

City of Culver City, California
City Council Agenda Item Report

Meeting Date: 08/14/06		Item Number: <u>A-1</u>	
AGENDA ITEM: Discussion of Possible Traffic Engineering Actions on National Boulevard, between Washington Boulevard and the easterly City boundary.			
Contact Person/Dept.: Gabe Garcia, PW		Phone Number: 310-253-5633	
Fiscal Impact: Yes ☒ No ☐		General Fund: Yes ☐ No ☒	
Public Hearing: ☐		Action Item: ☒ Attachments: ☐	
Public Notification: Master Notifications List on August 9, 2006. On July 28, 2006, 2416 public notification cards were mailed to property owners, residents, and business owners within the area bounded by Washington Boulevard to the north and west, Robertson Boulevard-Higuera Street to the south, and the City boundary-Sentney Avenue to the east. See the graphic below for an illustration of the area.			
			
Department Approval: Charles D. Herbertson (08/03/06)		City Manager Approval: Jerry B. Fulwood (08/09/2006)	
City Controller Approval:			
<u>RECOMMENDATION:</u> Discuss possible traffic engineering actions on National Boulevard, between Washington Boulevard and the easterly city boundary.			

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BACKGROUND:

On March 20, 2006, the City Council approved a motion to hear an informational report on the fatality of a school teacher and injury of several students of Turning Point School. The accident occurred on the sidewalk adjacent to northbound National Boulevard between Hayden Avenue and the easterly city boundary. Staff stated at that time that a comprehensive report of traffic conditions on National Boulevard would be presented to the City Council at a later date. This is that report.

DISCUSSION:

Existing Roadway Conditions:

According to the Circulation Element adopted by the City Council on May 24, 2004, National Boulevard is a Secondary Artery within Culver City's boundaries. It has two lanes of travel in each direction. East of Hayden Avenue, National Boulevard has a raised median island dividing the roadway, which accommodates parking for a variety of businesses on the west side of National Boulevard.

In the past several months engineering staff and a traffic engineering consultant, Katz, Okitsu & Associates (KOA), conducted field reviews of National Boulevard. The review was comprised of the following measurements: width, curvature, curb heights, grade, and super elevation. Also surface conditions such as signage striping, signalization, intersections, drive approaches, parking, and types of businesses and land uses were all evaluated. Based upon this comprehensive review and discussion of observations, and in consultation with traffic engineering consultants, it was determined that National Boulevard is in compliance with standard practices in the field of traffic engineering.

Accident Ratio:

Accident data in the past 6 years was analyzed. Accident data analysis is a common method of comparing characteristics of a roadway segment and the accidents experienced on such segment, to other similar roadways in California. This is called the Collision Rate. The roadway characteristics that the collision rate compares are roadway segment length, the volume of traffic it carries, and the number of accidents that have occurred on such roadway within a period of time. This data is compared to similar data gathered and analyzed by the California Department of Transportation (Caltrans) for other roadways throughout the state.

Statewide Collision Rates are based on data gathered and published by Caltrans in their reference document 2002 Collision Data of California State Highways. This is

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the most recent available data as of the date of this analysis. The accident rate is calculated utilizing the following traffic engineering standard formula:

$$\frac{(\text{No. of collisions}) \times (1,000,000)}{(\text{Daily Volume}) \times (365 \text{ Days}) \times (\text{Segment Length}) \times (5 \text{ Years})}$$

Katz, Okitsu & Associates (KOA) were hired to conduct an Engineering and Traffic Survey of National Boulevard within Culver City. City staff provided collision records from the Statewide Integrated Traffic Records System (SWITRS) for the period from January 1, 2001 through December 31, 2005.

The calculated collision rate over the five-year period was then compared to collision rates for similar streets in California. The results are as follows:

DATE RANGE	1/1/2001 TO 12/31/2005
TOTAL NUMBER OF COLLISIONS	26
ACTUAL COLLISION RATE (acc/MVM):	0.94
EXPECTED COLLISION RATE (acc/MVM)	3.18

The actual collision rate, calculated by KOA for the reference period in the table, is 30% of the expected collision rate. This independent analysis supports staff's conclusion that this roadway segment is safer than many similar roadways in California.

Speed Limit:

Additionally, KOA analyzed traffic volumes and traffic speeds to determine the number of vehicles traveling on National Boulevard to determine if the existing posted speed limit should still be 40 miles per hour, as posted after the City conducted a speed survey of 2003. To accomplish this analysis speed data was collected on Wednesday, May 17, 2006, and traffic volumes were collected on Thursday, May 18, 2006.

Speed limits in California are governed by the California Vehicle Code (CVC) in Section 627 which defines the required components of an engineering and traffic survey as the following three items:

- 1) Prevailing speeds as determined by traffic engineering measurements;
- 2) Accident records analysis; and
- 3) Highway, traffic, and roadside conditions not readily apparent to the driver.

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Additionally, another authoritative publication, the California Supplement to the Manual of Uniform Traffic Control Devices published in 2003 (Supplement), reiterates that the engineering and traffic survey should contain sufficient information to document that the required items of CVC Section 627 are provided and that other conditions not readily apparent to a motorist are properly identified.

Based on the above, in determining and posting the speed limit for a segment of a roadway, the posted speed limit should be set at the nearest 5 miles per hour to the 85th percentile speed. The 85th percentile speed is the speed which 85% of the observed vehicles do not exceed during the speed survey. In other words, 85% of the vehicles observed are traveling below this speed.

However, in setting the speed limit, existing conditions must be considered along with the traffic safety needs of the community as based on the required items in an engineering and traffic survey. In this regard, engineering judgment may indicate the need for a reduction of 5 miles per hour below the 85th percentile speed. That is, speed limits are usually set at or near the 85th percentile speed, unless there are other factors that may not be readily apparent to a reasonable driver, which may justify lowering the limit below the 85th percentile.

Based on the Engineering and Traffic Survey adopted by City Council through Ordinance 2003-001 and Resolution 2003-R073, on August 25, 2003, page 4-3, the posted speed limit for both directions of National Boulevard, between the north City limit and Washington Boulevard is 35 miles per hour (mph). The posted speed limit for both directions of National Boulevard, between Washington Boulevard and the easterly city boundary is 40 mph. The 85th percentile speeds were as follows:

85th PERCENTILE SPEEDS, MARCH 2003		
LOCATION	EASTBOUND	WESTBOUND
National Blvd, north City limit to Washington Blvd	35.6	35.6
National Blvd, Washington Blvd to easterly city boundary	41.7	44.3

The data gathered in May, 2006 indicates the following 85th percentile speeds:

85th PERCENTILE SPEEDS, MAY 2006		
LOCATION	EASTBOUND	WESTBOUND
National Blvd, north City limit to Washington Blvd	40	43
National Blvd near Wesley Avenue	41	40
National Blvd near Hayden Avenue	39	37

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This data indicates that there has been a decrease in the 85th percentile speeds recorded in March of 2003 as compared to those recorded in May of 2006, for the segment of National Boulevard between Washington Boulevard and the easterly city boundary. The decrease in the 85th percentile speeds may be due to the new red light enforcement camera installed at National Boulevard and Hayden Avenue intersection and the increase in police speed enforcement since the fatality that occurred in March 2006.

On May 20, 2004, the following amended language was incorporated in the California Supplement to the 2003 MUTCD regarding speed limits, 'The speed limit should be established at the nearest 5 mph increment to the 85th percentile speed. However, in matching existing conditions with the traffic safety needs of the community, engineering judgment may indicate the need for a further reduction of 5 mph.' A recent court ruling has stated that the posted speed limit should be rounded to the nearest 5 mph increment but it may be reduced another 5 mph based on engineering judgment.

It is staff's opinion that based on observations and analysis, existing traffic control on National Boulevard is appropriate. Nevertheless, if the City Council desires to discuss possible traffic engineering actions that are optional, the following items are for your consideration:

STRIPING:

Paint edge stripe and cross-hatch; install white reflectorized markers	1. In the WB direction, west of the City boundary, the existing curb lane is 20 feet wide. Create a 12-foot number two through lane from the City boundary to the roadway curvature east of Hayden Ave. Cross hatch the remaining eight feet. Install reflectorized markers at the edge stripe.
Stripe Right Turn Lane and angled arrows	2. In the EB direction, east of Washington Boulevard., the existing curb lane varies in width, providing, in certain sections, an extra wide travel lane. Create a new Right Turn Lane adjacent to Turning Point School (where curb lane is greater than 20 feet). Additionally add 45° pavement arrows to direct traffic away from the curb and into the number two through lane.

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Paint yellow cross walk	3. Working with Turning Point School, determine if school children will walk to/from school at the intersection of National Boulevard/Wesley Avenue. If requested by the school, paint yellow cross walks at the National Boulevard/Wesley Avenue intersection.
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SIGNAGE:

Speed feed-back signs (Displays the speed of a vehicle as it approaches the sign.)	4. Install a new speed feed-back sign facing eastbound traffic on National Boulevard, approximately 300' east of Hayden Avenue. 5. Install a new speed feed-back sign facing westbound traffic on National Boulevard, approximately 300' west of City Boundary.
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School Area Signs	6. Working with Turning Point School and at their request, install new school area assembly signs adjacent to Turning Point School on National Boulevard.
Regulatory Speed Limit Signs	7. In the eastbound direction, relocate existing 40 MPH sign from near Washington Boulevard to east of Wesley Avenue. (Or appropriate sign legend depending on Council-adopted speed limit.) 8. In the eastbound direction install new 40 MPH sign concurrently with the installation of the Speed Feed-Back sign in item no. 4, above. (Or appropriate sign legend depending on Council-adopted speed limit.) 9. In the westbound direction, relocate existing 40 MPH sign from near the City boundary to the Fay Ave. prolongation.
Radar Enforcement Signs	Install two RADAR ENFORCEMENT signs in

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	each direction based on an updated engineering and traffic survey.
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OTHER:

Police Enforcement	10. All along National Boulevard, encourage frequent but irregular speed limit enforcement, especially during off-peak hours.
Sight distance from perpendicular streets and drive approaches	11. Study the possible prohibition of some parking on the south side of National Boulevard, westerly of all perpendicular streets and drive approaches in order to improve sight visibility at intersections.

Considering that National Boulevard is a Secondary Artery, other measures such as traditional traffic calming tools that may be appropriate on residential streets are not appropriate for this classification. Among the inappropriate tools for Secondary Arteries would be speed humps, stop signs and chokers.

FISCAL ANALYSIS:

Most of the costs associated with the measures described above are soft costs, which involve the time spent by City staff to paint, install signs and posts, or enforce traffic laws. The hard costs would be the acquisition and installation of the speed feed-back signs. The total costs for all the measures described are from \$10,000 to \$15,000; excepting the cost for speed enforcement by the Police Department, which would be ongoing and not a part of this estimate.

MOTION:

That the City Council:

1. Discuss the various options presented by staff in the options table and provide the staff with appropriate direction