



Public Works & Sustainability Commission [Special Meeting]



REDONDO BEACH

December 2, 2024

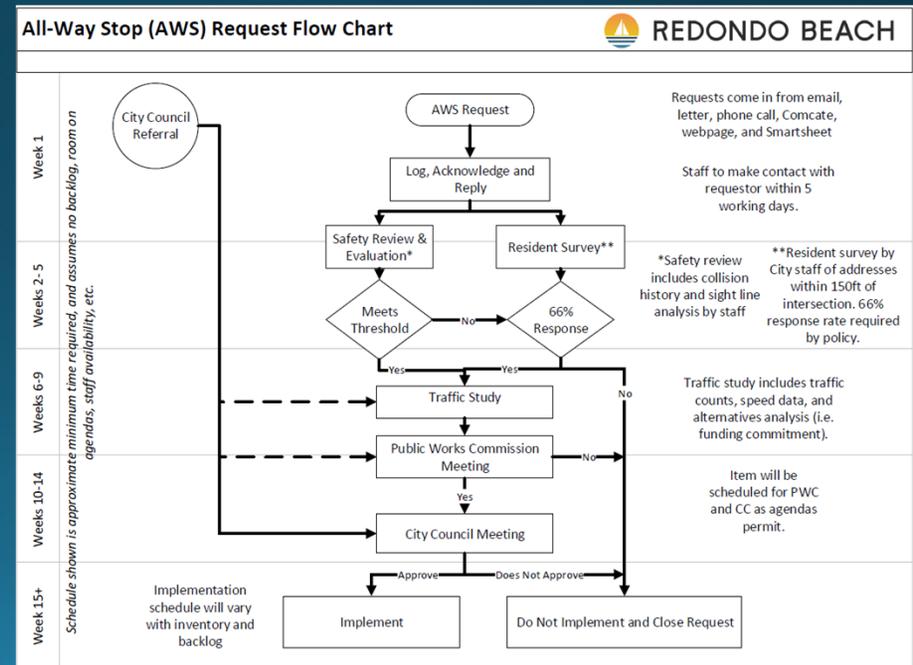
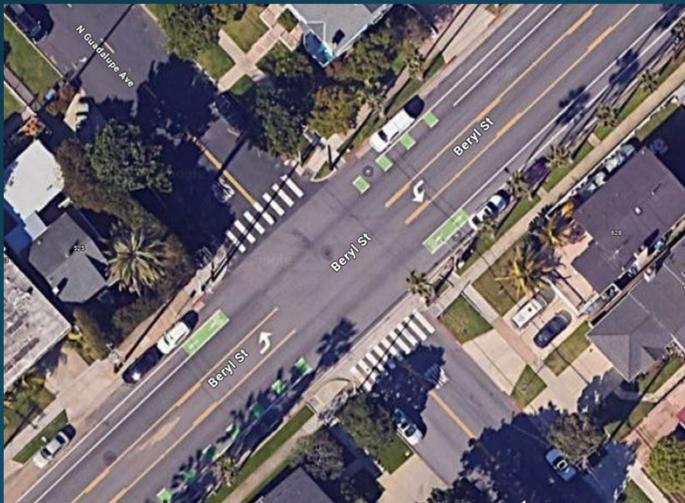
J.1 Beryl/Guadalupe Intersection Improvements



REDONDO BEACH

Background

- All-way Stop (AWS) requested in 2022. Did not meet thresholds or support at the time.
- AWS or crosswalk requested in August 2024. Enhanced crosswalk presented to PWSC in September 2024.
- Staff directed by PWSC to re-analyze AWS in conjunction with enhanced crosswalk.
- AWS Policy requires resident survey and engineering study



AWS Survey

- 34 residences within 150-foot radius. 122 within 300 feet. 150 feet is the policy radius, but staff noticed 300 feet since the enhanced crosswalk was noticed 300 feet.
 - Within 150 feet, 11 supportive, 2 opposed.
 - Within 300 feet, 35 supportive, 2 opposed.
- Under either radius, support rate was around 30%. *Does not pass policy threshold.*
- Two supportive responses received outside the 300-foot radius.



Engineering Study

- 2014 CAMUTCD and 2023 federal MUTCD provides recommended warrants to be met before an AWS is recommended/installed. City AWS Policy aligns with MUTCD/CAMUTCD.

MUTCD 2B.06.06 -
STOP signs shall not be used for speed control.

2B.12.02 -
All-way stop controls at intersections with substantially differing approach volumes can reduce the effectiveness of these devices for all roadway users.

2B.13 - All-Way Stop Control Warrant A: Crash Experience
5+ reported and correctable crashes in a 12-month period, 6+ crashes in a 36 month period

2B.14 - Warrant B: Sight Distance
Inadequate sight distance to cross

2B.15 - Warrant C: Transition to Signal Control
Interim measure for a future traffic signal

2B.16 - Warrant D: 8-Hour Volume
Major street approaches at least 300/hr for 8 hrs and minor street approaches at least 200/hr for same 8 hrs

2B.17 - Warrant E: Other Factors
A - Left-turn conflicts
B - Intersection of two streets of similar design and operating characteristics
C - Pedestrian and/or bicyclist movements

Beryl/Guadalupe AWS Engineering Study

2B.12.02 - Guadalupe approaches are 13% of intersection traffic

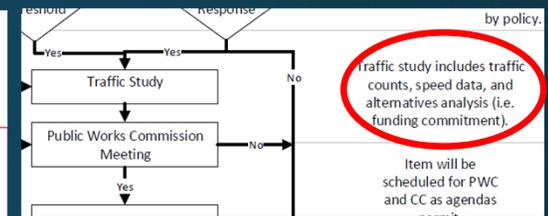
2B.13 - One (1) reported crash in last five years. Undetermined if correctable.

2B.14 - No sight distance issues

2B.15 - Signal warrants not met

2B.16 - Volume warrant not met

2B.17 -
A - Left-turn volumes low
B - Beryl is a wider collector, Guadalupe is a narrower local street
C - Guadalupe not a bike route. There could be a desire to provide a safer pedestrian crossing.



ID: 24-020341-001
City: Redondo Beach

Beryl St
Day: Tuesday
Date: 10/01/24

PEAK HOURS	SOUTHBOUND				COUNT	NOON	AM
	AM	NOON	PM	AM			
08:00 AM - 09:00 AM	6	152	32	0	146	AM	7:00 AM - 10:00 AM
01:00 PM - 02:00 PM	5	154	13	0	168	NOON	10:00 AM - 02:00 PM
03:30 PM - 04:30 PM	12	198	20	0	248	PM	2:00 PM - 07:00 PM

N Guadalupe Ave	EASTBOUND			CONTROL			WESTBOUND		
	AM	NOON	PM	2-Way Stop(EB/WB)			AM	NOON	PM
29	20	33	0 1 0 0			19	13	26	
0	1	0	0 0 0 0			16	7	22	
12	11	9	0 0 0 0			4	1	3	
16	7	9	1 0 0 0			0	0	0	
3	2	5	0 0 0 0			37	28	56	

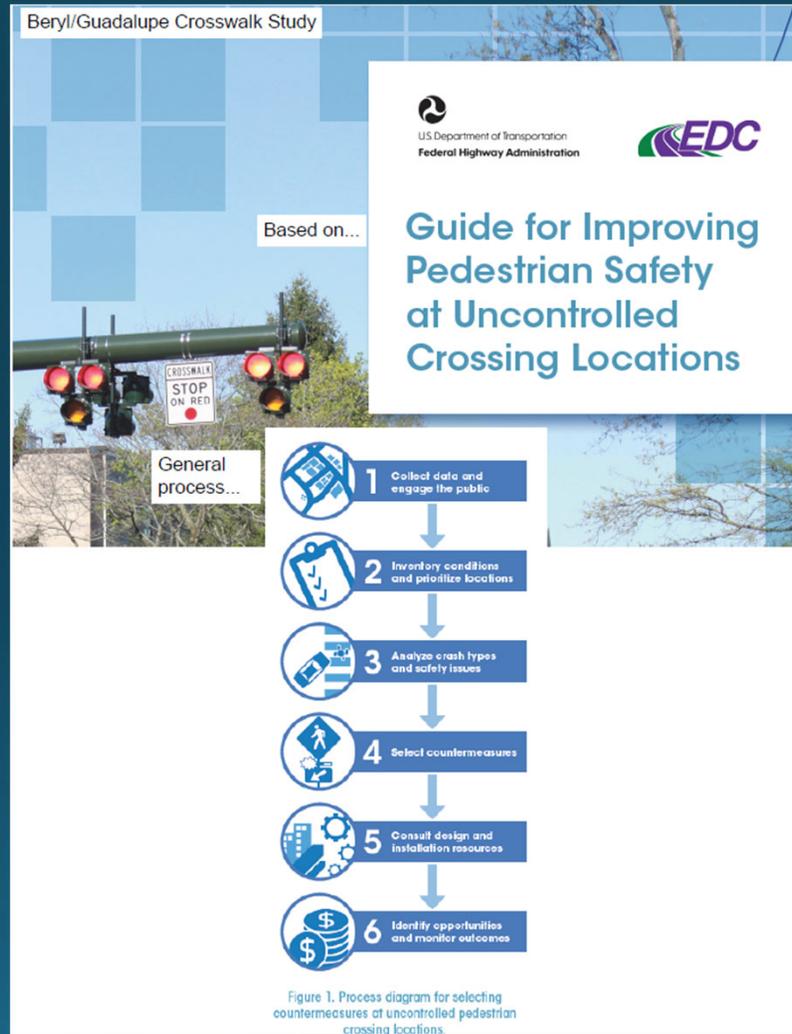
Totals (AM)		Totals (PM)	
AM	PM	AM	PM
12	16	12	16
16	3	16	3
3	1	3	1
801	801	801	801

NORTHBOUND			
PM	NOON	AM	AM
208	157	158	158
1	0	0	0
5	7	1	1
220	144	108	108
8	8	8	8

Because neither resident support threshold nor MUTCD warrants met, staff strongly recommends against installing an AWS.



Basis of Crosswalk Recommendations



Available Countermeasures

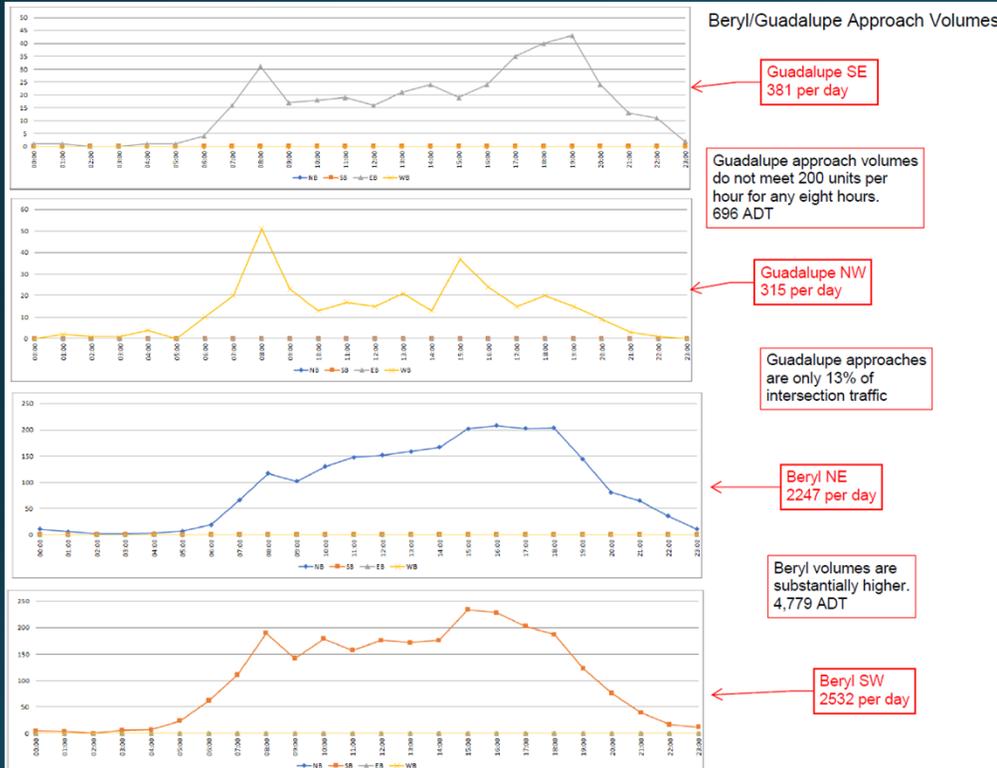


Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6	① 5 6	① 5 6	① 4 5 6	① 5 6	① 5 6	① 4 5 6	① 5 6	① 5 6
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5	① 5	① 5	① 3 4 5	① 5	① 5	① 4 5	① 5	① 5
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6	① 5 6	① 5 6	① 3 4 5 6	① 5 6	① 5 6	① 4 5 6	① 5 6	① 5 6
4+ lanes with raised median (2 or more lanes in each direction)	① ③ 5 6	① 5 6	① 5 6	① ③ 5 6	① 5 6	① 5 6	① ③ 5 6	① 5 6	① 5 6
4+ lanes w/o raised median (2 or more lanes in each direction)	① ③ 7 8 9	① 7 8 9	① 7 8 9	① ③ 7 8 9	① 7 8 9	① 7 8 9	① ③ 7 8 9	① 7 8 9	① 7 8 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

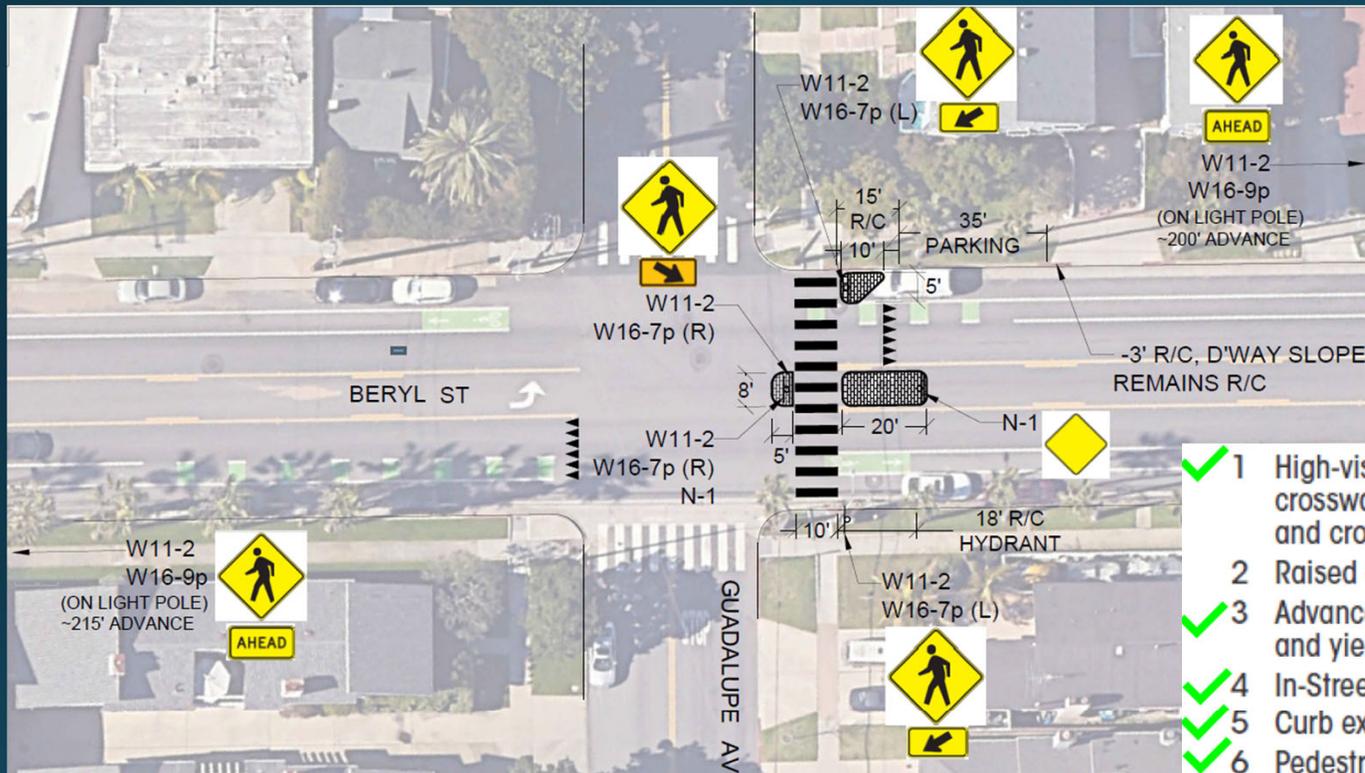
- High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
- Raised crosswalk
- Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- In-Street Pedestrian Crossing sign
- Curb extension
- Pedestrian refuge island
- Rectangular Rapid-Flashing Beacon (RRFB)**
- Road Diet
- Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, "Using Table 1 and Table 2 to Select Countermeasures," for more information about using multiple countermeasures.
 **It should be noted that the PHB and RRFB are not both installed at the same crossing location.
 This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Laganier, J. Ferguson, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition, (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. <http://www.cmfclearinghouse.org/>; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). <http://www.pedikesate.org/PEDSAFE/>; Zegeer, C., R. Srivastava, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thrisk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thrisk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

All treatments can be considered, high visibility crosswalk markings, lighting, daylighting (restricting parking), and signage should always be considered.



Proposed Crosswalk



- ✓ 1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
- 2 Raised crosswalk
- ✓ 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- ✓ 4 In-Street Pedestrian Crossing sign
- ✓ 5 Curb extension
- ✓ 6 Pedestrian refuge island
- ? 7 Rectangular Rapid-Flashing Beacon (RRFB)**

- \$15,000 estimated cost

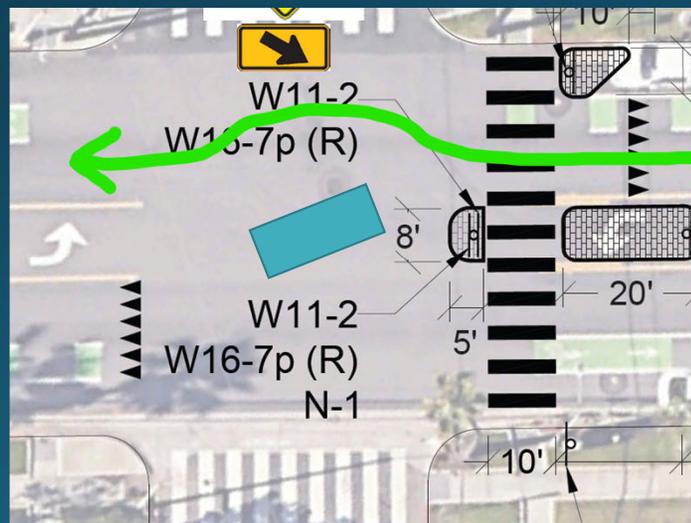
Rectangular Rapid Flashing Beacon (RRFB)

- Effective with improving yielding compliance
- Costs an additional \$20,000
- Flashing lights may cause nuisance to adjacent residents
- Requires push buttons that emit noise for ADA compliance
- Shields and time-of-day functions for brightness and noise available, but may have limited effect depending on personal preference and weather



Pedestrian Refuge Island

- Provides protected area for pedestrians to wait and cross one direction of traffic at a time
- Effective for safety and traffic calming
- Turning movement counts collected during AM/PM peak periods
- Repurposing of left-turn space has a negligible effect on level-of-service (LOS) and vehicular delay
- Space still available within intersection outside of through lane to yield if necessary



Available Alternatives

- Recommend staff implement enhanced crosswalks at Beryl/Guadalupe as designed.
- Do not support the recommendation from staff.
- Other options as determined by the PWSC.



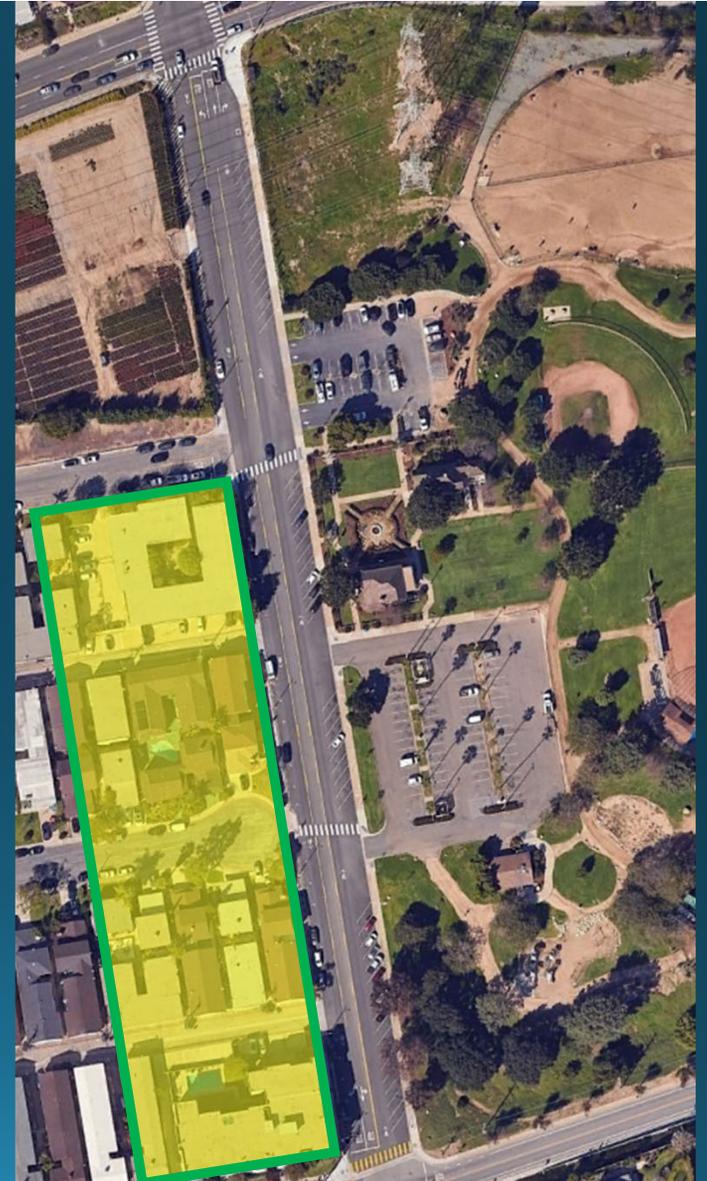
J.2 Speed Tables on Flagler (190th to Beryl)



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Background

- Resident speed hump request for Flagler Ln between 190th St and Beryl St
- Although Flagler is designated local and eligible for speed humps/cushions...
 - Most of block is fronted by SCE or Dominguez Park.
 - Residential primarily faces intersecting streets/alleys.
 - This block of Flagler is a regional connection, especially for bike access to RUHS.
- Midblock uncontrolled crosswalks that connect residential neighborhood to Dominguez Park.
- Staff collected speed and volume data.
- Staff met with District 3 Councilmember to determine direction outside City Speed Cushion Policy.
- Notice provided to residents within 200 feet of this segment of Flagler, District 3 & 4 Councilmembers.



Engineering Analysis

- 9 mph over 25 mph speed limit, would meet Speed Cushion Policy if used
- Does not meet volume limit if using Speed Cushion Policy threshold (maximum 3,000 vpd)

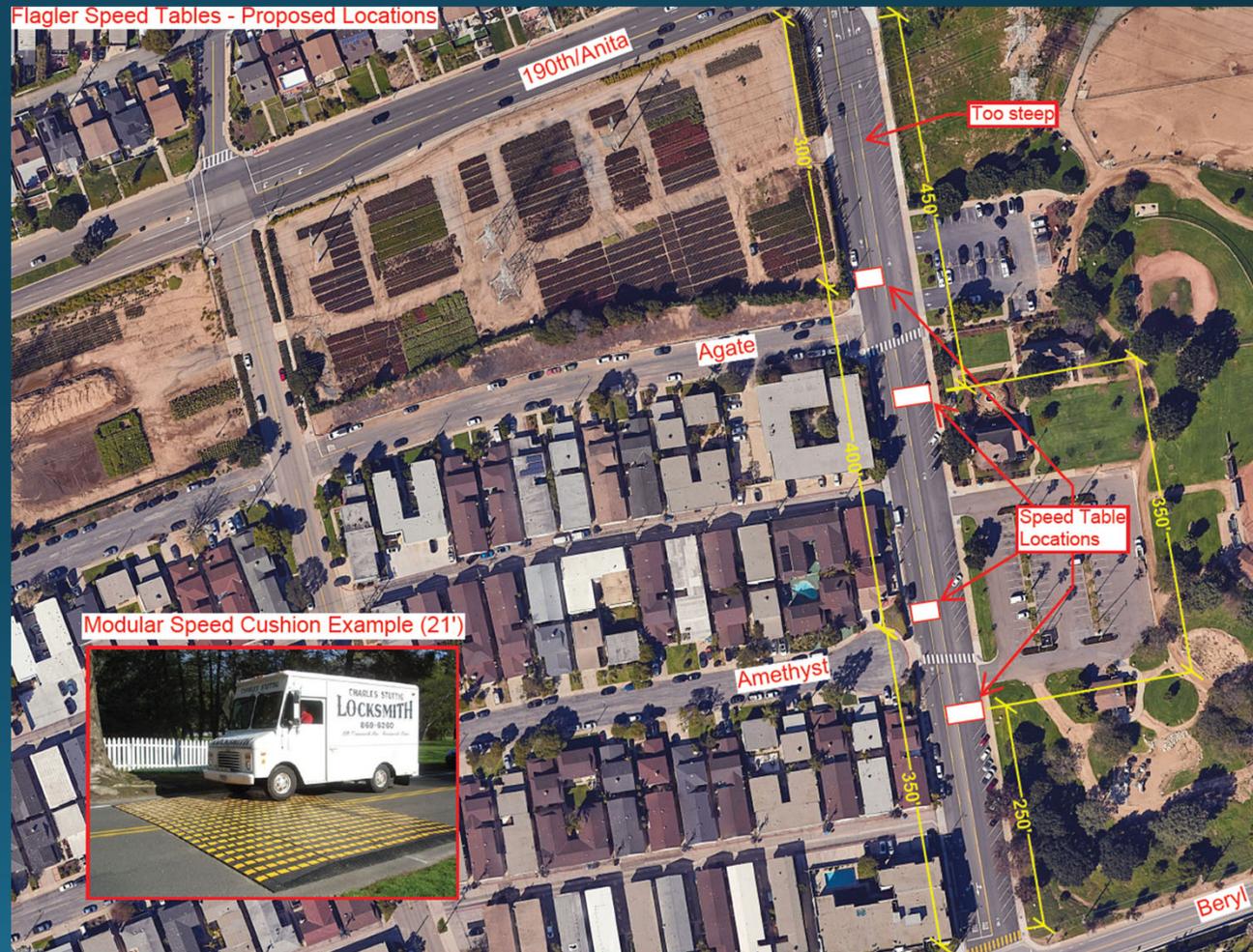
**Flagler Lane (190th to Beryl)
Speed and Volume Summary**

DATE	NORTHBOUND VOLUME (VEH/DAY)	SOUTHBOUND VOLUME	TOTAL DAILY VOLUME	NORTHBOUND 85TH % SPEED (MPH)	SOUTHBOUND 85TH % SPEED	TOTAL 85TH % SPEED
Tuesday, 15 October 2024	1857	1813	3670	34	35	34
Wednesday, 16 October 2024	1810	1741	3551	34	34	34
Thursday, 17 October 2024	1933	1884	3817	34	34	34
Friday, 18 October 2024	1843	1848	3691	34	34	34
Saturday, 19 October 2024	1556	1653	3209	34	34	34
Sunday, 20 October 2024	1160	1349	2509	35	34	34
Monday, 21 October 2024	1664	1860	3524	36	34	35
7-DAY AVERAGE DAILY VOLUME			3424			
VOLUME CAP FOR SPEED CUSHIONS			3000			
AVERAGE 85TH % SPEED				34	34	34
REQUIRED SPEED FOR SPEED CUSHIONS						32



Proposed Speed Table

- Speed tables are less severe, can be traversed around 20 mph rather than 15 mph for speed cushions.
- Would be the first installation of a physical speed control device on a regionally serving street, besides dips on Inglewood.
- Staggered to provide speed reduction in advance of crosswalks.
- Modular option available, staff recommends a defined trial period and subsequent data collection.
- Estimated \$20,000 cost.



Examples and Other Options

- City of LA has installed speed tables on 30–35 mph arterials with documented reductions in speed and collisions.
- If successful in Redondo Beach, permanent asphalt speed tables can be constructed similar to ones in City of LA. Estimated \$30,000 cost.
- Staff also considered raised crosswalks (requires design, concrete-only, ramp modifications, funds)
- Also considered restriping the street to provide bicycle lanes
 - Narrower lanes reduces speed, dedicated space for bikes
 - Requires design
 - Ghost marks from striping removals not aesthetically pleasing
 - May require flipping angled parking on park side to be back-in only to reduce bike lane/parking conflicts



Available Alternatives

- Recommend for City Council approval, the installation of modular speed tables on Flagler Lane between 190th Street and Beryl Street, with data collection and a permanent solution to be determined after a trial period.
- Do not support the recommendation from staff.
- Other options as determined by the PWSC.





Member Items & Staff Referrals





Adjournment

