

**Appendix F2 McFadden Avenue/Sugar Drive Traffic
Evaluation**

City of Huntington Beach
 Public Works Department, Transportation
 2000 Main Street
 Huntington Beach, CA 92648
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McFadden Avenue/Sugar Drive Traffic Evaluation

Background:

This document analyzes the traffic conditions at the intersection of McFadden Avenue and Sugar Drive. The existing conditions, conditions with the implementation of the Beach/Edinger Corridor Specific Plan, and the General Plan are examined. This analysis evaluates whether the proposed Specific Plan would result in any significant adverse traffic impacts at the intersection. The analysis also addresses concerns expressed by area residents regarding the safety of this intersection and the need for a traffic signal.

Existing Conditions:

The intersection of McFadden Avenue and Sugar Drive is in the City of Westminster with the tract to the north located in the City of Huntington Beach (see Figure 2). Sugar Drive is the only street serving the tract to the north.

The existing Average Daily Traffic (ADT) on McFadden Avenue between Huntington Village Lane and Beach Boulevard is 19,000.

The existing AM and PM peak hour intersection traffic volumes are shown below.

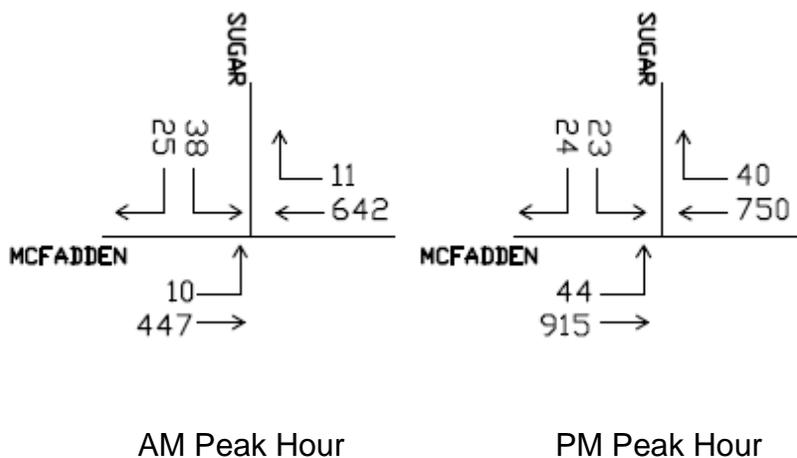


Figure 1. Existing AM and PM Peak Hour Traffic Volumes.

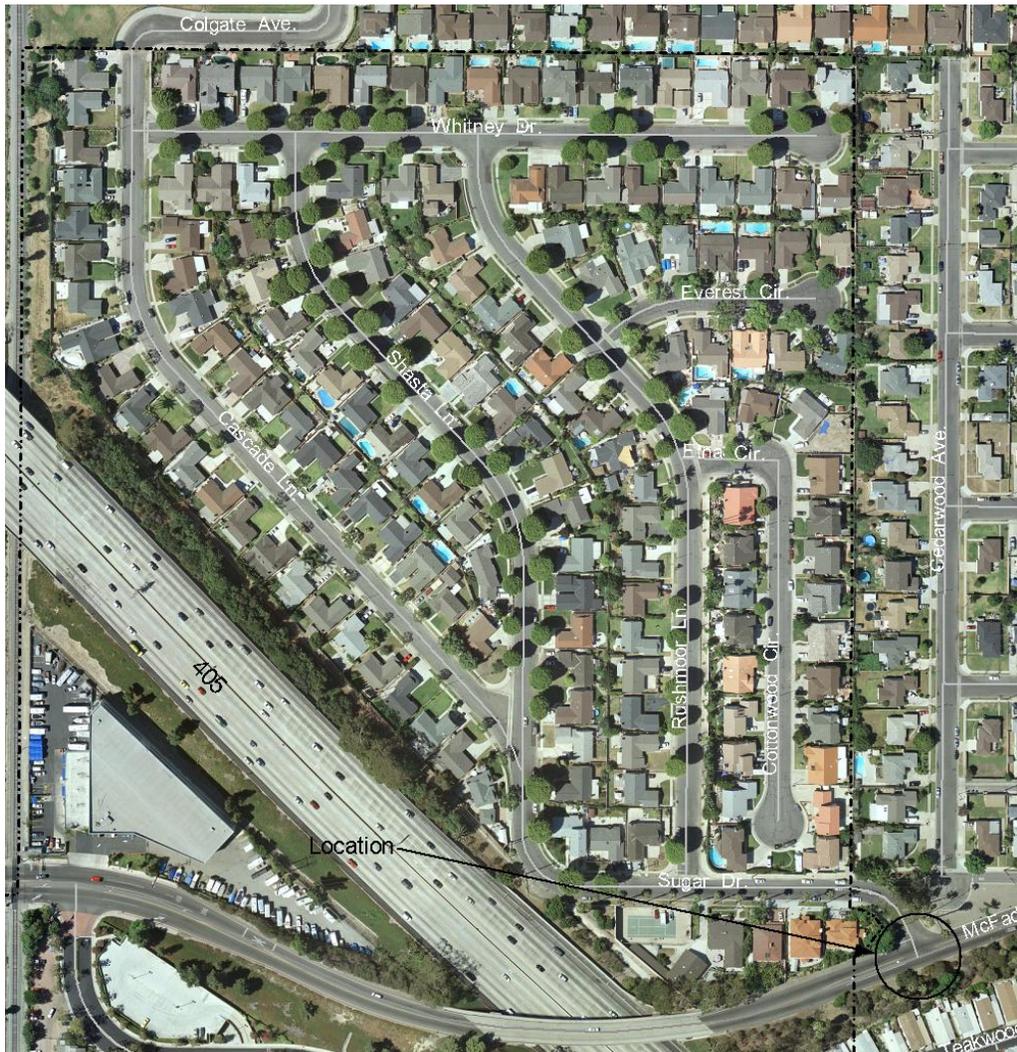


Figure 2. McFadden Avenue/Sugar Drive intersection.

Analysis of Existing Conditions:

The Level-of-Service (LOS) at a minor street, stop controlled approach is determined by the average delay per vehicle (in seconds) for the critical movements, the minor street movements and major street left turns. Table 1 summarizes the LOS for unsignalized intersections.

LOS	Average control delay per vehicle (seconds)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Table 1. Level-of-Service for Unsignalized Intersections.

Table 2 shows the existing LOS for the minor street (Sugar Drive) movement and major street (McFadden Avenue) left turn at the McFadden Avenue/Sugar Drive intersection. The minor street right turn movement has minimal delays and was not included.

Movement	AM – Average delay (sec.)	LOS	PM – Average delay (sec.)	LOS
Southbound left turn	14.5	B	22.2	C
Eastbound left turn	9.1	A	9.9	A

Table 2. Existing McFadden Avenue/Sugar Drive Intersection LOS.

Although the City does not have LOS criteria for unsignalized intersections each movement is operating at an acceptable LOS (for signalized intersections LOS D or better is considered acceptable). Additional analysis of the peak hour traffic volumes indicates this intersection would not meet traffic signal warrants per the California Manual on Uniform Traffic Control Devices.

Based on examination of accident data from the last 5 years no safety issues exist at the intersection. The intersection’s accident rate per million entering vehicles is 0.12. The average rate for similar intersections in the state of California is 0.20. Of the four reported accidents, three were related to the southbound left turn. Striping a two-way left-turn lane or a left turn acceleration lane east of the intersection could assist the safety of this movement.

Beach/Edinger Corridor Specific Plan Analysis:

With implementation of the Beach/Edinger Corridor Specific Plan the year 2030 time frame was analyzed. In the AM peak hour, the study projects a 14% increase in eastbound traffic and 8% decrease in westbound traffic with buildout of the Specific Plan land use. In the PM peak hour, the study projects a 7% increase in eastbound traffic and 13% increase in westbound traffic with buildout. The projected traffic increase would not be expected to result in increased traffic volumes on Sugar Drive or for the turn movements into the tract. The AM and PM peak hour intersection traffic volumes are shown in Figure 3.

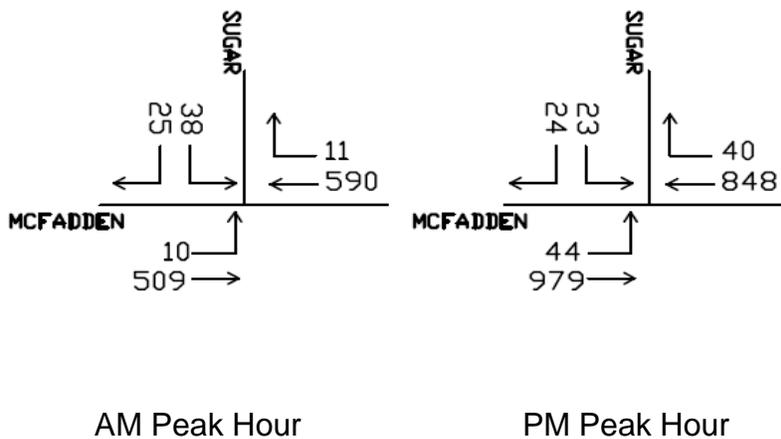


Figure 3. Specific Plan Year 2030 AM and PM Peak Hour Traffic Volumes.

Table 3 shows the Specific Plan year 2030 LOS for the minor street (Sugar Drive) movements and major street (McFadden Avenue) left turn at the McFadden Avenue/Sugar Drive intersection. The minor street right turn was not included because the delays were only minimal.

Movement	AM – Average delay (sec.)	LOS	PM – Average delay (sec.)	LOS
Southbound left turn	13.0	B	20.7	C
Eastbound left turn	8.9	A	10.4	B

Table 3. Specific Plan Year 2030 McFadden Avenue/Sugar Drive Intersection LOS.

With implementation of the Beach/Edinger Corridor Specific Plan the critical intersection movements still operate at an acceptable LOS and traffic volumes would not qualify warrants for traffic signal installation.

Table 4 shows the McFadden Avenue/Sugar Drive intersection LOS for the General Plan year 2030. The General Plan analysis results in slightly higher delays during the peak periods with the exception of the PM eastbound left turn, where the delay is unchanged. The analysis indicates the Beach/Edinger Corridor Specific Plan slightly improves vehicle delays compared to the General Plan.

Movement	AM – Average delay (sec.)	LOS	PM – Average delay (sec.)	LOS
Southbound left turn	14.2	B	21.5	C
Eastbound left turn	9.4	A	10.4	B

Table 4. General Plan Year 2030 McFadden Avenue/Sugar Drive Intersection LOS.

Summary:

Based on traffic analysis of existing and year 2030 conditions with the Beach/Edinger Specific Plan, the intersection of McFadden Avenue and Sugar Drive would continue to operate at acceptable LOS. Evaluation of the field conditions and accident records indicates no hazardous conditions exist at the intersection. The proposed Specific Plan would not result in any significant adverse traffic impacts at the intersection including substantial increase in delays to motorists entering and exiting the tract or significantly altering traffic safety at the intersection.

The review of conditions at the intersection did identify one minor operational improvement that could be pursued to aid residents exiting the tract. This improvement is not needed as a result of the project and not considered a mitigation measure. City staff will work with the City of Westminster to explore the feasibility of extending the east leg's two-way left turn lane to Sugar Drive to provide an acceleration/refuge area for motorists.