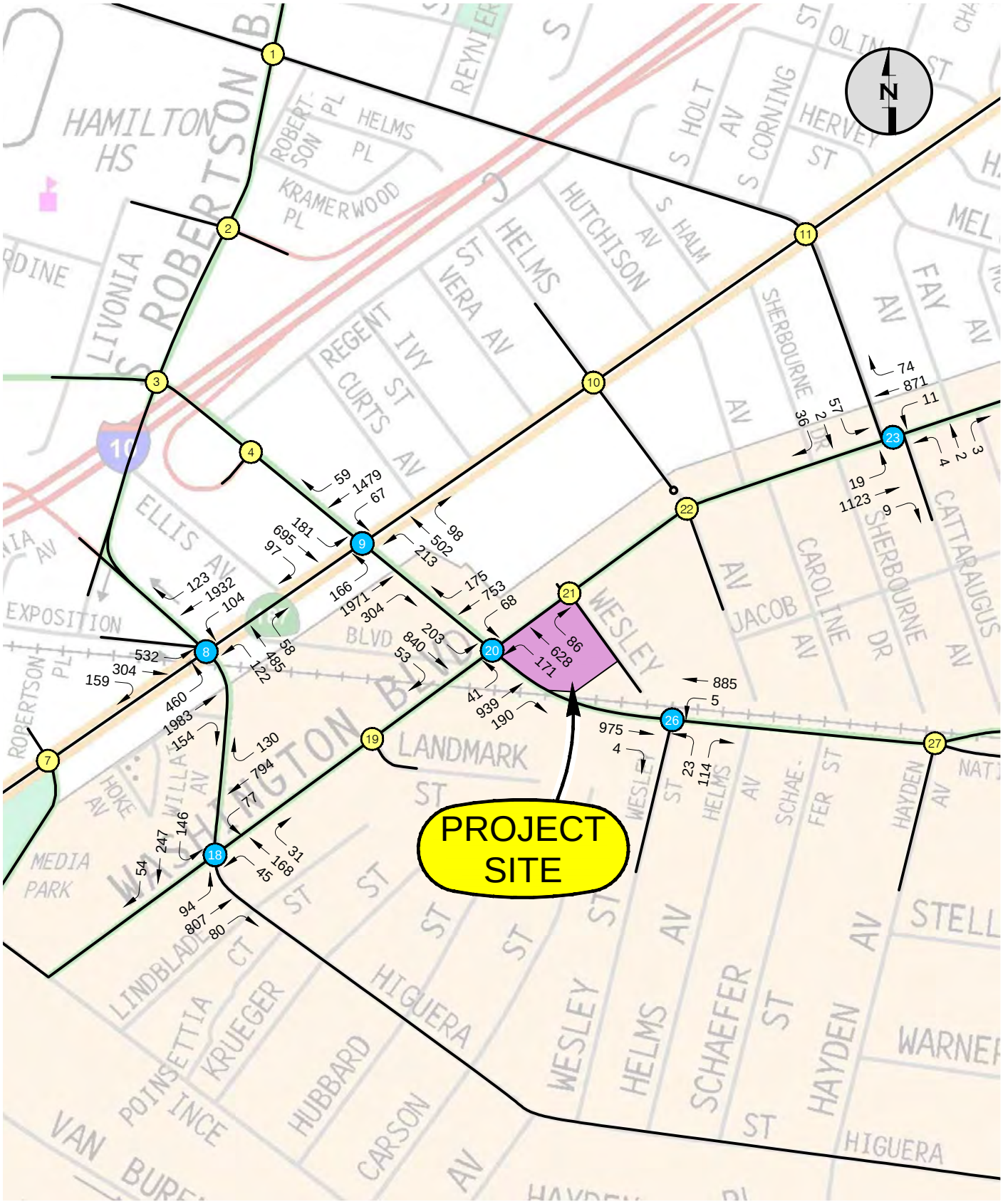


FIGURE 3(b)

6/1/2012

HIRSCH GREEN

Hirsch/Green Transportation Consulting, Inc.

EXISTING (2010) TRAFFIC VOLUMES
PM PEAK HOUR
(EXCERPT FROM FIGURE 11(b) - REVISED JULY 2010 TRAFFIC STUDY)

630

change in the volumes for specific moves (e.g., left turns, "through" traffic, or right turns) at any of the subject intersections during either the AM or PM peak hours, with the year 2012 volumes for some intersection movements remaining approximately the same as their 2010 counterpart values, while other moves exhibited notable increases or reductions in volumes. However, the comparison also revealed that, in general, the total peak hour intersection volumes decreased by between about eight and 12 percent between the "existing" 2010 and current 2012 counts, with only one location (Washington Boulevard and Robertson Boulevard/Higuera Street) showing a slight increase (less than five percent) in total traffic as compared to the 2010 data.

Despite the overall reductions in total intersection volumes at most of the subject intersections, it is generally not possible to accurately assess whether the current year 2012 traffic conditions in the project vicinity have actually improved from those associated with the 2010 "existing" traffic volumes based solely on the comparison of total intersection volumes. As described in detail in the Revised July 2010 traffic study, the Critical Movement Analysis ("CMA") methodology used to calculate the operational characteristics and associated levels of service ("LOS") for the study intersections is based primarily on the amount of traffic travelling through specific moves at the intersection, known as "critical lanes", and not necessarily on the total intersection volumes. Therefore, it is possible that a reduction in volumes in a "non-critical" lane could be more than offset by increases in traffic volumes through one or more of the critical lanes, since volumes in the non-critical lanes are not used to calculate the CMA value for an intersection. As a result, the indicated reductions in the total intersection volumes alone do not ensure that any of the six subject study intersection(s) would actually exhibit improved operations.

Therefore, in order to provide a relevant comparison between the traffic conditions associated with the current 2012 intersection counts and those identified in the Revised July 2010 traffic study for the "existing" 2010 traffic volumes, the new 2012 traffic data was analyzed using the CMA evaluation methodology described earlier. The results of this supplemental analysis for the six intersections evaluated in this supplemental analysis are shown in Table 1, along with the "existing" 2010 conditions for the corresponding intersections, as excerpted from Table 8 of the project traffic study (note that values shown in bold text indicate intersections operating at undesirable LOS E or F conditions, as described in the project traffic study).

As shown in Table 1, similar to the overall intersection volumes described earlier, the CMA analyses indicate that the current 2012 conditions at most of the subject intersections studied in this supplemental analysis are better (based on CMA value) than were reported for the "existing" year 2010 scenario in the project traffic study, with the exceptions of the intersections

Table 1
Critical Movement Analysis Summary
Comparison of Current (2012) and "Existing" (2010)* Intersection Conditions

Int. No.	Intersection	Peak Hour	Existing (2010) CMA	Existing (2010) LOS	Current (2012) CMA	Current (2012) LOS	Change in CMA	Change in LOS?
8	Venice Boulevard and	AM	**1.380**	**F**	**1.203**	**F**	-0.177	No
	Robertson Boulevard [1]	PM	**1.322**	**F**	**0.938**	**E**	-0.384	Improved
9	Venice Boulevard and	AM	**0.960**	**E**	**0.920**	**E**	-0.040	No
	National Boulevard [1]	PM	**0.943**	**E**	0.800	C	-0.143	Improved
18	Washington Boulevard and	AM	0.624	B	0.637	B	0.013	No
	Robertson Boulevard/Higuera Street	PM	0.525	A	0.589	A	0.064	No
20	Washington Boulevard and	AM	0.780	C	0.635	B	-0.145	Improved
	National Boulevard	PM	0.714	C	0.627	B	-0.087	Improved
23	Washington Boulevard and	AM	**0.903**	**F** [2]	**0.763**	**F** [2]	-0.140	No
	Cattaraugus Avenue	PM	**0.601**	**F** [2]	**0.636**	**F** [2]	0.035	No
26	National Boulevard and	AM	0.580	A	0.334	A	-0.246	No
	Wesley Street	PM	0.350	A	0.293	A	-0.057	No

Notes:

[1] City of Los Angeles intersection.

[2] Unsignalized intersection. LOS value determined using HCM methodology.

* Existing (2010) CMA and LOS values excerpted from Table 8, Revised July 2010 project traffic study.

of Washington Boulevard and Robertson Boulevard/Higuera Street (which, as noted previously, was the lone location that also exhibited an increase on total intersection volumes) during both the AM and PM peak hours, and at Washington Boulevard and Cattaraugus Avenue during the PM peak hour only. However, these increases in CMA values are relatively nominal and do not affect the LOS designations originally reported in the Revised July 2010 project traffic study; Washington Boulevard and Robertson Boulevard/Higuera Street continues to operate at LOS B during the AM peak hour and LOS A during the PM peak hour, while Washington Boulevard and Cattaraugus Avenue continues to exhibit LOS F operations (based on the "unsignalized intersection" evaluation methodologies required for this intersection) during the PM peak hour.

Conversely, three intersections have experienced improvement in their operating conditions (both CMA and LOS values) since the 2010 analyses. The intersection of Venice Boulevard and Robertson Boulevard has improved from LOS F (CMA = 1.322) to LOS E (CMA = 0.938)

during the PM peak hour (it continues to exhibit LOS F conditions during the AM peak hour), while Venice Boulevard and National Boulevard has improved from LOS E (CMA = 0.943) to LOS C (CMA = 0.800) during the PM peak hour (it remains at LOS E during the AM peak hour). Additionally, the site-adjacent intersection of Washington Boulevard and National Boulevard has improved from LOS C to LOS B operations during both the AM and PM peak hours.

Therefore, based on these data and analyses, the "existing" (year 2010) conditions identified in the Revised July 2010 project traffic study continue to accurately reflect the current (year 2012) conditions at the six subject study intersections, and it can be reasonably concluded that the overall "existing" conditions identified in the 2010 traffic study remain valid estimates of the current overall traffic conditions throughout the study area. As such, there is no need to incorporate 2012 data, either for the six subject locations or for the remaining 28 intersections analyzed in that study.

FUTURE (YEAR 2014) PROJECT TRAFFIC IMPACT ANALYSIS

The second component of this supplemental analysis evaluates the potential effects of the proposed project on area traffic conditions should the completion and occupancy of the project be delayed beyond the 2013, which was assumed in the Revised July 2010 project traffic study as the "buildout/occupancy" date of the project. Therefore, in order to address this potential circumstance, an additional analysis was conducted, assuming that unforeseen delays could delay the completion and occupancy of the proposed project to the year 2014.

This additional study was prepared using the current year 2012 traffic data described earlier as the baseline to forecast future conditions to the end of 2014. The additional analyses utilized the same ambient traffic growth (1.0 percent, compounded annually), related projects (a review of the current City of Culver City and City of Los Angeles related projects lists indicated that no new significant development projects have been proposed for the study area since the completion of the February 2011 update to the project traffic study), and programmed roadway improvement assumptions described in detail in the Revised July 2010 traffic study, with the exception that the "horizon" study year was updated from 2013 to 2014. The results of this additional "Year 2014" analysis are summarized in Table 2.

As shown in Table 2, the forecast year 2014 conditions at each of the subject intersections will again be better than the forecast year 2013 conditions reported in the Revised July 2010 traffic study under both the "Without Project" and "With Project" scenarios, with the exceptions of

Table 2
Critical Movement Analysis Summary
Comparison of Future (2013) Traffic Study and (2014) Supplemental Analysis Conditions

Int. No.	Intersection	Peak Hour	Future Year	Without Project CMA	Without Project LOS	With Project CMA	With Project LOS	With Project Impact
8	Venice Boulevard and Robertson Boulevard [1]	AM	2013	**1.647**	**F**	**1.659**	**F**	**0.012** *
			2014	***1.452***	***F***	***1.464***	***F***	***0.012*** *
		PM	2013	**1.673**	**F**	**1.693**	**F**	**0.020** *
			2014	***1.230***	***F***	***1.251***	***F***	***0.021*** *
9	Venice Boulevard and National Boulevard [1]	AM	2013	**1.069**	**F**	**1.083**	**F**	**0.014** *
			2014	***1.056***	***F***	***1.070***	***F***	***0.014*** *
		PM	2013	**1.281**	**F**	**1.293**	**F**	**0.012** *
			2014	***1.140***	***F***	***1.153***	***F***	***0.013*** *
18	Washington Boulevard and Robertson Boulevard/Higuera Street	AM	2013	0.832	D	0.835	D	0.003
			2014	*0.802*	*D*	*0.804*	*D*	*0.002*
		PM	2013	0.681	B	0.685	B	0.004
			2014	*0.757*	*C*	*0.766*	*C*	*0.009*
20	Washington Boulevard and National Boulevard	AM	2013	**0.940**	**E**	**0.962**	**E**	**0.022** *
			2014	*0.807*	*D*	*0.827*	*D*	*0.020*
		PM	2013	**0.904**	**E**	**0.921**	**E**	**0.017**
			2014	*0.808*	*D*	*0.824*	*D*	*0.016*
23	Washington Boulevard and Cattaraugus Avenue	AM	2013	**0.973**	**F** [2]	**1.006**	**F** [2]	**0.033** *
			2014	***0.821***	***F*** [2]	***0.853***	***F*** [2]	***0.032*** *
		PM	2013	**0.669**	**F** [2]	**0.800**	**F** [2]	**0.131** *
			2014	***0.698***	***F*** [2]	***0.813***	***F*** [2]	***0.115*** *
26	National Boulevard and Wesley Street	AM	2013	0.622	B	0.627	B	0.005
			2014	*0.383*	*A*	*0.385*	*A*	*0.002*
		PM	2013	0.430	A	0.440	A	0.010
			2014	*0.365*	*A*	*0.370*	*A*	*0.005*

Notes:

[1] City of Los Angeles intersection.

[2] Unsignalized intersection. LOS value determined using HCM methodology.

"*" Significant impact per City of Culver City criteria (CMA increase of +0.040 at LOS D; +0.020 at LOS E/F).

"*" Significant impact per City of Los Angeles criteria (CMA increase of +.0.40 at LOS C, +0.020 at LOS E, +0.010 at LOS E/F).

Washington Boulevard and Robertson Boulevard/Higuera Street (PM peak hour only), which shows a slight deterioration in both the CMA and LOS values when compared to the 2013 analyses, although this location is forecast to continue to operate at acceptable levels of service (year 2014 LOS C, as compared to the LOS B operations forecast for the year 2013). The intersection of Washington Boulevard and Cattaraugus Avenue is also expected to exhibit a slightly worse CMA value (again during the PM peak hour only) as compared to the forecast 2013 conditions, although the level of service would remain as previously anticipated, at LOS F.

Table 2 also shows that the site-adjacent intersection of Washington Boulevard and National Boulevard is forecast to exhibit LOS D operations during both the AM and PM peak hours for both the future 2014 "Without Project" and "With Project" scenarios, as compared to the LOS E conditions forecast for the year 2013 under these scenarios in the Revised July 2010 traffic study. Similarly, the intersection of National Boulevard and Wesley Street is forecast to exhibit LOS A operations during both peak hours for the future year 2014 scenario, slightly better than the LOS B operations shown for the AM peak hour for the original 2013 horizon study year analyzed in the Revised July 2010 traffic study (this location was forecast to exhibit LOS A operations by the forecast horizon year of 2013 during the PM peak hour).

Despite these general improvements in the future forecast conditions at the subject intersections, a further review of Table 2 also indicates that, under the supplemental year 2014 conditions, the proposed project would be expected to again result in significant impacts at three of the four intersections originally identified as significantly impacted in the Revised July 2010 traffic study during the same peak hour periods as originally noted for the forecast year 2013 conditions in that study, and with the magnitudes of these impacts also relatively unchanged from those earlier analyses. (Note that, while the intersection of Washington Boulevard and Wesley Street was not included in this supplemental year 2014 analysis, it is assumed, based on the information presented in Table 2, that the proposed project would again result in a significant impact to that location.)

However, as also shown in Table 2, the improvement to the forecast future year 2014 operating conditions at the intersection of Washington Boulevard and National Boulevard as compared to the year 2013 conditions shown in the Revised July 2010 traffic study (from LOS E to LOS D) would mean that the previously-identified impact at this location would no longer be considered to be significant. Therefore, the potential project impacts identified in the Revised July 2010 traffic study are considered to be a "worst case" assessment of the proposed project's effects on the surrounding intersections, since they result in a significant project-related impact at one of

the study intersections (Washington Boulevard and National Boulevard) that would not be expected to occur based on the existing year 2012 traffic volume conditions, even when assuming a project completion date of 2014.

Finally, even though the year 2014 CMA and/or LOS forecasts for the significantly impacted intersections are generally lower, and with similar project-specific impact magnitudes, as compared to the project traffic study year 2013 forecasts, the recommended traffic impact mitigation improvements identified in the Revised July 2010 traffic study were evaluated to ensure that these measures would continue to reduce the impacts of the proposed project to less-than-significant levels. These mitigation improvements were assumed to be identical to those originally proposed, and fully described in the Revised July 2010 traffic study. Again, the same analysis methodologies and assumptions used in the Revised July 2010 study were utilized for the year 2014 "With Mitigation" analysis, which is summarized in Table 3.

Table 3
Critical Movement Analysis Summary
Future (2014) Without Project and With Project Plus Mitigation Conditions

Int. No.	Intersection	Peak Hour	Without Project CMA	Without Project LOS	With Project Plus Mitigation CMA	With Project Plus Mitigation LOS	With Project Plus Mitigation Impact
8	Venice Boulevard and Robertson Boulevard [1]	AM	**1.452**	**F**	**1.400**	**F**	**-0.052**
		PM	**1.230**	**F**	**1.193**	**F**	**-0.037**
9	Venice Boulevard and National Boulevard [1]	AM	**1.056**	**F**	**1.040**	**F**	**-0.016**
		PM	**1.140**	**F**	**1.128**	**F**	**-0.012**
20	Washington Boulevard and National Boulevard [3]	AM	0.807	D	0.798	C	-0.009
		PM	0.808	D	0.824	D	0.016
23	Washington Boulevard and Cattaraugus Avenue	AM	**0.821**	**F** [2]	**0.836** [a]	**F** [2]	**0.015**
		PM	**0.698**	**F** [2]	**0.677** [a]	**F** [2]	**-0.021**
					0.634 [b]	B	-0.187
					0.500 [b]	A	-0.198

Notes:

[1] City of Los Angeles intersection.

[2] Unsignalized intersection. LOS value determined using HCM methodology.

[3] Mitigation not needed, based on results of supplemental analyses (see Table 2).

[a] Assumes installation of EB left-turn lane only.

[b] Assumes installation of EB left-turn lane plus new 3-phase traffic signal.

Note that Table 3 does not include the "With Project" CMA, LOS, or project impact values shown in Table 2, nor does it include the year 2013 mitigation effectiveness values from the Revised July 2010 traffic study, since the purpose of Table 3 is simply to summarize the effectiveness of the recommended mitigation measures under forecast year 2014 conditions. However, as shown in Table 3, the traffic mitigation measures previously identified in the Revised July 2010 project traffic study will continue to be effective in reducing the potential impacts of the proposed project to less-than-significant levels at each of the four impacted intersections evaluated in this supplemental analysis.

Additionally, while not specifically shown in Table 3, a comparison of the "With Mitigation" CMA values contained in that table with the "With Mitigation" CMA values identified in Table 16 of the Revised July 2010 traffic study show that the year 2014 "With Mitigation" CMA and LOS values for each of the four intersections are lower (better) than their corresponding year 2013 values, with the exception of the intersection of Washington Boulevard and Cattaraugus Avenue during the PM peak hour for the alternative traffic signal installation measure (identified in Table 3 as mitigation option "b"), which will exhibit a year 2014 CMA value of 0.500 (LOS A) as compared to the year 2013 CMA value of 0.477 (also LOS A). Therefore, the improvement measures identified in the Revised July 2010 project traffic study will continue to be effective as project impact mitigation even into the year 2014.

SUMMARY AND CONCLUSIONS

To summarize the results of these supplemental analyses, the "existing" (year 2010) traffic volumes and intersection operating conditions identified in the Revised July 2010 project traffic study are consistent with, and in some cases, lower than the current (year 2012) conditions at the six study intersections examined in this supplemental study, and it can be reasonably concluded that the "existing" conditions identified in the 2010 traffic study continue to accurately represent the current overall traffic conditions throughout the study area. As such, the analysis of existing "baseline" traffic conditions reported in the Revised July 2010 study is valid.

Additionally, the forecast year 2013 conditions shown in the current, Revised July 2010 traffic study under consideration by the City generally present a "worst case" assessment of the potential future traffic conditions in the immediate project vicinity, with the CMA and/or LOS forecasts contained in that study reflecting more conservative (higher, or worse) values than those obtained using the current 2012 intersection traffic values described earlier in this document. Further, using these current 2012 traffic volumes as a baseline, and forecasting

future conditions one year further out than previously assumed, to the year 2014, these supplemental analyses indicate once again that the forecast future year 2013 conditions noted in the Revised July 2010 study reflect conservative estimates of the potential intersection operations in the immediate project vicinity, and it can be reasonably assumed, throughout the entire study area. While the forecast year 2014 conditions at the six intersections examined in this supplemental analyses are anticipated to be somewhat lower than previously estimated, the proposed mixed-use residential and commercial project at 8770 Washington Boulevard would continue to result in significant impacts at three of the four locations (plus the intersection of Washington Boulevard and Wesley Street, which was not included in this supplemental analysis) as identified in the Revised July 2010 traffic study. The mitigation measures recommended in that study would also continue to remain effective in reducing the impacts at each of these three intersections to less-than-significant levels.

However, it is important to note that, based on the results of these supplemental analyses, the previously-identified significant project-related traffic impact at the site-adjacent intersection of Washington Boulevard and National Boulevard would not occur, even when the forecast future year is extended to 2014. As such, the improvements currently required for that location, including dedication and widening of the northbound approach of National Boulevard along the project's frontage to install a new right-turn only lane is mitigation for a worse-case scenario.

Therefore, based on these supplemental analyses, it can be concluded that the traffic analyses contained in the Revised July 2010 project traffic study remain valid, both in the evaluation of the "existing" conditions and in the forecasts of future traffic conditions, including the identification of potential project-related impacts. As a result, the data and analyses contained in the Revised July 2010 traffic study (including the assumption of 2013 as the anticipated project completion year) are valid.

APPENDIX

CURRENT (YEAR 2012) TRAFFIC COUNT DATA SHEETS

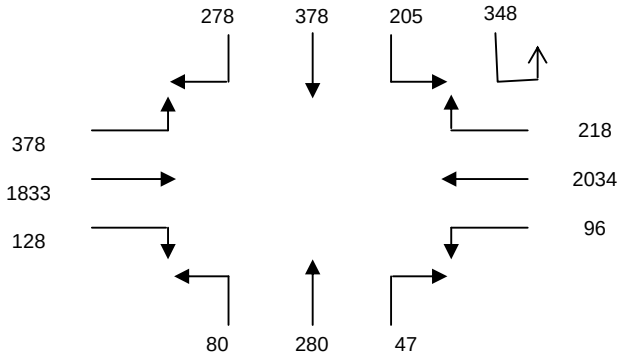
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION: N/S ROBERTSON BOULEVARD - EXPOSITION BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 8-AM

15 MINUTE	1	2	3	3A	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	32	22	18	52	48	343	13	7	63	19	14	268	62
0715-0730	44	30	26	89	62	404	10	6	78	20	19	343	89
0730-0745	52	57	44	95	65	413	15	7	83	21	21	358	95
0745-0800	64	73	47	79	58	526	23	5	81	18	29	411	89
0800-0815	59	93	39	70	50	500	20	9	82	23	23	433	70
0815-0830	60	90	41	93	62	539	22	7	74	18	31	481	93
0830-0845	73	98	44	90	45	500	18	10	76	20	20	454	87
0845-0900	65	85	69	83	50	535	22	17	68	20	32	477	119
0900-0915	80	105	51	82	61	460	34	13	62	22	45	421	79
0915-0930	84	83	44	63	66	494	20	8	45	16	31	493	63
0930-0945	63	95	37	57	64	420	29	13	41	12	30	478	67
0945-1000	66	89	36	96	64	473	21	11	43	14	25	455	86

1 HOUR	1	2	3	3A	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	192	182	135	315	233	1686	61	25	305	78	83	1380	335	5010
0715-0815	219	253	156	333	235	1843	68	27	324	82	92	1545	343	5520
0730-0830	235	313	171	337	235	1978	80	28	320	80	104	1683	347	5911
0745-0845	256	354	171	332	215	2065	83	31	313	79	103	1779	339	6120
0800-0900	257	366	193	336	207	2074	82	43	300	81	106	1845	369	6259
0815-0915	278	378	205	348	218	2034	96	47	280	80	128	1833	378	6303
0830-0930	302	371	208	318	222	1989	94	48	251	78	128	1845	348	6202
0845-0945	292	368	201	285	241	1909	105	51	216	70	138	1869	328	6073
0900-1000	293	372	168	298	255	1847	104	45	191	64	131	1847	295	5910

A.M. PEAK HOUR
0815-0915



ROBERTSON BOULEVARD - EXPOSITION BOULEVARD

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

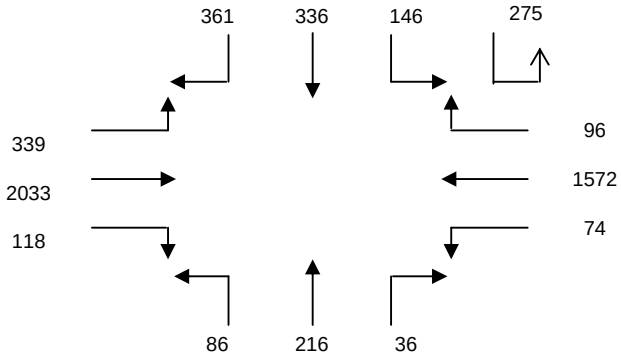
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION: N/S ROBERTSON BOULEVARD - EXPOSITION BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 8-PM

15 MINUTE	1	2	3	3A	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	66	79	31	64	11	352	13	5	47	9	18	388	68
0315-0330	73	80	36	67	15	362	12	7	55	12	22	491	77
0330-0345	82	88	40	70	14	381	14	7	60	16	31	534	89
0345-0400	76	105	41	89	25	360	19	7	53	14	33	527	91
0400-0415	81	72	31	75	25	337	18	6	45	13	28	507	70
0415-0430	81	64	42	62	24	314	17	9	45	22	30	501	86
0430-0445	76	69	36	50	35	333	22	5	59	15	28	545	99
0445-0500	70	93	43	61	24	376	15	9	51	19	26	559	91
0500-0515	82	85	34	78	20	371	18	9	63	13	25	433	74
0515-0530	107	78	45	68	27	377	21	10	50	28	35	497	90
0530-0545	102	80	24	68	25	448	20	8	52	26	32	544	84
0545-0600	101	91	32	84	17	364	26	10	71	23	29	488	96

1 HOUR	1	2	3	3A	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	297	352	148	290	65	1455	58	26	215	51	104	1940	325	5326
0315-0415	312	345	148	301	79	1440	63	27	213	55	114	2059	327	5483
0330-0430	320	329	154	296	88	1392	68	29	203	65	122	2069	336	5471
0345-0445	314	310	150	276	109	1344	76	27	202	64	119	2080	346	5417
0400-0500	308	298	152	248	108	1360	72	29	200	69	112	2112	346	5414
0415-0515	309	311	155	251	103	1394	72	32	218	69	109	2038	350	5411
0430-0530	335	325	158	257	106	1457	76	33	223	75	114	2034	354	5547
0445-0545	361	336	146	275	96	1572	74	36	216	86	118	2033	339	5688
0500-0600	392	334	135	298	89	1560	85	37	236	90	121	1962	344	5683

P.M. PEAK HOUR
0445-0545



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

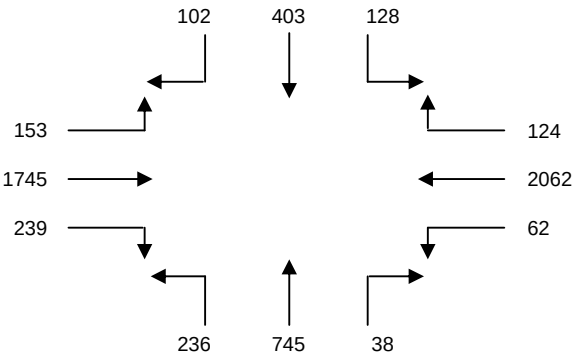
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION: N/S NATIONAL BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 9-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	9	48	5	18	286	9	3	118	68	32	227	29
0715-0730	8	63	11	25	323	7	2	183	83	22	284	23
0730-0745	10	83	17	40	497	12	2	167	83	41	352	36
0745-0800	19	96	15	33	497	11	4	199	68	36	397	35
0800-0815	29	116	26	31	504	16	7	178	62	53	442	45
0815-0830	22	103	35	32	473	19	12	179	56	71	401	28
0830-0845	24	98	36	27	499	14	11	207	59	65	435	37
0845-0900	27	86	31	34	586	13	8	181	59	50	467	43
0900-0915	39	80	31	30	475	12	9	170	64	65	436	42
0915-0930	24	115	21	43	447	17	7	143	50	69	414	41
0930-0945	27	106	26	28	536	13	6	171	52	67	451	44
0945-1000	24	80	16	34	459	12	9	144	61	63	425	36

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	46	290	48	116	1603	39	11	667	302	131	1260	123	4636
0715-0815	66	358	69	129	1821	46	15	727	296	152	1475	139	5293
0730-0830	80	398	93	136	1971	58	25	723	269	201	1592	144	5690
0745-0845	94	413	112	123	1973	60	34	763	245	225	1675	145	5862
0800-0900	102	403	128	124	2062	62	38	745	236	239	1745	153	6037
0815-0915	112	367	133	123	2033	58	40	737	238	251	1739	150	5981
0830-0930	114	379	119	134	2007	56	35	701	232	249	1752	163	5941
0845-0945	117	387	109	135	2044	55	30	665	225	251	1768	170	5956
0900-1000	114	381	94	135	1917	54	31	628	227	264	1726	163	5734

A.M. PEAK HOUR
0800-0900



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

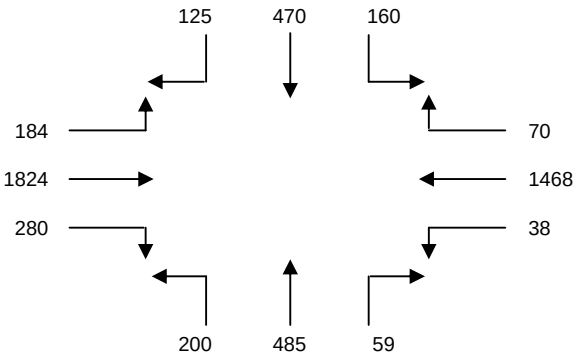
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION: N/S NATIONAL BOULEVARD
E/W VENICE BOULEVARD
FILE NUMBER: 9-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	25	85	24	10	287	19	7	109	64	85	335	46
0315-0330	33	117	29	12	346	16	12	155	44	86	409	50
0330-0345	32	131	32	18	338	11	13	150	60	61	458	58
0345-0400	34	111	20	15	312	13	19	120	48	70	452	63
0400-0415	24	96	30	9	288	10	18	100	53	79	446	55
0415-0430	35	105	31	17	321	6	10	117	49	58	464	57
0430-0445	25	145	54	19	317	9	17	119	57	56	455	48
0445-0500	27	110	38	15	343	14	13	116	49	75	494	41
0500-0515	35	122	35	22	303	10	18	109	43	56	404	40
0515-0530	30	102	33	14	402	9	17	118	53	60	493	54
0530-0545	33	136	54	19	420	5	11	142	55	89	433	49
0545-0600	23	131	45	18	347	7	16	130	33	54	400	50

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	124	444	105	55	1283	59	51	534	216	302	1654	217	5044
0315-0415	123	455	111	54	1284	50	62	525	205	296	1765	226	5156
0330-0430	125	443	113	59	1259	40	60	487	210	268	1820	233	5117
0345-0445	118	457	135	60	1238	38	64	456	207	263	1817	223	5076
0400-0500	111	456	153	60	1269	39	58	452	208	268	1859	201	5134
0415-0515	122	482	158	73	1284	39	58	461	198	245	1817	186	5123
0430-0530	117	479	160	70	1365	42	65	462	202	247	1846	183	5238
0445-0545	125	470	160	70	1468	38	59	485	200	280	1824	184	5363
0500-0600	121	491	167	73	1472	31	62	499	184	259	1730	193	5282

P.M. PEAK HOUR
0445-0545



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

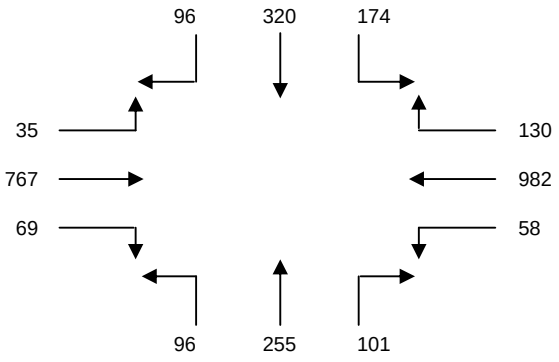
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION: N/S ROBERTSON BOULEVARD / HIGUERA STREET
E/W WASHINGTON BOULEVARD
FILE NUMBER: 18-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	13	33	7	36	145	5	9	42	5	6	83	8
0715-0730	14	47	9	39	188	3	14	48	6	8	93	11
0730-0745	13	52	16	46	238	4	14	60	12	5	126	12
0745-0800	17	64	27	40	209	5	19	64	27	7	156	10
0800-0815	25	76	39	39	274	9	20	73	20	11	171	8
0815-0830	24	83	47	37	256	10	29	71	21	18	226	5
0830-0845	20	70	39	37	259	17	31	62	27	15	194	9
0845-0900	22	72	47	25	219	15	22	61	20	19	180	8
0900-0915	30	95	41	31	248	16	19	61	28	17	167	13
0915-0930	36	81	32	32	243	19	18	33	20	18	137	11
0930-0945	46	70	28	20	250	17	22	43	10	20	150	9
0945-1000	42	72	26	23	191	9	16	23	11	19	159	12

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	57	196	59	161	780	17	56	214	50	26	458	41	2115
0715-0815	69	239	91	164	909	21	67	245	65	31	546	41	2488
0730-0830	79	275	129	162	977	28	82	268	80	41	679	35	2835
0745-0845	86	293	152	153	998	41	99	270	95	51	747	32	3017
0800-0900	91	301	172	138	1008	51	102	267	88	63	771	30	3082
0815-0915	96	320	174	130	982	58	101	255	96	69	767	35	3083
0830-0930	108	318	159	125	969	67	90	217	95	69	678	41	2936
0845-0945	134	318	148	108	960	67	81	198	78	74	634	41	2841
0900-1000	154	318	127	106	932	61	75	160	69	74	613	45	2734

A.M. PEAK HOUR
0815-0915



ROBERTSON BOULEVARD / HIGUERA STREET

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

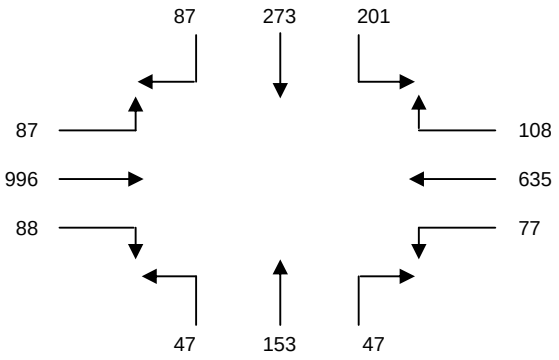
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION: N/S ROBERTSON BOULEVARD / HIGUERA STREET
E/W WASHINGTON BOULEVARD
FILE NUMBER: 18-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	20	57	34	41	140	14	15	34	14	13	173	17
0315-0330	25	75	41	30	153	14	12	34	10	13	196	14
0330-0345	27	62	48	23	151	13	14	34	12	13	216	19
0345-0400	21	70	55	20	148	18	12	30	9	11	222	21
0400-0415	20	57	46	24	155	11	16	28	9	17	184	25
0415-0430	23	59	44	29	146	12	8	33	8	15	204	17
0430-0445	22	53	47	24	180	8	9	39	14	19	247	22
0445-0500	23	58	48	20	174	13	8	30	10	16	231	15
0500-0515	20	65	42	22	159	19	11	36	11	16	249	17
0515-0530	23	73	52	21	166	17	13	49	13	22	239	22
0530-0545	18	69	57	36	152	20	15	33	10	25	255	27
0545-0600	26	66	50	29	158	21	8	35	13	25	253	21

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	93	264	178	114	592	59	53	132	45	50	807	71	2458
0315-0415	93	264	190	97	607	56	54	126	40	54	818	79	2478
0330-0430	91	248	193	96	600	54	50	125	38	56	826	82	2459
0345-0445	86	239	192	97	629	49	45	130	40	62	857	85	2511
0400-0500	88	227	185	97	655	44	41	130	41	67	866	79	2520
0415-0515	88	235	181	95	659	52	36	138	43	66	931	71	2595
0430-0530	88	249	189	87	679	57	41	154	48	73	966	76	2707
0445-0545	84	265	199	99	651	69	47	148	44	79	974	81	2740
0500-0600	87	273	201	108	635	77	47	153	47	88	996	87	2799

P.M. PEAK HOUR
0500-0600



WASHINGTON BOULEVARD

ROBERTSON BOULEVARD / HIGUERA STREET

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

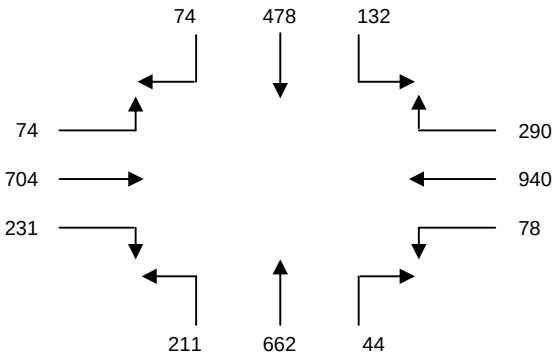
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION: N/S NATIONAL BOULEVARD
E/W WASHINGTON BOULEVARD
FILE NUMBER: 20-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	11	66	10	66	147	5	8	164	34	10	86	3
0715-0730	9	69	20	67	168	5	5	177	45	15	103	7
0730-0745	13	81	31	62	201	8	6	179	47	24	111	10
0745-0800	16	111	37	70	237	13	7	181	54	51	122	14
0800-0815	21	136	35	68	253	19	14	166	44	62	177	14
0815-0830	19	116	28	72	224	26	12	171	62	72	229	21
0830-0845	18	115	32	80	226	20	11	144	51	46	176	25
0845-0900	18	128	31	77	231	22	16	135	40	42	152	21
0900-0915	17	131	32	75	228	19	20	141	42	44	161	26
0915-0930	20	126	31	68	247	24	16	128	36	44	144	22
0930-0945	15	129	33	66	213	17	18	133	44	36	140	19
0945-1000	14	132	27	66	204	22	21	132	39	33	139	21

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	49	327	98	265	753	31	26	701	180	100	422	34	2986
0715-0815	59	397	123	267	859	45	32	703	190	152	513	45	3385
0730-0830	69	444	131	272	915	66	39	697	207	209	639	59	3747
0745-0845	74	478	132	290	940	78	44	662	211	231	704	74	3918
0800-0900	76	495	126	297	934	87	53	616	197	222	734	81	3918
0815-0915	72	490	123	304	909	87	59	591	195	204	718	93	3845
0830-0930	73	500	126	300	932	85	63	548	169	176	633	94	3699
0845-0945	70	514	127	286	919	82	70	537	162	166	597	88	3618
0900-1000	66	518	123	275	892	82	75	534	161	157	584	88	3555

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

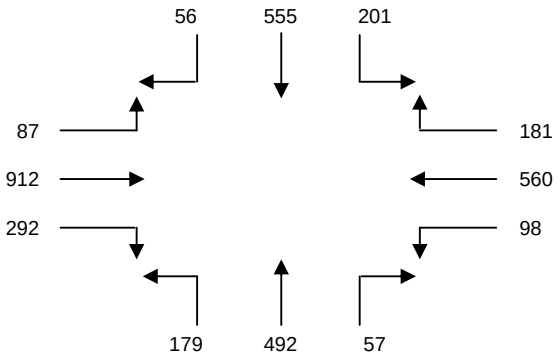
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION: N/S NATIONAL BOULEVARD
E/W WASHINGTON BOULEVARD
FILE NUMBER: 20-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0300-0315	13	140	38	64	128	14	15	117	43	73	163	12
0315-0330	13	158	51	60	120	14	22	129	41	85	170	14
0330-0345	16	150	49	55	124	19	15	127	40	69	183	18
0345-0400	11	153	42	48	126	17	15	131	44	74	195	17
0400-0415	10	126	48	42	127	19	11	120	45	67	184	19
0415-0430	12	132	40	36	120	21	10	112	46	71	188	15
0430-0445	12	137	47	38	141	22	10	119	49	72	211	18
0445-0500	13	151	48	40	132	24	12	121	46	65	209	22
0500-0515	14	135	45	44	142	22	15	115	38	73	227	21
0515-0530	15	132	41	38	135	27	12	114	49	66	231	25
0530-0545	12	145	55	48	150	24	14	120	44	78	219	19
0545-0600	15	143	60	51	133	25	16	143	48	75	235	22

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0300-0400	53	601	180	227	498	64	67	504	168	301	711	61	3435
0315-0415	50	587	190	205	497	69	63	507	170	295	732	68	3433
0330-0430	49	561	179	181	497	76	51	490	175	281	750	69	3359
0345-0445	45	548	177	164	514	79	46	482	184	284	778	69	3370
0400-0500	47	546	183	156	520	86	43	472	186	275	792	74	3380
0415-0515	51	555	180	158	535	89	47	467	179	281	835	76	3453
0430-0530	54	555	181	160	550	95	49	469	182	276	878	86	3535
0445-0545	54	563	189	170	559	97	53	470	177	282	886	87	3587
0500-0600	56	555	201	181	560	98	57	492	179	292	912	87	3670

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

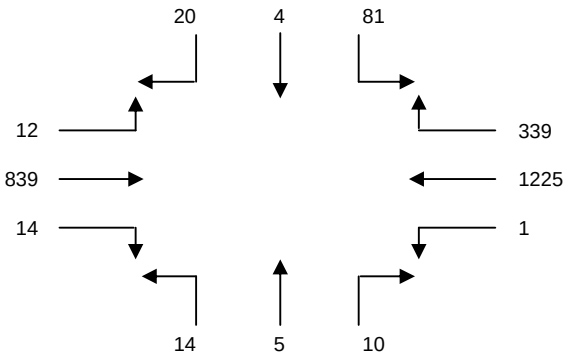
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION: N/S CATTARAUGUS AVENUE
E/W WASHINGTON BOULEVARD
FILE NUMBER: 23-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	3	0	6	47	173	0	3	0	3	0	86	1
0715-0730	2	0	12	78	251	1	0	0	3	0	119	2
0730-0745	5	0	16	111	296	0	2	2	3	2	136	0
0745-0800	6	0	27	90	320	1	1	1	5	3	177	3
0800-0815	4	2	25	96	320	0	3	3	2	7	238	2
0815-0830	6	2	16	78	297	0	3	1	4	2	213	3
0830-0845	4	0	13	75	288	0	3	0	3	2	211	4
0845-0900	7	1	11	64	291	3	2	1	2	4	201	3
0900-0915	6	0	9	52	243	3	2	0	0	5	227	0
0915-0930	3	2	9	31	270	2	4	0	3	3	183	0
0930-0945	6	0	8	35	235	2	1	0	2	0	178	4
0945-1000	7	0	7	28	243	3	3	0	2	1	161	4

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	16	0	61	326	1040	2	6	3	14	5	518	6	1997
0715-0815	17	2	80	375	1187	2	6	6	13	12	670	7	2377
0730-0830	21	4	84	375	1233	1	9	7	14	14	764	8	2534
0745-0845	20	4	81	339	1225	1	10	5	14	14	839	12	2564
0800-0900	21	5	65	313	1196	3	11	5	11	15	863	12	2520
0815-0915	23	3	49	269	1119	6	10	2	9	13	852	10	2365
0830-0930	20	3	42	222	1092	8	11	1	8	14	822	7	2250
0845-0945	22	3	37	182	1039	10	9	1	7	12	789	7	2118
0900-1000	22	2	33	146	991	10	10	0	7	9	749	8	1987

A.M. PEAK HOUR
0745-0845



WASHINGTON BOULEVARD

CATTARAUGUS AVENUE

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

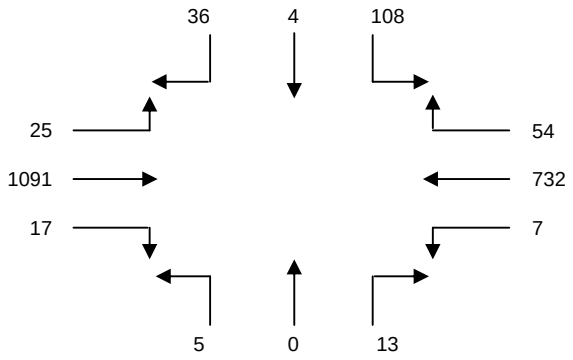
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION: N/S CATTARAUGUS AVENUE
E/W WASHINGTON BOULEVARD
FILE NUMBER: 23-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	8	0	23	29	181	2	0	0	5	4	204	7
0315-0330	8	0	20	25	166	3	1	1	4	4	216	3
0330-0345	8	0	21	17	176	5	1	0	0	5	227	6
0345-0400	7	0	15	21	177	0	0	0	0	9	231	3
0400-0415	6	2	17	15	169	3	0	0	1	4	217	7
0415-0430	5	1	17	19	172	1	5	2	1	5	239	2
0430-0445	8	1	28	17	180	1	3	0	0	4	254	3
0445-0500	11	2	28	24	164	1	0	0	2	6	232	4
0500-0515	10	2	26	18	181	2	2	0	0	2	263	4
0515-0530	13	1	27	12	189	0	4	0	2	4	289	7
0530-0545	7	1	29	11	192	4	5	0	0	5	276	5
0545-0600	6	0	26	13	170	1	2	0	3	6	263	9

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	31	0	79	92	700	10	2	1	9	22	878	19	1843
0315-0415	29	2	73	78	688	11	2	1	5	22	891	19	1821
0330-0430	26	3	70	72	694	9	6	2	2	23	914	18	1839
0345-0445	26	4	77	72	698	5	8	2	2	22	941	15	1872
0400-0500	30	6	90	75	685	6	8	2	4	19	942	16	1883
0415-0515	34	6	99	78	697	5	10	2	3	17	988	13	1952
0430-0530	42	6	109	71	714	4	9	0	4	16	1038	18	2031
0445-0545	41	6	110	65	726	7	11	0	4	17	1060	20	2067
0500-0600	36	4	108	54	732	7	13	0	5	17	1091	25	2092

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

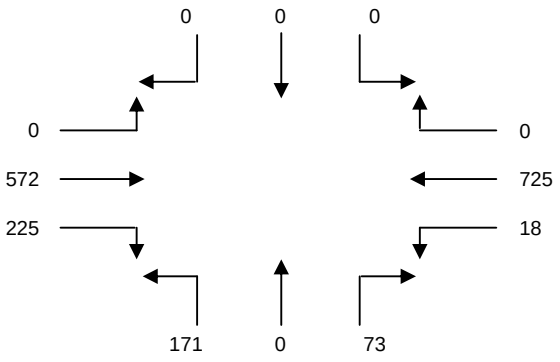
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 07:00 AM TO 10:00 AM
INTERSECTION: N/S WESLEY STREET
E/W NATIONAL BOULEVARD
FILE NUMBER: 26-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	0	0	0	0	205	2	3	0	2	2	65	0
0715-0730	0	0	0	0	239	3	3	0	2	2	93	0
0730-0745	0	0	0	0	205	3	3	0	10	14	112	0
0745-0800	0	0	0	0	224	8	16	0	37	49	137	0
0800-0815	0	0	0	0	167	4	23	0	49	67	140	0
0815-0830	0	0	0	0	168	2	21	0	58	77	135	0
0830-0845	0	0	0	0	166	4	13	0	27	32	160	0
0845-0900	0	0	0	0	192	4	2	0	16	23	182	0
0900-0915	0	0	0	0	191	4	0	0	8	19	162	0
0915-0930	0	0	0	0	188	2	5	0	0	6	170	0
0930-0945	0	0	0	0	164	3	2	0	4	5	173	0
0945-1000	0	0	0	0	190	7	4	0	8	4	187	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	0	0	0	0	873	16	25	0	51	67	407	0	1439
0715-0815	0	0	0	0	835	18	45	0	98	132	482	0	1610
0730-0830	0	0	0	0	764	17	63	0	154	207	524	0	1729
0745-0845	0	0	0	0	725	18	73	0	171	225	572	0	1784
0800-0900	0	0	0	0	693	14	59	0	150	199	617	0	1732
0815-0915	0	0	0	0	717	14	36	0	109	151	639	0	1666
0830-0930	0	0	0	0	737	14	20	0	51	80	674	0	1576
0845-0945	0	0	0	0	735	13	9	0	28	53	687	0	1525
0900-1000	0	0	0	0	733	16	11	0	20	34	692	0	1506

A.M. PEAK HOUR
0745-0845



NATIONAL BOULEVARD

WESLEY STREET

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

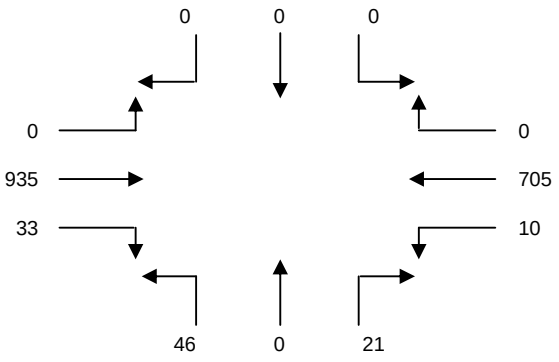
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: HIRSCH/GREEN TRANSPORTATION CONSULTING, INC.
PROJECT: WASHINGTON / NATIONAL LEGADO - CULVER CITY
DATE: WEDNESDAY, MAY 02, 2012
PERIOD: 03:00 PM TO 06:00 PM
INTERSECTION: N/S WESLEY STREET
E/W NATIONAL BOULEVARD
FILE NUMBER: 26-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	0	0	0	0	140	1	12	0	59	64	204	0
0315-0330	0	0	0	0	154	7	8	0	22	30	232	0
0330-0345	0	0	0	0	153	2	3	0	23	10	234	0
0345-0400	0	0	0	0	163	1	4	0	4	5	201	0
0400-0415	0	0	0	0	192	3	3	0	8	10	211	0
0415-0430	0	0	0	0	151	6	0	0	6	11	209	0
0430-0445	0	0	0	0	164	2	3	0	9	13	236	0
0445-0500	0	0	0	0	149	1	1	0	8	11	219	0
0500-0515	0	0	0	0	171	5	7	0	16	8	205	0
0515-0530	0	0	0	0	163	2	2	0	7	7	243	0
0530-0545	0	0	0	0	185	2	6	0	13	7	263	0
0545-0600	0	0	0	0	186	1	6	0	10	11	224	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	0	0	0	0	610	11	27	0	108	109	871	0	1736
0315-0415	0	0	0	0	662	13	18	0	57	55	878	0	1683
0330-0430	0	0	0	0	659	12	10	0	41	36	855	0	1613
0345-0445	0	0	0	0	670	12	10	0	27	39	857	0	1615
0400-0500	0	0	0	0	656	12	7	0	31	45	875	0	1626
0415-0515	0	0	0	0	635	14	11	0	39	43	869	0	1611
0430-0530	0	0	0	0	647	10	13	0	40	39	903	0	1652
0445-0545	0	0	0	0	668	10	16	0	44	33	930	0	1701
0500-0600	0	0	0	0	705	10	21	0	46	33	935	0	1750

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.448.7978 PHONE
626.448.2877 FAX

CRITICAL MOVEMENT ANALYSIS (CMA) WORKSHEETS

Existing (2012) Conditions

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	80		80	
	Left/Through	0				
	Through	1	280		280	280
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	553			
	Left/Through	1			553	553
	Through	1	378		378	
	Through/Right	0				
	Right	1	278	104	174	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**833**
Eastbound	Left	2	378		208	208
	Left/Through	0				
	Through	2	1,833		654	
	Through/Right	1			654	
	Right	0	128	0		
	Total Lanes	5				
Westbound	Left	1	96		96	
	Left/Through	0				
	Through	2	2,034		751	751
	Through/Right	1			751	
	Right	0	218	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**959**
			Total Intersection Critical Volumes			**1,792**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.303**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.203**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	236		236	
	Left/Through	0				
	Through	1	745		392	392
	Through/Right	1			392	
	Right	0	38	0		
	Total Lanes	3				
Southbound	Left	1	128		128	128
	Left/Through	0				
	Through	1	403		252	
	Through/Right	1			252	
	Right	0	102	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**520**
Eastbound	Left	1	153		153	153
	Left/Through	0				
	Through	2	1,745		661	
	Through/Right	1			661	
	Right	0	239	0		
	Total Lanes	4				
Westbound	Left	1	62		62	
	Left/Through	0				
	Through	2	2,062		729	729
	Through/Right	1			729	
	Right	0	124	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**882**
			Total Intersection Critical Volumes			**1,402**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.020**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.920**
			Level of Service (LOS)			**E**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	96		96	96
	Left/Through	0				
	Through	1	255		178	
	Through/Right	1			178	
	Right	0	101	0		
	Total Lanes	3				
Southbound	Left	1	174		174	
	Left/Through	0				
	Through	1	320		320	320
	Through/Right	0				
	Right	1	96	0	96	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**416**
Eastbound	Left	1	35		35	35
	Left/Through	0				
	Through	1	767		418	
	Through/Right	1			418	
	Right	0	69	0		
	Total Lanes	3				
Westbound	Left	1	58		58	
	Left/Through	0				
	Through	1	982		556	556
	Through/Right	1			556	
	Right	0	130	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**591**
			Total Intersection Critical Volumes			**1,007**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.707**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.637**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	211		116	
	Left/Through	0				
	Through	1	662		353	353
	Through/Right	1			353	
	Right	0	44	0		
	Total Lanes	4				
Southbound	Left	2	132		73	73
	Left/Through	0				
	Through	1	478		276	
	Through/Right	1			276	
	Right	0	74	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**426**
Eastbound	Left	1	74		74	74
	Left/Through	0				
	Through	2	704		352	
	Through/Right	0				
	Right	1	231	75	156	
	Total Lanes	4				
Westbound	Left	1	78		78	
	Left/Through	0				
	Through	2	940		470	470
	Through/Right	0				
	Right	1	290	0	290	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**544**
			Total Intersection Critical Volumes			**970**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.705**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.635**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	14			14
	Left/Through	0				
	Left/Through/Right	1	5		29	
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
Southbound	Left	0	81			
	Left/Through	0				
	Left/Through/Right	1	4		105	105
	Through/Right	0				
	Right	0	20	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**119**
Eastbound	Left	0	12			12
	Left/Through	1			402	
	Through	0	839			
	Through/Right	1			462	
	Right	0	14	0		
	Total Lanes	2				
Westbound	Left	0	1			
	Left/Through	1			781	
	Through	0	1,225			
	Through/Right	1			784	784
	Right	0	339	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**796**
			Total Intersection Critical Volumes			**915**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.763**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.763**
			Level of Service (LOS)			**C**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*AM Peak Hour - Existing*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2012*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*12*	*839*	*14*	*1*	*1225*	*339*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*12*	*839*	*14*	*1*	*1225*	*339*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*14*	*5*	*10*	*81*	*4*	*20*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*14*	*5*	*10*	*81*	*4*	*20*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*12*	*1*		*29*			*105*	
C (m) (veh/h)	*428*	*795*		*80*			*48*	
v/c	*0.03*	*0.00*		*0.36*			*2.19*	
95% queue length	*0.09*	*0.00*		*1.60*			*33.24*	
Control Delay (s/veh)	*13.7*	*9.5*		*75.0*			*2348*	
LOS	*B*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*75.0*			*2348*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** May 21, 2012
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	171			
	Left/Through	0				
	Left/Through/Right	1	0		244	244
	Through/Right	0				
	Right	0	73	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**244**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	572		286	
	Through/Right	0				
	Right	1	225	122	103	
	Total Lanes	3				
Westbound	Left	1	18		18	
	Left/Through	0				
	Through	2	725		362	362
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**362**
			Total Intersection Critical Volumes			**606**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.404**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.334**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	86		86	
	Left/Through	0				
	Through	1	216		216	216
	Through/Right	0				
	Right	1	36	36	0	
	Total Lanes	3				
Southbound	Left	0	421			
	Left/Through	1			421	421
	Through	1	336		336	
	Through/Right	0				
	Right	1	361	117	244	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**637**
Eastbound	Left	2	339		186	
	Left/Through	0				
	Through	2	2,033		717	717
	Through/Right	1			717	
	Right	0	118	0		
	Total Lanes	5				
Westbound	Left	1	74		74	74
	Left/Through	0				
	Through	2	1,572		556	
	Through/Right	1			556	
	Right	0	96	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**790**
			Total Intersection Critical Volumes			**1,427**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.038**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.938**
			Level of Service (LOS)			**E**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	200		200	200
	Left/Through	0				
	Through	1	485		272	
	Through/Right	1			272	
	Right	0	59	0		
	Total Lanes	3				
Southbound	Left	1	160		160	
	Left/Through	0				
	Through	1	470		298	298
	Through/Right	1			298	
	Right	0	125	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**498**
Eastbound	Left	1	184		184	
	Left/Through	0				
	Through	2	1,824		701	701
	Through/Right	1			701	
	Right	0	280	0		
	Total Lanes	4				
Westbound	Left	1	38		38	38
	Left/Through	0				
	Through	2	1,468		513	
	Through/Right	1			513	
	Right	0	70	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**739**
			Total Intersection Critical Volumes			**1,237**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.900**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**0.800**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	47		47	47
	Left/Through	0				
	Through	1	153		100	
	Through/Right	1			100	
	Right	0	47	0		
	Total Lanes	3				
Southbound	Left	1	201		201	
	Left/Through	0				
	Through	1	273		273	273
	Through/Right	0				
	Right	1	87	0	87	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**320**
Eastbound	Left	1	87		87	
	Left/Through	0				
	Through	1	996		542	542
	Through/Right	1			542	
	Right	0	88	0		
	Total Lanes	3				
Westbound	Left	1	77		77	77
	Left/Through	0				
	Through	1	635		372	
	Through/Right	1			372	
	Right	0	108	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**619**
			Total Intersection Critical Volumes			**939**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.659**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.589**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	179		98	98
	Left/Through	0				
	Through	1	492		274	
	Through/Right	1			274	
	Right	0	57	0		
	Total Lanes	4				
Southbound	Left	2	201		111	
	Left/Through	0				
	Through	1	555		306	306
	Through/Right	1			306	
	Right	0	56	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**404**
Eastbound	Left	1	87		87	
	Left/Through	0				
	Through	2	912		456	456
	Through/Right	0				
	Right	1	292	49	243	
	Total Lanes	4				
Westbound	Left	1	98		98	98
	Left/Through	0				
	Through	2	560		280	
	Through/Right	0				
	Right	1	181	0	181	
	Total Lanes	4				
			Sum of East/West Critical Volumes			**554**
			Total Intersection Critical Volumes			**958**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.697**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.627**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	5			5
	Left/Through	0				
	Left/Through/Right	1	0		18	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	108			
	Left/Through	0				
	Left/Through/Right	1	4		148	148
	Through/Right	0				
	Right	0	36	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**153**
Eastbound	Left	0	25			
	Left/Through	1			530	
	Through	0	1,091			
	Through/Right	1			603	603
	Right	0	17	0		
	Total Lanes	2				
Westbound	Left	0	7			7
	Left/Through	1			381	
	Through	0	732			
	Through/Right	1			412	
	Right	0	54	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**610**
			Total Intersection Critical Volumes			**763**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.636**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.636**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*PM Peak Hour - Existing*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2012*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*25*	*1091*	*17*	*7*	*732*	*54*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*25*	*1091*	*17*	*7*	*732*	*54*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*13*	*108*	*4*	*36*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*5*	*0*	*13*	*108*	*4*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*25*	*7*		*18*			*148*	
C (m) (veh/h)	*842*	*638*		*190*			*126*	
v/c	*0.03*	*0.01*		*0.09*			*1.17*	
95% queue length	*0.09*	*0.03*		*0.31*			*21.38*	
Control Delay (s/veh)	*9.4*	*10.7*		*25.9*			*482.4*	
LOS	*A*	*B*		*D*			*F*	
Approach Delay (s/veh)	--	--	*25.9*			*482.4*		
Approach LOS	--	--	*D*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 5/31/2012 9:30 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** May 21, 2012
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Existing (2012)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	46			
	Left/Through	0				
	Left/Through/Right	1	0		67	67
	Through/Right	0				
	Right	0	21	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**67**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	935		468	468
	Through/Right	0				
	Right	1	33	33	0	
	Total Lanes	3				
Westbound	Left	1	10		10	10
	Left/Through	0				
	Through	2	705		352	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**478**
			Total Intersection Critical Volumes			**545**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.363**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.293**
			Level of Service (LOS)			**A**

Future (2014) Without Project Conditions

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	106		106	
	Left/Through	0				
	Through	1	322		322	322
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	675			
	Left/Through	1			675	675
	Through	1	476		476	
	Through/Right	0				
	Right	1	676	126	550	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**997**
Eastbound	Left	2	461		254	254
	Left/Through	0				
	Through	2	2,209		792	
	Through/Right	1			792	
	Right	0	168	0		
	Total Lanes	5				
Westbound	Left	1	116		116	
	Left/Through	0				
	Through	2	2,396		883	883
	Through/Right	1			883	
	Right	0	252	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,137**
			Total Intersection Critical Volumes			**2,134**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.552**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.452**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	374		374	374
	Left/Through	0				
	Through	1	856		470	
	Through/Right	1			470	
	Right	0	85	0		
	Total Lanes	3				
Southbound	Left	1	129		129	
	Left/Through	0				
	Through	1	572		340	340
	Through/Right	1			340	
	Right	0	108	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**714**
Eastbound	Left	2	181		100	100
	Left/Through	0				
	Through	3	1,818		606	
	Through/Right	0				
	Right	1	622	187	435	
	Total Lanes	6				
Westbound	Left	2	181		100	
	Left/Through	0				
	Through	3	2,324		775	775
	Through/Right	0				
	Right	1	123	122	1	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**875**
			Total Intersection Critical Volumes			**1,589**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.156**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.056**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	105		105	
	Left/Through	0				
	Through	1	296		296	296
	Through/Right	0				
	Right	1	100	100	0	
	Total Lanes	3				
Southbound	Left	1	227		227	227
	Left/Through	0				
	Through	1	418		418	
	Through/Right	0				
	Right	1	96	0	96	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**523**
Eastbound	Left	1	39		39	39
	Left/Through	0				
	Through	1	957		518	
	Through/Right	1			518	
	Right	0	80	0		
	Total Lanes	3				
Westbound	Left	1	65		65	
	Left/Through	0				
	Through	1	1,192		680	680
	Through/Right	1			680	
	Right	0	168	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**719**
			Total Intersection Critical Volumes			**1,242**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.872**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.802**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	291		160	
	Left/Through	0				
	Through	1	757		417	417
	Through/Right	1			417	
	Right	0	77	0		
	Total Lanes	4				
Southbound	Left	2	361		199	199
	Left/Through	0				
	Through	1	631		368	
	Through/Right	1			368	
	Right	0	104	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**616**
Eastbound	Left	1	130		130	130
	Left/Through	0				
	Through	2	789		394	
	Through/Right	0				
	Right	1	325	124	201	
	Total Lanes	4				
Westbound	Left	1	82		82	
	Left/Through	0				
	Through	2	1,041		460	460
	Through/Right	1			460	
	Right	0	338	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**590**
			Total Intersection Critical Volumes			**1,206**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.877**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.807**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	14			14
	Left/Through	0				
	Left/Through/Right	1	5		29	
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
Southbound	Left	0	83			
	Left/Through	0				
	Left/Through/Right	1	4		108	108
	Through/Right	0				
	Right	0	21	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**122**
Eastbound	Left	0	13			13
	Left/Through	1			430	
	Through	0	898			
	Through/Right	1			495	
	Right	0	14	0		
	Total Lanes	2				
Westbound	Left	0	1			
	Left/Through	1			846	
	Through	0	1,348			
	Through/Right	1			850	850
	Right	0	346	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**863**
			Total Intersection Critical Volumes			**985**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.821**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.821**
			Level of Service (LOS)			**D**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*AM Peak Hour - Without Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*13*	*898*	*14*	*1*	*1348*	*346*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*13*	*898*	*14*	*1*	*1348*	*346*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*14*	*5*	*10*	*83*	*4*	*21*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*14*	*5*	*10*	*83*	*4*	*21*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*13*	*1*		*29*			*108*	
C (m) (veh/h)	*382*	*755*		*61*			*35*	
v/c	*0.03*	*0.00*		*0.48*			*3.09*	
95% queue length	*0.11*	*0.00*		*2.37*			*40.50*	
Control Delay (s/veh)	*14.8*	*9.8*		*114.8*			*4009*	
LOS	*B*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*114.8*			*4009*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 5/31/2012 9:14 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** May 21, 2012
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	169			
	Left/Through	0				
	Left/Through/Right	1	0		243	243
	Through/Right	0				
	Right	0	74	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**243**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	837		418	418
	Through/Right	0				
	Right	1	230	122	108	
	Total Lanes	3				
Westbound	Left	1	18		18	18
	Left/Through	0				
	Through	2	819		410	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**436**
			Total Intersection Critical Volumes			**679**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.453**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.383**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	122		122	
	Left/Through	0				
	Through	1	266		266	266
	Through/Right	0				
	Right	1	37	37	0	
	Total Lanes	3				
Southbound	Left	0	477			
	Left/Through	1			477	477
	Through	1	421		421	
	Through/Right	0				
	Right	1	496	178	318	
	Total Lanes	3				
				Sum of North/South Critical Volumes		**743**
Eastbound	Left	2	650		358	358
	Left/Through	0				
	Through	2	2,466		864	
	Through/Right	1			864	
	Right	0	127	0		
	Total Lanes	5				
Westbound	Left	1	80		80	
	Left/Through	0				
	Through	2	1,965		729	729
	Through/Right	1			729	
	Right	0	223	0		
	Total Lanes	4				
				Sum of East/West Critical Volumes		**1,086**
				Total Intersection Critical Volumes		**1,829**
Number of Clearance Intervals	**4**			**Intersection Capacity**		**1,375**
				Base CMA		**1.330**
Signal Coordination	**ATSAC + ATCS**			**Signal Coordination Adjustment**		**-0.100**
				Final CMA		**1.230**
				Level of Service (LOS)		**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	615		615	615
	Left/Through	0				
	Through	1	737		458	
	Through/Right	1			458	
	Right	0	180	0		
	Total Lanes	3				
Southbound	Left	1	160		160	
	Left/Through	0				
	Through	1	581		355	355
	Through/Right	1			355	
	Right	0	129	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**970**
Eastbound	Left	2	223		123	
	Left/Through	0				
	Through	3	2,053		684	684
	Through/Right	0				
	Right	1	512	308	204	
	Total Lanes	6				
Westbound	Left	2	93		51	51
	Left/Through	0				
	Through	3	1,567		522	
	Through/Right	0				
	Right	1	69	69	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**735**
			Total Intersection Critical Volumes			**1,705**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.240**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.140**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	58		58	
	Left/Through	0				
	Through	1	204		204	204
	Through/Right	0				
	Right	1	50	44	6	
	Total Lanes	3				
Southbound	Left	1	239		239	239
	Left/Through	0				
	Through	1	355		355	
	Through/Right	0				
	Right	1	87	0	87	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**443**
Eastbound	Left	1	89		89	
	Left/Through	0				
	Through	1	1,192		647	647
	Through/Right	1			647	
	Right	0	102	0		
	Total Lanes	3				
Westbound	Left	1	89		89	89
	Left/Through	0				
	Through	1	793		471	
	Through/Right	1			471	
	Right	0	149	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**736**
			Total Intersection Critical Volumes			**1,179**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.827**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.757**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	276		152	152
	Left/Through	0				
	Through	1	704		384	
	Through/Right	1			384	
	Right	0	65	0		
	Total Lanes	4				
Southbound	Left	2	246		135	
	Left/Through	0				
	Through	1	772		424	424
	Through/Right	1			424	
	Right	0	75	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**576**
Eastbound	Left	1	132		132	
	Left/Through	0				
	Through	2	1,011		506	506
	Through/Right	0				
	Right	1	390	76	314	
	Total Lanes	4				
Westbound	Left	1	125		125	125
	Left/Through	0				
	Through	2	640		320	
	Through/Right	1			377	
	Right	0	377	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**631**
			Total Intersection Critical Volumes			**1,207**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.878**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.808**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	5			5
	Left/Through	0				
	Left/Through/Right	1	0		18	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	110			
	Left/Through	0				
	Left/Through/Right	1	4		151	151
	Through/Right	0				
	Right	0	37	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**156**
Eastbound	Left	0	28			
	Left/Through	1			583	
	Through	0	1,213			
	Through/Right	1			675	675
	Right	0	17	0		
	Total Lanes	2				
Westbound	Left	0	7			7
	Left/Through	1			414	
	Through	0	801			
	Through/Right	1			449	
	Right	0	55	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**682**
			Total Intersection Critical Volumes			**838**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.698**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.698**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*PM Peak Hour - Without Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*28*	*1213*	*17*	*7*	*801*	*55*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*28*	*1213*	*17*	*7*	*801*	*55*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*13*	*110*	*4*	*37*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*5*	*0*	*13*	*110*	*4*	*37*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*28*	*7*		*18*			*151*	
C (m) (veh/h)	*793*	*574*		*149*			*100*	
v/c	*0.04*	*0.01*		*0.12*			*1.51*	
95% queue length	*0.11*	*0.04*		*0.41*			*32.47*	
Control Delay (s/veh)	*9.7*	*11.3*		*32.5*			*1055*	
LOS	*A*	*B*		*D*			*F*	
Approach Delay (s/veh)	--	--	*32.5*			*1055*		
Approach LOS	--	--	*D*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 5/31/2012 9:31 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** May 21, 2012
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) Without Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	42			
	Left/Through	0				
	Left/Through/Right	1	0		63	63
	Through/Right	0				
	Right	0	21	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**63**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,161		580	580
	Through/Right	0				
	Right	1	34	32	2	
	Total Lanes	3				
Westbound	Left	1	10		10	10
	Left/Through	0				
	Through	2	1,035		518	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**590**
			Total Intersection Critical Volumes			**653**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.435**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.365**
			Level of Service (LOS)			**A**

Future (2014) With Project Conditions

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	106		106	
	Left/Through	0				
	Through	1	322		322	322
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	682			
	Left/Through	1			682	682
	Through	1	476		476	
	Through/Right	0				
	Right	1	676	127	549	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,004**
Eastbound	Left	2	461		254	254
	Left/Through	0				
	Through	2	2,219		796	
	Through/Right	1			796	
	Right	0	168	0		
	Total Lanes	5				
Westbound	Left	1	116		116	
	Left/Through	0				
	Through	2	2,413		892	892
	Through/Right	1			892	
	Right	0	263	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,146**
			Total Intersection Critical Volumes			**2,150**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.564**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.464**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	384		384	384
	Left/Through	0				
	Through	1	859		472	
	Through/Right	1			472	
	Right	0	85	0		
	Total Lanes	3				
Southbound	Left	1	129		129	
	Left/Through	0				
	Through	1	579		344	344
	Through/Right	1			344	
	Right	0	108	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**728**
Eastbound	Left	2	181		100	100
	Left/Through	0				
	Through	3	1,818		606	
	Through/Right	0				
	Right	1	639	192	447	
	Total Lanes	6				
Westbound	Left	2	184		101	
	Left/Through	0				
	Through	3	2,342		781	781
	Through/Right	0				
	Right	1	125	125	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**881**
			Total Intersection Critical Volumes			**1,609**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.170**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.070**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	105		105	
	Left/Through	0				
	Through	1	296		296	296
	Through/Right	0				
	Right	1	101	100	1	
	Total Lanes	3				
Southbound	Left	1	227		227	227
	Left/Through	0				
	Through	1	418		418	
	Through/Right	0				
	Right	1	96	0	96	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**523**
Eastbound	Left	1	39		39	39
	Left/Through	0				
	Through	1	965		522	
	Through/Right	1			522	
	Right	0	80	0		
	Total Lanes	3				
Westbound	Left	1	66		66	
	Left/Through	0				
	Through	1	1,198		683	683
	Through/Right	1			683	
	Right	0	168	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**722**
			Total Intersection Critical Volumes			**1,245**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.874**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.804**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	291		160	
	Left/Through	0				
	Through	1	757		424	424
	Through/Right	1			424	
	Right	0	91	0		
	Total Lanes	4				
Southbound	Left	2	388		213	213
	Left/Through	0				
	Through	1	631		368	
	Through/Right	1			368	
	Right	0	104	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**637**
Eastbound	Left	1	130		130	130
	Left/Through	0				
	Through	2	798		399	
	Through/Right	0				
	Right	1	325	134	191	
	Total Lanes	4				
Westbound	Left	1	90		90	
	Left/Through	0				
	Through	2	1,048		466	466
	Through/Right	1			466	
	Right	0	351	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**596**
			Total Intersection Critical Volumes			**1,233**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.897**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.827**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	14			14
	Left/Through	0				
	Left/Through/Right	1	5		29	
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
Southbound	Left	0	83			
	Left/Through	0				
	Left/Through/Right	1	4		113	113
	Through/Right	0				
	Right	0	26	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**127**
Eastbound	Left	0	40			40
	Left/Through	1			391	
	Through	0	928			
	Through/Right	1			591	
	Right	0	14	0		
	Total Lanes	2				
Westbound	Left	0	1			
	Left/Through	1			853	
	Through	0	1,362			
	Through/Right	1			856	856
	Right	0	346	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**896**
			Total Intersection Critical Volumes			**1,023**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.853**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.853**
			Level of Service (LOS)			**D**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*AM Peak Hour - With Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*40*	*928*	*14*	*1*	*1362*	*346*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*40*	*928*	*14*	*1*	*1362*	*346*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*14*	*5*	*10*	*83*	*4*	*26*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*14*	*5*	*10*	*83*	*4*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*40*	*1*		*29*			*113*	
C (m) (veh/h)	*377*	*736*		*49*			*28*	
v/c	*0.11*	*0.00*		*0.59*			*4.04*	
95% queue length	*0.36*	*0.00*		*3.28*			*46.17*	
Control Delay (s/veh)	*15.7*	*9.9*		*172.9*			*5764*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*172.9*			*5764*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** May 21, 2012
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	169			
	Left/Through	0				
	Left/Through/Right	1	0		243	243
	Through/Right	0				
	Right	0	74	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**243**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	844		422	422
	Through/Right	0				
	Right	1	231	122	109	
	Total Lanes	3				
Westbound	Left	1	18		18	18
	Left/Through	0				
	Through	2	833		416	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**440**
			Total Intersection Critical Volumes			**683**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.455**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.385**
			Level of Service (LOS)			**A**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	122		122	
	Left/Through	0				
	Through	1	266		266	266
	Through/Right	0				
	Right	1	37	37	0	
	Total Lanes	3				
Southbound	Left	0	492			
	Left/Through	1			492	492
	Through	1	423		423	
	Through/Right	0				
	Right	1	496	179	317	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**758**
Eastbound	Left	2	650		358	358
	Left/Through	0				
	Through	2	2,488		872	
	Through/Right	1			872	
	Right	0	127	0		
	Total Lanes	5				
Westbound	Left	1	80		80	
	Left/Through	0				
	Through	2	1,989		742	742
	Through/Right	1			742	
	Right	0	237	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,100**
			Total Intersection Critical Volumes			**1,858**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.351**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.251**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	623		623	623
	Left/Through	0				
	Through	1	741		460	
	Through/Right	1			460	
	Right	0	180	0		
	Total Lanes	3				
Southbound	Left	1	160		160	
	Left/Through	0				
	Through	1	594		362	362
	Through/Right	1			362	
	Right	0	129	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**985**
Eastbound	Left	2	223		123	
	Left/Through	0				
	Through	3	2,053		684	684
	Through/Right	0				
	Right	1	549	312	237	
	Total Lanes	6				
Westbound	Left	2	99		54	54
	Left/Through	0				
	Through	3	1,597		532	
	Through/Right	0				
	Right	1	73	73	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**738**
			Total Intersection Critical Volumes			**1,723**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.253**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.153**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 18 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Higuera Street
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	58		58	
	Left/Through	0				
	Through	1	204		204	204
	Through/Right	0				
	Right	1	52	45	7	
	Total Lanes	3				
Southbound	Left	1	241		241	241
	Left/Through	0				
	Through	1	355		355	
	Through/Right	0				
	Right	1	87	0	87	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**445**
Eastbound	Left	1	89		89	
	Left/Through	0				
	Through	1	1,210		656	656
	Through/Right	1			656	
	Right	0	102	0		
	Total Lanes	3				
Westbound	Left	1	90		90	90
	Left/Through	0				
	Through	1	802		476	
	Through/Right	1			476	
	Right	0	149	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**746**
			Total Intersection Critical Volumes			**1,191**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.836**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.766**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	276		152	152
	Left/Through	0				
	Through	1	704		400	
	Through/Right	1			400	
	Right	0	95	0		
	Total Lanes	4				
Southbound	Left	2	302		166	
	Left/Through	0				
	Through	1	772		424	424
	Through/Right	1			424	
	Right	0	75	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**576**
Eastbound	Left	1	132		132	
	Left/Through	0				
	Through	2	1,033		516	516
	Through/Right	0				
	Right	1	390	76	314	
	Total Lanes	4				
Westbound	Left	1	137		137	137
	Left/Through	0				
	Through	2	650		325	
	Through/Right	1			389	
	Right	0	389	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**653**
			Total Intersection Critical Volumes			**1,229**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.894**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.824**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	5			5
	Left/Through	0				
	Left/Through/Right	1	0		18	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	110			
	Left/Through	0				
	Left/Through/Right	1	4		162	162
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**167**
Eastbound	Left	0	74			
	Left/Through	1			547	
	Through	0	1,258			
	Through/Right	1			802	802
	Right	0	17	0		
	Total Lanes	2				
Westbound	Left	0	7			7
	Left/Through	1			430	
	Through	0	832			
	Through/Right	1			464	
	Right	0	55	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**809**
			Total Intersection Critical Volumes			**976**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.813**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.813**
			Level of Service (LOS)			**D**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*PM Peak Hour - With Project*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*74*	*1258*	*17*	*7*	*832*	*55*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*74*	*1258*	*17*	*7*	*832*	*55*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*13*	*110*	*4*	*48*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*5*	*0*	*13*	*110*	*4*	*48*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*74*	*7*		*18*			*162*	
C (m) (veh/h)	*772*	*551*		*108*			*79*	
v/c	*0.10*	*0.01*		*0.17*			*2.05*	
95% queue length	*0.32*	*0.04*		*0.59*			*46.70*	
Control Delay (s/veh)	*10.2*	*11.6*		*45.0*			*2027*	
LOS	*B*	*B*		*E*			*F*	
Approach Delay (s/veh)	--	--	*45.0*			*2027*		
Approach LOS	--	--	*E*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 26 **Date** May 21, 2012
Intersection Name North/South: Wesley Street
East/West: National Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	43			
	Left/Through	0				
	Left/Through/Right	1	0		64	64
	Through/Right	0				
	Right	0	21	0		
	Total Lanes	1				
Southbound	Left	0	0			
	Left/Through	0				
	Through	0	0			
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	0				
			Sum of North/South Critical Volumes			**64**
Eastbound	Left	0	0			
	Left/Through	0				
	Through	2	1,172		586	586
	Through/Right	0				
	Right	1	35	32	3	
	Total Lanes	3				
Westbound	Left	1	10		10	10
	Left/Through	0				
	Through	2	1,064		532	
	Through/Right	0				
	Right	0	0	0		
	Total Lanes	3				
			Sum of East/West Critical Volumes			**596**
			Total Intersection Critical Volumes			**660**
Number of Clearance Intervals	**2**		**Intersection Capacity**			**1,500**
			Base CMA			**0.440**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.370**
			Level of Service (LOS)			**A**

Future (2014) With Project Plus Redistribution Conditions
(Provided for Information Only)

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	106		106	
	Left/Through	0				
	Through	1	322		322	322
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	682			
	Left/Through	1			682	682
	Through	1	476		476	
	Through/Right	0				
	Right	1	676	127	549	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,004**
Eastbound	Left	2	461		254	254
	Left/Through	0				
	Through	2	2,219		796	
	Through/Right	1			796	
	Right	0	168	0		
	Total Lanes	5				
Westbound	Left	1	116		116	
	Left/Through	0				
	Through	2	2,413		892	892
	Through/Right	1			892	
	Right	0	263	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,146**
			Total Intersection Critical Volumes			**2,150**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.564**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.464**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	402		402	402
	Left/Through	0				
	Through	1	861		473	
	Through/Right	1			473	
	Right	0	85	0		
	Total Lanes	3				
Southbound	Left	1	129		129	
	Left/Through	0				
	Through	1	579		344	344
	Through/Right	1			344	
	Right	0	108	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**746**
Eastbound	Left	2	181		100	100
	Left/Through	0				
	Through	3	1,818		606	
	Through/Right	0				
	Right	1	639	201	438	
	Total Lanes	6				
Westbound	Left	2	184		101	
	Left/Through	0				
	Through	3	2,324		775	775
	Through/Right	0				
	Right	1	123	123	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**875**
			Total Intersection Critical Volumes			**1,621**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.179**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.079**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	291		160	
	Left/Through	0				
	Through	1	757		424	424
	Through/Right	1			424	
	Right	0	91	0		
	Total Lanes	4				
Southbound	Left	2	388		213	213
	Left/Through	0				
	Through	1	631		368	
	Through/Right	1			368	
	Right	0	104	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**637**
Eastbound	Left	1	130		130	130
	Left/Through	0				
	Through	2	798		399	
	Through/Right	0				
	Right	1	325	134	191	
	Total Lanes	4				
Westbound	Left	1	90		90	
	Left/Through	0				
	Through	2	1,048		473	473
	Through/Right	1			473	
	Right	0	371	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**603**
			Total Intersection Critical Volumes			**1,240**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.902**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.832**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	14			14
	Left/Through	0				
Northbound	Left/Through/Right	1	5		29	
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
	Left	0	83			
	Left/Through	0				
Southbound	Left/Through/Right	1	4		113	113
	Through/Right	0				
	Right	0	26	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**127**
	Left	0	20			20
	Left/Through	1			431	
Eastbound	Through	0	928			
	Through/Right	1			531	
	Right	0	14	0		
	Total Lanes	2				
	Left	0	1			
	Left/Through	1			853	
Westbound	Through	0	1,362			
	Through/Right	1			856	856
	Right	0	346	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**876**
			Total Intersection Critical Volumes			**1,003**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.836**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.836**
			Level of Service (LOS)			**D**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*AM Peak Hour - With Redistrib.*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*20*	*928*	*14*	*1*	*1362*	*346*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*20*	*928*	*14*	*1*	*1362*	*346*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*14*	*5*	*10*	*83*	*4*	*26*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*14*	*5*	*10*	*83*	*4*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*20*	*1*		*29*			*113*	
C (m) (veh/h)	*377*	*736*		*55*			*33*	
v/c	*0.05*	*0.00*		*0.53*			*3.42*	
95% queue length	*0.17*	*0.00*		*2.76*			*43.86*	
Control Delay (s/veh)	*15.1*	*9.9*		*138.1*			*4627*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*138.1*			*4627*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3 Generated: 5/31/2012 9:15 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	122		122	
	Left/Through	0				
	Through	1	266		266	266
	Through/Right	0				
	Right	1	37	37	0	
	Total Lanes	3				
Southbound	Left	0	492			
	Left/Through	1			492	492
	Through	1	423		423	
	Through/Right	0				
	Right	1	496	179	317	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**758**
Eastbound	Left	2	650		358	358
	Left/Through	0				
	Through	2	2,488		872	
	Through/Right	1			872	
	Right	0	127	0		
	Total Lanes	5				
Westbound	Left	1	80		80	
	Left/Through	0				
	Through	2	1,989		742	742
	Through/Right	1			742	
	Right	0	237	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**1,100**
			Total Intersection Critical Volumes			**1,858**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.351**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.251**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	653		653	653
	Left/Through	0				
	Through	1	745		462	
	Through/Right	1			462	
	Right	0	180	0		
	Total Lanes	3				
Southbound	Left	1	160		160	
	Left/Through	0				
	Through	1	594		362	362
	Through/Right	1			362	
	Right	0	129	0		
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,015**
Eastbound	Left	2	223		123	
	Left/Through	0				
	Through	3	2,053		684	684
	Through/Right	0				
	Right	1	549	326	223	
	Total Lanes	6				
Westbound	Left	2	99		54	54
	Left/Through	0				
	Through	3	1,567		522	
	Through/Right	0				
	Right	1	69	69	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**738**
			Total Intersection Critical Volumes			**1,753**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.275**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.175**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	276		152	152
	Left/Through	0				
	Through	1	704		400	
	Through/Right	1			400	
	Right	0	95	0		
	Total Lanes	4				
Southbound	Left	2	302		166	
	Left/Through	0				
	Through	1	772		424	424
	Through/Right	1			424	
	Right	0	75	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**576**
Eastbound	Left	1	132		132	
	Left/Through	0				
	Through	2	1,033		516	516
	Through/Right	0				
	Right	1	390	76	314	
	Total Lanes	4				
Westbound	Left	1	137		137	137
	Left/Through	0				
	Through	2	650		325	
	Through/Right	1			423	
	Right	0	423	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**653**
			Total Intersection Critical Volumes			**1,229**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.894**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.824**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Trip Redistributions Due to Wesley Street Signal

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	5			5
	Left/Through	0				
	Left/Through/Right	1	0		18	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	110			
	Left/Through	0				
	Left/Through/Right	1	4		162	162
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**167**
Eastbound	Left	0	40			
	Left/Through	1			589	
	Through	0	1,258			
	Through/Right	1			726	726
	Right	0	17	0		
	Total Lanes	2				
Westbound	Left	0	7			7
	Left/Through	1			430	
	Through	0	832			
	Through/Right	1			464	
	Right	0	55	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**733**
			Total Intersection Critical Volumes			**900**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.750**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.750**
			Level of Service (LOS)			**C**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*PM Peak Hour - With Redistrib.*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*40*	*1258*	*17*	*7*	*832*	*55*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*40*	*1258*	*17*	*7*	*832*	*55*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration	*LT*		*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*13*	*110*	*4*	*48*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*5*	*0*	*13*	*110*	*4*	*48*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*	*LT*		*LTR*			*LTR*	
v (veh/h)	*40*	*7*		*18*			*162*	
C (m) (veh/h)	*772*	*551*		*126*			*90*	
v/c	*0.05*	*0.01*		*0.14*			*1.80*	
95% queue length	*0.16*	*0.04*		*0.50*			*41.81*	
Control Delay (s/veh)	*9.9*	*11.6*		*38.3*			*1570*	
LOS	*A*	*B*		*E*			*F*	
Approach Delay (s/veh)	--	--	*38.3*			*1570*		
Approach LOS	--	--	*E*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

Future (2014) With Project Plus Mitigation Conditions

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	106		106	
	Left/Through	0				
	Through	1	322		322	322
	Through/Right	0				
	Right	1	47	47	0	
	Total Lanes	3				
Southbound	Left	0	682			
	Left/Through	1			682	682
	Through	1	476		476	
	Through/Right	0				
	Right	1	676	127	549	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**1,004**
Eastbound	Left	2	461		254	254
	Left/Through	0				
	Through	2	2,219		796	
	Through/Right	1			796	
	Right	0	168	0		
	Total Lanes	5				
Westbound	Left	1	116		116	
	Left/Through	0				
	Through	3	2,413		804	804
	Through/Right	0				
	Right	1	263	263	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,058**
			Total Intersection Critical Volumes			**2,062**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.500**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.400**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	402		402	402
	Left/Through	0				
	Through	1	861		473	
	Through/Right	1			473	
	Right	0	85	0		
	Total Lanes	3				
Southbound	Left	1	129		129	
	Left/Through	0				
	Through	2	579		290	290
	Through/Right	0				
	Right	1	108	50	58	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**692**
Eastbound	Left	2	181		100	100
	Left/Through	0				
	Through	3	1,818		606	
	Through/Right	0				
	Right	1	639	201	438	
	Total Lanes	6				
Westbound	Left	2	184		101	
	Left/Through	0				
	Through	3	2,324		775	775
	Through/Right	0				
	Right	1	123	110	13	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**875**
			Total Intersection Critical Volumes			**1,567**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.140**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.040**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	291		160	
	Left/Through	0				
	Through	2	757		378	378
	Through/Right	0				
	Right	1	91	91	0	
	Total Lanes	5				
Southbound	Left	2	388		213	213
	Left/Through	0				
	Through	1	631		368	
	Through/Right	1			368	
	Right	0	104	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**591**
Eastbound	Left	1	130		130	130
	Left/Through	0				
	Through	2	798		399	
	Through/Right	0				
	Right	1	325	112	213	
	Total Lanes	4				
Westbound	Left	1	90		90	
	Left/Through	0				
	Through	2	1,048		473	473
	Through/Right	1			473	
	Right	0	371	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**603**
			Total Intersection Critical Volumes			**1,194**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.868**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.798**
			Level of Service (LOS)			**C**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation (Eastbound Left-turn Lane Only)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	14			14
	Left/Through	0				
	Left/Through/Right	1	5		29	
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
Southbound	Left	0	83			
	Left/Through	0				
	Left/Through/Right	1	4		113	113
	Through/Right	0				
	Right	0	26	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**127**
Eastbound	Left	1	20		20	20
	Left/Through	0				
	Through	1	928		471	
	Through/Right	1			471	
	Right	0	14	0		
	Total Lanes	3				
Westbound	Left	0	1			
	Left/Through	1			853	
	Through	0	1,362			
	Through/Right	1			856	856
	Right	0	346	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**876**
			Total Intersection Critical Volumes			**1,003**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.836**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.836**
			Level of Service (LOS)			**D**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*AM Peak Hour - With Mitigation*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*20*	*928*	*14*	*1*	*1362*	*346*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*20*	*928*	*14*	*1*	*1362*	*346*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*14*	*5*	*10*	*83*	*4*	*26*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*14*	*5*	*10*	*83*	*4*	*26*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*20*	*1*		*29*			*113*	
C (m) (veh/h)	*377*	*736*		*55*			*33*	
v/c	*0.05*	*0.00*		*0.53*			*3.42*	
95% queue length	*0.17*	*0.00*		*2.76*			*43.86*	
Control Delay (s/veh)	*15.1*	*9.9*		*138.1*			*4627*	
LOS	*C*	*A*		*F*			*F*	
Approach Delay (s/veh)	--	--	*138.1*			*4627*		
Approach LOS	--	--	*F*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period AM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation (EB Left-turn Lane plus Traffic Signal)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	14			14
	Left/Through	0				
Northbound	Left/Through/Right	1	5		29	
	Through/Right	0				
	Right	0	10	0		
	Total Lanes	1				
	Left	0	83			
	Left/Through	0				
Southbound	Left/Through/Right	1	4		113	113
	Through/Right	0				
	Right	0	26	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**127**
	Left	1	20		20	20
	Left/Through	0				
Eastbound	Through	1	928		471	
	Through/Right	1			471	
	Right	0	14	0		
	Total Lanes	3				
	Left	0	1			
	Left/Through	1			853	
Westbound	Through	0	1,362			
	Through/Right	1			856	856
	Right	0	346	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**876**
			Total Intersection Critical Volumes			**1,003**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.704**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.634**
			Level of Service (LOS)			**B**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 8 **Date** May 21, 2012
Intersection Name North/South: Robertson Boulevard/Exposition Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	122		122	
	Left/Through	0				
	Through	1	266		266	266
	Through/Right	0				
	Right	1	37	37	0	
	Total Lanes	3				
Southbound	Left	0	492			
	Left/Through	1			492	492
	Through	1	423		423	
	Through/Right	0				
	Right	1	496	178	318	
	Total Lanes	3				
			Sum of North/South Critical Volumes			**758**
Eastbound	Left	2	650		358	358
	Left/Through	0				
	Through	2	2,488		872	
	Through/Right	1			872	
	Right	0	127	0		
	Total Lanes	5				
Westbound	Left	1	80		80	
	Left/Through	0				
	Through	3	1,989		663	663
	Through/Right	0				
	Right	1	237	237	0	
	Total Lanes	5				
			Sum of East/West Critical Volumes			**1,020**
			Total Intersection Critical Volumes			**1,778**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.293**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.193**
			Level of Service (LOS)			**F**

North/South Opposed Phasing
NB Rt. Turn Overlap with WB Left

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 9 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Venice Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	1	653		653	653
	Left/Through	0				
	Through	1	745		462	
	Through/Right	1			462	
	Right	0	180	0		
	Total Lanes	3				
Southbound	Left	1	160		160	
	Left/Through	0				
	Through	2	594		297	297
	Through/Right	0				
	Right	1	129	108	21	
	Total Lanes	4				
			Sum of North/South Critical Volumes			**950**
Eastbound	Left	2	223		123	
	Left/Through	0				
	Through	3	2,053		684	684
	Through/Right	0				
	Right	1	549	326	223	
	Total Lanes	6				
Westbound	Left	2	99		54	54
	Left/Through	0				
	Through	3	1,567		522	
	Through/Right	0				
	Right	1	69	69	0	
	Total Lanes	6				
			Sum of East/West Critical Volumes			**738**
			Total Intersection Critical Volumes			**1,688**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**1.228**
Signal Coordination	**ATSAC + ATCS**		**Signal Coordination Adjustment**			**-0.100**
			Final CMA			**1.128**
			Level of Service (LOS)			**F**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 20 **Date** May 21, 2012
Intersection Name North/South: National Boulevard
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	2	276		152	152
	Left/Through	0				
	Through	2	704		352	
	Through/Right	0				
	Right	1	95	68	27	
	Total Lanes	5				
Southbound	Left	2	302		166	
	Left/Through	0				
	Through	1	772		424	424
	Through/Right	1			424	
	Right	0	75	0		
	Total Lanes	4				
			Sum of North/South Critical Volumes			**576**
Eastbound	Left	1	132		132	
	Left/Through	0				
	Through	2	1,033		516	516
	Through/Right	0				
	Right	1	390	76	314	
	Total Lanes	4				
Westbound	Left	1	137		137	137
	Left/Through	0				
	Through	2	650		325	
	Through/Right	1			423	
	Right	0	423	0		
	Total Lanes	4				
			Sum of East/West Critical Volumes			**653**
			Total Intersection Critical Volumes			**1,229**
Number of Clearance Intervals	**4**		**Intersection Capacity**			**1,375**
			Base CMA			**0.894**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.824**
			Level of Service (LOS)			**D**

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Two-Way STOP
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation (Eastbound Left-turn Lane Only)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
Northbound	Left	0	5			5
	Left/Through	0				
	Left/Through/Right	1	0		18	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
Southbound	Left	0	110			
	Left/Through	0				
	Left/Through/Right	1	4		162	162
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**167**
Eastbound	Left	1	40		40	
	Left/Through	0				
	Through	1	1,258		638	638
	Through/Right	1			638	
	Right	0	17	0		
	Total Lanes	3				
Westbound	Left	0	7			7
	Left/Through	1			430	
	Through	0	832			
	Through/Right	1			464	
	Right	0	55	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**645**
			Total Intersection Critical Volumes			**812**
Number of Clearance Intervals	**0**		**Intersection Capacity**			**1,200**
			Base CMA			**0.677**
Signal Coordination	**None**		**Signal Coordination Adjustment**			**0.000**
			Final CMA			**0.677**
			Level of Service (LOS)			**B**

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*RRH*
Agency/Co.	*Hirsch/Green*
Date Performed	*5/21/2012*
Analysis Time Period	*PM Peak Hour - With Mitigation*

Site Information

Intersection	*23*
Jurisdiction	*Culver City*
Analysis Year	*2014*

Project Description *8770 Washington Mixed-Use*

East/West Street: *Washington Boulevard* | North/South Street: *Cattaraugus Avenue*

Intersection Orientation: *East-West* | Study Period (hrs): *1.00*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*40*	*1258*	*17*	*7*	*832*	*55*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*40*	*1258*	*17*	*7*	*832*	*55*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*13*	*110*	*4*	*48*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*5*	*0*	*13*	*110*	*4*	*48*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*40*	*7*		*18*			*162*	
C (m) (veh/h)	*772*	*551*		*126*			*90*	
v/c	*0.05*	*0.01*		*0.14*			*1.80*	
95% queue length	*0.16*	*0.04*		*0.50*			*41.81*	
Control Delay (s/veh)	*9.9*	*11.6*		*38.3*			*1570*	
LOS	*A*	*B*		*E*			*F*	
Approach Delay (s/veh)	--	--	*38.3*			*1570*		
Approach LOS	--	--	*E*			*F*		

Copyright © 2007 University of Florida, All Rights Reserved

HCS+™ Version 5.3

Generated: 5/31/2012 9:30 PM

Hirsch/Green Transportation Consulting, Inc.
Critical Movement Analysis (CMA) Worksheet

Project Name 8770 Washington Mixed-Use
Intersection Number 23 **Date** May 21, 2012
Intersection Name North/South: Cattaraugus Avenue
East/West: Washington Boulevard
Intersection Control Signalized
Analysis Period PM Peak Hour
Analysis Scenario Future (2014) With Project Plus Mitigation (EB Left-turn Lane plus Traffic Signal)

Approach Direction	Lane Type	No. of Lanes	Approach Volumes	Right-Turn on Red	Assigned Lane Volumes	Critical Moves
	Left	0	5			5
	Left/Through	0				
Northbound	Left/Through/Right	1	0		18	
	Through/Right	0				
	Right	0	13	0		
	Total Lanes	1				
	Left	0	110			
	Left/Through	0				
Southbound	Left/Through/Right	1	4		162	162
	Through/Right	0				
	Right	0	48	0		
	Total Lanes	1				
			Sum of North/South Critical Volumes			**167**
	Left	1	40		40	
	Left/Through	0				
Eastbound	Through	1	1,258		638	638
	Through/Right	1			638	
	Right	0	17	0		
	Total Lanes	3				
	Left	0	7			7
	Left/Through	1			430	
Westbound	Through	0	832			
	Through/Right	1			464	
	Right	0	55	0		
	Total Lanes	2				
			Sum of East/West Critical Volumes			**645**
			Total Intersection Critical Volumes			**812**
Number of Clearance Intervals	**3**		**Intersection Capacity**			**1,425**
			Base CMA			**0.570**
Signal Coordination	**ATSAC**		**Signal Coordination Adjustment**			**-0.070**
			Final CMA			**0.500**
			Level of Service (LOS)			**A**

PLANNED DEVELOPMENT NO. 12

JANUARY 28, 2013

Table of Contents

01 PROJECT DESCRIPTION pg.1

02 PROJECT SITE pg.4

03 LAND USE AND DEVELOPMENT STANDARDS pg.7

A. LAND USES

B. DEVELOPMENT STANDARDS

1. PEDESTRIAN SETBACKS
2. BUILDING SETBACKS
3. SETBACK PROJECTIONS
4. BUILDING HEIGHTS
5. PARKING REQUIREMENTS
6. PARKING SECURITY
7. BICYCLE PARKING
8. LOADING
9. TRASH AND RECYCLING MANAGEMENT PLAN
10. SIGNAGE
11. OUTDOOR DINING

C. ADMINISTRATION

04 SUSTAINABILITY pg.24

05 SITE PLANS/FLOOR PLANS pg.26

06 ELEVATIONS pg.40

07 CONCEPTUAL LANDSCAPE pg.47

08 CONCEPTUAL LIGHTING pg.54

09 CIVIL ENGINEERING pg.57

10 DOCUMENTS UNDER SEPARATE COVER pg.68

Acknowledgements

Applicant	Legado Companies
Planning Consultant	Hogle-Ireland, Inc.
Architect	Togawa Smith Martin
Landscape Architect	TGP
Civil Engineering	Kimley-Horn and Associates
Traffic Engineer	Hirsch/Green Transportation Consulting, Inc.
Signage	SKIN Graphics at Wolcott
LEED	GAIA Development

TABLE OF CONTENTS

01 | PROJECT DESCRIPTION

Project Description

Legado Crossing is a mixed use development consisting of one hundred fifteen (115) residential units and 31,240 square feet of commercial (retail and restaurant) uses (the Project) on 1.78 acres located at 8770 Washington Boulevard within the Washington/ National Transit Oriented District (TOD) near the Exposition Light Rail Transit Line and Station (Expo) in Culver City. The current surrounding uses include a small City parkette, warehouse, commercial, creative office, auto repair, the Helms Bakery Complex, and Expo station.

The Project is comprised of a 5-story 56 foot high building. Commercial uses are located on the ground floor with residential uses located on the second through fifth floors. Parking is located at grade level and in two levels of below-grade parking providing a total of 344 spaces.

An extensive public open space area, totaling 7,198 square feet including 4,304 square feet on the ground level comprised of mature tree planting, a water feature, on grade planters with native trees, shrubs and ground covers and stylized bench seating; and 2,894 square feet on the second level comprised of benches, fountain, and landscape planters which also serves as a commercial plaza for a café with outdoor dining.

The Project provides a number of on-site amenities for residential tenants including a recreation room and fitness center, and a large interior central courtyard with a swimming pool, shade structures, BBQ area, and bench seating and tables.

View of the Public Park Space from National Blvd

Project Data	
Site Area	1.78 Acres
Number of Residential Units	115
Total Sq Ft of Commercial	31,240
Total No. of Parking Stalls	344
Public Open Space	7,198
Private Open Space	11,949

Design Concept

Legado Crossing has been designed to implement and meet the goals of City of Culver City for the Washington/National Transit Oriented District to develop a transit oriented development core surrounding the Expo station Line by providing a mixed use residential/commercial development that seamlessly blends with the existing and future surrounding commercial, professional office and residential communities near and around the Expo station. The Project's 115 upscale rental apartment homes are intended to improve the jobs/housing balance serving the growing Culver City employment centers. Its street level retail/restaurant space is intended to serve both the residents who live in Legado Crossing and those living and working in the area.

The public plaza/park at the intersection of Washington Boulevard and National Boulevard opens itself to the general public and creates an iconic presence at a prominent corner in the Washington/National TOD District. This plaza/park will provide both a quiet respite for people living, working and passing through the area, and will also allow for public events to bring the community together. The park is a multi-purpose space, an amenity welcoming Expo Line travelers arriving at the Culver City Expo transit station and an attractive respite for local residents, workers and shoppers

The architectural design of Legado Crossing was inspired by Culver City's own "Hayden Tract" where industrial warehouses have been transformed into vibrant creative facilities with innovative and modern designs. The building materials, dynamic forms and colors were derived from this creative cultural district. Metal canopy structures, sharp angled facades, metal siding, and large windows were integrated into the Legado Crossing project to reflect a more contemporary style of architecture, and will complement the surrounding area. The commitment to sustainability has also influenced the overall layout of buildings selection of materials, landscaping design, and programming of the project. As a LEED certified project, Legado Crossing also meets the City's goals for sustainable development and sets an example for future sustainable developments within Culver City.

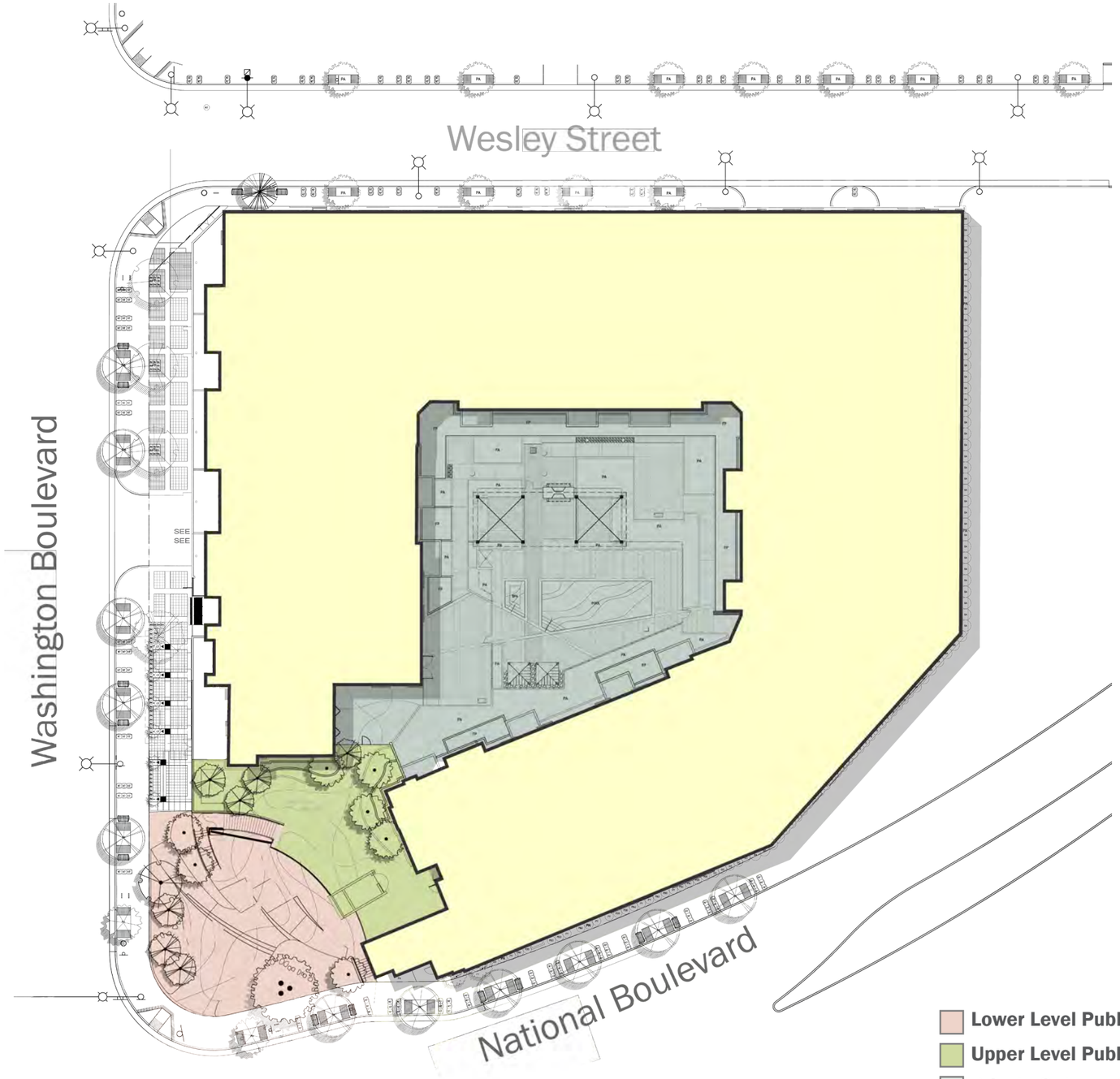
View of the corner of National Blvd and Washington Blvd

02 | PROJECT SITE

Urban Context Map

PROJECT SITE

Project Site Plan



03 | LAND USE/ DEVELOPMENT STANDARDS

A. Land Use

General Plan

The General Plan land use designation of the project site is General Corridor. This land use designation allows for a range of small to medium scale commercial uses, emphasizing community serving retail, office, and service uses along major corridors. It is intended to support desirable existing and future neighborhood and community service commercial uses and housing opportunities that are compatible with nearby residential neighborhoods.

Zoning

Zoning for this site is intended to conform to the Culver City General Plan. The zoning pursuant to the "Legado Crossing Comprehensive Plan" is Planned Development (PD) District. Currently, the existing zoning for the project site is "Industrial General" (IG), "Commercial General" (CG) and East Washington Overlay (EWO). This designation is changed to PD along with adoption of the Comprehensive Plan.

In combination with the PD zoning district, the Comprehensive Plan supports innovation in site planning and other aspects of project design, and more effective design responses to site features, uses on adjoining properties and other impacts that the underlying zoning code standards would produce without adjustment. The PD zoning district is applied to areas of existing large scale, multiple family residential and commercial complexes developed as a Planned Development zoning district, and sites suitable for similar large scale development. The PD zoning district is consistent with the General Corridor land use designation of the General Plan.

Mixed Use Development Standards

A total of 115 residential dwelling units are permitted pursuant to the maximum applicable density of 65 dwelling units per acre allowed with a Community Benefit pursuant to the density requirements of the Mixed Use Development Standards Zoning Code Section 17.400.065.E.3. The Project provides public open space as the Community Benefit. Pursuant to Community Benefit Resolution No. 2008-R015, a minimum of 5,000 square feet shall be provided as the Project's Community Benefit contribution. The Project provides public open space totaling 7,198 square feet (4,304 square feet on the ground level and 2,894 square feet at the second level). The ground level public open space is comprised of mature tree planting, a water feature, on grade planters with native trees, shrubs and ground covers and stylized bench seating. The second level public open space is comprised of benches, a fountain and landscape planters, and also serves as a commercial plaza with a small café and outdoor dining and provides access to an adjacent private pool deck.

The Mixed Use Development Standards require overall commercial floor area to be 10% of the projects total gross floor area or 30% of the project lot size, whichever is greater.

The total gross residential and commercial floor area of the Project is 181,670 s.f. The Project lot size is 77,537 s.f. 10% of the gross floor area = 18,167 s.f.; 30% of project lot size = 23,261 s.f. therefore the Project requires a minimum of 23,261 s.f. of commercial floor area. The project provides 31,240 s.f. of commercial floor area which meets the minimum commercial floor area requirements.

View of the Public Park on the corner of National and Washington Blvd

B. Permitted Uses

General Provisions

The Project site is on the southeast corner of Washington Boulevard and National Boulevard, and adjacent to the Expo Line located along the southerly and westerly boundary. The project is transit oriented and includes both residential and small-scale commercial uses to provide services for both those living and working in the area, and transit riders. The ground floor shall provide a mix of retail, eating and drinking establishments, and artisan shops. Restaurant uses shall not exceed more than 25% of the commercial space. The Project shall provide open areas on the ground floor including a large public open space directly on the corner, as well as outdoor dining areas along Washington Boulevard. The second through fifth floors shall contain the residential units, with a variety of unit types and sizes to cater to different family sizes.

Allowed Uses and Requirements

The following is a complete list of uses that shall be allowed within the Legado Crossing Comprehensive Plan:

Land Use [1]	Permit Requirement [2] P - Permitted Use AUP - Administrative Use Permit CUP - Conditional Use Permit	See Specific Use Regulations of the Zoning Code
Alcoholic beverage sales	AUP	17.400.015.B
Artisan shops	P	
Automated teller machines (ATMs)	P	17.400.025
Bars, night clubs	CUP	
General retail stores	P	
Home Occupations	P	17.400.055
Internet Café	P	
Mixed Use	P	17.400.065
Outdoor retail sales and display[3]	AUP	17.400.075
Parking facilities	P	
Personal services	P	
Restaurants	P	
Restaurants, outdoor dining	P	
Studios - art, dance, music, photography, etc.	P	
Telecommunications facilities, cellular[4]	AUP	17.400.110

[1] See Article 7 of the Culver City Zoning Code for definitions of the land uses listed.

[2] See Chapter 17.530 of the Culver city Zoning Code for specific permit requirements.

[3] Ancillary to a primary retail use.

[4] Use shall not be permitted on the ground floor.

B. Development Standards

General Provisions

In addition to the development standards outlined herein, every land use and structure shall comply with applicable requirements of the Culver City Municipal Code (CCMC), Title 17, Zoning Code or as amended.

1. Pedestrian Setbacks

The pedestrian environment of the project shall be enhanced by providing a 12' wide public sidewalk and 15' wide pedestrian setback along Washington Boulevard that shall be furnished with street trees, planters, tree grates, benches, bicycle racks, trash receptacles, and other street furniture consistent with the City's Transit Oriented Development District Streetscape Plan. In addition, the pedestrian setback area provides opportunities for amenities such as seating areas, landscape planters, and opportunities for outdoor dining. Varied trellis features along Washington Boulevard provide shaded entryways to the retail and restaurant spaces, as well as eye interest from vehicles on Washington Boulevard.

The Project shall have a 12' wide public sidewalk along National Boulevard, and a 7' wide public sidewalk along Wesley Street. The building planes along these elevations shall provide varying undulations to reduce the massing effect on the pedestrian environment.

View from across Wesley Street

2. Building Setbacks

Building setbacks shall comply with the following:

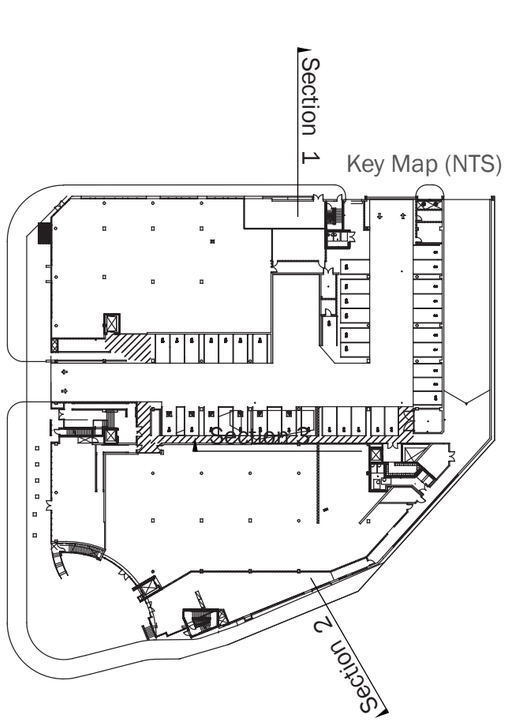
SETBACKS	MINIMUM REQUIRED
Street Facing Washington Blvd.	15 feet
Street Facing National Blvd.	None required
Street Facing Wesley St.	None required
Adjoining Property	None required

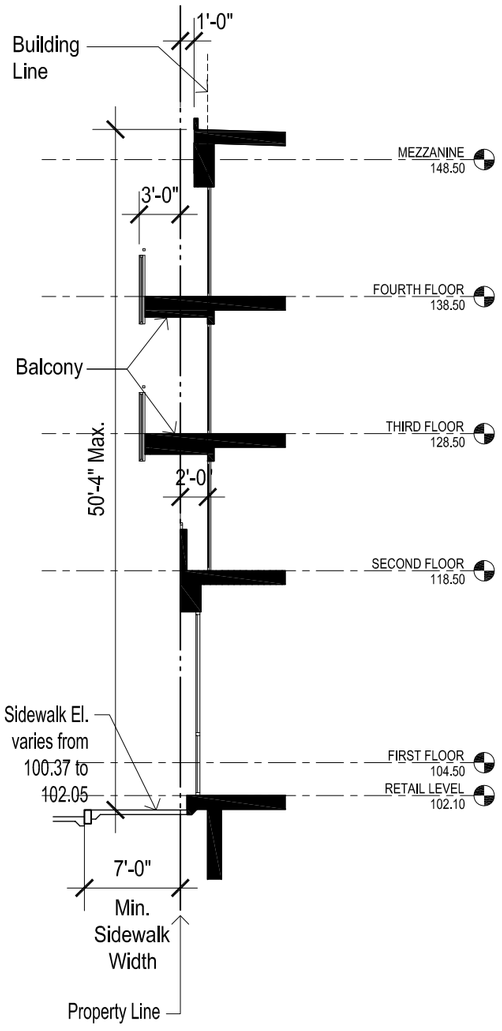
3. Setback Projections

Projections into setbacks shall comply with the following:

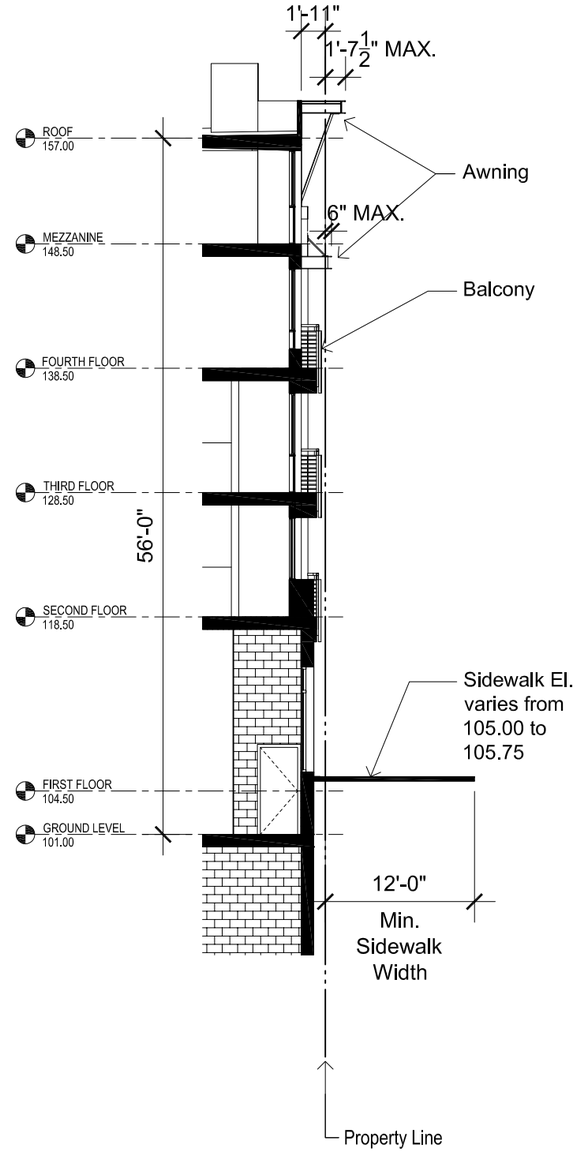
SETBACKS	PROJECTIONS PERMITTED
Street Facing Washington Blvd	Trellis 15 feet
Street Facing National Blvd	Awnings and/or balconies 3 feet
Street Facing Wesley Street	Awnings and/or balconies 3 feet
Adjoining Property	None Permitted

Building Setbacks - Wesley Street/National Blvd





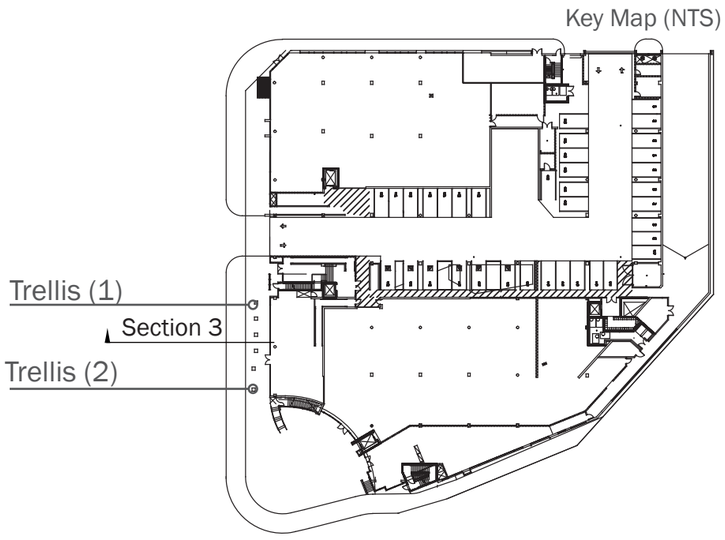
Wall Section 1 - Wesley Street

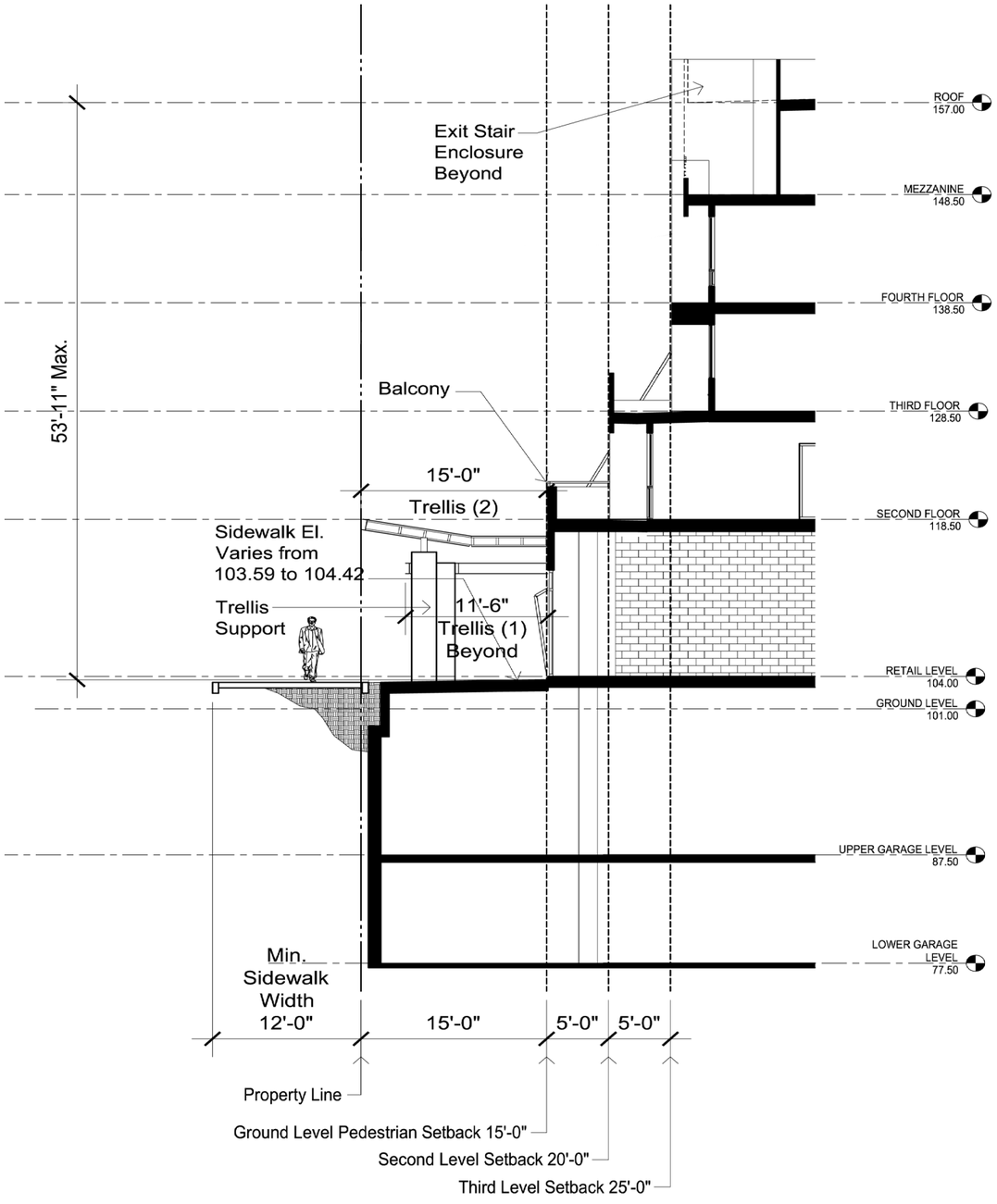


Wall Section 2 - National Boulevard

LAND USE/DEVELOPMENT STANDARD

Building Setbacks - Washington Blvd





Wall Section 3 - Washington Boulevard

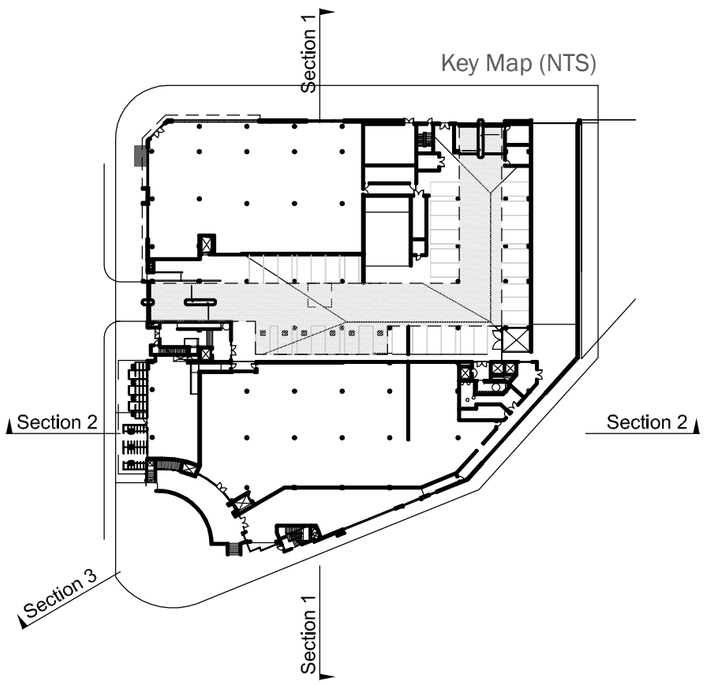
B. Development Standards

4. Building Heights

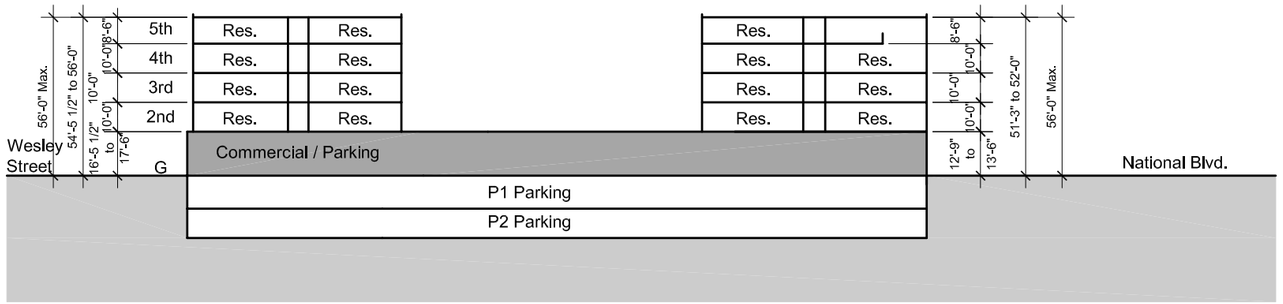
Buildings shall not exceed the maximum allowed height of 56 feet*. Building heights shall vary at different points and elevations of the building to provide focal relief and appropriate building scale to surrounding development.

Roof-mounted mechanical equipment (e.g., air conditioning, heating, exhaust, and ventilation ducts, etc.), shall be screened from public view from adjoining public streets and rights-of-way. The method of screening shall be architecturally compatible with other on-site development in terms of colors, materials, and architectural style as determined by the Planning Manager.

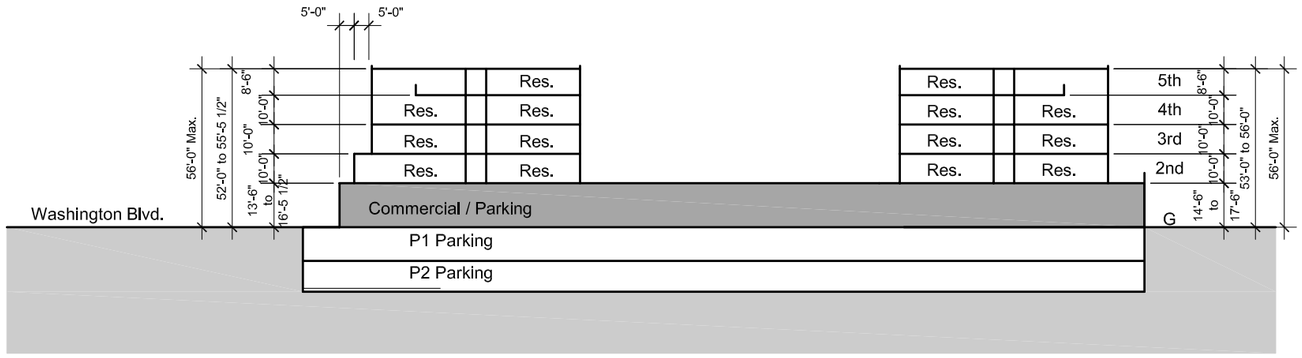
*Roof-mounted structures for the housing of mechanical equipment required to operate and maintain the structure, shall be allowed, up to a maximum of 13 feet 6 inches above the height of a building. Structures for the housing of elevators and stairs shall be allowed up to a maximum of 16 feet above the roofline of the building.



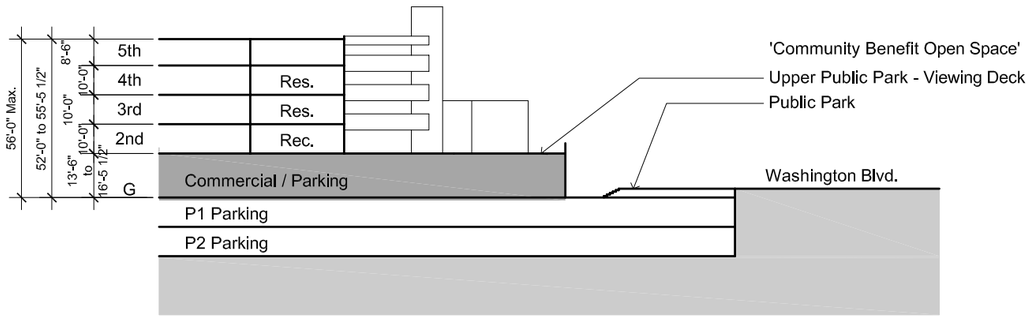
Building Sections



Section 1



Section 2



Section 3

B. Development Standards

5. Parking Requirements

Vehicle Parking Plan

Vehicle Parking Plan All parking for the Project shall be on site. Legado Crossing meets the requirements of the Culver City Municipal Code for the number of parking spaces, as well as the standards for aisle width and the dimensions for parking spaces. The parking plan shall provide a total of 344 parking spaces including 201 residential stalls, and 128 commercial stalls and 15 public parking stalls.

Access to the parking area shall be provided from both Washington Boulevard and Wesley Street. Vehicles shall enter and exit on the ground level, and there shall be no access from National Boulevard. Parking on the ground level shall be exclusively for public and commercial uses, while the upper level shall have a mix of commercial and residential parking spaces.

The lower level shall be exclusively for residential parking and residential guest parking spaces. The drive aisles shall be 27 feet wide, in compliance with the Culver City Municipal Code. In the center of the parking area is the ramp which shall provide access to both commercial and residential users to the lower levels. The ramp shall be 29 feet wide and shall allow for vehicles to drive down to the lower levels as well as up from them.

The parking structure shall offer preferred parking for low emission vehicles (e.g. hybrid, alternative fuel and electrical automobiles) and carpool vehicles as required by the California Green Building Code (CGBC). Handicapped accessible spaces shall be provided per California Building Code (CBC) regulations.

Numerical Parking Requirements

Commercial parking for the Project shall be provided at a ratio of 1 stall per 250 square feet of retail and restaurant floor area consistent with the Zoning Code parking requirements for shopping centers. Outdoor dining areas up to 500 square feet per restaurant are covered under these parking requirements. Outdoor dining areas larger than 500 square feet per restaurant shall be required to provide 1 stall per 250 square feet in excess of the initial 500 square feet, up to 800 square feet or 3 stalls.

Residential Parking for the Project shall be provided at 1 stall for studio and 1 bedroom units; 2 stall for 2 and 3 bedroom units; and residential guest parking shall be provided at a ratio of 1 stall for every 4 residential units consistent with the Zoning Code parking requirements for mixed use developments.

Total Parking Required/Provided

Parking by Type	Required	Provided
Total Number of Residential Stalls	199	201
Total Number of Commercial Stalls	128	128
Total Number of Public Parking Stalls	15	15
Total Number of Parking Stalls	**342**	**344**

Required Residential Parking

Residential Unit	No. Units	Required	Stalls
Studio	3	1	3
1 Bedroom Unit	56	1	56
2 Bedroom Flat	34	2	68
2 Bedroom Th	12	2	24
3 Bedroom Th	10	2	20
Guest	115	1 per every 4 units	28
Total Number of Required Residential Parking Stalls			199

Note: The Total Number of Required Residential parking stalls includes:	
Assigned accessible parking stalls for residents	3
Assigned accessible van parking stalls for residents	1
Unassigned accessible parking stalls for guests	1
Unassigned accessible van parking stalls for guest	1

Required Commercial Parking

Commercial Space	Area s.f.	Parking Factor	Stalls
Retail 1	13,900	250	56
Retail 2	11,800	250	47
Restaurant	2,300	250	9
Café 1	3,000	250	12
Café 2	240	250	1
Outdoor Dining*	800	250	3
Total Number of Required Commercial Parking Stalls			128
Public Parking			15
Total Number of Parking Stalls			143

*Area in excess of 500 square feet per restaurant tenant

Note: The Total Number of Required Commercial parking stalls includes:	
Accessible Parking Stalls	4
Accessible Van Parking Stalls	1

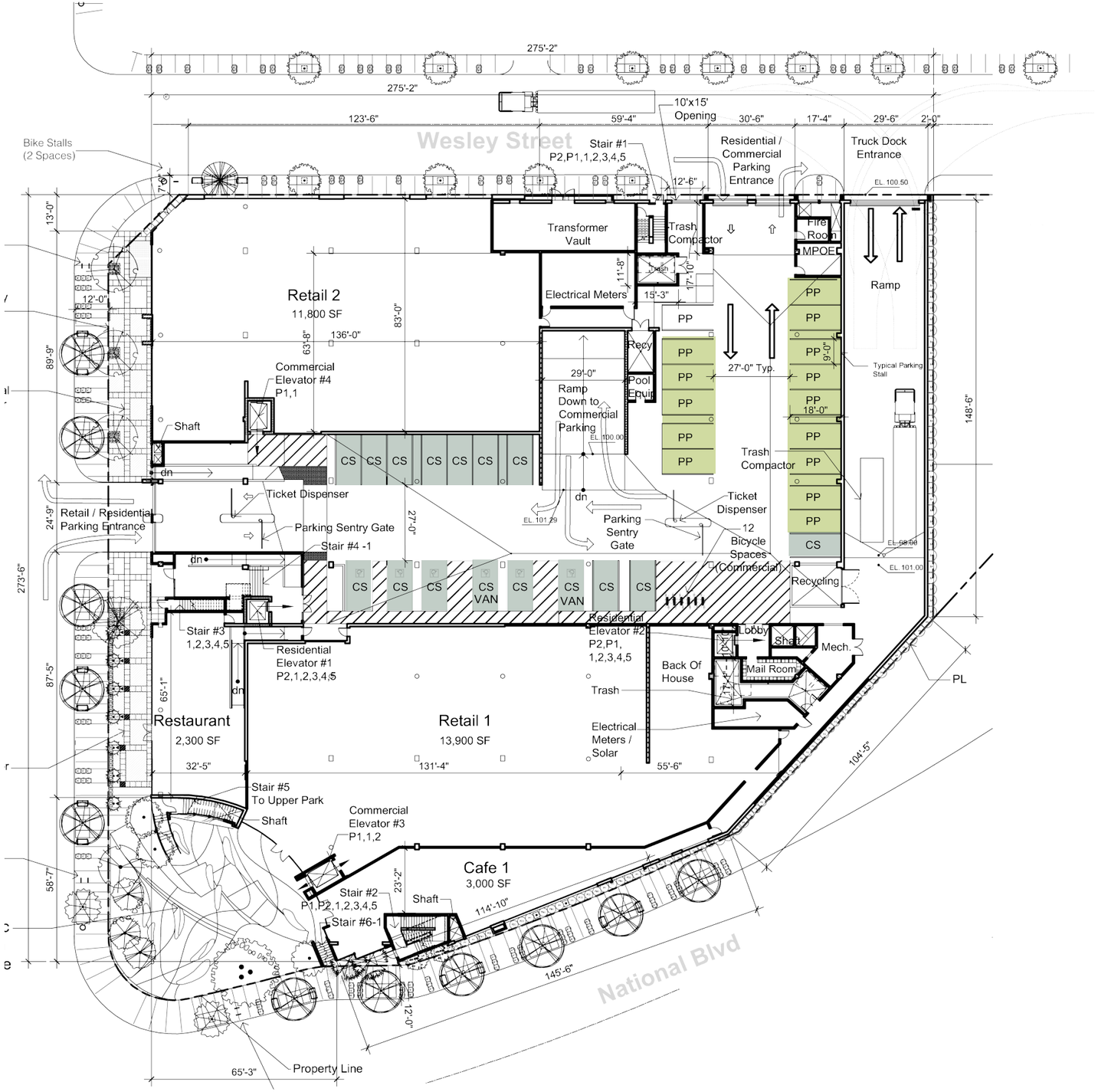
Total Bicycle Parking Required/Provided

Parking by Type		Required/Provided
Required Residential	10% of required stalls	20 Required Bike Stalls
Required Commercial	5% of required stalls	8 Required Bike Stalls
Provided Residential	**Lower Garage Level**	**24 Bike Stalls Provided**
Provided Commercial	**Ground Level**	**26 Bike Stalls Provided**
Total Number of Bike Stalls Provided		**50 Bike Stalls Provided**

B. Development Standards

Ground Level Garage

The ground level shall provide both commercial and public parking spaces. A truck dock for deliveries to the commercial and residential tenants shall be provided. Parking on the ground level shall be exclusively for public and commercial uses.



Notes

- CS = Commercial Stall
- PP = Public Parking

Data

Parking Summary

Use	Standard	Tandem	Accessible	Van Accessible	Total
Commercial	10	0	4	2	16
Public	15	0	0	0	15
Total	**25**	**0**	**4**	**2**	**31**
Bicycle Total (Outside and Inside Garage)					26

B. Development Standards

Upper Level Garage

The Upper level garage is the level immediately below the ground level. It shall provide the remainder of the commercial spaces and some of the residential parking for both tenants and guests. Four elevators and two stairways shall be provided for customers to access the retail/commercial users.

The residential guest spaces shall be segregated in the south end of this level behind security gates and fencing. Access to these spaces shall be by key card or fob for the tenants. Guests shall use a keypad to notify the tenants when they have arrived, who will be able to remotely activate the security gates from their units to allow access for their guests.

Tandem spaces shall only be assigned to units where both spaces serve the same unit. Within the secured area, there is a ramp which shall provide access for the residents and guests to and from the lower level. Commercial users shall not have access to this ramp.

Notes

- R = Residential Stall
- RT = Residential Tandem Stall
- RG = Residential Guest Stall
- CS = Commercial Stall

Data

Parking Summary

Use	Standard	Tandem	Accessible	Van Accessible	Total
Residential	10	9	0	0	19
Residential Guest	3	0	1	1	5
Commercial	112	0	0	0	112
Total	**125**	**9**	**1**	**1**	**136**

B. Development Standards

Lower Level Garage

The lower level garage shall be exclusively reserved for residential tenant and guest parking. Access shall exclusively be from a ramp from the upper level which shall be secured from the commercial users and shall be accessed only by those who have access to the secured residential portion on the upper level.

The tandem spaces shall only be assigned to units where both spaces serve the same unit. There shall be 24 bicycle stalls located along the southerly portion of the garage which shall be in a secured room only accessible by residents.

Notes

- R = Residential Stall
- RT = Residential Tandem Stall
- RG = Residential Guest Stall

Data

Parking Summary

Use	Standard	Tandem	Accessible	Van Accessible	Total
Residential	103	47	3	1	154
Residential Guest	23	0	0	0	23
Total	**126**	**47**	**3**	**1**	**177**
Bicycle Parking Total (Residential)					**24**

DEVSTANDARD LANDUSE/D

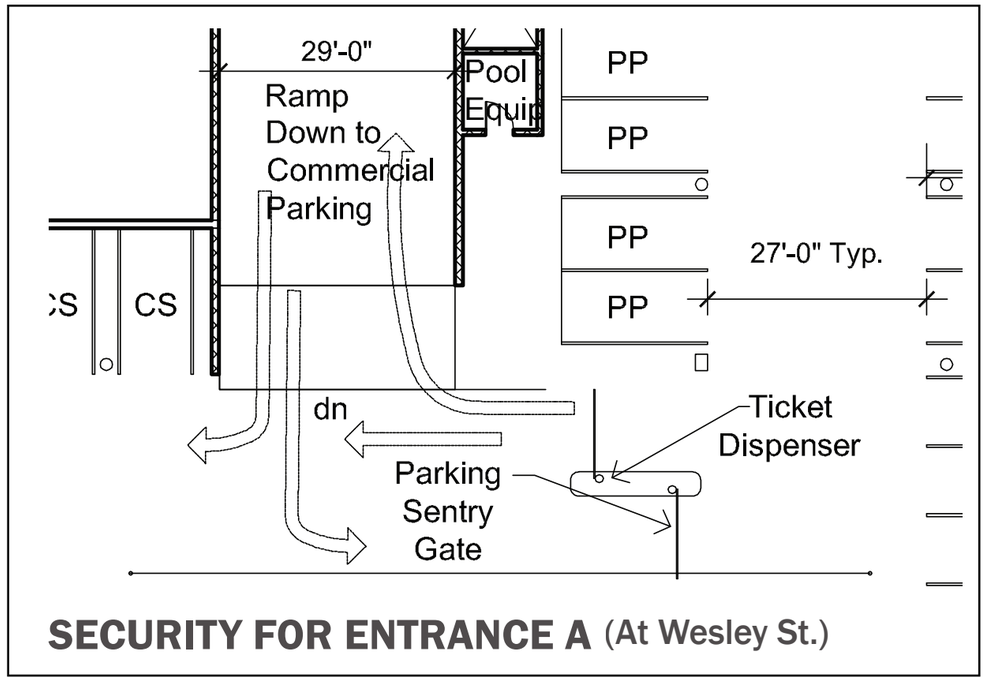
B. Development Standards

6. Parking Security

The Project shall provide direct vehicular access from both Washington Boulevard and Wesley Street. The driveways shall provide both ingress and egress for the public, commercial and residential spaces.

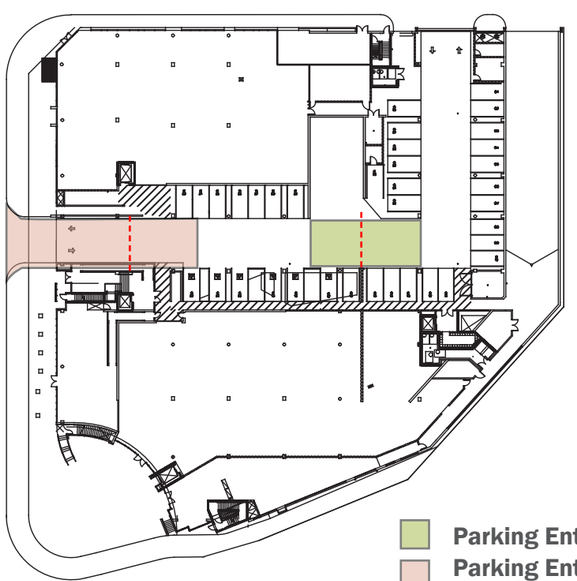
The entrance off of Washington Boulevard shall include a sentry gate with a short raised median to separate ingress and egress traffic and shall be located a minimum of 30 feet past the sidewalk to allow for a stacking area before the sentry gate. The entrance off of Wesley Street shall provide direct access to the 15 public parking spaces. There shall be a sentry gate beyond the public parking area with a short raised median to separate ingress and egress traffic. On the upper level parking a security gate shall be provided to separate the commercial parking with the access to the residential parking on that level and the lower level parking.

All on-site parking including commercial, residential and public parking shall be subject to the provisions of the Parking Management Plan and any other applicable provisions required by the Project conditions of approval.

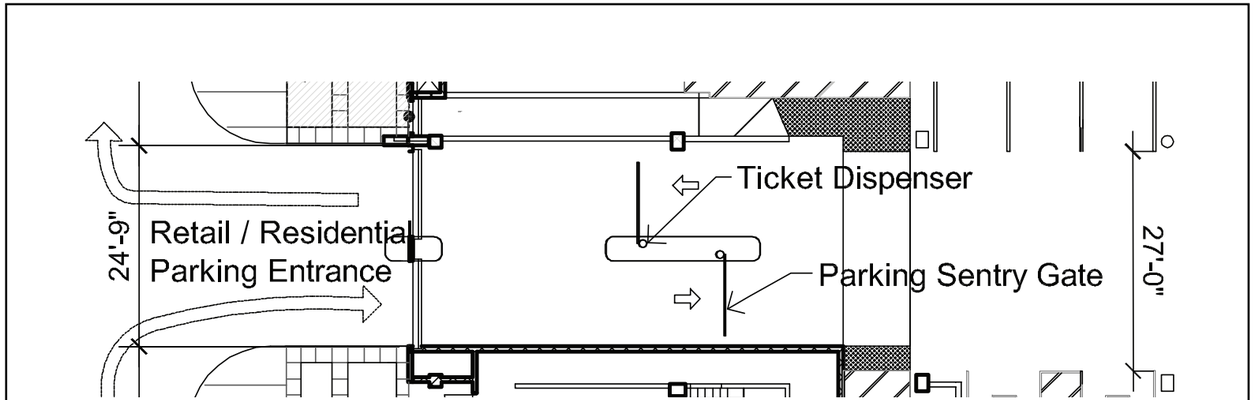


SECURITY FOR ENTRANCE A (At Wesley St.)

Key Map (NTS)



Parking Entrance A
Parking Entrance B
Location of Gate



SECURITY FOR ENTRANCE B (At Washington Blvd.)

0 | 20 | 40 ft.

B. Development Standards

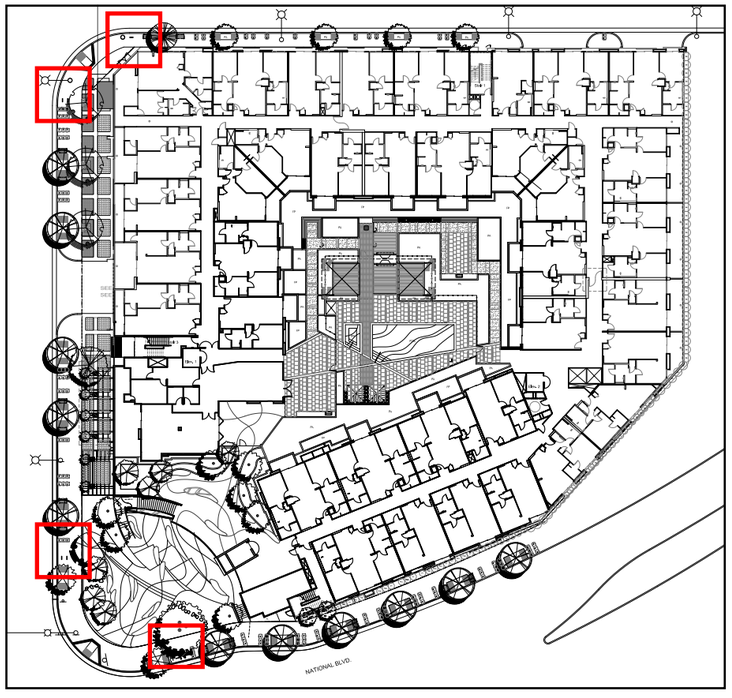
7. Bicycle Parking

The Project shall provide a total of 50 bicycle parking stalls, of which 14 shall be located along the public sidewalk fronting Washington Boulevard, and along the corner of Washington and National Boulevard. These 14 bicycle stalls shall be conveniently located adjacent the public open space, as well as the retail/restaurant tenant spaces. 12 additional bicycle stalls shall be provided on-site in the ground level parking area. The remaining 24 bicycle stalls shall be located on the lower level of the parking garage in a secured room only accessible by residents.

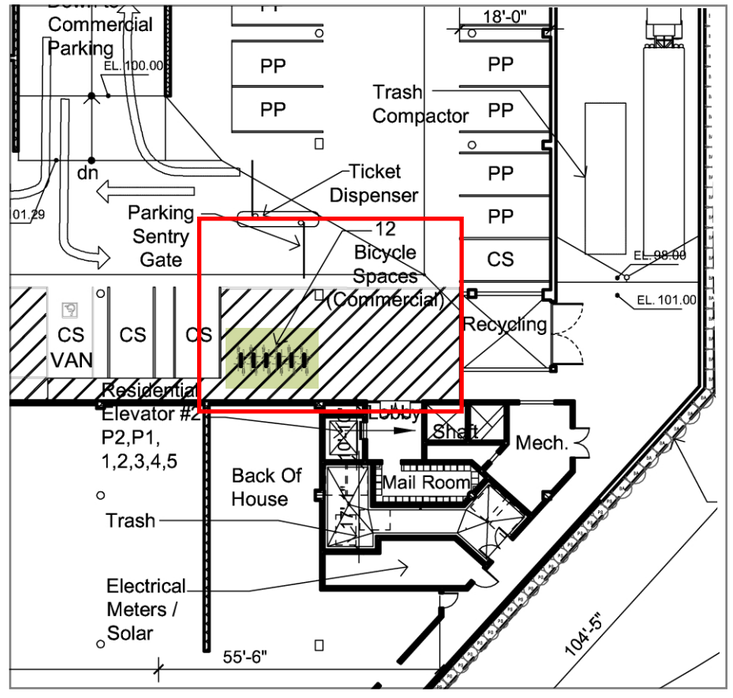
Total Bicycle Parking Required/Provided

Parking by Type		Required/Provided
Required Residential	10% of required stalls	20 Required
Required Commercial	5% of required stalls	8 Required
Provided Residential	**Lower Level**	**24 Provided**
Provided Commercial	**Ground Level (Street)**	**14 Provided**
Provided Commercial	**Ground Level (Garage)**	**12 Provided**
Total Provided Bicycle Parking		**50 Provided**

Lower Level Garage
24 Bike Spaces (Residential)



Ground Level (Street)
14 Bike Spaces (Commercial)



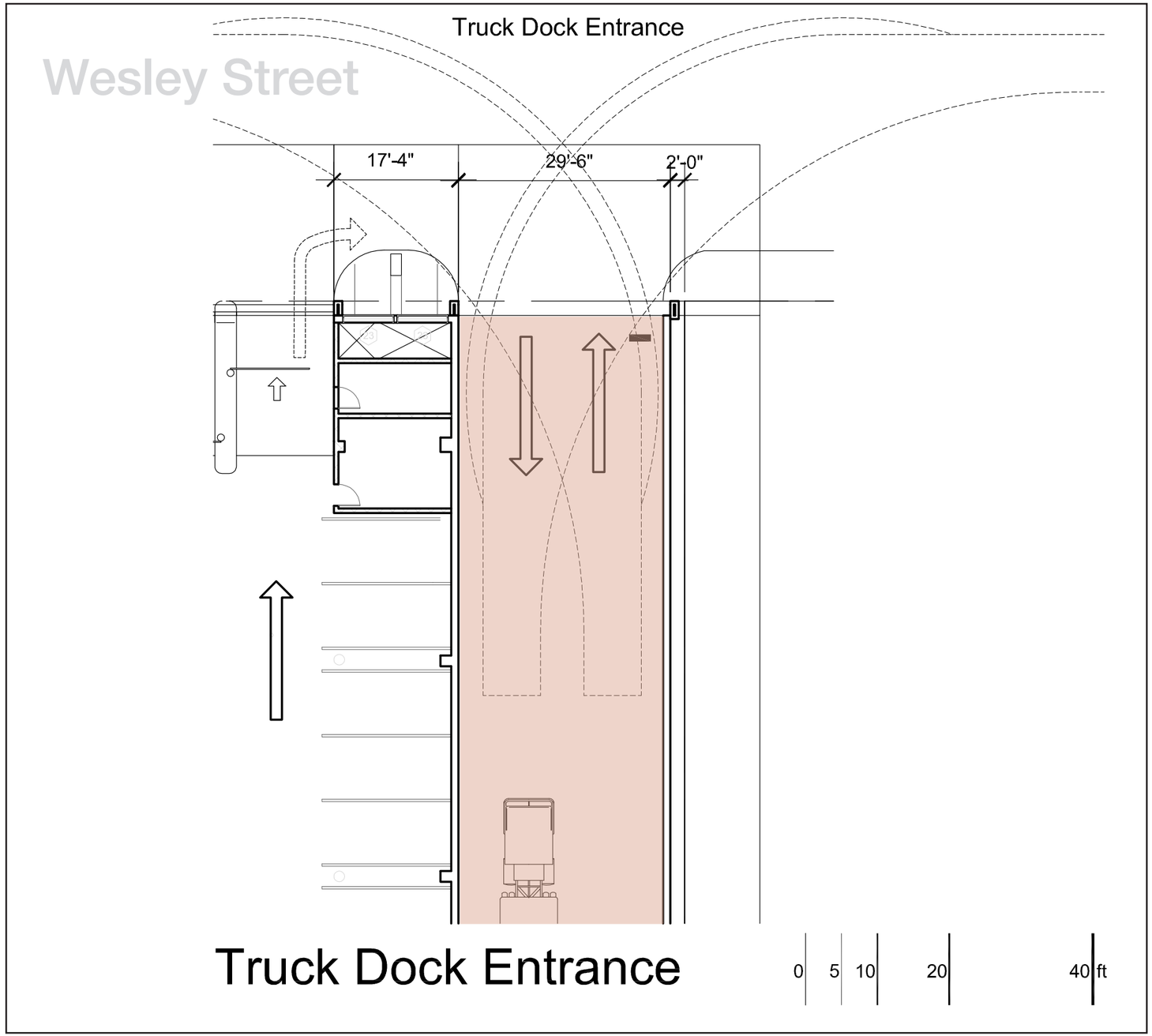
Ground Level (Garage)
12 Bike Spaces (Commercial)

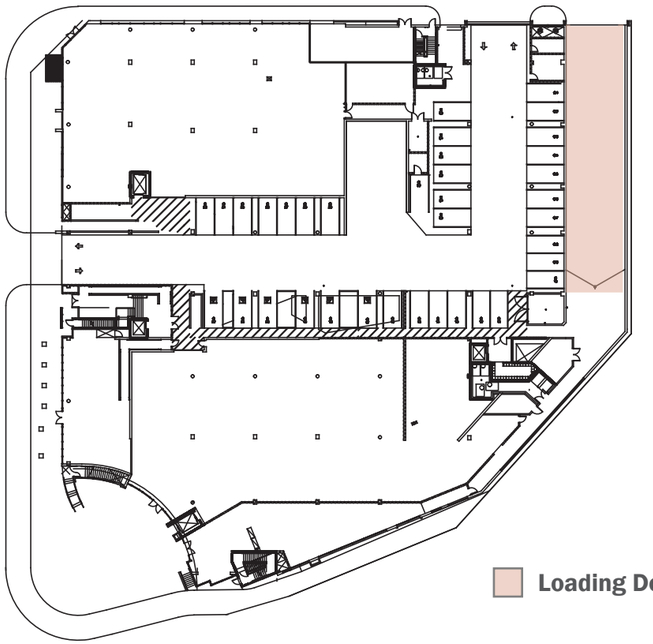
B. Development Standards

8. Loading

Delivery for commercial users shall be provided via a truck dock along the south property line of the site. This dock shall have access from Wesley Street. The dock shall be designed to allow for trucks with one full size trailer, as well as for smaller vans, panel trucks or other delivery vehicles. Drivers shall have direct access to the retail uses on the ground level from the dock through appropriate corridors.

Large commercial moving vans loading and unloading furniture and goods for residents as they move in or out shall access the residential units through the truck dock. Residents who use small residential vans, pickup trucks and panel trucks for moving in or out shall either use the truck dock or shall have access to the units from the secured residential parking areas on either the upper or lower levels. All residential move-in and out deliveries shall be from either the truck dock or the secured residential parking areas, and these vehicles shall not block access to the commercial parking areas or access to any commercial or public parking spaces.





B. Development Standards

9. Trash and Recycling Management Plan

A trash room shall be located on each residential level with two trash chutes per level, one chute for trash and the other chute for recyclables. The chutes shall empty into bins on the ground level. These bins shall be towed to the curb of Wesley Street for pickup pursuant to the requirements of the City's Sanitation Division.

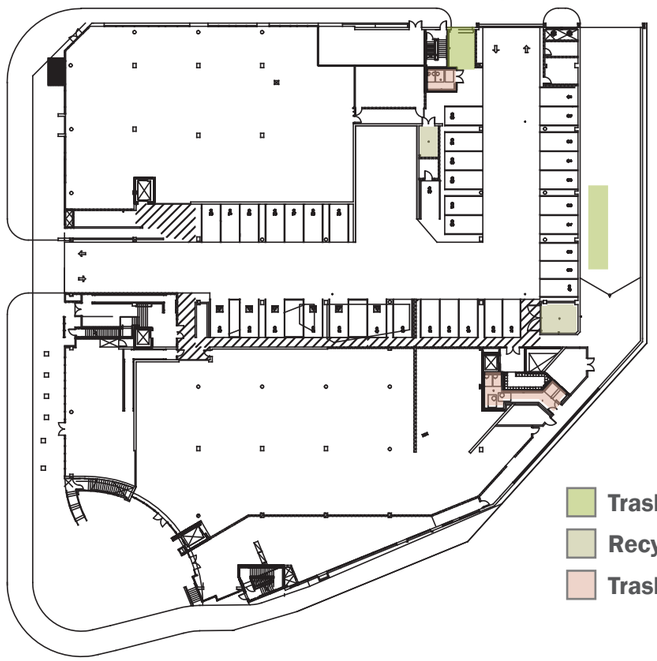
Commercial Trash

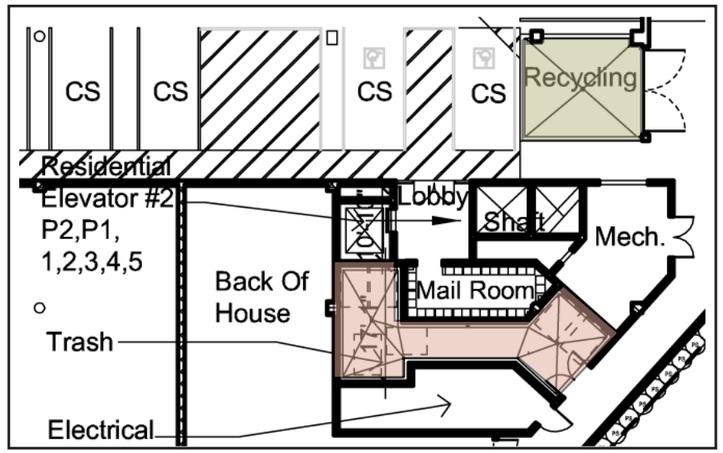
Retail 1, Cafe 1, Cafe 2, and Restaurant shall dispose of their trash in the trash compactor at the loading dock. Retail 2 shall dispose of their trash in the trash compactor adjacent to Stair 1. The trash compactors shall be emptied pursuant to the requirements of the City's Sanitation Division.

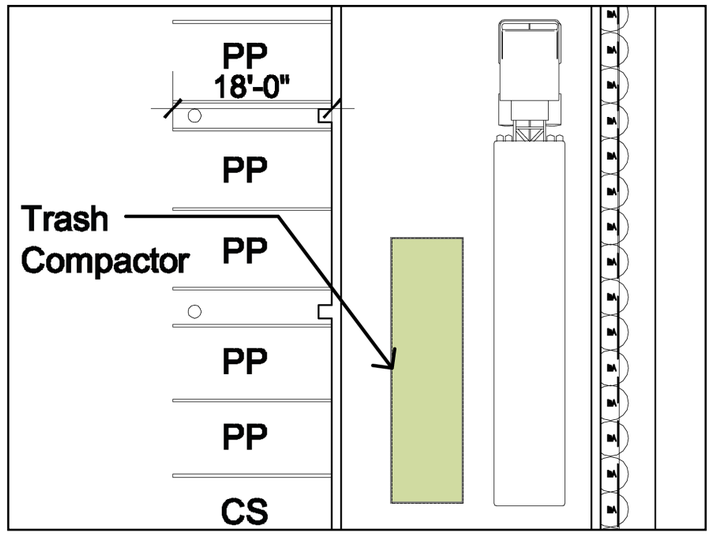
Commercial Recyclables

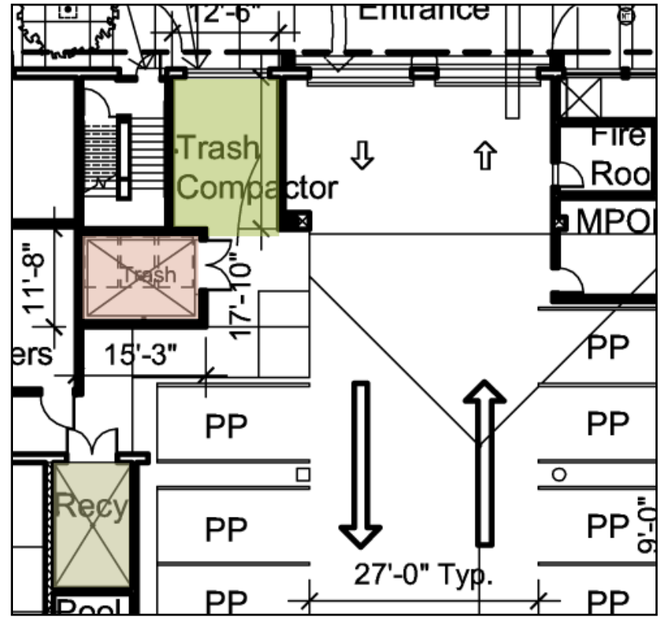
Retail 1, Cafe 1, Cafe 2, and Restaurant shall dispose of their recyclable items at the recycling enclosure adjacent to the loading dock. The recycling bins shall be towed to the curb of Wesley Street for pick up pursuant to the requirements of the City's Sanitation Division. Retail 2 shall dispose of their recyclable items at the recycling enclosure adjacent to the vehicular ramp. The recycling bins shall be towed to the curb of Wesley Street for pick up pursuant to the requirements of the City's Sanitation Division.

Key Map (NTS)









B. Development Standards

10. Signage

To ensure that signs for the project are uniquely designed and compatible with the overall architectural theme of the project, all signage shall be processed through a Master Sign Program pursuant to Zoning Code Section 17.330.050.D.2 or as amended.

11. Outdoor Dining

Outdoor dining is a key contributor to the interactive pedestrian atmosphere which will stimulate the shopping and dining experience. Areas have been identified, as shown on the diagram, where outdoor dining may take place. Multiple areas are open to Washington Boulevard further activating the pedestrian orientation and environment along this frontage. The following diagram highlights the allowable areas for outdoor dining.

- An unobstructed minimum 4 foot (4'-0") clear wide pedestrian pathway shall be maintained at all times between the outside boundary of any outdoor dining areas and any obstruction.

- The design of furniture, barriers and equipment to be used within any outdoor dining area shall be high quality and harmonious and compatible with the overall architecture of the project as well as any site furniture provided by the development

- No additional canopies or awnings are permitted. Inclement weather enclosures shall be allowed provided the enclosure is constructed of clear glass folding or stacking panels that can be stored unobtrusively within the interior of the tenant space. Plastic or acrylic enclosures of any kind shall not be permitted.

- Umbrellas shall have a minimum vertical clearance of 6'-8" and shall not exceed a maximum height of 13'-0"

- Portable heaters are subject to prior Landlord and City approval and shall be of uniform design. They shall not project beyond the limit of the outdoor dining area and shall require written approval of the City of Culver City Fire Marshall prior to placement.

- Establishments that serve alcoholic beverages in the outdoor dining area shall provide a physical barrier that meets the requirements of this document. No barrier is required if alcohol will not be served. Barriers shall not exceed three feet-six inches (3'-6") in height. All barrier systems shall maintain at least 70% transparency.

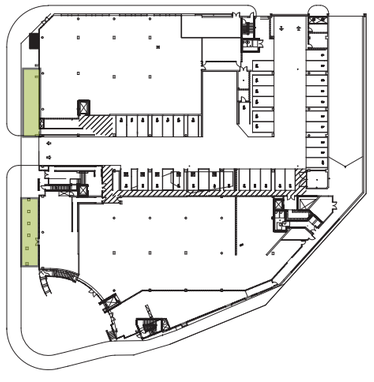
- All outdoor dining areas shall be accessible to the disabled in accordance with ADA standards.

- Outdoor dining areas shall be operated in a manner that meets all requirements of the Los Angeles County Health Department.

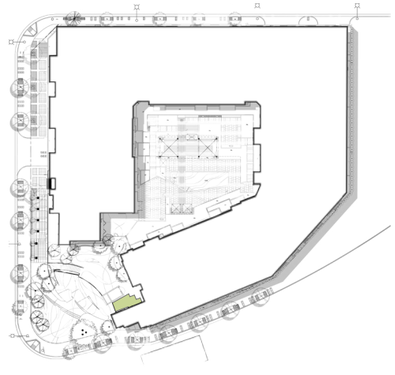
- Restaurant management shall keep the outdoor dining area clear of litter, food scraps, and soiled dishes at all times. Trash receptacles shall be provided in the outdoor dining areas used for consuming take-out items.

All proposed outdoor dining areas shall be subject to a conformance review with the adopted Comprehensive Plan and approval by the Planning Division prior to installation and operation. Conditions of approval may be placed on outdoor dining areas to ensure conformance with the standards contained herein, compatibility with adjacent uses, and any other applicable City requirements.

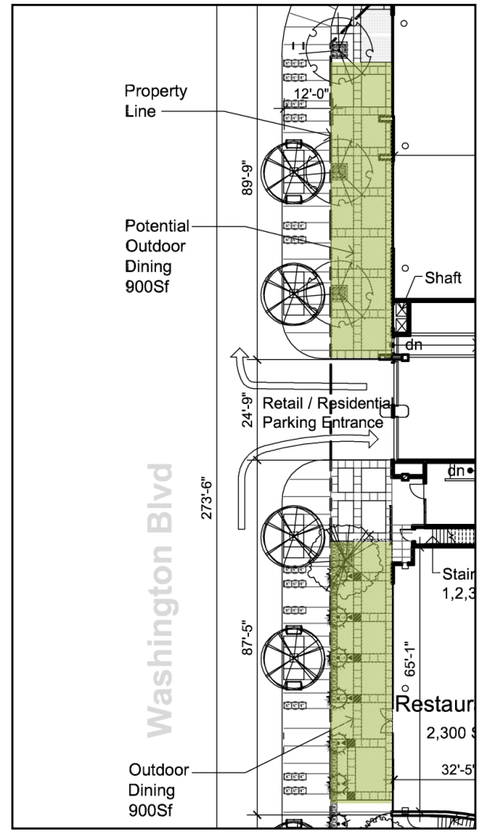
Ground Level Key Plan (NTS)



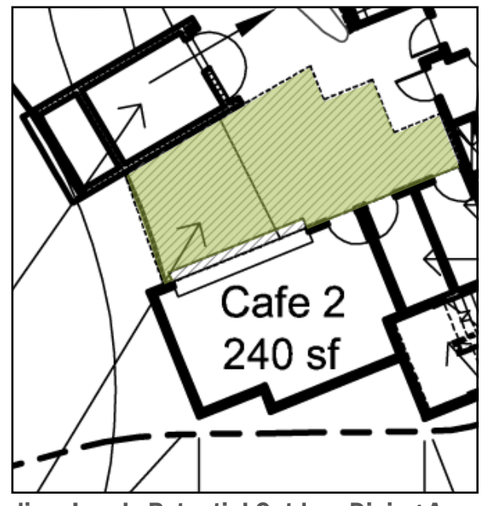
2nd Level Key Plan (NTS)



Potential Outdoor Dining Area



Ground Level - Potential Outdoor Dining Area



Podium Level - Potential Outdoor Dining Area

C. Administration

Relationship to Other Regulations

This comprehensive Plan provides policies, standards and regulations guiding the development the Project identified in Section 1, Project Description. Specific topics not addressed or provided in this Comprehensive Plan shall be governed by the Culver City Municipal Code. No provision of this Comprehensive Plan is intended to repeal, abrogate, annul, impair, or interfere with any existing ordinance, resolutions, or policy except: a) as specifically repealed by the adoptions of this Comprehensive Plan; or b) where this Comprehensive Plan's provisions are more precise or restrictive than the existing Municipal Code. Where provisions of this Comprehensive Plan impose more restrictive regulations than required by any other ordinance, resolution or policy, the provisions of this Comprehensive Plan shall govern.

Amendments

Modifications to the Comprehensive Plan shall be pursuant to the Culver City Zoning Code, Section 17.560.025 Comprehensive Plan Modifications, Major and Minor or as amended.

View from across Washington Blvd at Wesley Street

View to the Sideyard

View From National Boulevard

04 | SUSTAINABILITY

SUSTAINABILITY

Energy saving and sustainable design is integral to the Project. It is incorporated throughout in the building systems and in the choice of materials. The Project shall incorporate green building design as demonstrated in the list below, which is categorized into three main categories: conservation; energy efficiency; carbon emission reduction.

Conservation

In an effort to promote the conservation, reduction, reuse, and recycling of renewable and non-renewable resources, the Project is actively participating in this endeavor by adopting the following:

- Implementing a construction and demolition waste diversion plan that will divert at least 50% of construction waste away from landfills
- Utilize storm water filtration systems to capture and cleanse storm water prior to discharging into public storm drain
- Use recycled materials and low volatile organic compounds (VOC) in building materials

Energy Efficiency

Below is a list of energy efficient and sustainable specifications that shall be used and incorporated into the Project:

- Low flow fixtures and low consumption urinals
- Landscape with drought tolerant vegetation and efficient irrigation systems
- Photovoltaic electricity generation
- Dual low emissivity glazing
- High reflective roof material
- High efficiency heating and air conditioning systems

Carbon Emission Reduction

Below is a list of carbon emission reduction elements that shall be incorporated into the Project:

- Mixed use development adjacent to public transit
- High residential density
- Bike Station (for storage and changing rooms)

LEED Certification

Upon completion of the project, it is expected that the Project will obtain Gold Certification under the provisions of the Leadership in Energy and Environmental Design (LEED) program.

The corner of Washington and Wesley Street

05 | SITE PLAN/FLOOR PLANS

Summary Tables

Residential Unit Summary

The Project is comprised of five levels including the ground level which comprises the retail/restaurant tenant spaces and ground level parking. The second level comprises a total of 37 units, as well as the residential courtyard and pool with private amenities for residents. The third level has 39 units, while the fourth level includes 39 units that have a second floor above on the fifth level.

Residential storage units are provided in the upper and lower garage levels. These storage units shall be in a secured area only accessible by residents. A total of 32 storage units shall be provided on the upper garage level and 83 on the lower garage level.

Residential Amenities

The Project provides a number of on-site amenities for residential tenants including a recreation room and fitness center, and a large interior central courtyard with a swimming pool, shade structures, BBQ area, and bench seating and tables.

Residential Unit Summary

Overall Unit Summary

Unit Type	Description	2nd Level	3rd Level	4th Level	No. Unit Types	Unit s.f.
L1	Studio	1	1	1	3	607
1B1	1 Bedroom Flat	16	17	5	38	762
1B2a	1 Bedroom Flat	1	1	1	3	754
1B2b	1 Bedroom Flat	1	1	1	3	756
1B3	1 Bedroom Flat	4	4	4	12	738
1B1TH	2 Bedroom Townhouse	0	0	12	12	1,289
2B2	2 Bedroom Flat	13	14	5	32	1,104
2B3	2 Bedroom Flat	1	1	0	2	1,114
2B2TH	3 Bedroom Townhouse	0	0	9	9	1,758
2B3TH	3 Bedroom Townhouse	0	0	1	1	1,844
Number of Units per level		**37**	**39**	**39**		
Total Number of Units					**115**	

Unit Mix

Unit Type	Number of Units	Percentage
Studio	3	2.6%
1 Bedroom Flat	56	48.7%
2 Bedroom Flat	34	29.6%
2 Bedroom Townhouse	12	10.4%
3 Bedroom Townhouse	10	8.7%
Totals	**115**	**100.0%**

Gross Area Per Level

Level	Square Footage
Lower Level Garage	66,120
Upper Level Garage	68,972
Ground Level	62,837
Second Level	43,441
Third Level	42,776
Fourth Level	42,776
Fifth Level | Mezzanine	21,677
Totals	**348,599**

Residential Storage Provided

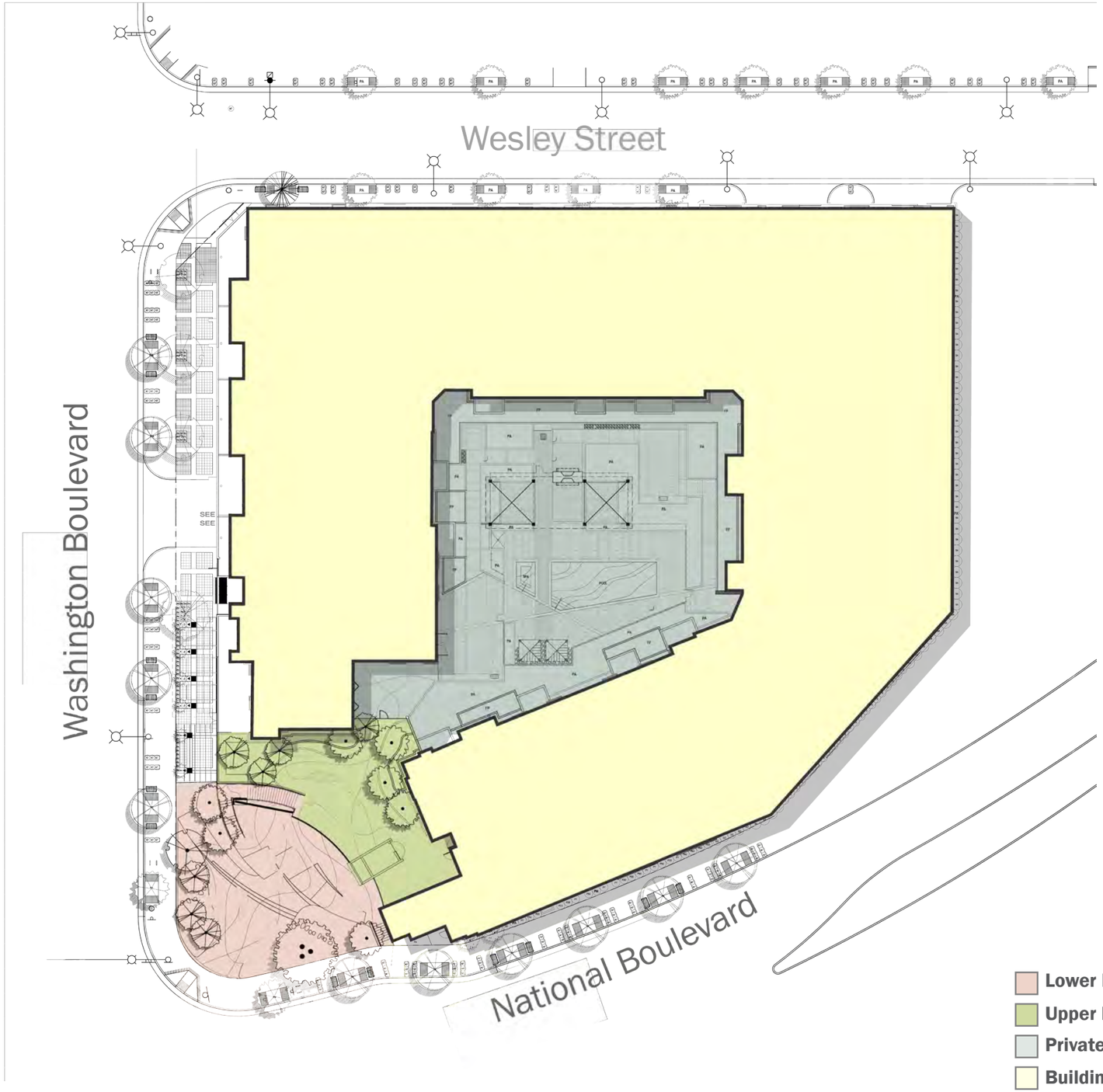
Level	Storage Units
Lower Garage Level	83
Upper Garage Level	32
Total Number of Storage Units	**115**

Private Open Space Provided*

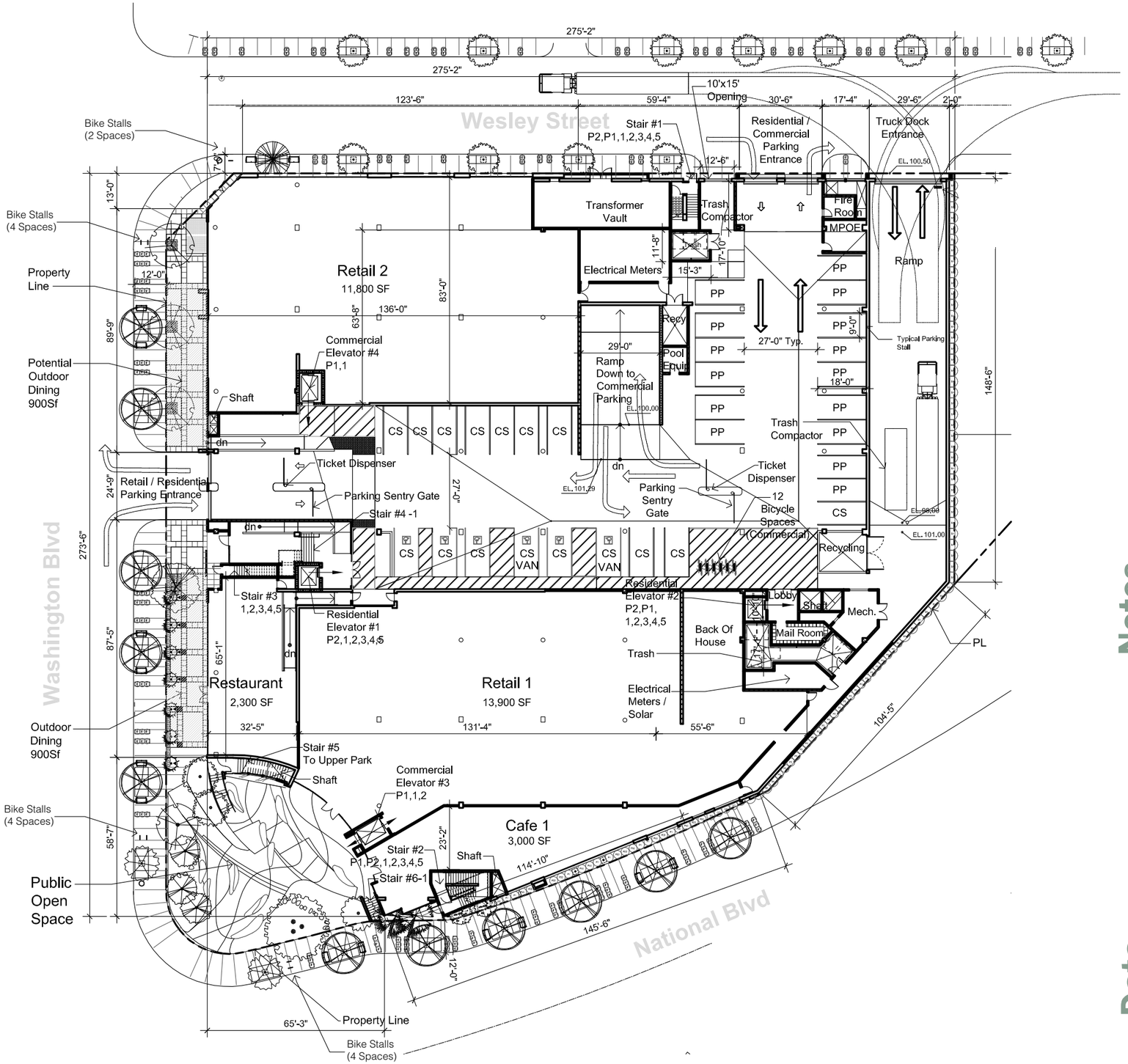
Level	Square Footage
Second Level	11,949

Public Park Not Included*

Project Site Plan



Ground Level Floor Plan



Notes

CS = Commercial Stall
PP = Public Parking

Data

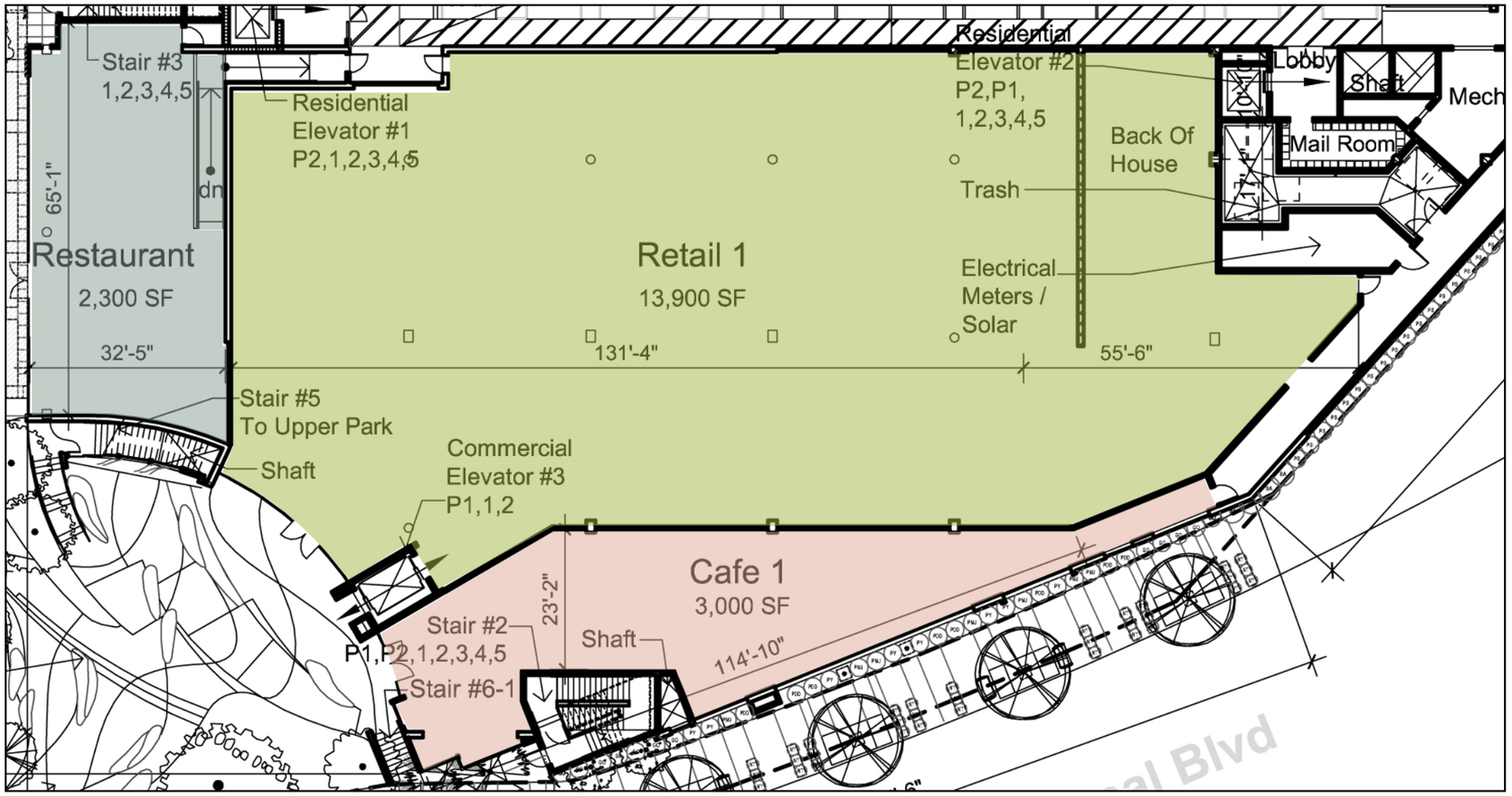
Square Footage Summary

Use	Area
Retail 1	13,900 s.f.
Retail 2	11,800 s.f.
Restaurant	2,300 s.f.
Cafe 1	3,000 s.f.

Parking Summary

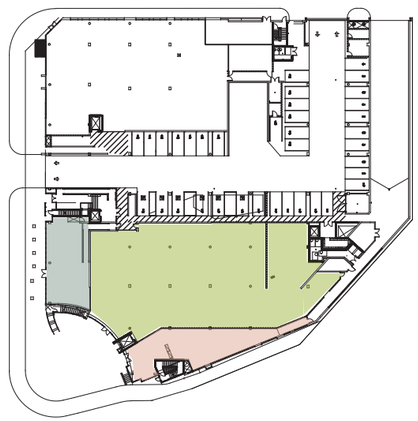
Use	Standard	Tandem	Accessible	Van Accessible	Total
Commercial	10	0	4	2	16
Public	15	0	0	0	15
Total	**25**	**0**	**4**	**2**	**31**
Total Bicycle Parking (Outside and Inside Garage)					**26**

Commercial Space | Floor Plan/Lease Space

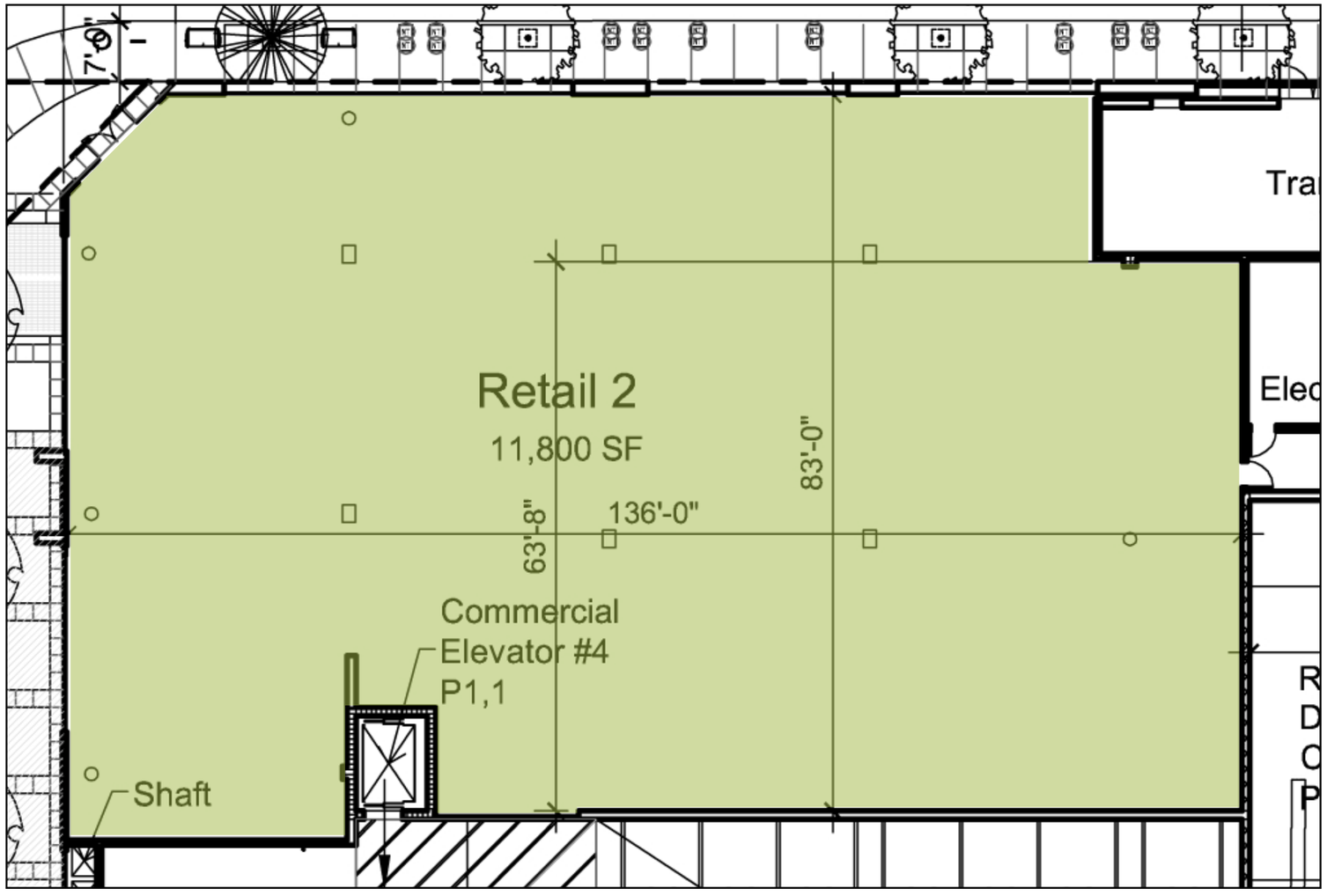


Level 1 - Retail 1, Cafe 1, and Restaurant

Key Map (NTS)

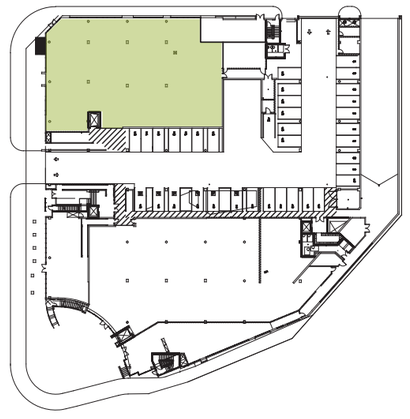


Commercial Space | Floor Plan/Lease Space



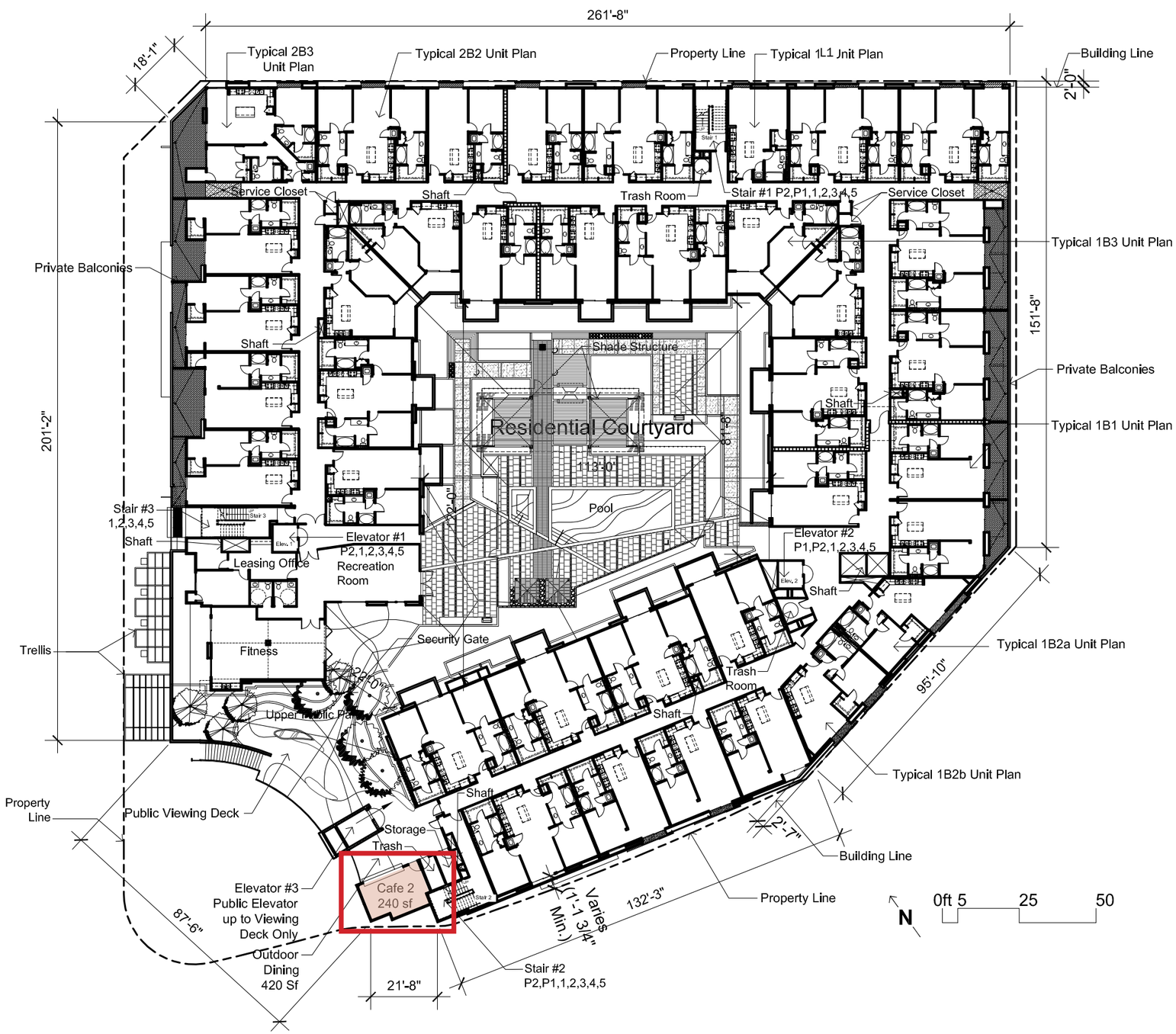
Level 1 - Retail 2

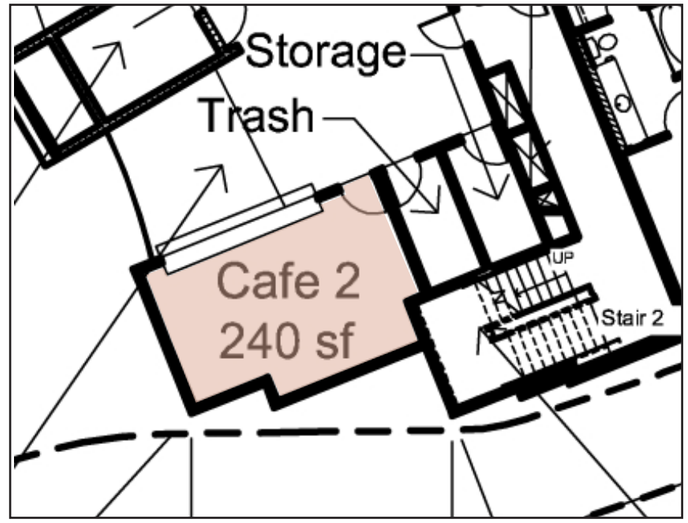
Key Plan (NTS)



SITE PLANS/FLOOR PLANS

Second Level





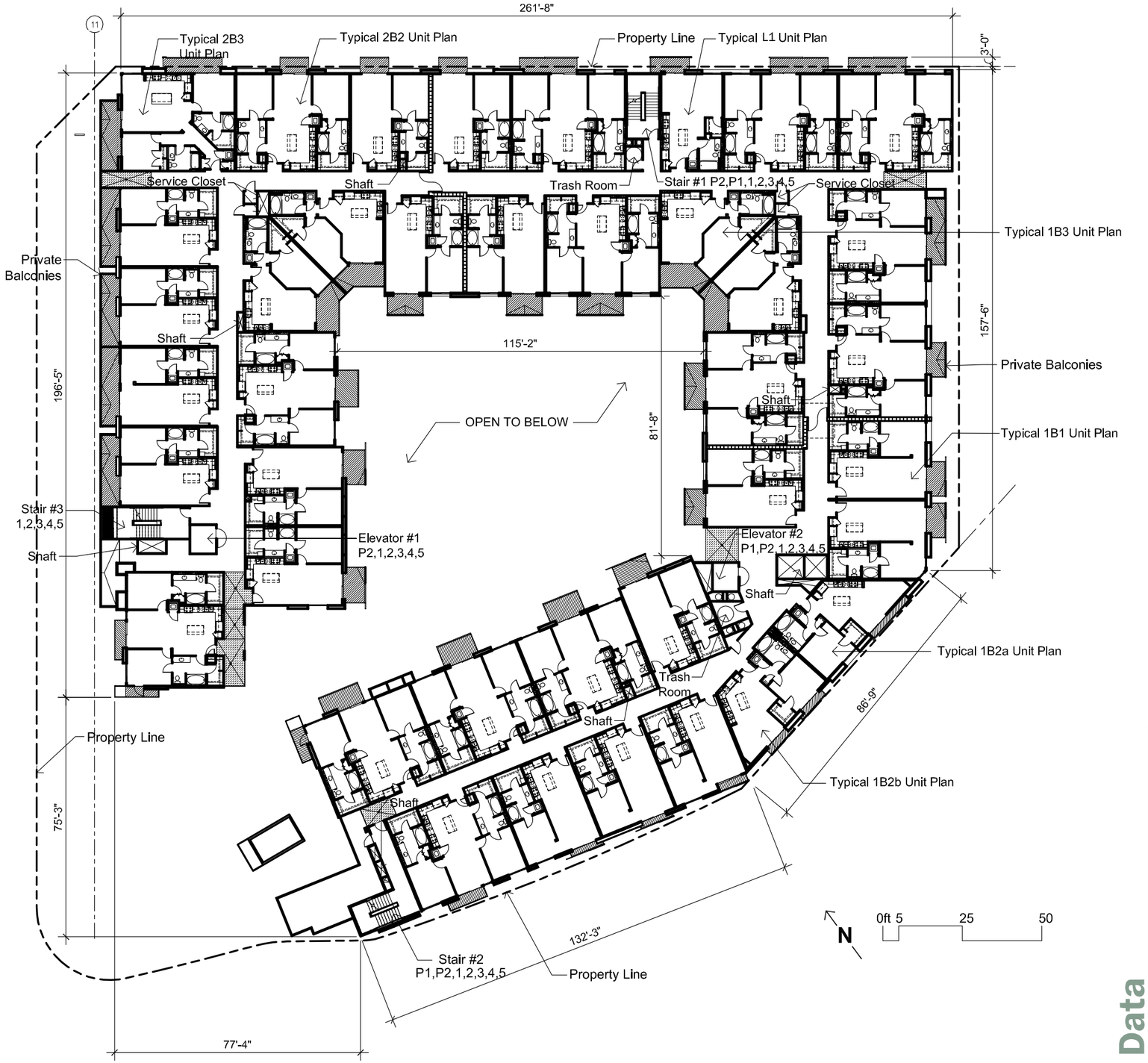
Cafe Space 2 Enlargement

Data

Unit Summary

Unit Type	Description	Number of Units
L1	Studio	1
1B1	1 Bedroom Flat	16
1B2a	1 Bedroom Flat	1
1B2b	1 Bedroom Flat	1
1B3	1 Bedroom Flat	4
1B1TH	2 Bedroom Townhouse	0
2B2	2 Bedroom Flat	13
2B3	2 Bedroom Flat	1
2B2TH	3 Bedroom Townhouse	0
2B2TH-2	3 Bedroom Townhouse	0
2B3TH	3 Bedroom Townhouse	0
Total Number of Units		**37**

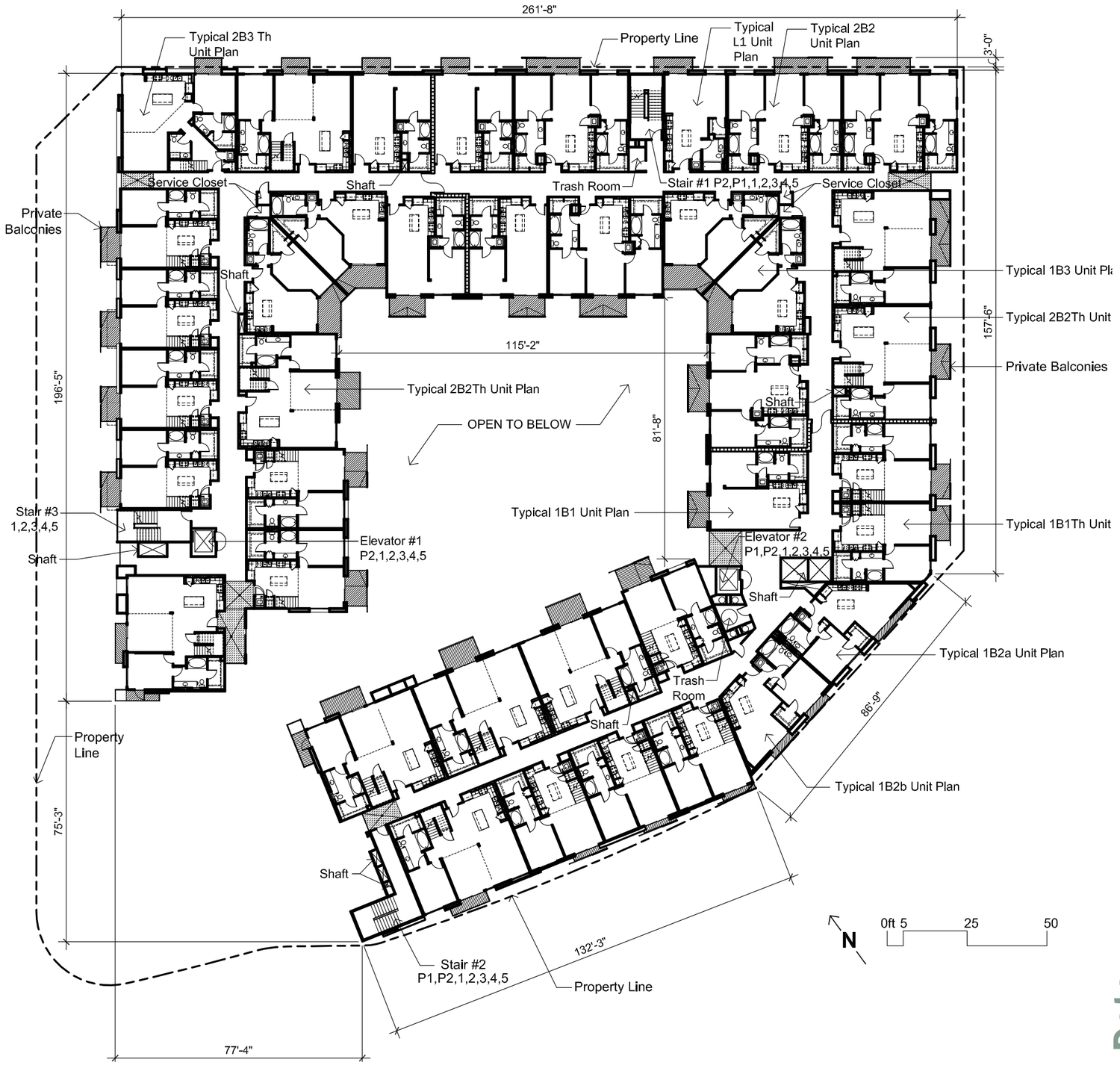
Third Level



Unit Summary

Unit Type	Description	Number of Units
L1	Studio	1
1B1	1 Bedroom Flat	17
1B2a	1 Bedroom Flat	1
1B2b	1 Bedroom Flat	1
1B3	1 Bedroom Flat	4
1B1TH	2 Bedroom Townhouse	0
2B2	2 Bedroom Flat	14
2B3	2 Bedroom Flat	1
2B2TH	3 Bedroom Townhouse	0
2B3TH	3 Bedroom Townhouse	0
Total Number of Units		**39**

Fourth Level

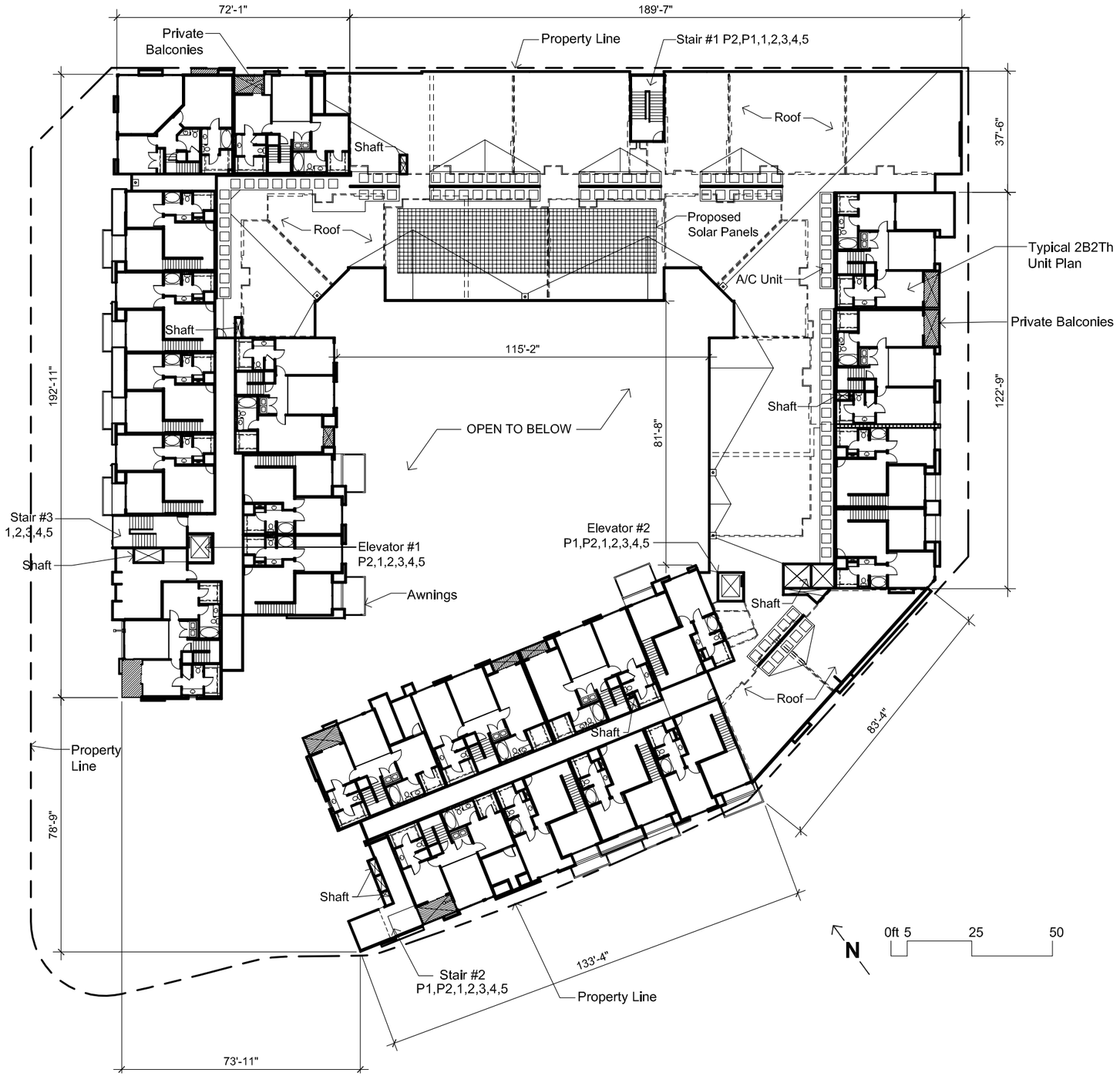


Data

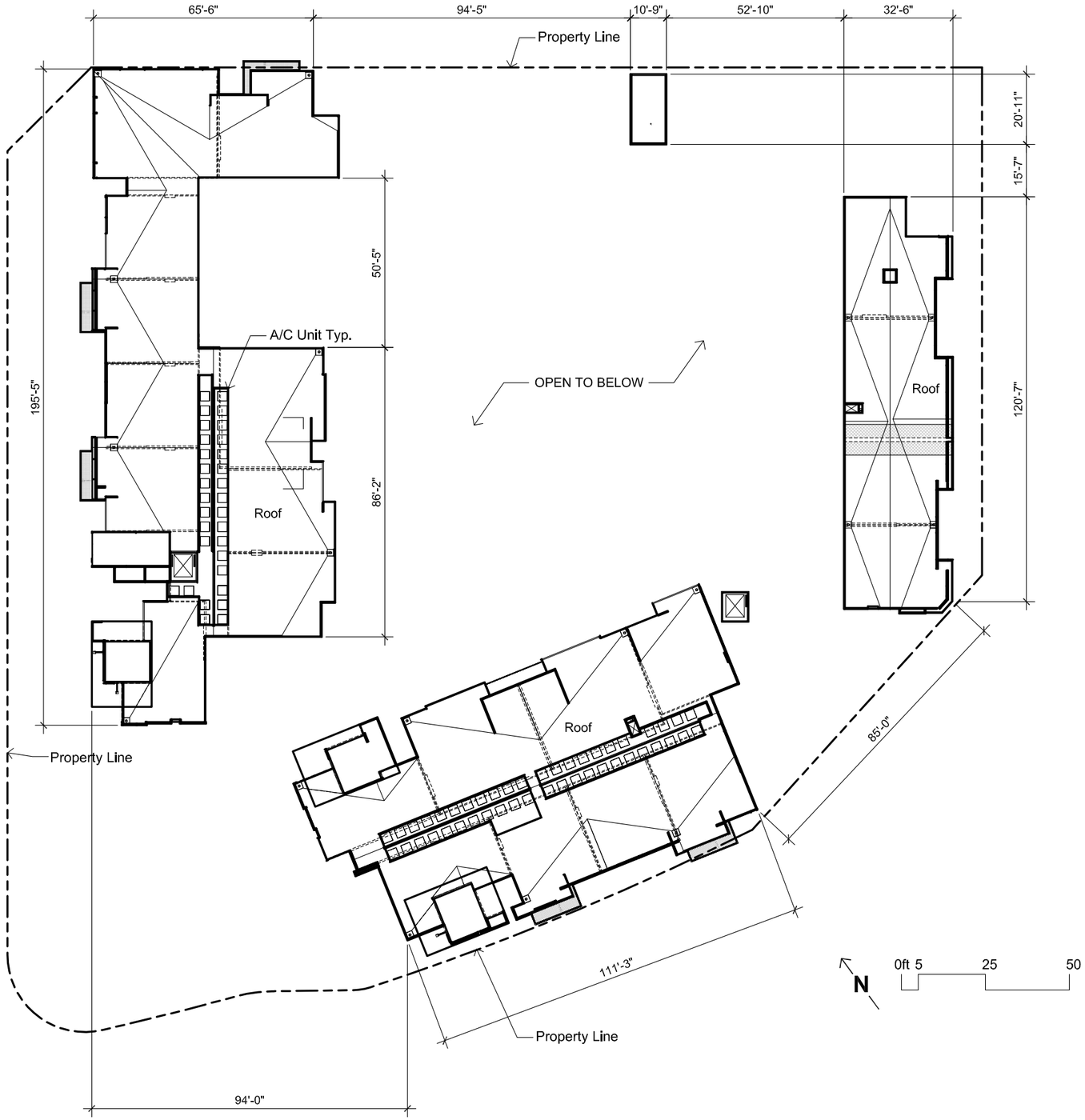
Unit Summary

Unit Type	Description	Number of Units
L1	Studio	1
1B1	1 Bedroom Flat	5
1B2a	1 Bedroom Flat	1
1B2b	1 Bedroom Flat	1
1B3	1 Bedroom Flat	4
1B1TH	2 Bedroom Townhouse	12
2B2	2 Bedroom Flat	5
2B3	2 Bedroom Flat	0
2B2TH	3 Bedroom Townhouse	9
2B3TH	3 Bedroom Townhouse	1
Total Number of Units		**39**

Fifth Level | Mezzanine

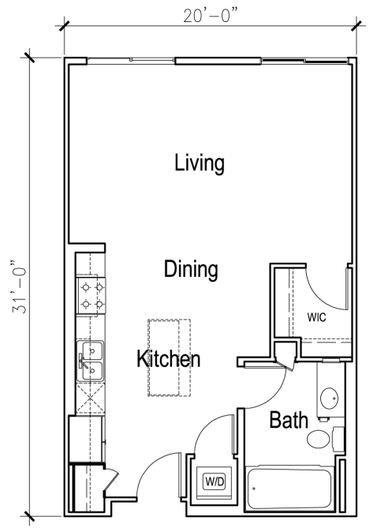


Roof Level

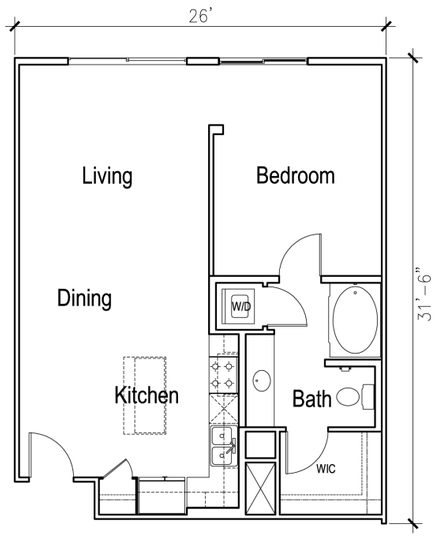

65'-6"
94'-5"
10'-9"
52'-10"
32'-6"
Property Line
20'-11"
15'-7"
50'-5"
A/C Unit Typ.
195'-5"
OPEN TO BELOW
Roof
120'-7"
86'-2"
Roof
Roof
85'-0"
Property Line
111'-3"
Property Line
94'-0"
N
0ft 5 25 50

Typical Unit Plans

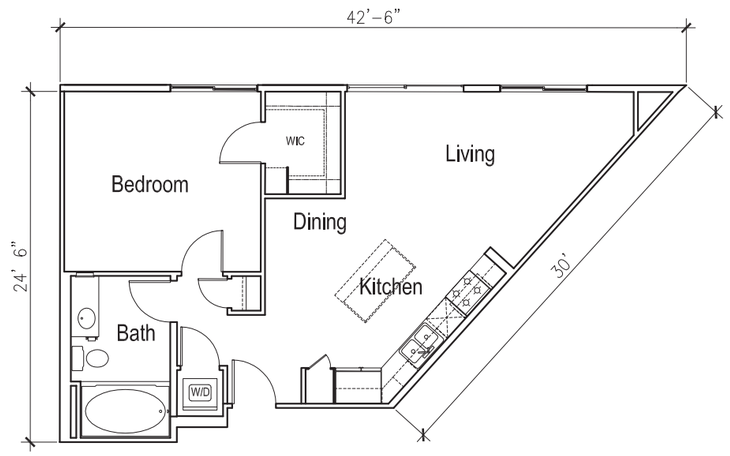
Patios and balconies vary by unit, level, location and availability and therefore are not shown on the unit plans. See floor plans for each level.



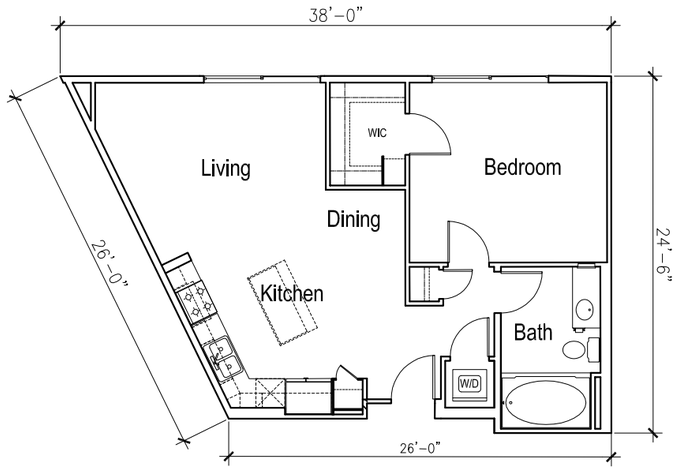
Unit L1 607 sf
Studio 3 Units Total



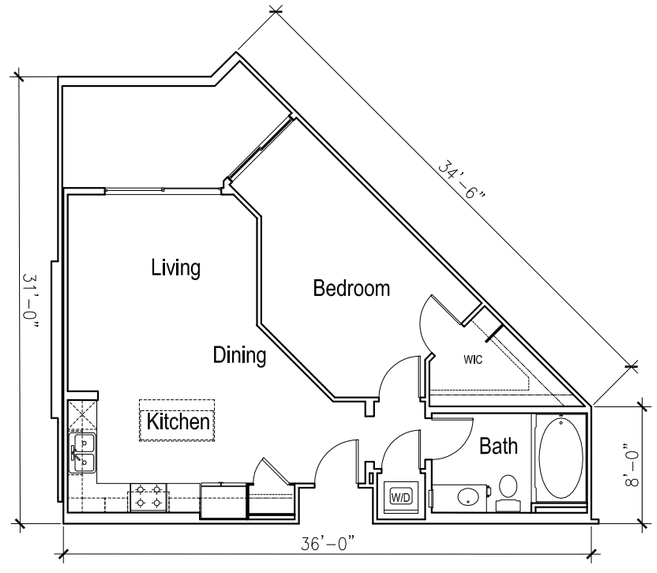
Unit 1B1 762 sf
1 bed / 1 bath 38 Units Total



Unit 1B2a 754 sf
1 bed flat 3 Units Total



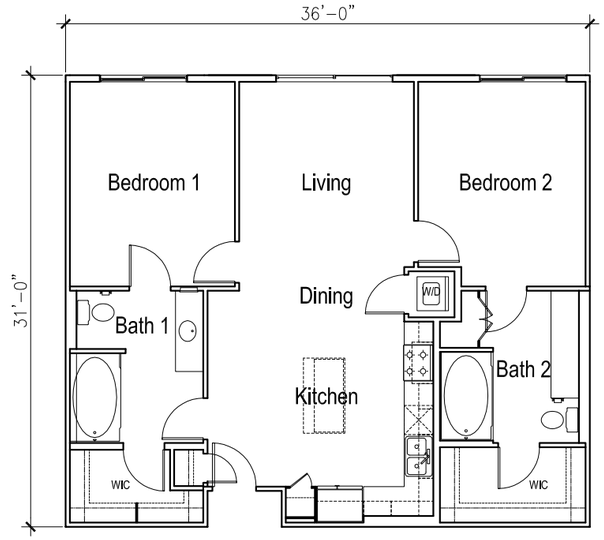
Unit 1B2b 756 sf
1 bed flat 3 Units Total



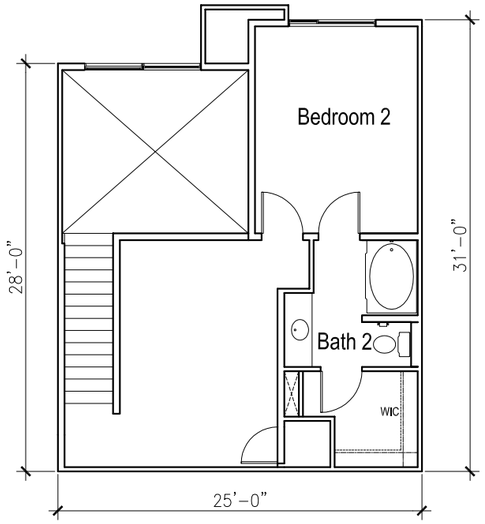
Unit 1B3 738 sf
1 bed flat 12 Units Total

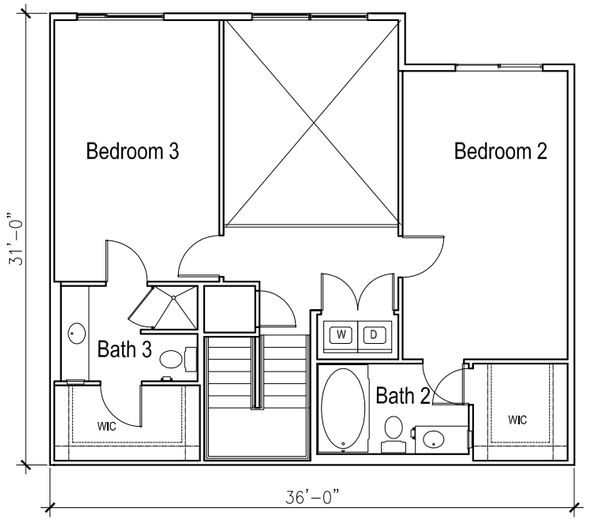
Typical Unit Plans

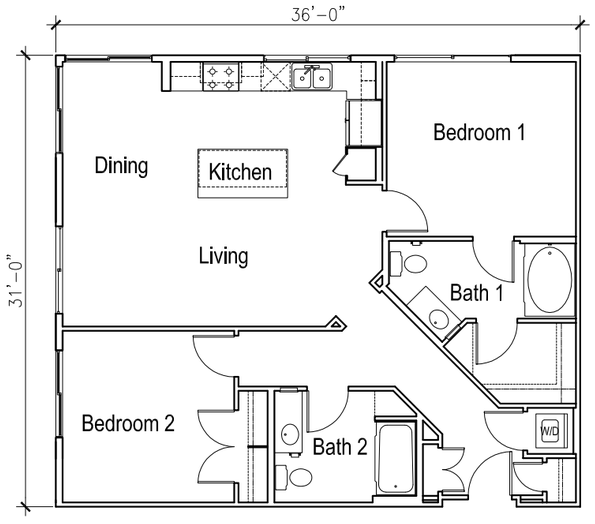
Patios and balconies vary by unit, level, location and elevation and therefore are not shown on the unit plans. See floor plans for each level.



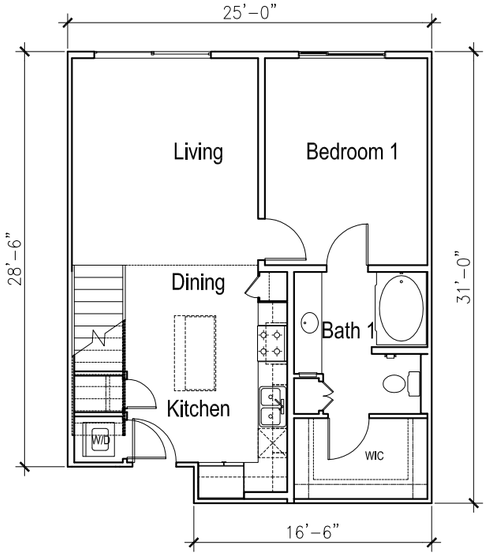
Unit 2B2 1104 sf
2 bed flat 32 Units Total



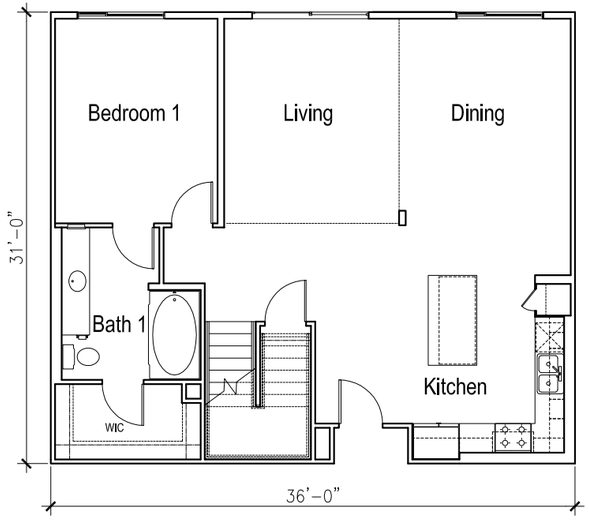




Unit 2B3 1114 sf
2 bed flat 2 Units Total



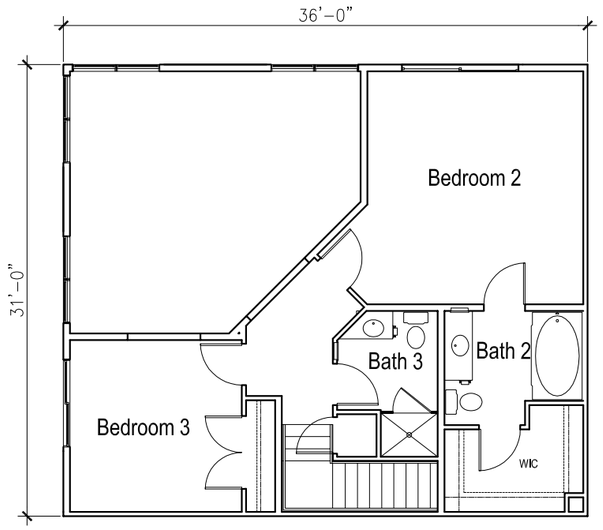
Unit 1B1 Th 1289 sf
2 bed townhome 12 Units Total

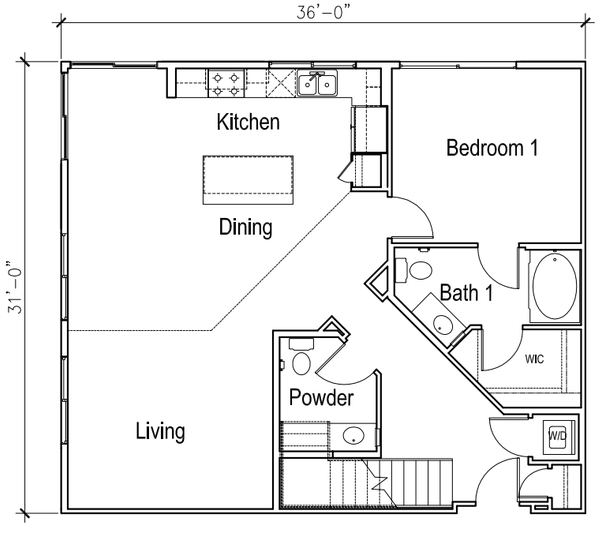


Unit 2B2 Th 1758 sf
3 bed townhome 9 Units Total

Typical Unit Plans

Patios and balconies vary by unit, level, location and therefore are not shown on the unit plans. See floor plans for each level.





Unit 2B3 Th 1844 sf

3 bed townhome 1 Units Total

06 | ELEVATIONS

Washington Boulevard Elevation

Material Legend

1. Stucco Color #1 - DE5718 - Mother Earth - Dunn - Edwards or Equal
2. Stucco Color #2 - DE6243 - Union Springs - Dunn - Edwards or Equal
3. Stucco Color #3 - DEW339 - Bone China - Dunn - Edwards or Equal
4. Stucco Color #4 - DEW339- Bone China - Smooth Finish Dunn - Edwards or Equal
5. Stucco Color #5 - DE6370 - Charcoal Smudge - Dunn - Edwards or Equal
6. Stucco Color #6 - DE5515 - Ripe Pear - Dunn - Edwards or Equal
7. Stucco Color #7 to Match Dark Bronze
8. Corrugated Metal Siding - Galvanized
9. Standing Seam Metal - to Match DE6243 - Union Spring
10. Corrugated Metal Siding - to Match Mother Earth
11. Vinyl Window to Match Clear Anodized with Tinted Glass
12. Vinyl Window to Match Dark Bronze with Tinted Glass
13. Metal Rail / Frame / Panel / Brace / Awning to Match Dark Bronze
14. Metal Wire Mesh - to Match Clear Anodized
15. Metal Wire Mesh - to Match Dark Bronze
16. Clear Anodized Alumnium Storefront with Clear Glass
17. Architectural Plaster - Simulated Concrete

National Boulevard Elevation

Material Legend

1. Stucco Color #1 - DE5718 - Mother Earth - Dunn - Edwards or Equal
2. Stucco Color #2 - DE6243 - Union Springs - Dunn - Edwards or Equal
3. Stucco Color #3 - DEW339 - Bone China - Dunn - Edwards or Equal
4. Stucco Color #4 - DEW339- Bone China - Smooth Finish Dunn - Edwards or Equal
5. Stucco Color #5 - DE6370 - Charcoal Smudge - Dunn - Edwards or Equal
6. Stucco Color #6 - DE5515 - Ripe Pear - Dunn - Edwards or Equal
7. Stucco Color #7 to Match Dark Bronze
8. Corrugated Metal Siding - Galvanized
9. Standing Seam Metal - to Match DE6243 - Union Spring
10. Corrugated Metal Siding - to Match Mother Earth
11. Vinyl Window to Match Clear Anodized with Tinted Glass
12. Vinyl Window to Match Dark Bronze with Tinted Glass
13. Metal Rail / Frame / Panel / Brace / Awning to Match Dark Bronze
14. Metal Wire Mesh - to Match Clear Anodized
15. Metal Wire Mesh - to Match Dark Bronze
16. Clear Anodized Alumnium Storefront with Clear Glass
17. Architectural Plaster - Simulated Concrete

Side Yard Elevation

Material Legend

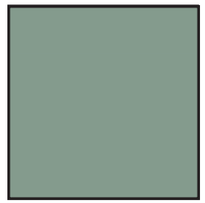
1. Stucco Color #1 - DE5718 - Mother Earth - Dunn - Edwards or Equal
2. Stucco Color #2 - DE6243 - Union Springs - Dunn - Edwards or Equal
3. Stucco Color #3 - DEW339 - Bone China - Dunn - Edwards or Equal
4. Stucco Color #4 - DEW339- Bone China - Smooth Finish Dunn - Edwards or Equal
5. Stucco Color #5 - DE6370 - Charcoal Smudge - Dunn - Edwards or Equal
6. Stucco Color #6 - DE5515 - Ripe Pear - Dunn - Edwards or Equal
7. Stucco Color #7 to Match Dark Bronze
8. Corrugated Metal Siding - Galvanized
9. Standing Seam Metal - to Match DE6243 - Union Spring
10. Corrugated Metal Siding - to Match Mother Earth
11. Vinyl Window to Match Clear Anodized with Tinted Glass
12. Vinyl Window to Match Dark Bronze with Tinted Glass
13. Metal Rail / Frame / Panel / Brace / Awning to Match Dark Bronze
14. Metal Wire Mesh - to Match Clear Anodized
15. Metal Wire Mesh - to Match Dark Bronze
16. Clear Anodized Alumnium Storefront with Clear Glass
17. Architectural Plaster - Simulated Concrete

Wesley Street Elevation

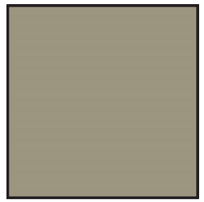
Material Legend

1. Stucco Color #1 - DE5718 - Mother Earth - Dunn - Edwards or Equal
2. Stucco Color #2 - DE6243 - Union Springs - Dunn - Edwards or Equal
3. Stucco Color #3 - DEW339 - Bone China - Dunn - Edwards or Equal
4. Stucco Color #4 - DEW339- Bone China - Smooth Finish Dunn - Edwards or Equal
5. Stucco Color #5 - DE6370 - Charcoal Smudge - Dunn - Edwards or Equal
6. Stucco Color #6 - DE5515 - Ripe Pear - Dunn - Edwards or Equal
7. Stucco Color #7 to Match Dark Bronze
8. Corrugated Metal Siding - Galvanized
9. Standing Seam Metal - to Match DE6243 - Union Spring
10. Corrugated Metal Siding - to Match Mother Earth
11. Vinyl Window to Match Clear Anodized with Tinted Glass
12. Vinyl Window to Match Dark Bronze with Tinted Glass
13. Metal Rail / Frame / Panel / Brace / Awning to Match Dark Bronze
14. Metal Wire Mesh - to Match Clear Anodized
15. Metal Wire Mesh - to Match Dark Bronze
16. Clear Anodized Alumnium Storefront with Clear Glass
17. Architectural Plaster - Simulated Concrete

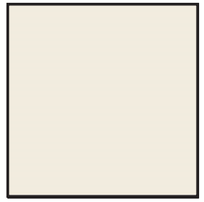
Colors and Materials List



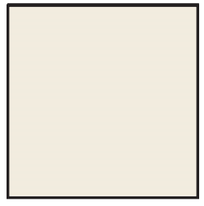
1	Stucco Color 1 To Match DE5718 Mother Earth Dunn-Edwards or Equal



2	Stucco Color 2 To Match DE6243 Union Spring Dunn-Edwards or Equal

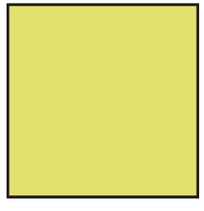


3	Stucco Color 3 To Match DEW339 Bone China Dunn-Edwards or Equal

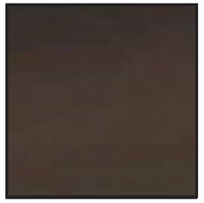


4	Stucco Color 4 To Match DEW339 Bone China Smooth Finish Dunn-Edwards or Equal

5	Stucco Color 5 To Match DE6370 Charcoal Smudge Dunn-Edwards or Equal



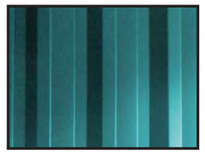
6	Stucco Color 6 To Match DE5515 Ripe Pear Dunn-Edwards or Equal



7	Stucco Color 7 To Mach Dark Bronze

8	Corrugated Metal Siding (Wall Panel-V-Line 32) Galvanized

9	Standing Seam Metal (Wall Panel-Pro-Loc I) To Match DE6243 Union Springs

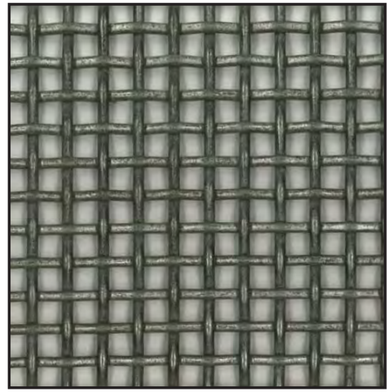


10	Corrugated Metal Siding (Wall Panel-V-Line 32) To Match DE5718 Mother Earth

11	Vinyl Window to Match Clear Anodized

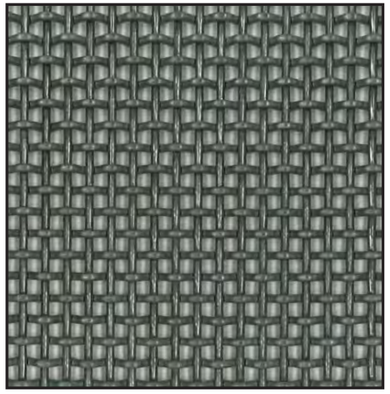
12	Vinyl Window to Match Dark Bronze

13	Metal Rail / Frame / Panel / Brace To Match Dark Bronze



14a	Metal Wire Mesh 5/16”opening, 9 GA over/under To Match Clear Anodized

14b	Metal Wire Mesh 5/16”opening, 9 GA over/under To Match Dark Bronze

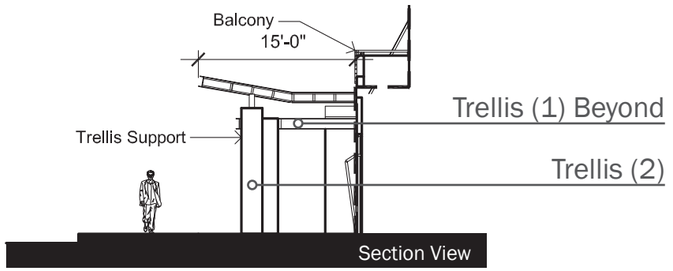


15	Metal Wire Mesh 3/16”opening, 11 GA over/under To Match Clear Anodized

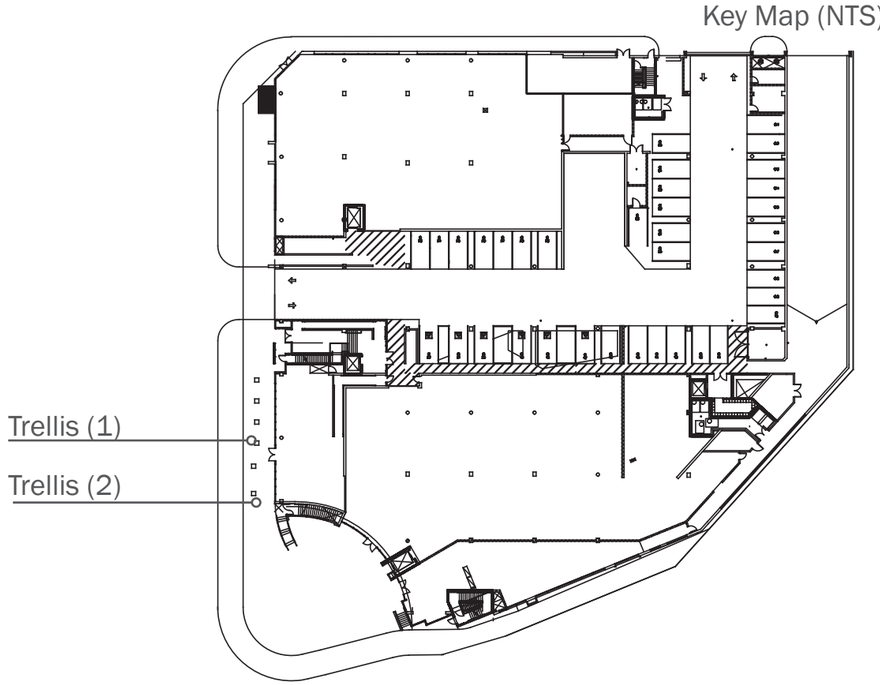
16	Clear Anodized Aluminum Storefront With Clear Glass

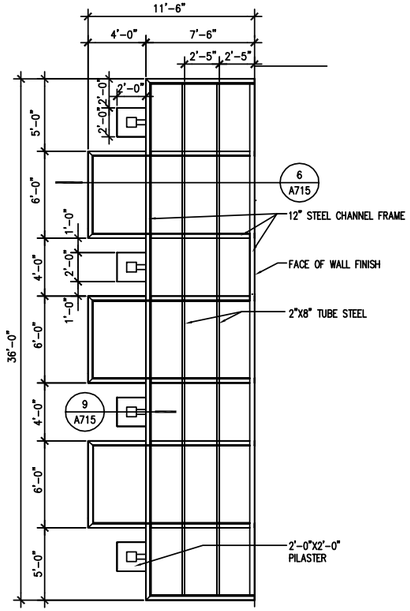
17	Architectural Plaster Simulated Concrete

Trellis Elevations/Details

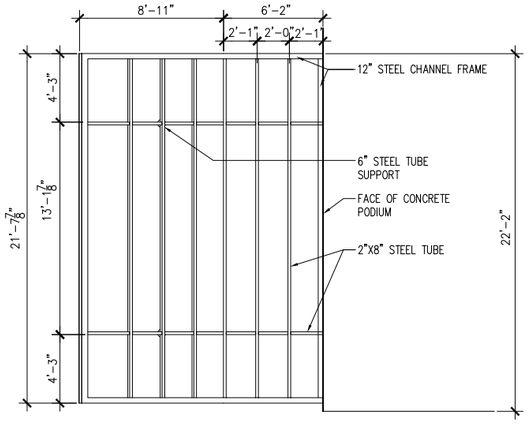


Key Map (NTS)





Trellis (1) Plan View



Trellis (2) Plan View

07 | CONCEPTUAL LANDSCAPE PLAN

Conceptual Landscape Plan

Landscape Concept

The Legado Crossing exterior has four distinctive landscape areas; the Public Park, the Washington National TOD Streetscape, On-site Perimeter Landscape, and the Residential Courtyard. Each having unique landscape characters summarized below.

Public Park Concept Plan

The landscape design for the Project public park is intended to soften the intersection of Washington and National Boulevards – a prominent corner in the Washington National TOD District. The park is a multi-purpose space – an amenity welcoming Expo Line travelers arriving at the Culver City Expo transit station and an attractive respite for local residents, workers and shoppers.

The park is an organic, flowing space rather than a typical symmetric commercial plaza. The open space is provided on two levels to create variety in opportunities for sitting, socializing and an overlook for the emerging commercial area and the new light rail train.

The plan includes on grade planting to accommodate mature tree planting along the project western edge, a water feature (which is proposed for the project public art piece as required under the Art in Public Places Ordinance), on grade planters with native trees, shrubs and ground covers and stylized bench seating. The elevation of the park at Washington and National Boulevards is resolved at the building line with a series stepped plazas and planters. Overall, the public open space provides an attractive and much needed park amenity for the area.

Hardscape

The park gently slopes from the street frontage to the building line with ramps and series of steps. Some of the grade changes are resolved as planters or with seating. There is significant planter area surrounded by colored concrete paving, saw cut to emphasize the stylized paving pattern.

Seating

Free-form bench seating is located within the on-grade and second level open space. The bench seating helps organize and define the space and is proposed to be constructed of a natural material that provides a tactile, but comfortable sitting experience.

Public Art - Water Feature

The park includes a water feature at the ground level that is intended to create a kinetic experience with the movement of falling water. The artist's design is intended to resemble a fabric of "sequins", with each sequin moving individually from the action of water and scattering reflected light over the space.

Landscape

Three large planting areas on the lower level, as well as two on the podium level define the space. The topography of these areas is shaped to flow with the overall design of the plaza, and add visual interest. The planting palette has distinct themes inspired by various native Californian eco systems – riparian, chaparral and coastal bluff. The area along National Boulevard will feature a riparian environment: A large, multi-trunk Western Sycamore Tree (Platanus Racemosa) provides shade and creates a counterpoint to the large Ficus Tree in the park across the street. Along with the Sycamore, smaller riparian plants (Spice bush (Calicanthus Occidentalus), Coralbells (Heuchera), Scarlet Monkeyflower (Mimulus Cardinalis), California Sword Fern (Woodwardia Fimbriata), etc), Western Mock Orange (Philadelphus Lewisii) and a Western Redbud Tree (Cercis Occidentalis) are combined to create a lush, layered landscape.

The two planting areas along Washington Boulevard will feature a chaparral environment. In the planter closer to the street several Bigberry Manzanita (Arctostaphylos Glauca) and Desert Willow (Chitalpa) Trees will provide a shade canopy. These trees have a more delicate character and create interest with their trunk shapes. The Chitalpa Tree as well as additional plants like the California Sage Brush (Artemisia Californica), Desert Lavender (Hyptis Emoryi), California Evening Primrose (Oenothera Californica), etc. create a fragrant landscape. The planter closer to the staircase leading up is planted with Acacia trees (Acacia Stenophylla) that create a taller, but transparent / lace-like filter to the building.

The raised planter beds upstairs will reference a coastal bluff environment: A California Laurel Tree (Umbellularia Californica) is combined with Wild Lilac (Cantus spp.), Coyote Mint (Mona Della Villas), Coffee Berry (Rhombus Californica), Hummingbird Sage (Salvia Spathacea), etc. The filtration planters located in this area feature riparian plants like Creek Dogwood (Cornus sericea), Rush (Juncus spp.), etc.

*Water feature conceptual illustration only

View of the corner of National and Washington Blvd

Conceptual Landscape Plan

Washington National TOD District Streetscape Plan

The Washington National TOD District Streetscape shall follow pre-established Culver City TOD District Streetscape Plan. Street trees and furnishings shall be coordinated with the City. The project is required to comply with the streetscape program for the area which is to be funded on a pro rata basis by area developments. Streetscape improvements shall include new street trees, planters, tree grates, way-finding signs, benches, trash receptacles, bicycle racks, and other street furniture.

On-Site Perimeter Landscape at Ground Level

The perimeter plantings along National Blvd. and the southern façade shall be a combination of narrow, vertical plant materials that prevent graffiti where blank walls occur, and help to reduce the scale of the buildings. These plant materials shall include: Alphonse Karr Bamboo, Silver Sheen Kohuhu (Pittosporum tenuifolium 'Silver Sheen'), and Lavender Starflower (Grewia occidentalis).

Along Washington Blvd. at the architectural trellis that extends from the building along the retail spaces just east of the community benefit open space, flowering vines shall be planted at the base of each column so that the trellis will have an attractive, flowering cover. A narrow Italian Cypress shall be planted at each column, to provide a landscape expression of the rhythm of the columns. A low hedge between the Cypress trees separates the sidewalk traffic from the storefront/restaurant activity.

Residential Courtyard at Podium Level

The landscape design of the private courtyard at the podium level shall provide the residents of the development with the opportunity to enjoy the open space both within and outside of the pool enclosure. Outside of the enclosure, there shall be a common space, contiguous to the interior amenities, for group gatherings. A gas barbeque and built-in counter top shall be provided for the space. The walkway that meanders around the perimeter of the space shall be landscaped with raised planters generally occurring on both sides of the walkway. Along the path there shall be a sitting 'nook' for a small group of people; a plinth with a piece of sculpture; a recycled 'wood' deck area in front of a fireplace; and a 'dining' area with another gas BBQ in a built-in countertop and space for multiple groupings of tables and chairs.

The plant palette encompassing this meandering walkway shall include a rich variety of plant materials such as: Lemon Bottlebrush, Olive, Smoke Tree, Silk Floss Tree, varieties of Bamboo, Strawberry Tree and Italian Cypress. A portion of the planters shall be filtration planters that treat the rainwater from the roof before it is discharged into the municipal stormwater system. Inside the pool enclosure, there shall be a pool and spa with an associated outdoor shower; two cabanas; lounging deck around the pool; and a large metal trellis that covers a 'wood' deck area for shaded seating, and for enjoying the second side of the outdoor fireplace.

Conceptual Streetscape Plan & On-Site Perimeter Landscaping

PLANT LEGEND

	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	TREES			
ARB MAR	ARBUTUS 'MARINA'	STRAWBERRY TREE	36" BOX	
BAM OLD	BAMBUSA OLDHAMII	GIANT TIMBER BAMBOO	36" BOX	
CAL CIT	CALLISTEMON CITRINUS 'VIOLACEUS'	LEMON BOTTLEBRUSH	24" & 36" BOX	
COT COG	COTINUS COGGYGRIA	SMOKE TREE	24" BOX	
CUP SEM	CUPRESSUS SEMPERVIRENS	ITALIAN CYPRESS	24" & 36" BOX	
EUC TOR	EUCALYPTUS TORQUATA	CORAL GUM	24" & 36" BOX	
GEI PAR	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	34" BOX	
MAG STE	MAGNOLIA STELLATA 'CENTENNIAL'	STAR MAGNOLIA	24" BOX	
OLE EUR	OLEA EUROPAEA 'SWAN HILL'	OLIVE "SWAN HILL" FRUITLESS	36", 48" BOX	
PLA ACE	PLATANUS ACERIFOLIA	LONDON PLANE TREE	24" BOX	
ROB AMB	ROBINIA X AMBIGUA	LOCUST	36" BOX	
TAB IPE	TABEBUIA IPE	PINK TRUMPET TREE	24" BOX	
TRI CON	TRISTANIA CONFERTA	BRISBANE BOX	24" BOX	
WAS ROB	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM / SKINNED	14' BTH	
	SHRUBS			
AA	AGAVE ATTENUATA	FOXTAIL AGAVE	5 GAL	36" O.C.
BA	BAMBUSA 'ALPHONSE KARR'	'ALPHONSE KARR' BAMBOO	15 GAL	4' O.C.
BM	BUXUS MICROPHYLLA 'JAPONICA'	LITTLELEAF BOXWOOD	5 GAL	12" O.C.
CL	CALLISTEMON 'LITTLE JOHN'	DWARF BOTTLEBRUSH	5 GAL	30" O.C.
CP	CISTUS X PURPUREUS	ORCHID ROCKROSE	5 GAL	42" O.C.
DV	DIETES VEGETA	FORTNIGHT LILY	5 GAL	24" O.C.
DD	DODONAEA VISCOSA 'PURPUREA'	HOPSEED BUSH	15 GAL	36" O.C.
EC	ECHIUM CANDICANS	PRIDE OF MADEIRA	15 GAL	48" O.C.
FJ	FATSIA JAPONICA	JAPANESE ARALIA	15 GAL	48" O.C.
FM	FESTUCA MAIREI	ATLAS FESCUE	5 GAL	24" O.C.
GO	GREWIA OCCIDENTALIS	LAVENDER STARFLOWER	15 GAL	36" O.C.
HS	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL	18' O.C.
LS	LAVANDULA STOECHAS 'OTTO QUAST'	SPANISH LAVENDER	5 GAL	24" O.C.
LM	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILY TURF	5 GAL	18" O.C.
MS	MISCANTHUS SINENSIS 'ADAGIO'	ADAGIO MAIDEN GRASS	5 GAL	30" O.C.
MC	MUHLENBERGIA CAPILLARIS	PINK MUHLY	5 GAL	24" O.C.
NC	NANDINA DOMESTICA 'COMPACTA'	DWARF HEAVENLY BAMBOO	15 GAL	36" O.C.
ND	NANDINA DOMESTICA 'HARBOR DWARF'	HEAVENLY BAMBOO	5 GAL	24" O.C.
NT	NASELLA TENUISSIMA	MEXICAN FEATHER GRASS	5 GAL	24" O.C.
PO	PENNISETUM ORIENTALE	ORIENTAL FOUNTAIN GRASS	5 GAL	24" O.C.
PB	PHORMIUM TENAX 'BRONZE BABY'	NEW ZEALAND FLAX	5 GAL	36" O.C.
PDD	PHORMIUM TENAX 'DARK DELIGHT'	NEW ZEALAND FLAX	5 GAL	36" O.C.
PJ	PHORMIUM TENAX 'JACK SPRATT'	NEW ZEALAND FLAX	5 GAL	18" O.C.
PMJ	PHORMIUM TENAX 'MARGARET JONES'	NEW ZEALAND FLAX	5 GAL	36" O.C.
PP	PHORMIUM TENAX 'PINK STRIPE'	NEW ZEALAND FLAX	15 GAL	36" O.C.
PY	PHORMIUM TENAX 'YELLOW WAVE'	NEW ZEALAND FLAX	5 GAL	36" O.C.
PS	PITTOSPORUM TENUIFOLIUM 'SILVER SHEEN'	KOHUHU	15 GAL	36" O.C.
RO	ROSMARINUS OFFICINALIS 'PROSTRATUS'	ROSEMARY	5 GAL	36" O.C.
SC	SANTOLINA CHAMAECYPARISSUS	LAVENDER COTTON	5 GAL	24" O.C.
SL	SALVIA LEUCANTHA	MEXICAN BUSH SAGE	5 GAL	24" O.C.
SJ	STRELITZIA JUNCEA	BIRD OF PARADISE	15 GAL	30" O.C.
	GROUNDCOVERS			
ROP	ROSMARINUS OFFICINALIS 'PROSTRATUS'	PROSTRATE ROSEMARY	FLATS	12" O.C.
	VINES & ESPALIERS			
▼	DISTICTIS RIVERS	TRUMPET VINE		

LANDSCAPE PLANS

Conceptual Plaza Landscape

PLANT PALETTE - PUBLIC OPEN SPACE	
BOTANICAL NAME	COMMON NAME
'CHAPARRAL' ZONE	
ACACIA STENOPHYLLA	SHOESTRING ACACIA
ARCTOSTAPHYLOS GLAUCA	BIGBERRY MANZANITA
CEANOTHUS SPP.	CENOTHUS
CERCIDIUM X DESERT MUSEUM	DESERT MUSEUM PALO VERDE
CHITALPA X	DESERT WILLOW HYBRID
ARTEMISIA CALIFORNICA	CALIFORNIAN SAGE BRUSH
HYPTIS EMORYI	DESERT LAVENDER
OENOTHERA CALIFORNICA	CALIFORNIA EVENING PRIMROSE
PHILADELPHUS LEWISII	WESTERN MOCK ORANGE
AGAVE SHAWII	SHAW'S AGAVE
HESPERALOE PARVIFLORA	RED YUCCA
YUCCA WHIPPLEI	OUR LORD'S CANDLE
NOLINA PARRYI	PARRY BEARGRASS
SALVIA SPP.	SAGE
ROMNEYA COULTERI	MATILIJA POPPY
AESCULUS CALIFORNICA	CALIFORNIA BUCKEYE
ERIOGONUM SPP.	BUCKWHEAT
'COASTAL BLUFF' ZONE	
MELALEUCA QUINQUENERVIA	CAJEPUT TREE
UMBELLULARIA CALIFORNICA	CALIFORNIA LAUREL
HETEROMELES ARBUTIFOLIA	TOYON
SALVIA SPATHACEA	HUMMING BIRD SAGE
MONARDELLA VILLOSA	COYOTE MINT
RHAMNUS CALIFORNICA	COFFEE BERRY
BERBERIS 'GOLDEN ABUNDANCE'	GOLDEN ABUNDANCE BARBERRY
BACCHARIS PILULARIS 'PIGEON PONT'	PROSTRATE COYOTE BUSH
ERIOGONUM SPP.	BUCKWHEAT
RIBES VIBURNIFOLIUM	EVERGREEN CURRANT
PRUNUS ILICIFOLIA	HOLLYLEAF CHERRY
SALVIA SPP.	SAGE
CEANOTHUS SPP.	WILD LILAC
DUDLEYA PULVERULENTA	CHALK DUDLEYA
MALACOTHAMNUS FASCICULATUS	SOUTHERN BUSH MALLOW
DODONEA VISCOSA	HOP BUSH
'RIPARIAN' ZONE	
PLATANUS RACEMOSA	CALIFORNIA SYCAMORE
CERCIS OCCIDENTALIS	WESTERN REDBUD
ACER NEGUNDO VAR. CALIFORNICUM	CALIFORNIA BOX ELDER
BERBERIS SPP.	BARBERRY
CORNUS SERICEA	CREEK DOGWOOD
MIMULUS SPP.	MONKEY FLOWER
ADIANTUM SPP.	MAIDEN HAIR
CALYCANTHUS	SPICE BUSH
HEUCHERA	CORALBELLS
POLYSTICHUM CALIFORNICUM	CALIFORNIA SWORD FERN
MALVA ROSA	ISLAND MALLOW
WOODWARDIA FIMBRIATA	GIANT CHAIN FERN
LAVATERA ASSURGENTIFLORA	MALVA ROSA
CAREX SPP.	SEDGE
RIBES SPECIOSUM	FUCHSIA-FLOWERED GOOSEBERRY
JUNCUS SPP.	RUSH

PUBLIC PARKS/STREETSCAPE

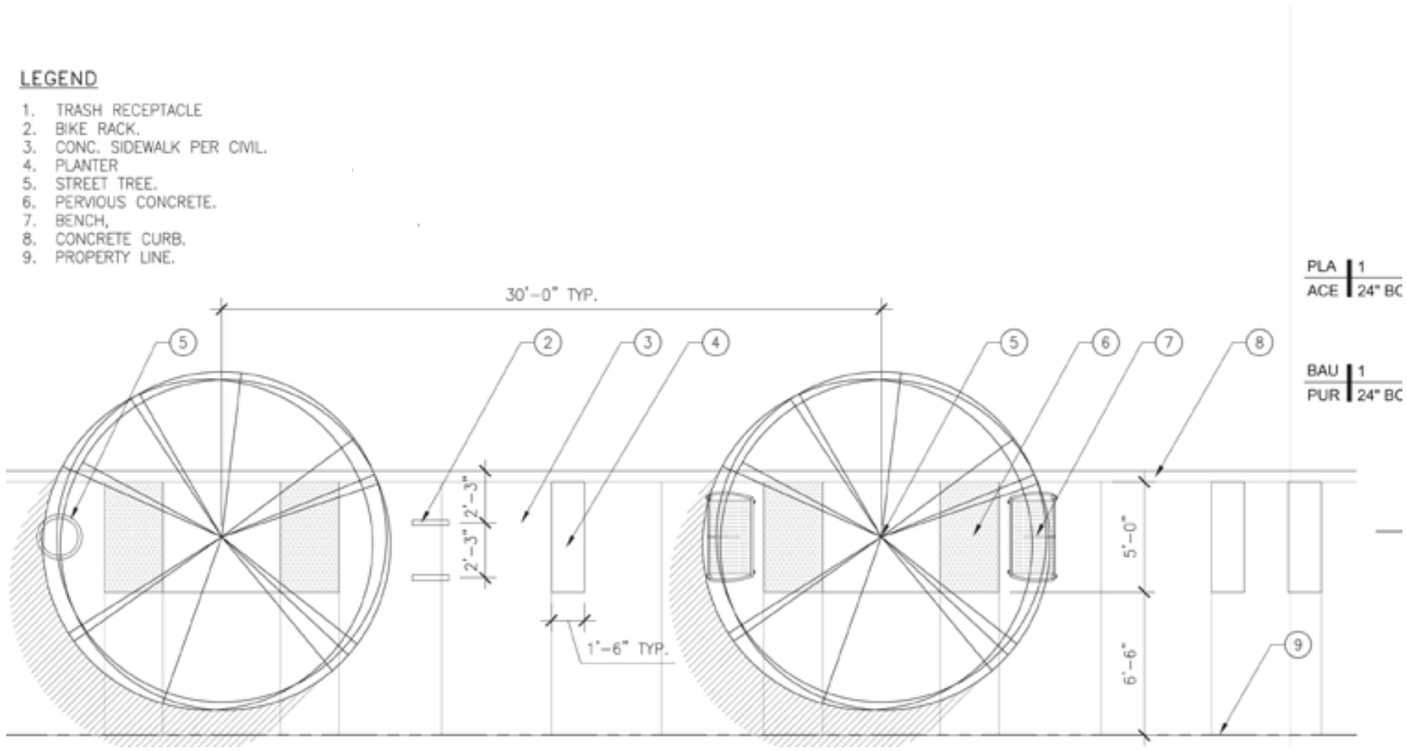
Conceptual Courtyard Landscape Plan

PLANT LEGEND - RESIDENTIAL COURTYARD				
	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	TREES			
ARB MAR	ARBUTUS 'MARINA'	STRAWBERRY TREE	36" BOX	
BAM OLD	BAMBUSA OLDHAMII	GIANT TIMBER BAMBOO	36" BOX	
CAL CIT	CALLISTEMON CITRINUS 'VIOLACEUS'	LEMON BOTTLEBRUSH	36" BOX, 15 GAL	
COT COG	COTINUS COGGYGRIA 'ROYAL PURPLE'	SMOKE TREE	24" BOX	
CUP SEM	CUPRESSUS SEMPERVIRENS	ITALIAN CYPRESS	24" & 36" BOX	
MAG STE	MAGNOLIA STELLATA 'CENTENNIAL'	STAR MAGNOLIA	24" BOX	
OLE EUR	OLEA EUROPAEA 'SWAN HILL'	OLIVE "SWAN HILL" - FRUITLESS	36", 48" BOX	
	SHRUBS			
AV	ABUTILON 'VESUVIUS RED'	'VESUVIUS RED' CHINESE LANTERN	5 GAL	36" O.C.
AE	ASPIDISTRA ELATIOR 'VARIEGATA'	CAST-IRON PLANT - VARIEGATED	5 GAL	24" O.C.
AJ	AUCUBA JAPONICA 'VARIEGATA'	JAPANESE AUCUBA	5 GAL	36" O.C.
BA	BAMBUSA 'ALPHONSE KARR'	'ALPHONSE KARR' BAMBOO	15 GAL	4' O.C.
CB	CAREX BUCHANANII	LEATHER LEAF SEDGE	5 GAL	24" O.C.
CE	CHONDROPETALUM ELEPHANTINUM	CAPE RUSH	15 GAL	48" O.C.
	CUPHEA HYSSOPIFOLIA	FALSE HEATHER	1 GAL	12" O.C.
DV	DIETES VEGETA	FORTNIGHT LILY	5 GAL	24" O.C.
EC	ECHIUM CANDICANS	PRIDE OF MADEIRA	15 GAL	48" O.C.
FJ	FATSIA JAPONICA	JAPANESE ARALIA	15 GAL	48" O.C.
LS	LAVANDULA STOECHAS 'OTTO QUAST'	SPANISH LAVENDER	5 GAL	24" O.C.
LM	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILY TURF	5 GAL	18" O.C.
LT	LIGUSTRUM TEXANUM	JAPANESE PRIVET	15 GAL	36" O.C.
MS	MISCANTHUS SINENSIS 'ADAGIO'	ADAGIO MAIDEN GRASS	5 GAL	30" O.C.
MC	MUHLENBERGIA CAPILLARIS	PINK MUHLY	5 GAL	24" O.C.
NC	NANDINA DOMESTICA 'COMPACTA'	DWARF HEAVENLY BAMBOO	15 GAL	36" O.C.
ND	NANDINA DOMESTICA 'HARBOR DWARF'	HEAVENLY BAMBOO	5 GAL	24" O.C.
PO	PENNISETUM ORIENTALE	ORIENTAL FOUNTAIN GRASS	5 GAL	24" O.C.
PX	PHILODENDRON 'XANADU'	PHILODENDRON	5 GAL	18" O.C.
PA	PHORMIUM TENAX 'ATROPURPUREUM'	NEW ZEALAND FLAX	15 GAL	36" O.C.
PDD	PHORMIUM TENAX 'DARK DELIGHT'	NEW ZEALAND FLAX	5 GAL	36" O.C.
PD	PHORMIUM TENAX 'DUET'	NEW ZEALAND FLAX	5 GAL	24" O.C.
PJ	PHORMIUM TENAX 'JACK SPRATT'	NEW ZEALAND FLAX	5 GAL	18" O.C.
PTT	PHORMIUM TENAX 'TOM THUMB'	NEW ZEALAND FLAX	5 GAL	24" O.C.
PV	PHORMIUM TENAX 'VARIEGATUM'	VARIEGATED FLAX	15 GAL	36" O.C.
SJ	STRELITZIA JUNCEA	BIRD OF PARADISE	15 GAL	30" O.C.
	GROUNDCOVERS			
FC	FESTUCA GLAUCA	BLUE FESCUE	1 GAL	12" O.C.
	VINES & ESPALIERS			
▼	DISTICTUS RIVERS	TRUMPET VINE		15 GAL.

PLANT PALETTE - COMMUNITY BENEFIT OPEN SPACE	
BOTANICAL NAME	COMMON NAME
'COASTAL BLUFF' ZONE	
MELALEUCA QUINQUENERVIA	CAJEPUT TREE
UMBELLULARIA CALIFORNICA	CALIFORNIA LAUREL
HETEROMELES ARBUTIFOLIA	TOYON
SALVIA SPATHACEA	HUMMING BIRD SAGE
MONARDELLA VILLOSA	COYOTE MINT
RHAMNUS CALIFORNICA	COFFEE BERRY
BERBERIS 'GOLDEN ABUNDANCE'	GOLDEN ABUNDANCE BARBERRY
BACCHARIS PILULARIS 'PIGEON PONT'	PROSTRATE COYOTE BUSH
ERIOGONUM SPP.	BUCKWHEAT
RIBES VIBURNIFOLIUM	EVERGREEN CURRANT
PRUNUS ILICIFOLIA	HOLLYLEAF CHERRY
SALVIA SPP.	SAGE
CEANOTHUS SPP.	WILD LILAC
DUDLEYA PULVERULENTA	CHALK DUDLEYA
MALACOTHAMNUS FASCICULATUS	SOUTHERN BUSH MALLOW
DODONEA VISCOSA	HOP BUSH

LANDSCAPE PLANS

TOD District Streetscape Plan



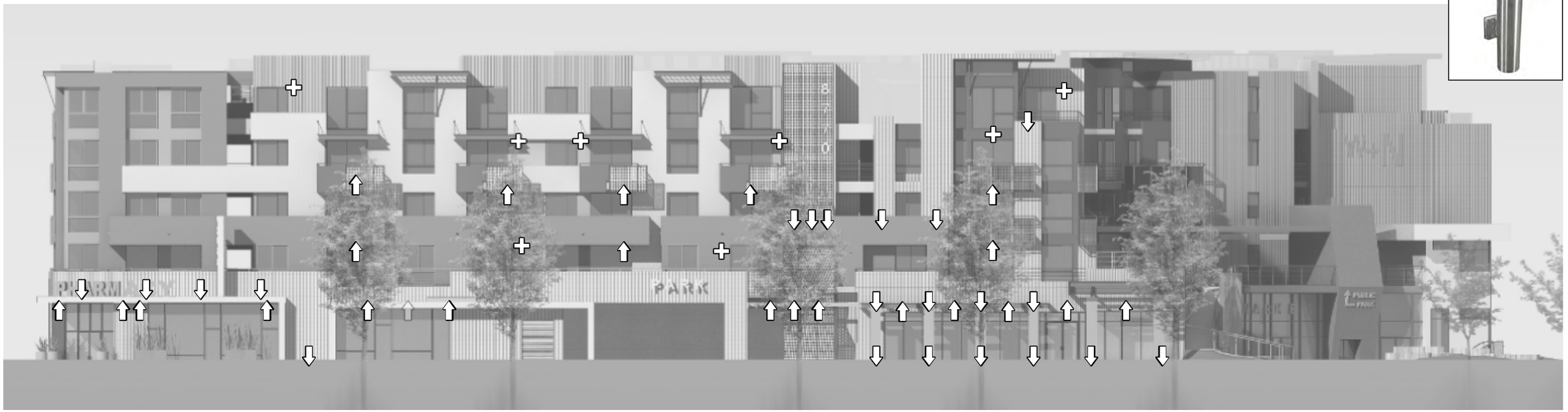
Typical Tree Well Detail

NOTE: Street furniture shall be consistent with the City's Transit Oriented Development District Streetscape Plan. Final location, type, and size of tree wells to be determined by the City prior to building permit issuance.

08 | CONCEPTUAL LIGHTING

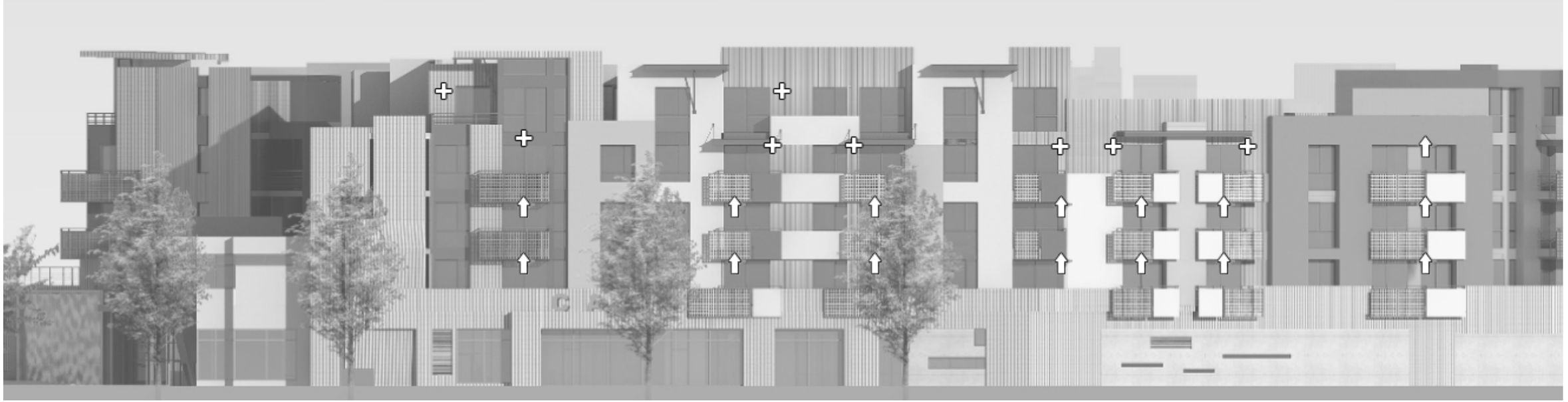
Conceptual Lighting Elevations

Wall Mounted Sconce



Lighting Elevation #1 - Washington Boulevard

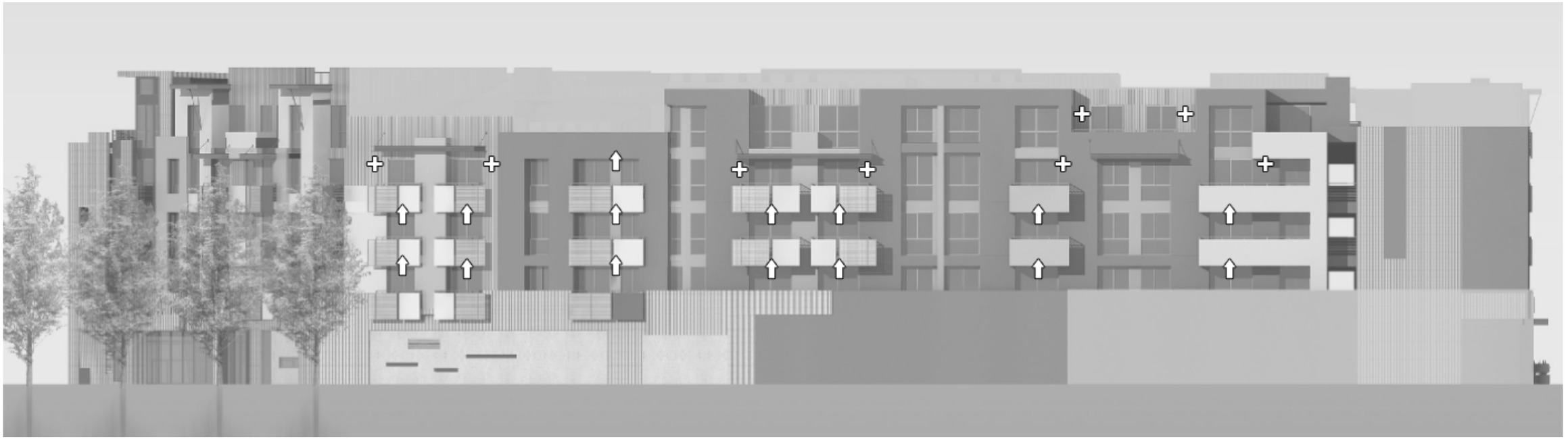
Wall Mounted Sconce Accent Light Soffit Mounted Downlight



Lighting Elevation #2 - National Boulevard

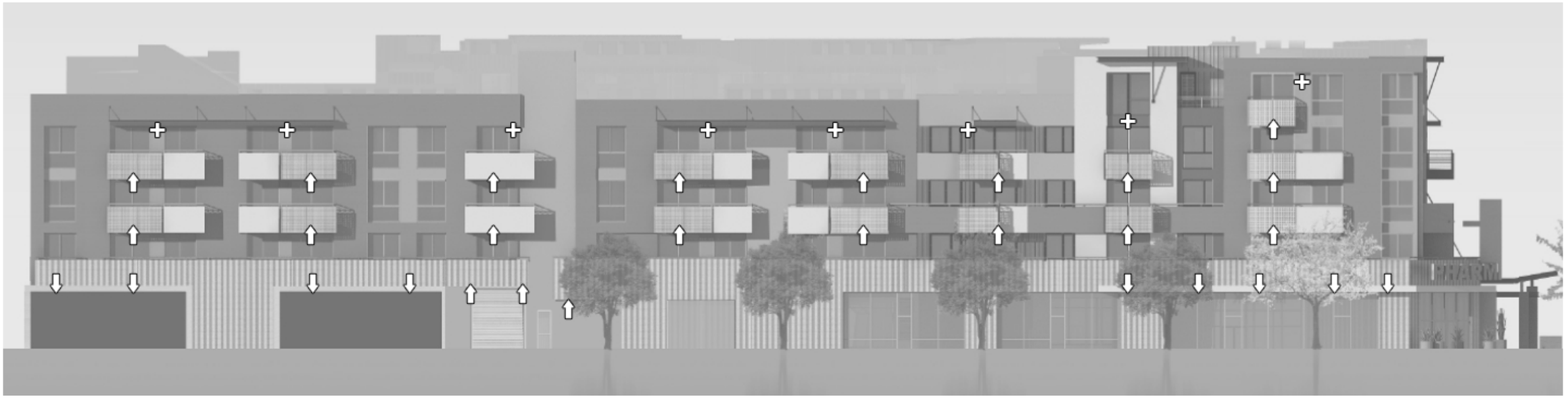
Wall Mounted Sconce Accent Light Soffit Mounted Downlight

Conceptual Lighting Elevations



Lighting Elevation #3 - Side Yard

Wall Mounted Sconce Accent Light Soffit Mounted Downlight



Lighting Elevation #4 - Wesley Street

Wall Mounted Sconce Accent Light Soffit Mounted Downlight

09 | CIVIL ENGINEERING

Infrastructure

Infrastructure and Community Facilities District: Based upon the proposed development described in the Comprehensive Plan, the Site will require sewer service improvements. It will not require major upgrades to water or gas infrastructure however, some utility relocation as well as various street and streetscape improvements will be required. The property owner/developer is responsible for all project related public improvements.

The precise extent and costs for the infrastructure improvements will be determined prior to issuance of a building permit. These costs will generally be shared on a pro rata basis with other TOD developments, and may potentially be funded through formation of a community facilities district (CFD). CFD's provide one financial tool for commercial property owners within the TOD District to help fund public improvements through private property assessment and bond finance. Required off-site improvements which may be funded through a CFD include:

- New Infrastructure
- Utility Relocations
- Streetscape Improvements
- On-going maintenance

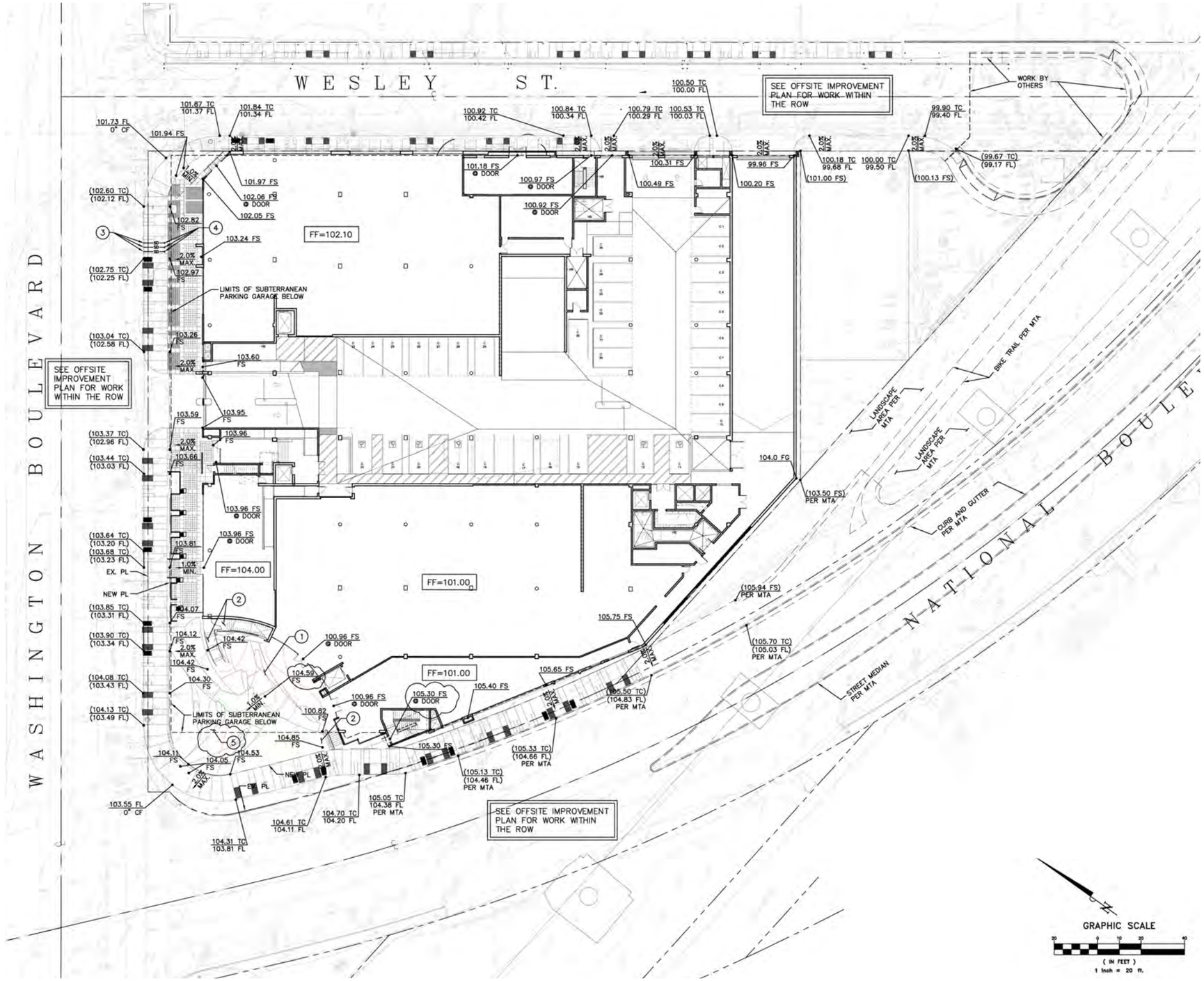
Establishment of a CFD can ensure timely completion of all necessary pubic improvements. An infrastructure report has been prepared to identify the necessary improvements to support formation of the CFD consistent with Section 15.12.035 of the Culver City Municipal Code.

Fine Grading and Drainage Plan

LEGEND

(000)	EXISTING CONTOUR
XX.XX	PROPOSED SPOT ELEVATION
X%	PROPOSED SLOPE
FL	FLOW LINE
FS	FINISHED SURFACE
FG	FINISHED GRADE (UNPAVED)
PA	PLANTER AREA
FF	FINISHED FLOOR
TG	TOP OF GRATE

1. ADA RAMPS PER ARCHITECTURAL PLANS.
2. STEPS PER ARCHITECTURAL PLANS.
3. CURB DRAIN PER OFFSITE IMPROVEMENT PLANS.
4. SEE PLUMBING PLAN FOR STORM DRAIN LATERAL FROM BUILDING.
5. SEE ARCHITECTURAL, LANDSCAPE & PLUMBING PLANS FOR DRAINAGE INTO BUILDING.

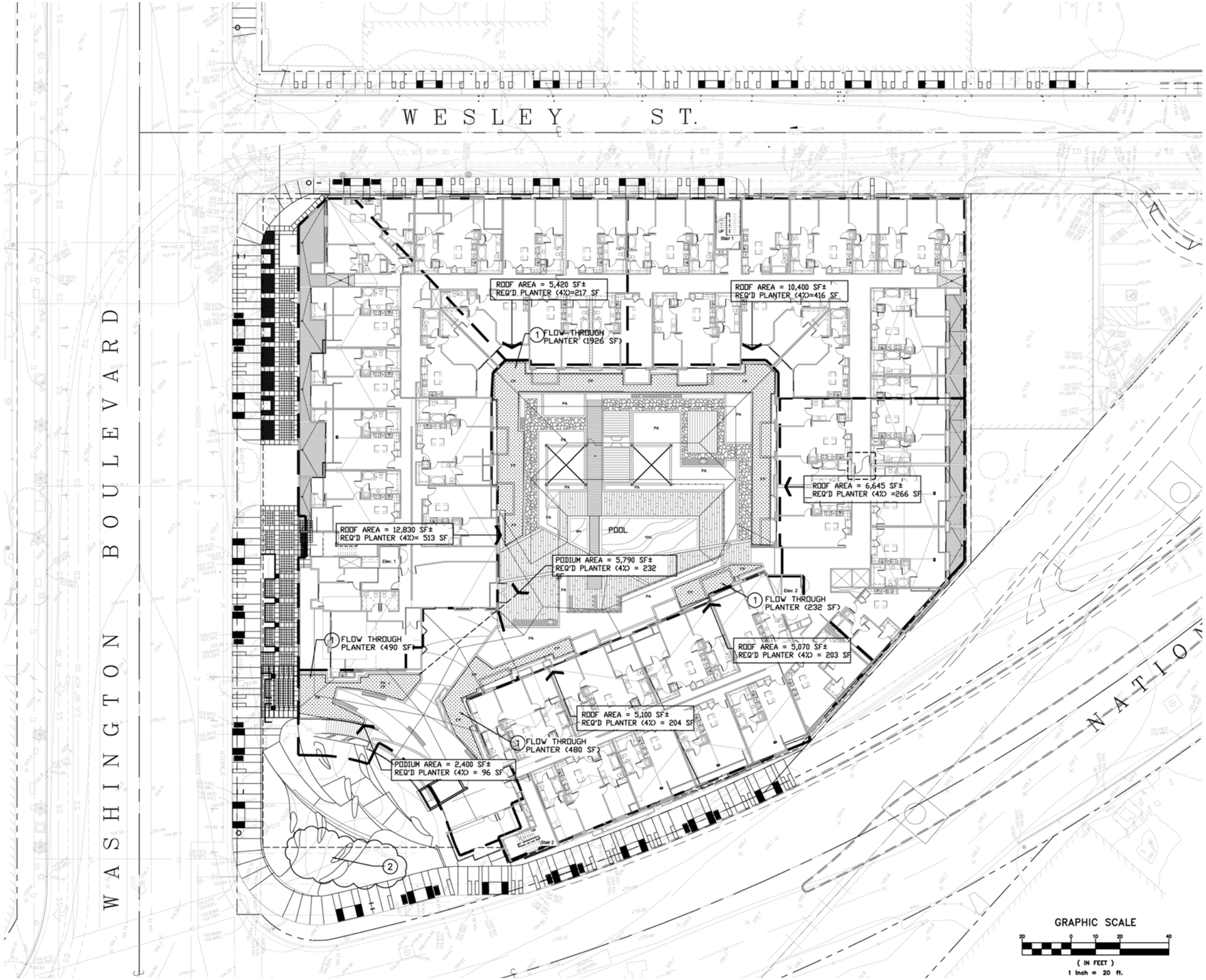


FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

Standard Urban Stormwater Mitigation Plan

KEY NOTES

1. CONSTRUCT FLOW THROUGH PLANTER PER DETAIL 3 ON SHEET C700.
2. 6"X6" DRAIN INLET (5) PER LANDSCAPE PLANS. SEE PLUMBING PLANS FOR FILTRATION DEVICE AND CONTINUATION.



FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

Utility Plan

KEY NOTES:

WATER:

1. RELOCATE FIRE HYDRANT. CONTRACTOR TO COORDINATE WITH FIRE DEPARTMENT AND GOLDEN STATE WATER.
2. CONSTRUCT THRUST BLOCK PER NFPA STANDARD #24. SEE DETAIL ON SHEET C6.00
3. NEW 6" FIRE WATER METER AND SERVICE.
4. CONSTRUCT DUCTILE IRON FIRE WATER LINE PER AWWA AND CULVER CITY FIRE DEPARTMENT STANDARDS SPECIFICATIONS
5. CONSTRUCT COPPER DOMESTIC WATER LINE. SIZE AS NOTED.
6. NEW IRRIGATION WATER METER AND SERVICE TO BE INSTALLED BY GOLDEN STATE WATER.
7. CONSTRUCT FIRE DEPARTMENT CONNECTION.
8. NEW WATER METER TO BE INSTALLED BY GOLDEN STATE WATER.
9. SEE PLUMBING PLANS FOR CONTINUATION.
10. CONNECTION TO EXISTING WATER SERVICE BY GOLDEN STATE WATER.
11. SEE PLUMBING PLAN FOR CONTINUATION AND BACKFLOW DEVICE INSIDE THE BUILDING.
12. CONSTRUCTION BY GOLDEN STATE WATER. CONTRACTOR TO COORDINATE WITH GOLDEN STATE WATER AS REQUIRED.

SANITARY SEWER:

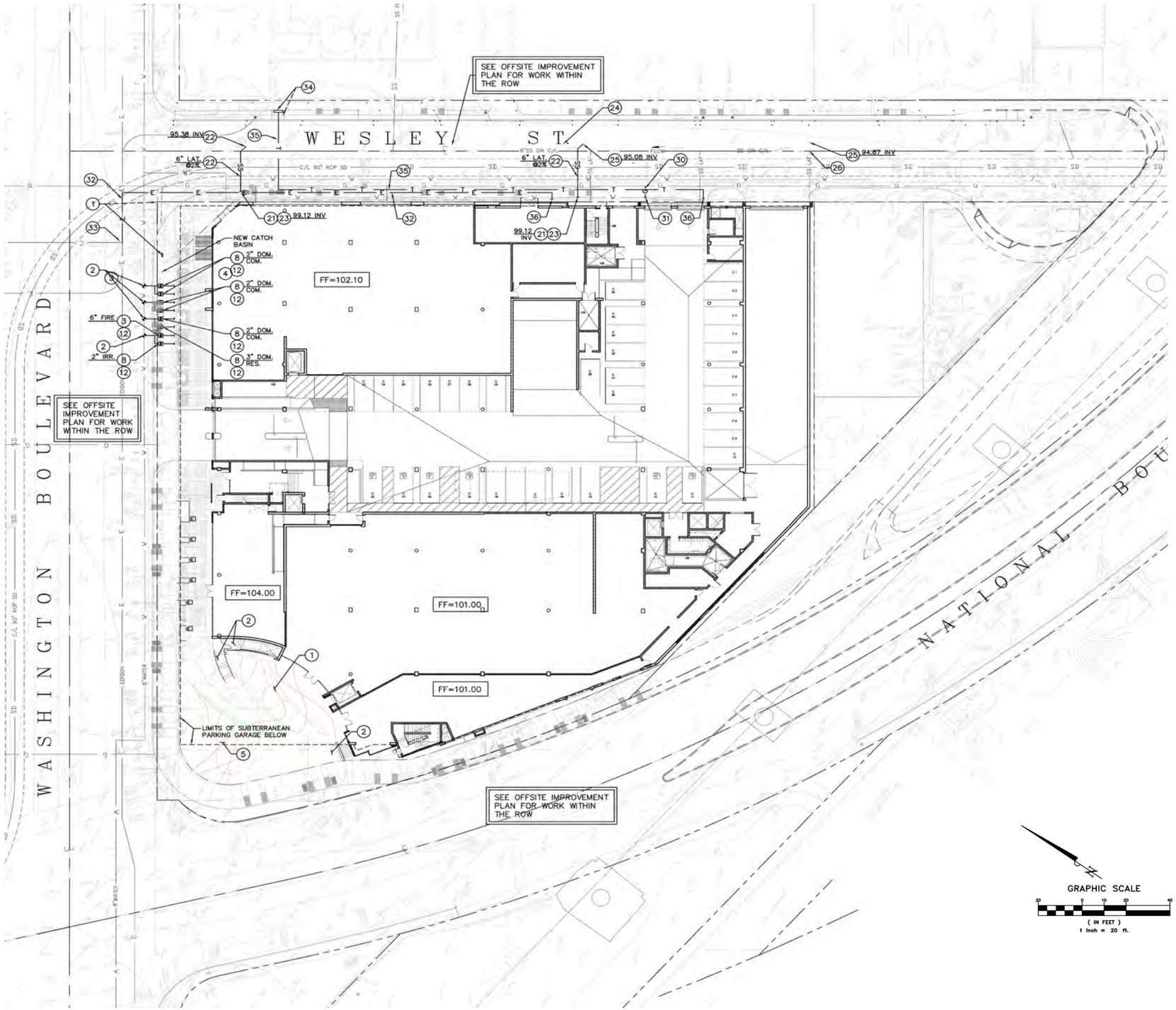
20. CONNECT TO SEWER MAIN. CONTRACTOR TO VERIFY LOCATION AND INVERT OF UTILITY PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
21. SEE PLUMBING PLANS FOR CONTINUATION. COORDINATE INVERT WITH PLUMBING PLANS.
22. CONSTRUCT PVC SANITARY SEWERLINE. SEE TRENCH DETAIL 1, SHEET C700. SIZE AND SLOPE PER PLAN.
23. CONSTRUCT CLEANOUT, SEE DETAIL 2, SHEET C700.
24. CONSTRUCT SEWER LINE IMPROVEMENT PER OFFSITE PLANS.
25. CONSTRUCT SEWER HOUSE CONNECTION AND WYE PER SPPWC STANDARD PLANS 222-2.
26. CONNECT EXISTING LATERAL TO NEW SANITARY SEWERLINE.

GAS, ELECTRIC & TELEPHONE:

30. CONNECT TO GAS LINE PER DRY UTILITY CONSULTANT AND/OR GAS COMPANY.
31. SEE PLUMBING PLAN FOR CONTINUATION OF GAS SERVICE INSIDE THE BUILDING.
32. APPROX. ROUTING OF PRIMARY SCE DUCTS (2-5" CONDUITS) BY OTHERS. COORDINATE WORK WITH SCE.
33. EXISTING SCE VAULT.
34. VERIZON TELEPHONE STRUCTURE/CABINET TO BE RELOCATED. CONTRACTOR TO COORDINATE RELOCATION WITH VERIZON.
35. APPROX. ROUTING OF VERIZON TELEPHONE SERVICE (2-4" CONDUITS) BY OTHERS. COORDINATE WORK WITH VERIZON.
36. SEE ELECTRICAL PLAN FOR CONTINUATION INTO BUILDING.

LEGEND:

- EXISTING ELECTRICAL LINE
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING SANITARY SEWER LINE
- PROPOSED SANITARY SEWER LINE
- EXISTING TELEPHONE LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- R/W LINE
- CENTER LINE
- WATER CONNECTION LOCATION

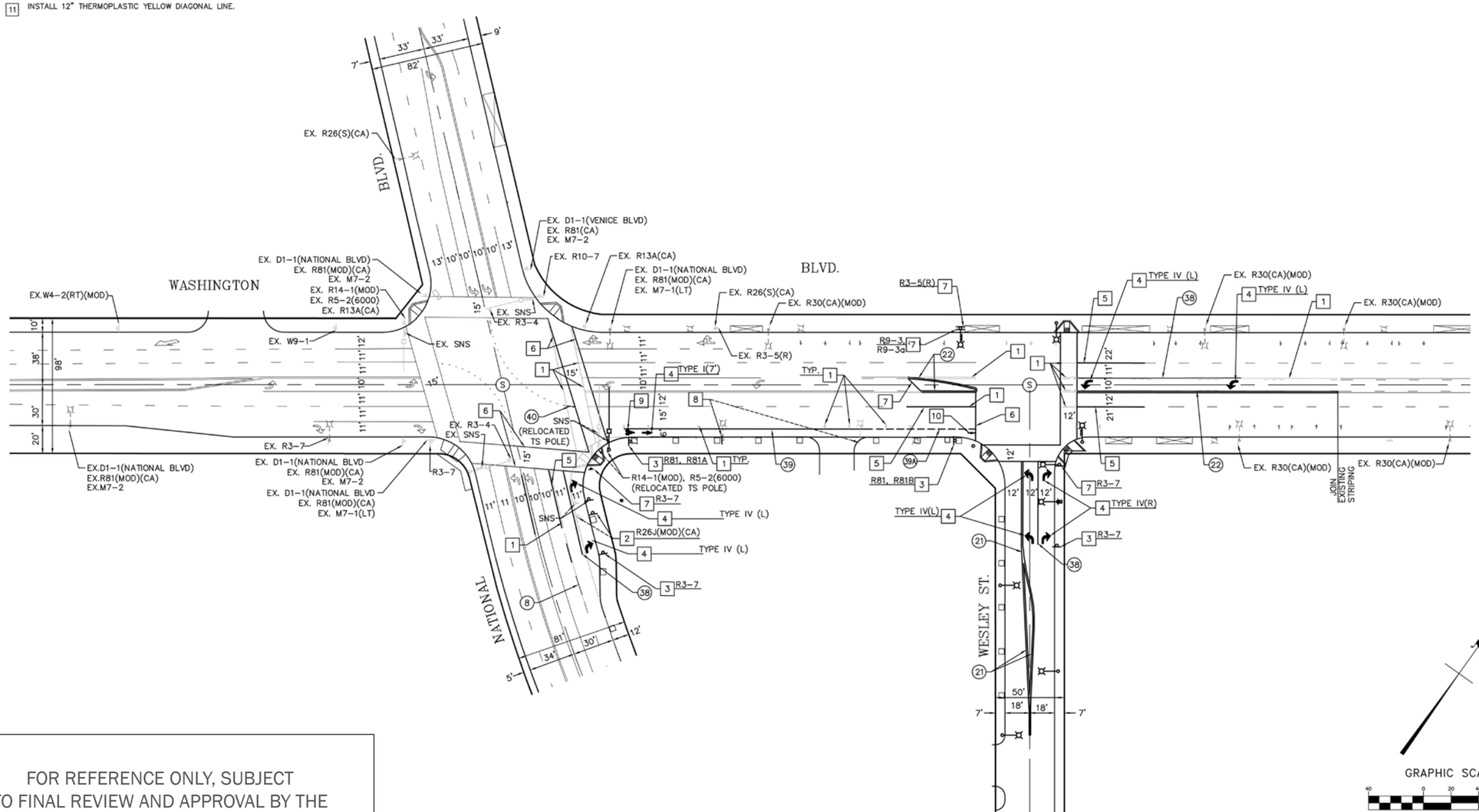


FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

Signing and Striping Plan

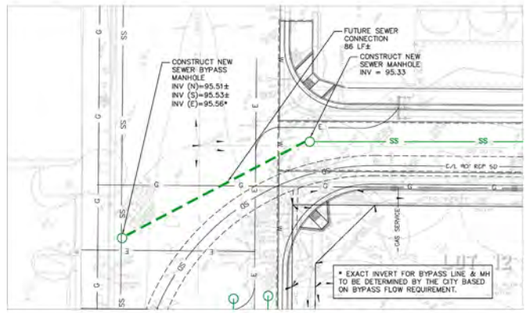
CONSTRUCTION NOTES

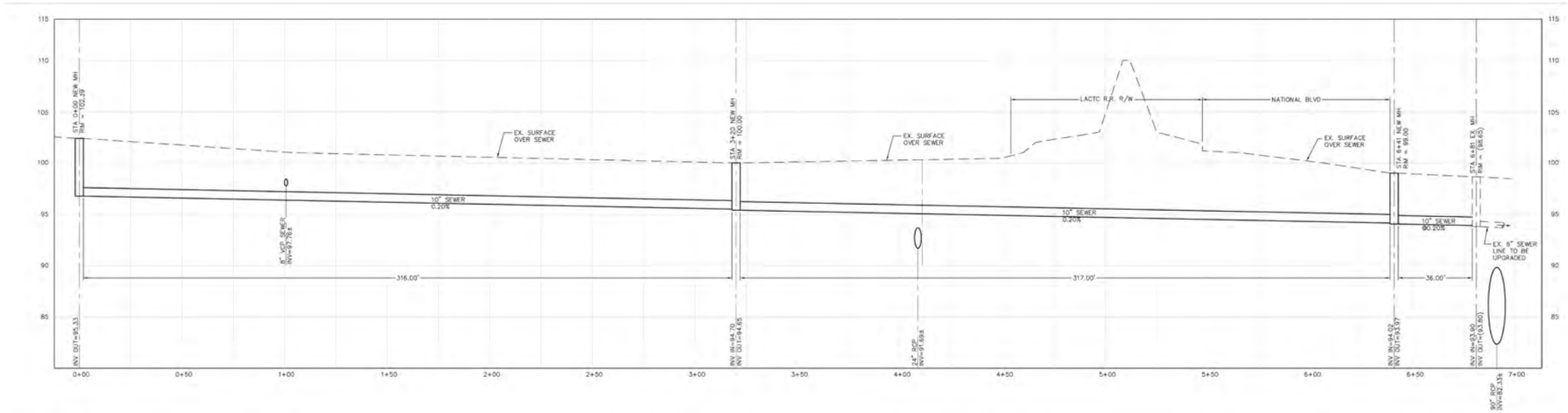
1. SANDBLAST OR GRIND EXISTING CONFLICTING STRIPING, PAVEMENT MARKING, OR LEGEND. REMOVE RAISED PAVEMENT MARKERS AS NECESSARY.
2. REMOVE AND RELOCATE EXISTING SIGN AND POST, SIGN TYPE PER PLAN
3. FURNISH AND INSTALL SIGN AND POST COMPLETE SIGN TYPE PER PLAN
4. INSTALL THERMOPLASTIC LEGEND OR ARROW PER CALTRANS STANDARD PLANS A24A THROUGH A24E. TYPE PER PLAN.
5. INSTALL 4" THERMOPLASTIC WHITE LINE PER CALTRANS STANDARD PLAN A20B. (LENGTH 50')
6. INSTALL 12" THERMOPLASTIC WHITE LIMIT LINE OR CROSSWALK PER CALTRANS STANDARD PLAN A24E.
7. FURNISH AND INSTALL NEW SIGN ONTO PROPOSED TRAFFIC SIGNAL POLE. TYPE PER PLAN.
8. RELOCATE EXISTING R2-1(35) SIGN FROM EXISTING STREET LIGHT POLE (TO BE REMOVED) TO EXISTING STREET LIGHT STANDARD.
9. INSTALL BICYCLE LANE SYMBOL PER CALTRANS STANDARD PLAN A24C.
10. INSTALL BICYCLE DETECTOR LOOP SYMBOL PER CALTRANS STANDARD PLAN A24C.
11. INSTALL 12" THERMOPLASTIC YELLOW DIAGONAL LINE.

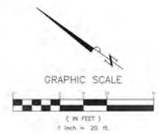


FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

Sewer Plan and Profile







FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

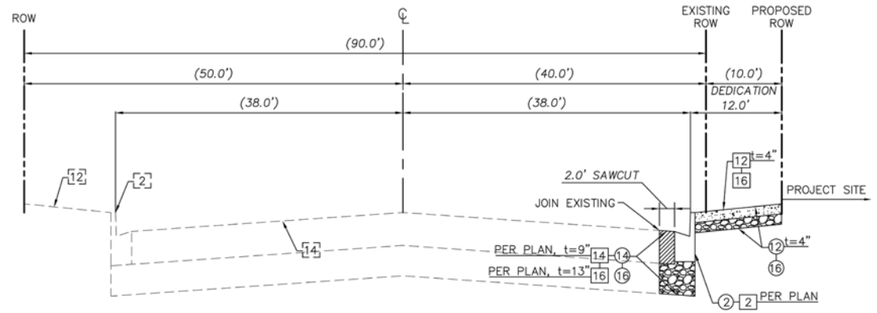
Typical Sections

STREET KEY NOTES

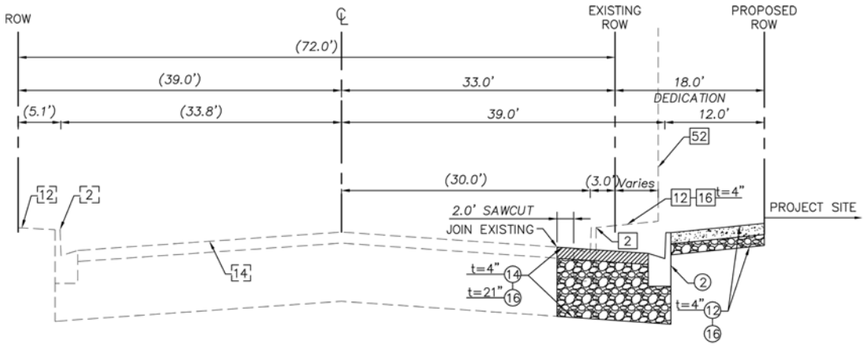
- ○ CONSTRUCT/INSTALL
- □—○ REMODEL EXISTING
- □ EXISTING
- □—○ REMOVE & RECONSTRUCT
- □ REMOVE
- ○ WORK BY OTHERS

1. CONCRETE CURB, CF=6"
2. TYPE C INTEGRAL CURB & GUTTER a=2'-0", b=0'-6", CF=8"
4. CONCRETE LONGITUDINAL GUTTER PER APWA STD. 122-t1
10. CONCRETE DRIVEWAY PER APWA 110-1, TYPE C, t=AS SHOWN.
12. CONCRETE WALK. t=4"
13. CURB RAMP, PER APWA STD. 111-4, CASE PER PLAN, TYPE 2, X=8', Y=10.53', W=4'.
14. ASPHALT CONCRETE PAVEMENT, t=AS SHOWN
16. UNTREATED BASE MATERIAL, t=AS SHOWN
17. ADJUST MANHOLE TO GRADE
20. TREE
21. COLDPLANE (MILL) AC PAVEMENT (2" MN)
25. TREE WELL COVER- TYPE A.
26. TREE WELL.
29. CURB DRAIN.
34. VARIABLE THICKNESS AC PAVEMENT.
36. RELOCATE POWER POLE.
37. RELOCATE POWER POLE ANCHOR.
38. RELOCATE AND/OR ADJUST STREET LIGHTING PULL BOX TO GRADE.
39. RELOCATE AND/OR ADJUST TRAFFIC SIGNAL PULL BOX TO GRADE.
40. RELOCATE TELEPHONE BOX.
41. RELOCATE FIRE HYDRANT.
42. RELOCATE AND/OR ADJUST ELECTROLIER TO GRADE.
43. RELOCATE AIR VENT.
44. RELOCATE GAS METER.
45. RELOCATE AND/OR ADJUST UTILITY VLAVE TO GRADE.
46. RELOCATE AND/OR ADJUST WATER METER TO GRADE.
47. RELOCATE STREET SIGN.
48. PARKING METER.
49. CONCRETE BLOCK WALL.
50. PLANTER WALL.
51. TRAFFIC SIGNAL.
52. BUILDING.
53. FENCE.
86. LOCAL DEPRESSION AT CATCH BASIN PER APWA STD. 313-2, CASE "E".
99. CURB OPENING CATCH BASIN, W=7', V=6', t=6", B=3'-2", H=2". 21"

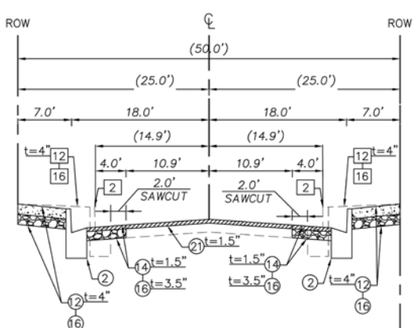
FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER



WASHINGTON BOULEVARD
NTS



NATIONAL BOULEVARD
NTS



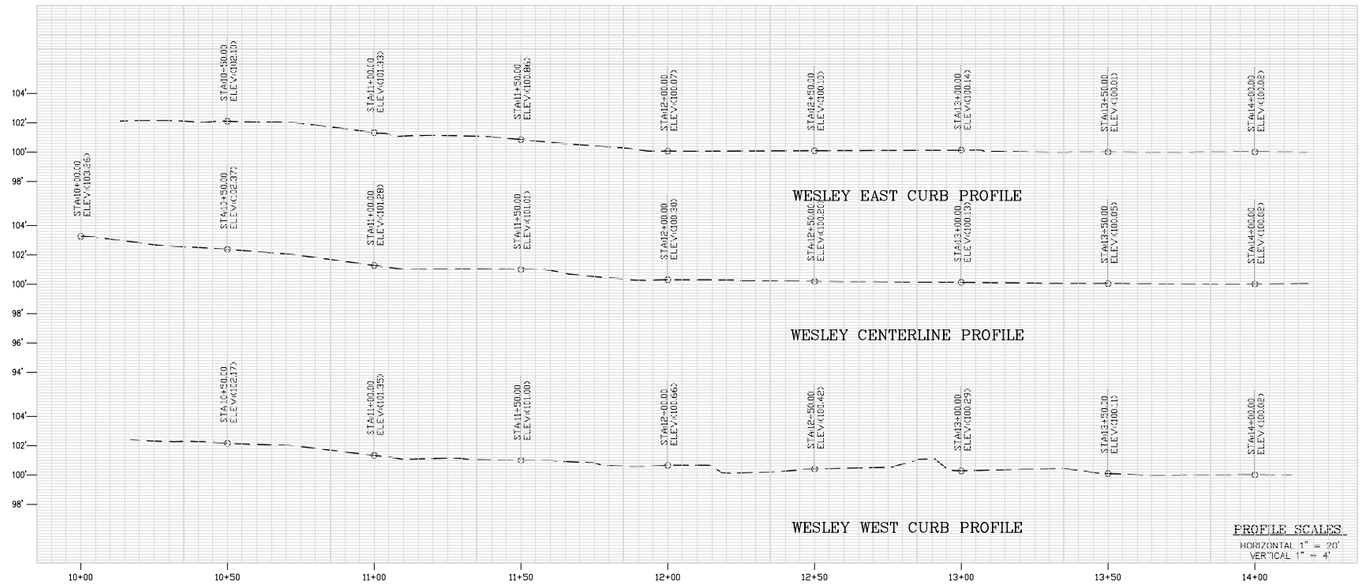
WESLEY STREET
NTS

Wesley Street Plan and Profile

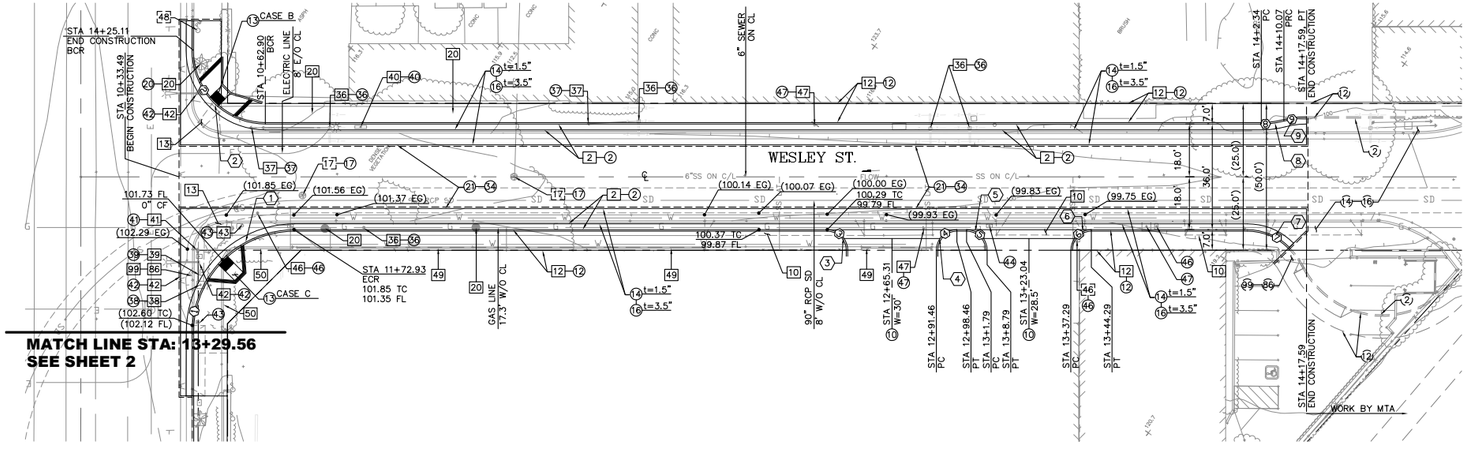
STREET KEY NOTES

○ CONSTRUCT/INSTALL	⊡ REMODEL EXISTING
⊡ EXISTING	⊡ REMOVE & RECONSTRUCT
□ REMOVE	◌ WORK BY OTHERS

1. CONCRETE CURB, CF=6"
2. TYPE C INTEGRAL CURB & GUTTER a=2'-0", b=0'-6", CF=8"
4. CONCRETE LONGITUDINAL GUTTER PER APWA STD. 122-t1
10. CONCRETE DRIVEWAY PER APWA 110-1, TYPE C, t=AS SHOWN.
12. CONCRETE WALK. t=4"
13. CURB RAMP, PER APWA STD. 111-4, CASE PER PLAN, TYPE 2, X=8', Y=10.53', W=4'.
14. ASPHALT CONCRETE PAVEMENT, t=AS SHOWN
16. UNTREATED BASE MATERIAL, t=AS SHOWN
17. ADJUST MANHOLE TO GRADE
20. TREE
21. COLDPLANE (MILL) AC PAVEMENT (2" MN)
25. TREE WELL COVER- TYPE A.
26. TREE WELL.
29. CURB DRAIN.
34. VARIABLE THICKNESS AC PAVEMENT.
36. RELOCATE POWER POLE.
37. RELOCATE POWER POLE ANCHOR.
38. RELOCATE AND/OR ADJUST STREET LIGHTING PULL BOX TO GRADE.
39. RELOCATE AND/OR ADJUST TRAFFIC SIGNAL PULL BOX TO GRADE.
40. RELOCATE TELEPHONE BOX.
41. RELOCATE FIRE HYDRANT.
42. RELOCATE AND/OR ADJUST ELECTROLIER TO GRADE.
43. RELOCATE AIR VENT.
44. RELOCATE GAS METER.
45. RELOCATE AND/OR ADJUST UTILITY VLAVE TO GRADE.
46. RELOCATE AND/OR ADJUST WATER METER TO GRADE.
47. RELOCATE STREET SIGN.
48. PARKING METER.
49. CONCRETE BLOCK WALL.
50. PLANTER WALL.
51. TRAFFIC SIGNAL.
52. BUILDING.
53. FENCE.
86. LOCAL DEPRESSION AT CATCH BASIN PER APWA STD. 313-2, CASE "E".
99. CURB OPENING CATCH BASIN, W=7', V=6', t=6", B=3'-2", H=2". 21"



CURVE TABLE				
CURVE	RADIUS	LENGTH	DELTA	TANGENT
1	35.00'	54.92'	89°54'40"	34.95'
2	25.00'	39.38'	90°15'01"	25.11'
3	7.00'	11.00'	90°00'00"	7.00'
4	7.00'	11.00'	90°00'00"	7.00'
5	7.00'	11.00'	90°00'00"	7.00'
6	7.00'	11.00'	90°00'00"	7.00'
7	20.00'	15.92'	45°36'16"	8.41'
8	30.00'	7.81'	14°55'22"	3.93'
9	30.00'	7.81'	14°54'48"	3.93'



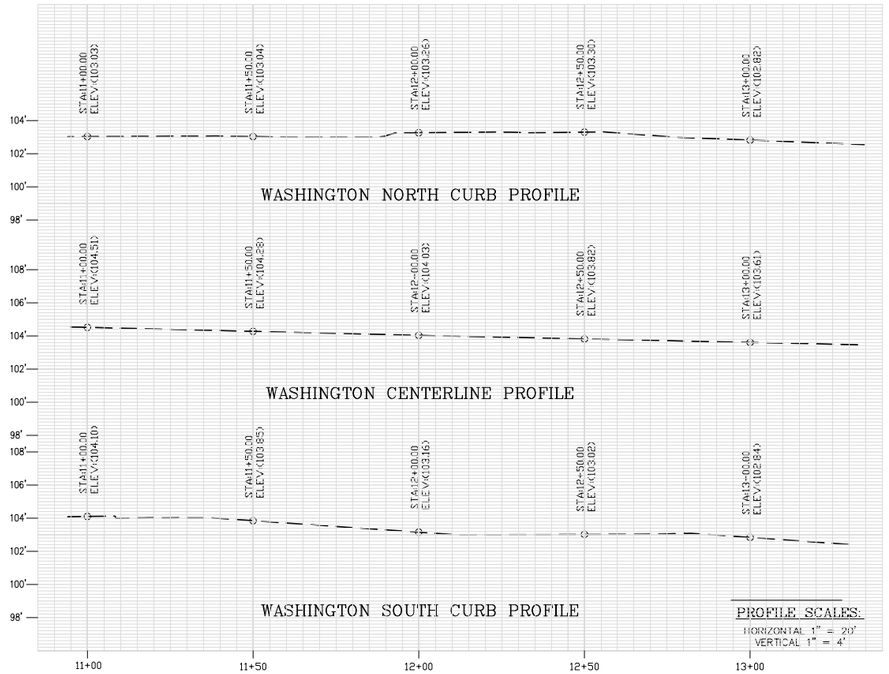
FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

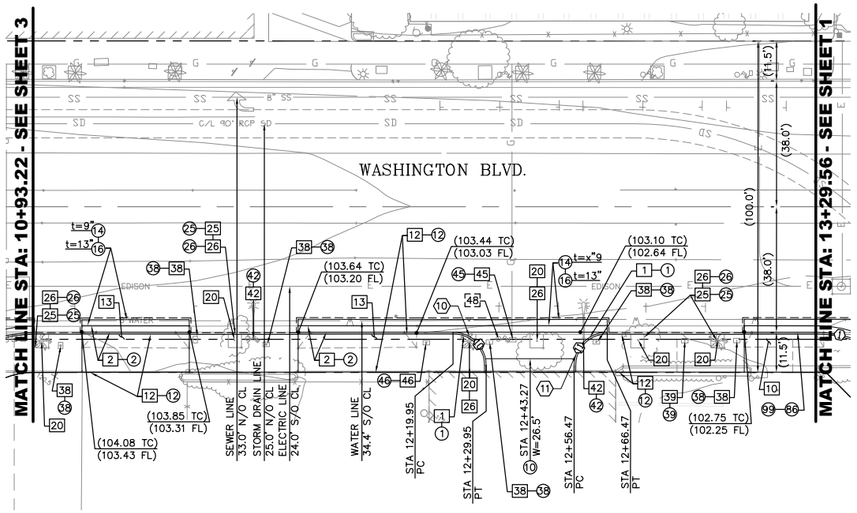
Washington Boulevard Plan and Profile

STREET KEY NOTES

CONSTRUCT/INSTALL — REMODEL EXISTING
EXISTING — REMOVE & RECONSTRUCT
REMOVE — WORK BY OTHERS

1. CONCRETE CURB, CF=6"
2. TYPE C INTEGRAL CURB & GUTTER a=2'–0", b=0'–6", CF=8"
4. CONCRETE LONGITUDINAL GUTTER PER APWA STD. 122–t1
10. CONCRETE DRIVEWAY PER APWA 110–1, TYPE C, t=AS SHOWN.
12. CONCRETE WALK. t=4"
13. CURB RAMP, PER APWA STD. 111–4, CASE PER PLAN, TYPE 2, X=8', Y=10.53', W=4'.
14. ASPHALT CONCRETE PAVEMENT, t=AS SHOWN
16. UNTREATED BASE MATERIAL, t=AS SHOWN
17. ADJUST MANHOLE TO GRADE
20. TREE
21. COLDPLANE (MILL) AC PAVEMENT (2" MN)
25. TREE WELL COVER– TYPE A.
26. TREE WELL.
29. CURB DRAIN.
34. VARIABLE THICKNESS AC PAVEMENT.
36. RELOCATE POWER POLE.
37. RELOCATE POWER POLE ANCHOR.
38. RELOCATE AND/OR ADJUST STREET LIGHTING PULL BOX TO GRADE.
39. RELOCATE AND/OR ADJUST TRAFFIC SIGNAL PULL BOX TO GRADE.
40. RELOCATE TELEPHONE BOX.
41. RELOCATE FIRE HYDRANT.
42. RELOCATE AND/OR ADJUST ELECTROLIER TO GRADE.
43. RELOCATE AIR VENT.
44. RELOCATE GAS METER.
45. RELOCATE AND/OR ADJUST UTILITY VLAVE TO GRADE.
46. RELOCATE AND/OR ADJUST WATER METER TO GRADE.
47. RELOCATE STREET SIGN.
48. PARKING METER.
49. CONCRETE BLOCK WALL.
50. PLANTER WALL.
51. TRAFFIC SIGNAL.
52. BUILDING.
53. FENCE.
86. LOCAL DEPRESSION AT CATCH BASIN PER APWA STD. 313–2, CASE "E".
99. CURB OPENING CATCH BASIN, W=7', V=6', t=6", B=3'–2", H=2". 21"





CURVE TABLE				
CURVE	RADIUS	LENGTH	DELTA	TANGENT
10	10.00'	15.71'	90°00'00"	10.00'
11	10.00'	15.71'	90°00'00"	10.00'

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

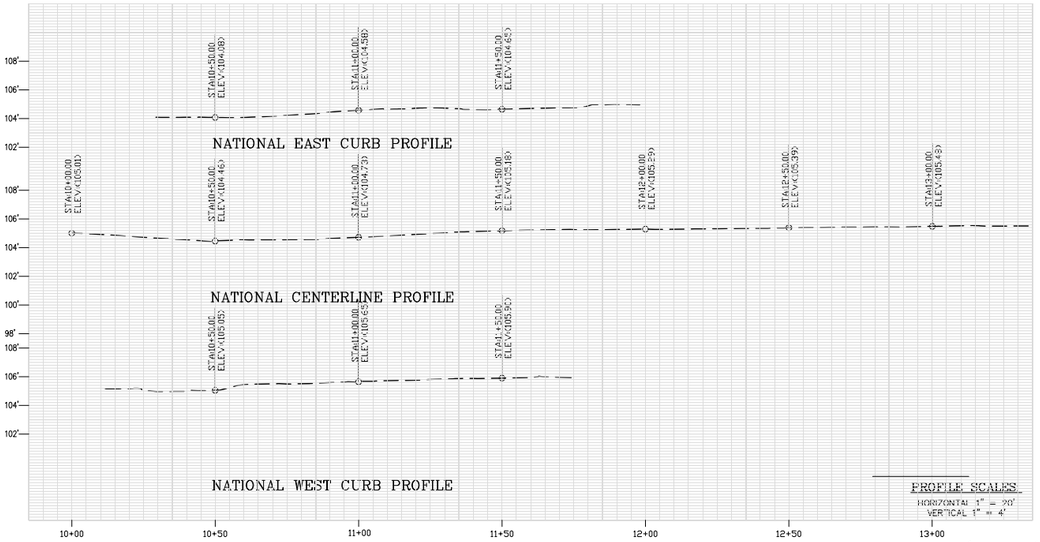
National Boulevard Plan and Profile

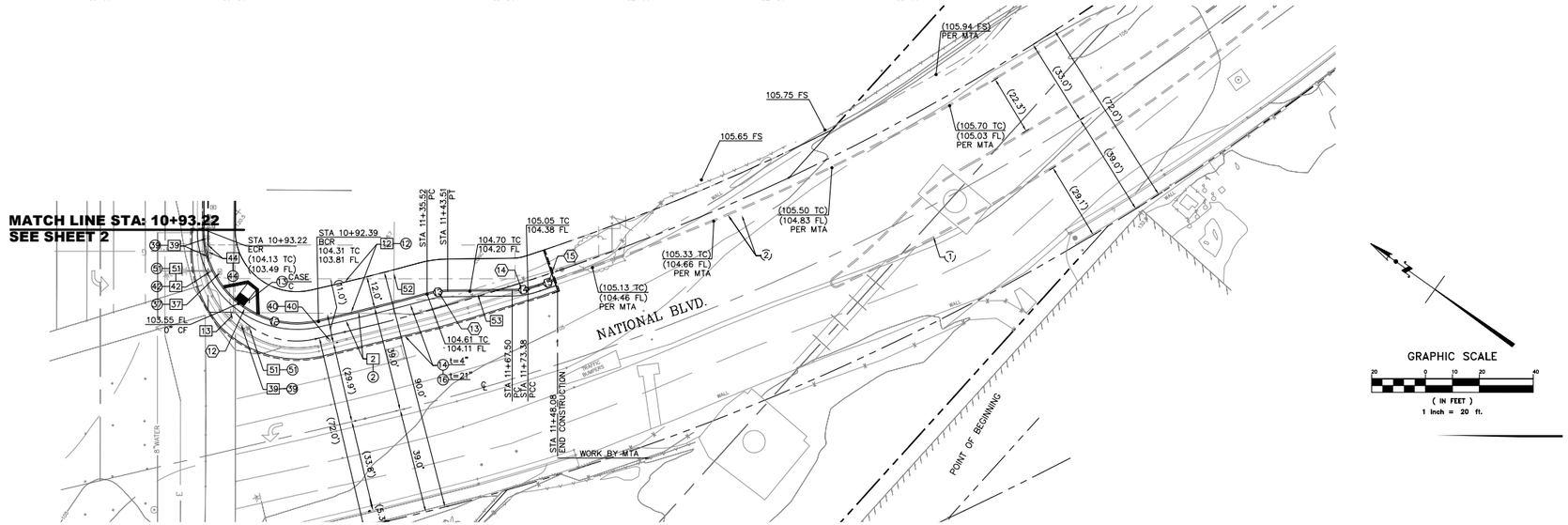
STREET KEY NOTES

○ CONSTRUCT/INSTALL	⊡—○ REMODEL EXISTING
⊡ EXISTING	□—○ REMOVE & RECONSTRUCT
□ REMOVE	◌ WORK BY OTHERS

1. CONCRETE CURB, CF=6"
2. TYPE C INTEGRAL CURB & GUTTER a=2'-0", b=0'-6", CF=8"
4. CONCRETE LONGITUDINAL GUTTER PER APWA STD. 122-t1
10. CONCRETE DRIVEWAY PER APWA 110-1, TYPE C, t=AS SHOWN.
12. CONCRETE WALK. t=4"
13. CURB RAMP, PER APWA STD. 111-4, CASE PER PLAN, TYPE 2, X=8', Y=10.53', W=4'.
14. ASPHALT CONCRETE PAVEMENT, t=AS SHOWN
16. UNTREATED BASE MATERIAL, t=AS SHOWN
17. ADJUST MANHOLE TO GRADE
20. TREE
21. COLDPLANE (MILL) AC PAVEMENT (2" MN)
25. TREE WELL COVER- TYPE A.
26. TREE WELL.
29. CURB DRAIN.
34. VARIABLE THICKNESS AC PAVEMENT.
36. RELOCATE POWER POLE.
37. RELOCATE POWER POLE ANCHOR.
38. RELOCATE AND/OR ADJUST STREET LIGHTING PULL BOX TO GRADE.
39. RELOCATE AND/OR ADJUST TRAFFIC SIGNAL PULL BOX TO GRADE.
40. RELOCATE TELEPHONE BOX.
41. RELOCATE FIRE HYDRANT.
42. RELOCATE AND/OR ADJUST ELECTROLIER TO GRADE.
43. RELOCATE AIR VENT.
44. RELOCATE GAS METER.
45. RELOCATE AND/OR ADJUST UTILITY VLAVE TO GRADE.
46. RELOCATE AND/OR ADJUST WATER METER TO GRADE.
47. RELOCATE STREET SIGN.
48. PARKING METER.
49. CONCRETE BLOCK WALL.
50. PLANTER WALL.
51. TRAFFIC SIGNAL.
52. BUILDING.
53. FENCE.
86. LOCAL DEPRESSION AT CATCH BASIN PER APWA STD. 313-2, CASE "E".
99. CURB OPENING CATCH BASIN, W=7', V=6', t=6", B=3'-2", H=2". 21"

CURVE TABLE				
CURVE	RADIUS	LENGTH	DELTA	TANGENT
12	35.00'	63.05'	103°12'55"	44.17'
13	30.00'	7.73'	14°45'53"	3.89'
14	30.00'	9.15'	17°28'14"	4.61'
15	845.00'	6.99'	0°28'27"	3.50'





FOR REFERENCE ONLY, SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER

10 | DOCUMENTS UNDER SEPARATE COVER

The following documents will be under a separate cover:

- GEO-TECHNICAL REPORT
- TRAFFIC STUDY
- GREENHOUSE GAS ASSESSMENT
- PHASE I ENVIRONMENTAL ASSESSMENT