



Administrative Report

J.1., File # PW21-2916

Meeting Date: 8/23/2021

To: PUBLIC WORKS COMMISSION

From: Department of Public Works

TITLE

HERONDO STREET AND MONTEREY BOULEVARD ALL-WAY STOP CONTROLS

EXECUTIVE SUMMARY

Recommendation:

Review the engineering report receive public input, and provide direction to Staff regarding proceeding with traffic control modifications in the consideration to install all-way stop controls for the intersection of Herondo Street and Monterey Boulevard.

In response to a referral from Mayor Brand and City Council following Fiscal Year 2021-2022 Budget Discussions, as well as requests from the residents & staff of Hermosa Beach, City of Redondo Beach staff has performed an analysis of all-way stop controls at the intersection of Herondo Street and Monterey Boulevard. This intersection is shared jurisdictionally between the Cities of Hermosa Beach and Redondo Beach.

Vehicle volumes on Herondo Street are below the California Manual on Uniform Traffic Control Devices (CA MUTCD) warrants for consideration of all-way stop controls. There is little vehicle-pedestrian conflict crossing Herondo Street and the reported collision history at the intersection is less than five in a 12-month period. Field observations revealed that visibility for vehicles entering Herondo Street from Monterey Boulevard is restricted due to on-street parking on the east approach and physical constraints on the west approach. Based on this factor, consideration may be given to installing all-way stop controls at this intersection.

BACKGROUND

Following request from our Mayor and Council and the residents & staff of Hermosa Beach, the City of Redondo Beach staff initiated an all-way stop analysis at the intersection of Herondo Street and Monterey Boulevard. Staff proceeded to collect data, perform field observations, obtain measurements, and review pertinent information.

Herondo Street and Monterey Boulevard are both classified as minor arterials in the current functional classification map (California Roadway System Map 13V42). The intersection is a T-intersection, with Monterey Boulevard forming the stem on the north. Herondo Street runs east-west and has shared jurisdiction in the vicinity of the subject intersection between Hermosa Beach and Redondo Beach. The speed limit in the westbound direction (Hermosa Beach) is 30 mph while the eastbound direction (Redondo Beach) has a 35 mph speed limit. It has one travel lane and a bike

lane in each direction, separated by a raised median. The west approach has a left-turn pocket. The north side has reverse angle parking east of the intersection (with one parallel parking space closest to the intersection) and parallel parking west of the intersection. The south side has reverse angle parking east and west of the intersection. There is a marked, high visibility crosswalk on the east leg. Monterey Boulevard, located entirely within the City of Hermosa Beach, runs north-south and is stop controlled with a marked, high visibility crosswalk. There are all-way stop controls approximately 750 feet to the east of the subject intersection at Valley Drive/Francisca Avenue and a traffic signal approximately 550 feet to the west at Hermosa Avenue/Harbor Drive.

Fronting development in the vicinity of the intersection on the north side is single and multi-family residential, with Kay Etow Parkette on the northwest corner. The south is adjacent and fenced to the AES site. There are sidewalk, curb and gutter improvements on all legs. Additionally, during the AM peak period of 7:00-9:00 am, all turns are prohibited except for southbound Monterey Boulevard to westbound Herondo Street.

Vehicle, bicycle and pedestrian volume data were obtained at this intersection during the morning peak period (7:00-9:00 a.m.) on August 11, 2021 and during the afternoon peak period (4:00-6:00 p.m.) on August 10, 2021. The data revealed the following:

- AM Peak Hour (8:00-9:00) vehicle plus bicycle volume on Herondo Street was 195 units per hour for the eastbound direction and 380 units per hour for the westbound direction, for a total AM peak hour volume of 575 units per hour on the major roadway;
- AM Peak Hour vehicle plus bicycle volume on Monterey Boulevard was 75 units per hour;
- PM Peak Hour (4:45-5:45) vehicle plus bicycle volume on Herondo Street was 207 units per hour for the eastbound direction and 577 units per hour for the westbound direction, for a total AM peak hour volume of 784 units per hour on the major roadway;
- PM Peak Hour vehicle plus bicycle volume on Monterey Boulevard was 107 units per hour; and,
- 4 pedestrians crossed Herondo Street at the intersection during the AM peak period (7:00-9:00 a.m.) period a 6 crossed during the PM peak period (4:00-6:00 a.m.).

A review of the available SWITRS accident data at this intersection during the previous five-year period, ending 12/31/2020, revealed one reported accident on 6/7/2020. The single reported accident was a broadside collision that may be correctable by all-way stop controls.

For the posted speed limit of 30 mph on Herondo Street in the westbound direction, the minimum stopping sight distance per Table 201.1 of the California Highway Design Manual is 200 feet. For the posted speed limit of 35 mph on Herondo Street in the eastbound direction, the minimum stopping sight distance is 250 feet. Field measurements, taken from the limit line, revealed that visibility for Monterey Boulevard looking east is approximately 180 feet due to parked vehicles. Looking west, the visibility is approximately 200 feet, due to a roadway downgrade and the city entrance sign located in the median. Visibility is increased when vehicles move forward into the crosswalk, which was commonly observed.

The California Manual on Uniform Traffic Control Devices (CA MUTCD) provides guidance for the

installation of all-way stop controls. It suggests that all-way stop controls may be considered when:

- Warrant A - Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
- Warrant B - When there are five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.
- Warrant C - Where the vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour. When the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants may be reduced to 70 percent of the above values.
- Warrant D - Where no single criterion is satisfied, but where Criteria B and C are all satisfied to 80 percent of the minimum values.

The CA MUTCD also provides other criteria that may be considered, including:

- The need to control left-turn conflicts;
- The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
- Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and,
- An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection.

Based on the above information, the collision and volume warrants (Warrants B, C and D) are not satisfied and do not support all-way stop control installation. With respect to the volume criteria, both AM and PM peak hour volumes on Monterey Boulevard are well below the criteria to meet the minimum threshold, which means that the average of the eight highest hours would obviously not be satisfied. Warrant A, related to the need for a traffic signal, is also not satisfied. Pedestrian volumes crossing Herondo Street is light during peak periods, and the crossing width is reduced via the parking lanes, bike lanes and center median refuge area.

With regards to the additional criteria allowed for consideration in the CA MUTCD, the field data

suggests that limited visibility may be applicable. Visibility, when measured from the limit line on Monterey Boulevard, can be reduced to less than the safe stopping distance. Installation of all-way stop controls is one mechanism that could be utilized to address this issue.

There are AM peak period (7:00-9:00) turning restrictions posted for both directions on Herondo Street at Monterey Boulevard. The restrictions are clearly posted and visible to motorists. Count data revealed a significant number of vehicles (30 eastbound left-turning, 119 westbound right-turning) violated this restriction. The appropriate enforcement agencies (Hermosa Beach and Redondo Beach Police Departments) have been informed of this observation for their use.

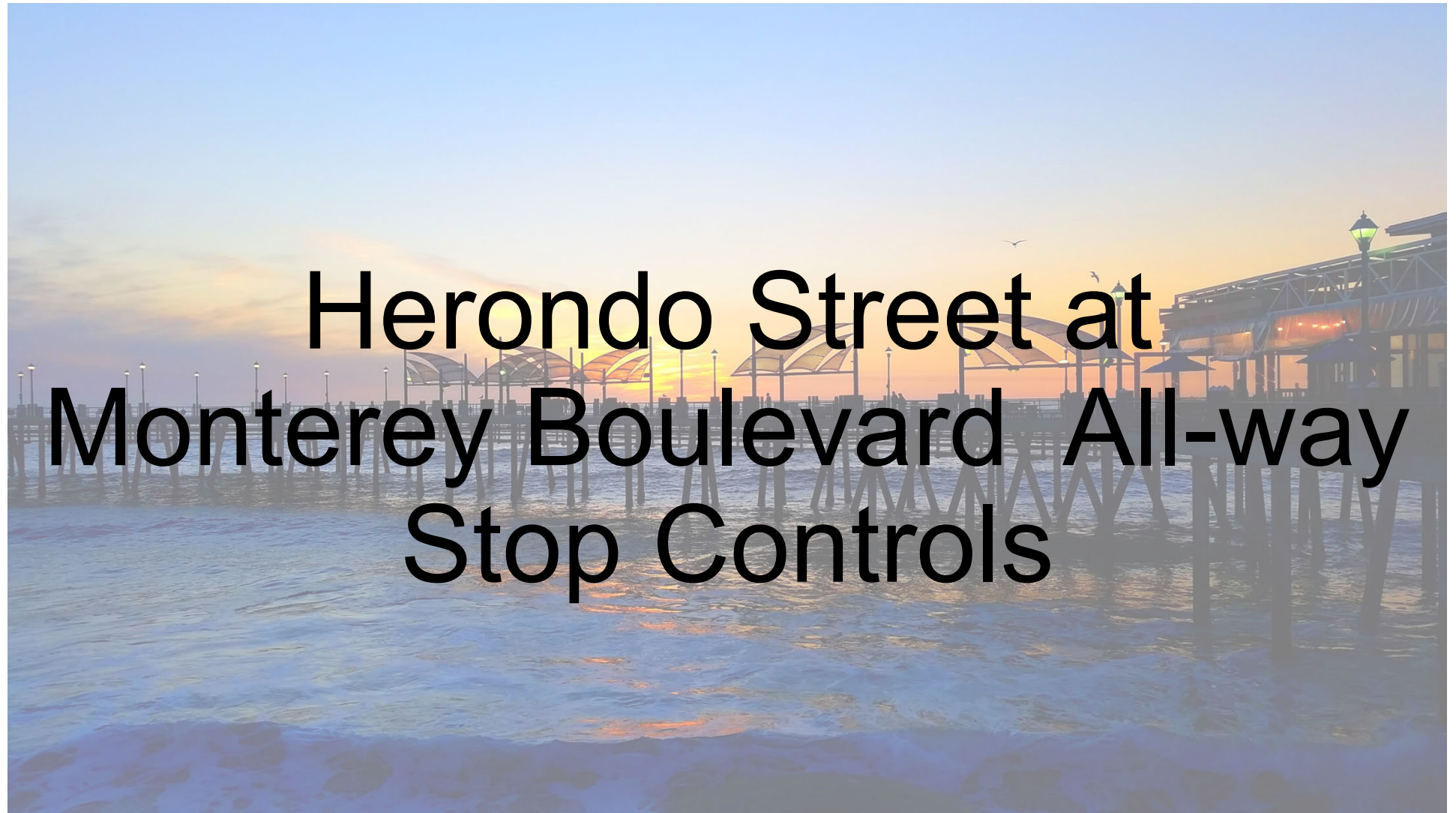
The existing high visibility crosswalk on Herondo Street has advance limit lines in both directions. These markings should be updated to the current CA MUTCD since there is a yield requirement, not a stop requirement, when pedestrians are present. Field observations revealed some westbound motorists stopped at the line even when there were no conflicting pedestrians crossing the roadway. As part of the all-way stop installation, these lines should be modified and updated to the current CA MUTCD.

COORDINATION

Staff has been coordinating efforts with the City of Hermosa Beach Public Works Engineering (or whatever their department/division names are) staff. Hermosa Beach staff intends to present the consideration for all-way stop controls and Redondo Beach's Public Works Commission recommendation to their Public Works Commission. Future efforts regarding communications and installation will continue to be coordinated with City of Hermosa Beach staff and nearby residents.



City of Redondo Beach Public Works Commission August 23, 2021



Herondo Street at Monterey Boulevard All-way Stop Controls



Background

- Initiated by direction per City Council
- Joint Redondo Beach and Hermosa Beach



- Field observations and data collection



PWC Meeting
Herondo St at Monterey Blvd
All-way Stop Controls



On Herondo Street



West Approach

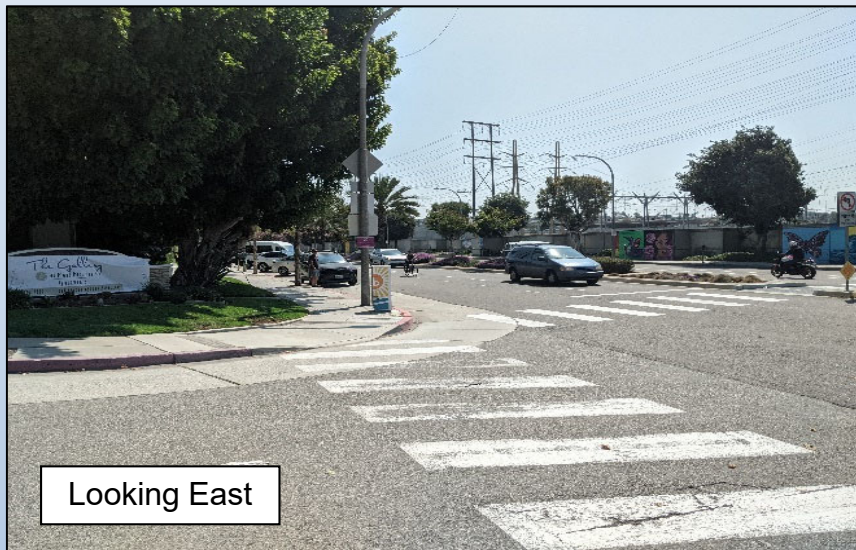


East Approach

PWC Meeting
Herondo St at Monterey Blvd
All-way Stop Controls



On Monterey Blvd



Looking East



Looking West

PWC Meeting
Herondo St at Monterey Blvd
All-way Stop Controls



Analysis

- Caltrans Warrants for installation of all-way stop controls
 - Warrant A – As an interim measure for a traffic signal
 - Warrant B – 5 or more correctable accidents in 12 months
 - Correctable accidents include are right-angle and right/left-turn accidents
 - Warrant C – During 8 highest hours of an average day:
 - Average of 300 vehicles on the major (uncontrolled) street
 - Average of 200 vehicles, peds and bicycles on the minor (controlled) street
 - Required volumes reduced to 70% if 85th % speed > 40 mph
 - Warrant D – Warrants B and C satisfied 80%



Analysis

- CA MUTCD provides for additional criteria to be considered:
 - The need to control left-turn conflicts
 - The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes
 - Locations where a road user, after stopping, cannot see conflicting traffic unless the conflicting cross traffic is also required to stop
 - Two residential collector streets of similar design and operating characteristics where all-way stop controls would improve operation characteristics of the intersection



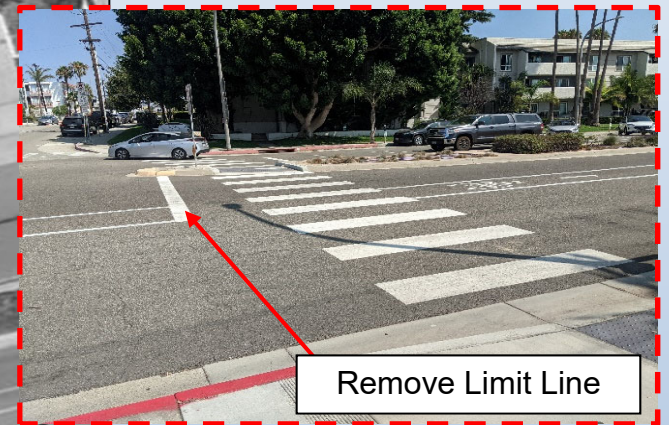
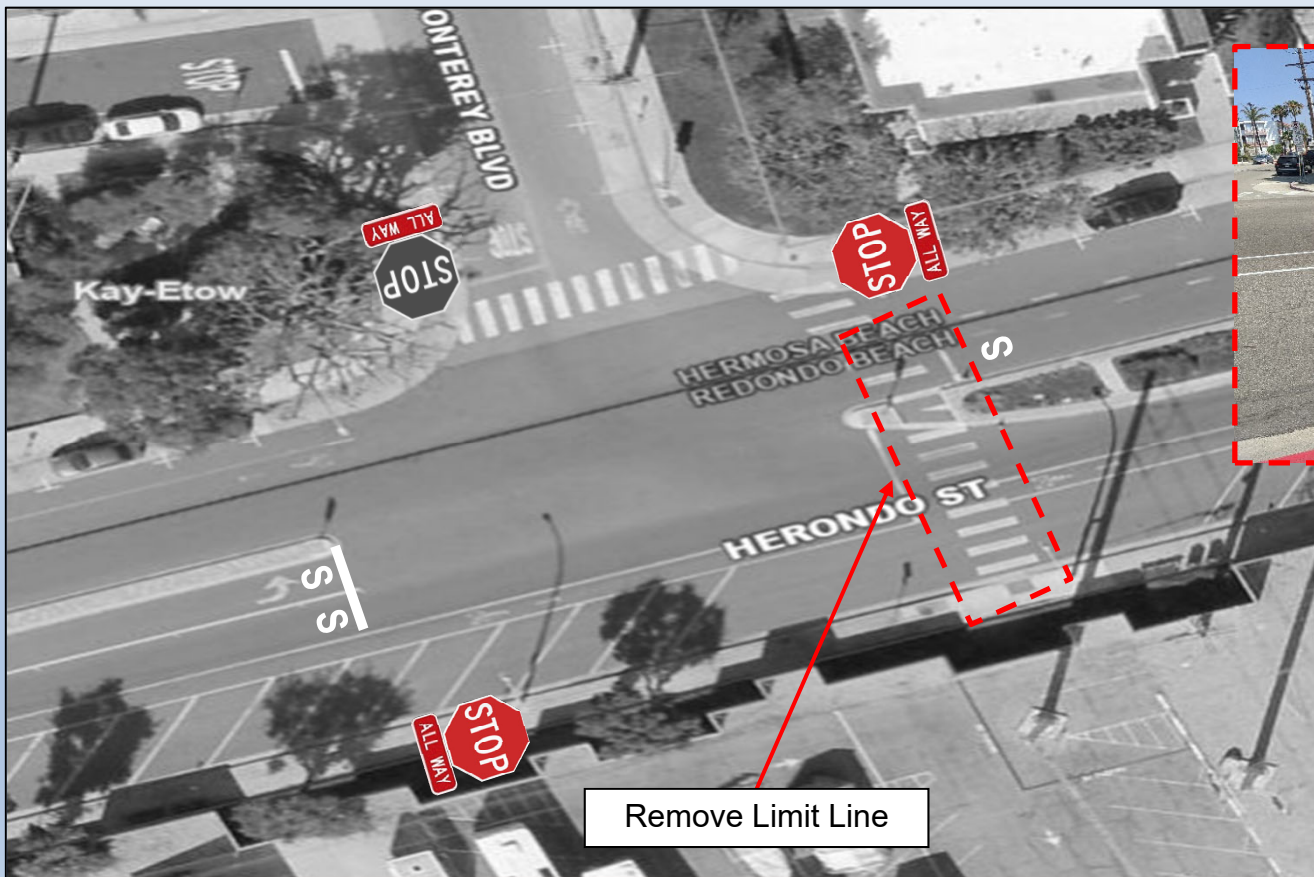
Analysis

- AM Peak Hour (8:00-9:00) vehicle plus bicycle volume on Herondo Street was a total volume of 575 units.
- AM Peak Hour vehicle plus bicycle volume on Monterey Boulevard was 75 units per hour;
- PM Peak Hour (4:45-5:45) vehicle plus bicycle volume on Herondo Street was a total volume of 784 units.
- PM Peak Hour vehicle plus bicycle volume on Monterey Boulevard was 107 units per hour.
- 4 pedestrians crossed Herondo Street during the AM peak period and 6 pedestrians crossed during the PM peak period.



Analysis

- A review of the available SWITRS accident data revealed one reported accident on 6/7/2020. The single reported accident was a broadside collision that may be correctable by all-way stop controls.
- None of the main criteria satisfied, however...
 - Table 201.1 of the HDM
 - Stopping sight distance required 250'
 - Stopping sight distance available 180' – 200'
- All-way stop can be warranted



PWC Meeting
Herondo St at Monterey Blvd
All-way Stop Controls



Coordination

Staff has coordinated efforts with the City of Hermosa Beach staff and will continue to do so.

Recommendation

Review the engineering report, receive public input and provide direction to Staff regarding proceeding with traffic control modifications in the consideration to install all-way stop controls for the intersection of Herondo Street and Monterey Boulevard.