

Culver CITY

INTEROFFICE MEMORANDUM

DATE: 09/25/2015
TO: TRAFFIC COMMITTEE MEMBERS
FROM: Gabe Garcia
SUBJECT: REQUEST TO DISCUSS, CONSIDER, AND OBTAIN PUBLIC INPUT REGARDING SIGNALIZATION ALTERNATIVES FOR THE INTERSECTIONS OF JEFFERSON BOULEVARD/JORDAN WAY-SUMMERTIME LANE, AND DUQUESNE AVENUE/JEFFERSON BOULEVARD
CC: Traffic Committee File
Public Works Chronological File

Item 2.1

Request to discuss, consider, and obtain public input regarding signalization alternatives for the intersections of Jefferson Boulevard/Jordan Way-Summertime Lane, and Duquesne Avenue/Jefferson Boulevard, including discussion of an alternative that would require the removal of the east marked crosswalk at these intersections.

Background

Public Works/Engineering Division submitted a grant application for the Highway Safety Improvement Program, Cycle 6. We were awarded a grant in the amount of approximately \$944,900 towards a project cost of \$1,050,000, to improve safety at seven intersections by installing left-turn arrows (or split phasing, depending on geometrics, lanes available, etc.). The seven intersections are:

1. Centinela Avenue/Washington Boulevard;
2. Centinela Avenue/Washington Place;
3. Duquesne Avenue/Jefferson Boulevard;
4. Jefferson Boulevard/Jordan Way;
5. Jefferson Boulevard/Machado Road;
6. Sepulveda Boulevard/Washington Boulevard; and
7. Sepulveda Boulevard/Washington Place.

We are currently in the design phase for this project. The analysis for Duquesne Avenue/Jefferson Boulevard and Jefferson Boulevard/Jordan Way-Summertime Lane indicate that there are several options that can be considered to improve

safety, but they vary in the average delay that may be experienced by all users of the intersection as they wait to cross the intersection.

In compliance with the requirements of the California Manual on Uniform Traffic Control Devices, signage was installed at the two intersections to notify the public that consideration was being given to a proposal that, if selected, would result in the removal of the east crosswalk, across Jefferson Boulevard, at both intersections. However, this is just one of several alternatives analyzed by our consultants.

The public's input was invited in order to consider the qualitative aspect. To this end, to obtain the public's input, staff provided a phone number (310.253-5634), an e-mail address (traffic.engineering@gmail.com), and have scheduled a consideration of this topic at the meeting of the Traffic Committee on Wednesday, September 30th, at 7 pm, in the Council Chambers. At this meeting, staff will present the analysis, pedestrian and vehicular volume counts, and several scenarios, one of which necessitates the removal of the crosswalk.

The input we receive from the public will inform our recommendation; we will ask for direction from the City Council when staff requests approval of the plans and specs for this project in future months.

Please see the staff report below, which is a summary representing the findings of the analysis, and the attached technical memorandum from our consultants which includes discussion of options including left-turn arrows, yellow flashing arrows, split phasing, and removal of the east marked crosswalk across Jefferson Boulevard at both subject intersections.

JEFFERSON BOULEVARD/JORDAN WAY-SUMMERTIME LANE

Existing Conditions

Due to the high number of left turns from southbound Jordan Way to eastbound Jefferson Boulevard, there are two traffic safety issues that have arisen over the years and need to be addressed as part of the future signal improvements:

1. There is conflict between left-turning motorists southbound on Jordan Way and through motorists northbound on Summertime Lane. The conflict is a result of the substantial volume of left turns, which is 211 during the evening peak hour, according to traffic data collected for the analysis. As a result of this substantial volume of left turns, motorists southbound on Jordan Way sometimes do not yield to motorists northbound on Summertime Lane who are proceeding straight ahead. In addition, they cannot readily determine if motorists on Summertime Lane intend to proceed through or turn left. The proposed signal improvement can

2

address this safety issue by separating the movements and allowing Jordan Way traffic to turn with a green left-turn arrow before Summertime Lane receives a green signal indication.

2. Pedestrians who use the crosswalk on the east leg of the intersection face considerable risk. While left turning motorists from Jordan Way are legally required to yield to pedestrians in the crosswalk, it is not an effective measure when the left-turn volume reaches the levels experienced at this intersection. The conflict at this intersection needs to be reduced or eliminated.

Alternatives

In exploring solutions, we asked our consultant to consider the left-turn arrow for Jordan Way, while retaining both crosswalks. Their analysis showed that the addition of the green left-turn arrow in combination with retention of both crosswalks across Jefferson Boulevard, would result in substantial delay for all movements at the intersection including those on Jefferson Boulevard. This result is because the timing at the intersection would have to be divided in three distinct pedestrian phases versus the existing two-way operations today. The average delay for all vehicles at the intersection would increase from the present 19 to 79 seconds.

Today, the two pedestrian phases are: first, the north/south crosswalks (Jefferson Boulevard) then the east and west crosswalks (Jordan Way/Summertime Lane). However, with the addition of the left turn arrow, there would be three distinct pedestrian phases: first, the north/south crosswalks (Jefferson Boulevard), then the west crosswalk (when Jordan Way has a left green arrow), followed by the east crosswalk (when Summertime Lane has a green signal). This substantial additional delay from 19 to 79 seconds could result in gridlock on Jefferson Boulevard between Overland Avenue and Jordan Way/Summertime Lane. This, in turn, would encourage even more traffic to try to bypass the intersection of Overland Avenue and Jefferson Boulevard and use Virginia Avenue and Jordan Way as a cut-through route. This would be counter-productive and is not a viable option.

As a result of this analysis we asked our consultant to consider how best to keep the signal effectively two-phase. We were advised that this could be accomplished by having one crosswalk for crossing Jefferson across the west leg only. Under this scenario, there would be only two pedestrian phases: north/south crosswalks (Jefferson Boulevard) followed by the west crosswalk (Jordan Way green arrow followed by Summertime Lane). Pedestrians crossing Jefferson Boulevard across the west leg would begin crossing when Jordan Way receives a green left turn arrow and would not be in conflict with that movement. Pedestrians would complete their crossing when Summertime Lane receives a

green signal. Under this scenario, according to the analysis, the average delay for all vehicles at the intersection would increase slightly from 19 seconds to 23 seconds, but would still be relatively low and manageable.

We determined that removal of the east leg—versus the west leg—crosswalk would minimize inconvenience to pedestrians and transit users as the retention of the crosswalk on the west leg would better serve persons destined to the bus stop on Jefferson Boulevard at Overland Avenue.

Possible southbound Overland Avenue left-turn improvement

Finally, in the long term we would like to improve the left-turn capacity for southbound Overland Avenue at Jefferson Boulevard. This could be accomplished by removal of the raised median on the north leg of the intersection, along with striping and signal modifications. Doing so would reduce the amount of traffic using Virginia Avenue and Jordan Way. We have identified this modification as a possible mitigation measure for a development project outside of Culver City. However, the opportunity to actively pursue this proposal is years in the future.

Conclusion

In urban traffic situations there often are no perfect solutions. Such is the case at Jefferson Boulevard/Jordan Way-Summertime Lane. However, based on the analysis by or consultants, and in consideration of all of the above factors, it appears that the proposal to provide a left-turn arrow for traffic on Jordan Way with the removal of pedestrian conflict on the east leg, is the best option to improve traffic safety at this location, while minimizing pedestrian inconvenience, and avoiding gridlock on Jefferson Boulevard.

JEFFERSON BOULEVARD/DUQUESNE AVENUE

Existing Conditions

The volume of left turns from southbound Duquesne Avenue to eastbound Jefferson Boulevard is high throughout the day. As a result, there is substantial conflict with northbound motorists coming down from the park as well as with pedestrians in the east crosswalk of the intersection. During the AM peak hour, the left-turn volume is 239 vehicles and during the PM peak hour, the volume is 371 vehicles. There was a pedestrian fatality in the east crosswalk at this location in August 2008.

As an interim measure, we have adjusted the signal timing so that pedestrians in the east and west crosswalks receive an advance "Walk" before motorists can

4

start on the green signal. This advance "Walk" (or delayed green) enables pedestrians to be more readily seen and advance well into the crosswalk before motorists start. However, given the substantial volume of turning traffic, we do not consider this treatment as a long-term solution.

Alternatives

We requested that our consultant examine the feasibility of providing for the southbound left-turn arrow while retaining both crosswalks on Jefferson Boulevard. Their analysis showed that the addition of a green left-turn arrow in combination with the retention of both crosswalks across Jefferson Boulevard, would result in a substantial increase in delay for all movements at the intersection, including those on Jefferson Boulevard. This result is due to the timing at the intersection having to be divided into more phases than exist today, since the pedestrian crossing movement on the east leg would have to be exclusive and separate from the proposed southbound left-turn movement. Due to the new phase, other phases would receive less green time.

Any significant additional delay to Jefferson Boulevard, where critical speeds are in the 43-45 mph range, would compromise traffic safety by increasing rear-end collision potential. This would be counter-productive to the goals of improving traffic safety at this location. Also, any significant additional delay to Duquesne Avenue could encourage motorists to take a bypass route via the residential streets of Lucerne Avenue and Higuera Street. This would be counter-productive to the goals of improving residential livability by minimizing commuter traffic along these neighborhood streets.

As a result, we then requested that our consultant examine options that would avoid significant increases in delay. After considerable review of striping and signal phasing alternatives over many months, an option was developed that would add an additional left-turn lane and that would remove the crossing conflict in the east leg. Under this scenario, pedestrians would cross Jefferson Boulevard in the west crosswalk only. They would start their crossing when southbound Duquesne Avenue receives a green arrow, and would complete their crossing when northbound Duquesne Avenue receives a green signal. By sharing the crossing time among the opposing movements on Duquesne Avenue, there would be no increase in delay at the intersection, and the length of the southbound queue (stopped vehicles) would be substantially reduced. This reduction in queue and delay would likely be beneficial to residents on Lucerne Avenue and Higuera Street, since there would be fewer frustrated commuters seeking cut-through routes.

Staff recognizes that there would be some inconvenience to pedestrians who wish to access the nearby eastbound bus stop on the south side. In this regard, we note the following:

- The crosswalk on the east leg accommodates only 19 persons per hour.
- The crosswalk on the west leg, which would be retained, is more utilized than the one on east leg.
- There is no benefit in using the crosswalk on the east leg to access the park along Duquesne Avenue since the sidewalk is on the west side.
- There is no need to use the crosswalk on the east leg to access the park at Hetzler Road, since pedestrians can walk along the north side of Jefferson Boulevard and then cross at Hetzler Road, where traffic signal control and a high-visibility marked crosswalk has been provided to accommodate pedestrian crossings.

Conclusion

In urban traffic situations there often are no perfect solutions. Such is the case at Duquesne Avenue and Jefferson Boulevard. In consideration of all these factors, we believe that the proposal that has been developed over many months of evaluating various options is a good although imperfect solution. We believe that the proposal to provide a southbound left turn arrow with an additional lane for left turns in combination with the removal of the pedestrian conflict on the east leg is the best option to improve traffic and pedestrian safety at this location, while minimizing pedestrian inconvenience, avoiding new conflicts and reducing neighborhood impacts.