PLEDGE OF ALLEGIANCE

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TRAFFIC COMMISSION MEETING

October 6, 2021

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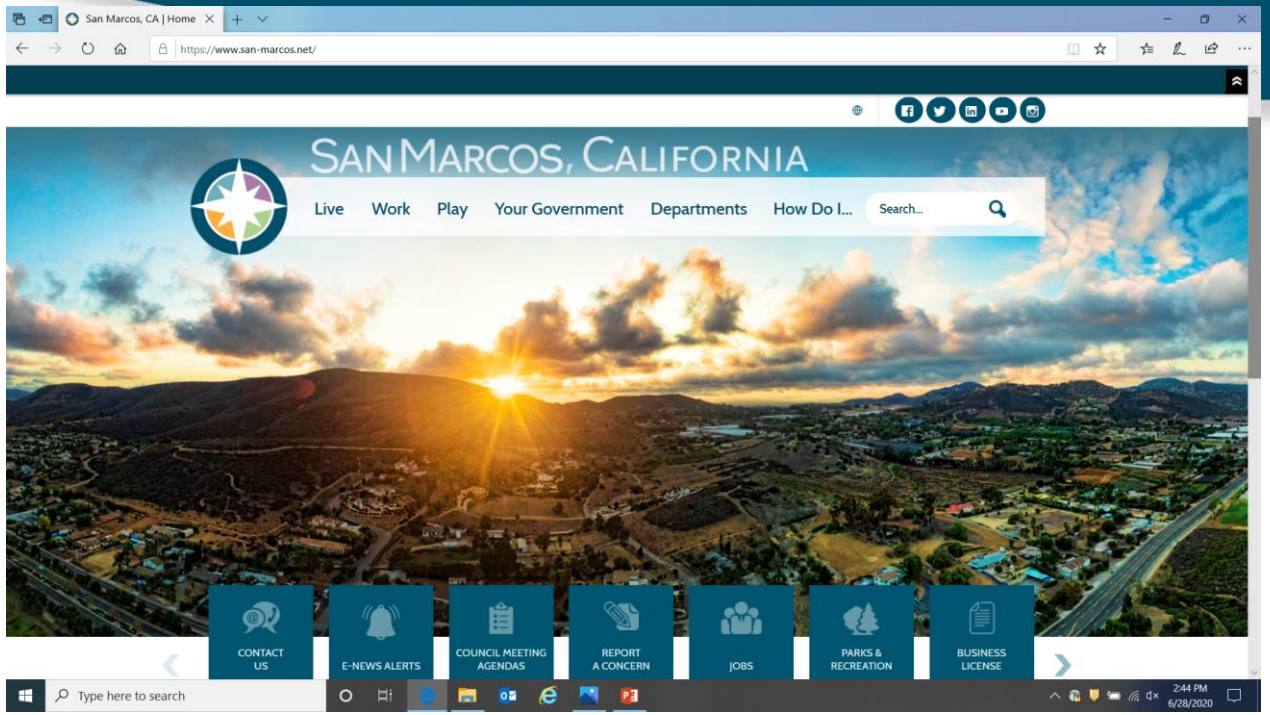
REPORT A CONCERN (TRAFFIC SAFETY)



- Select Traffic Congestion
- Enter description of traffic safety concerns (speeding, new signs, new markings, etc.)
- Enter phone number/email contact

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AGENDA ITEM #7A

N. Twin Oaks Valley Rd. (Frontage Road) Speeding Concerns

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BACKGROUND

- Traffic Engineering Division was approached by a local resident regarding speeding concerns along the frontage road of N. Twin Oaks Valley Rd.
- Straight segment with two lanes of travel (one in each direction) and bike lanes(in both direction) .
- East side of frontage road abuts Twin Oaks Valley Rd and west side serves single-family home residences.
- No posted speed limit signs along this roadway.
- Based on the residents' requests, Engineering staff initiated data collection to assess severity of speeding issue.

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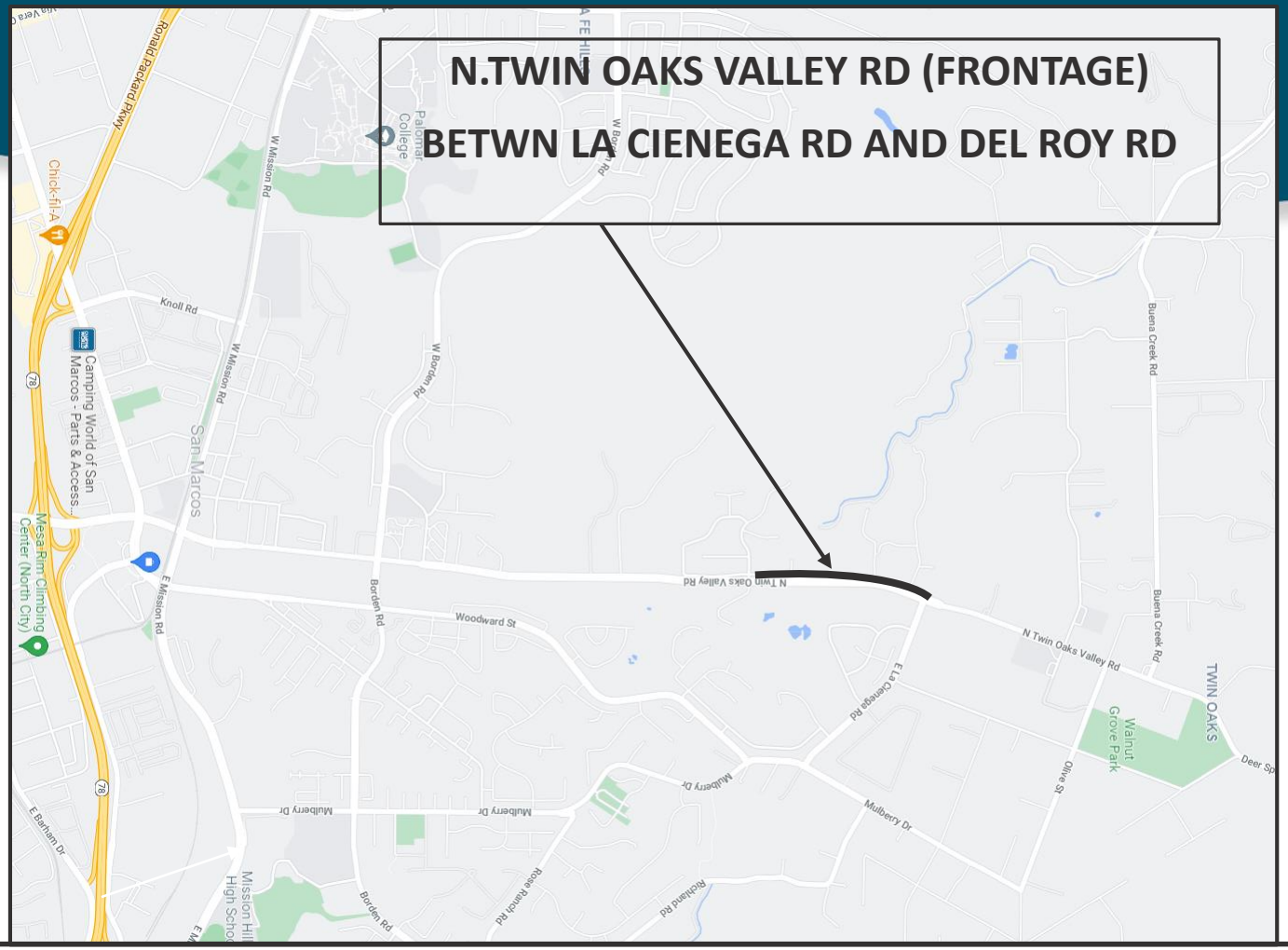
- Study area – Between La Cienega Rd and Del Roy Rd
- Northern part of the City



- VICINITY MAP
- SPEEDING CONCERN N.TWIN OAKS VALLEY RD (FRONTAGE)
- AGENDA ITEM #7A-OCTOBER 6, 2021

*NOT TO SCALE

N

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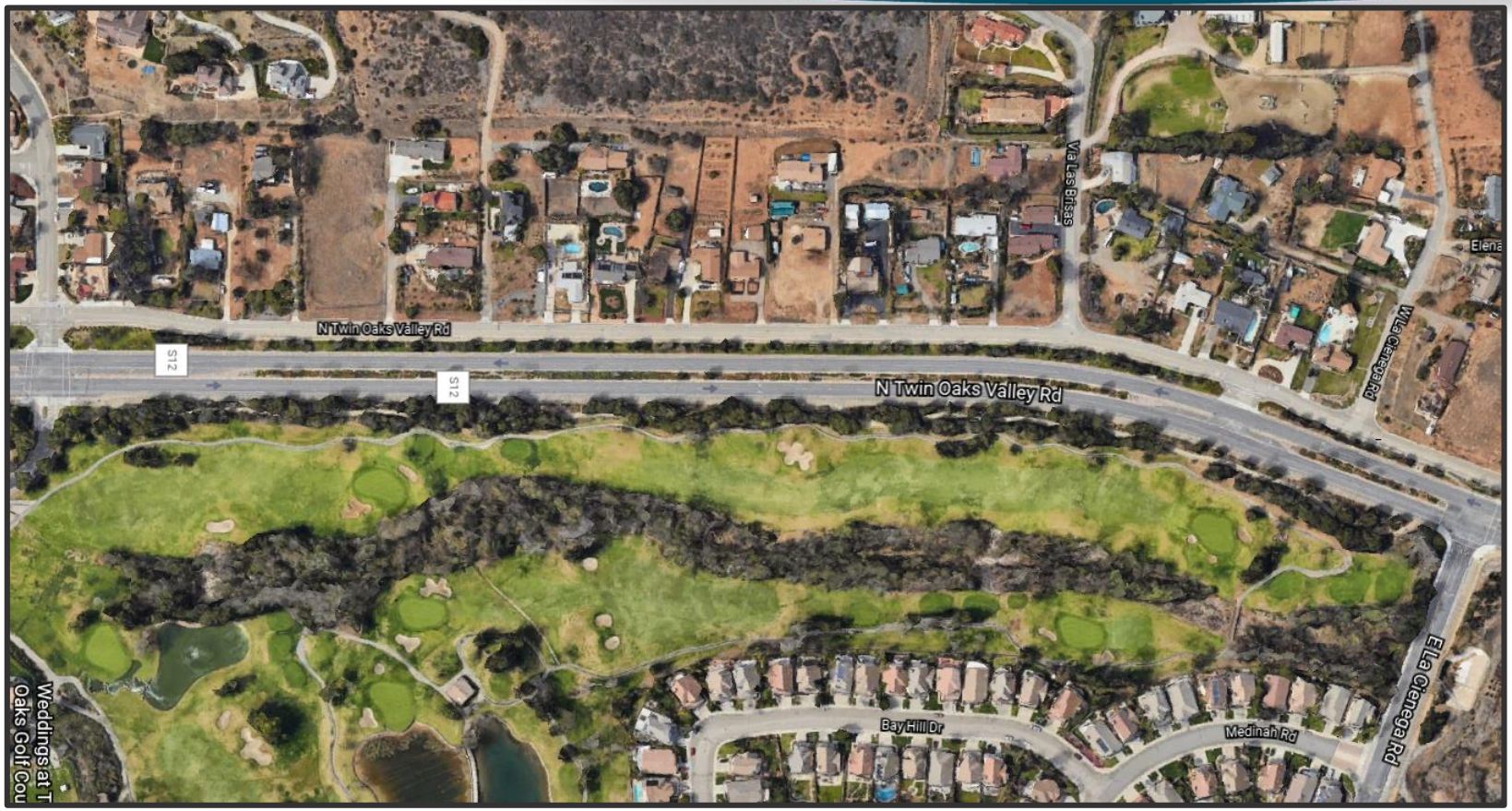
Study Area



*NOT TO SCALE

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- Northern Part of the City
- Between La Cienega Rd and Del Roy Rd
- N. Twin Oaks Valley Rd (Frontage Rd) abuts Twin Oaks Valley Rd on the east side and single family homes on the west side.
- One lane in each direction with bike lanes on both sides
- No posted speed limit signs

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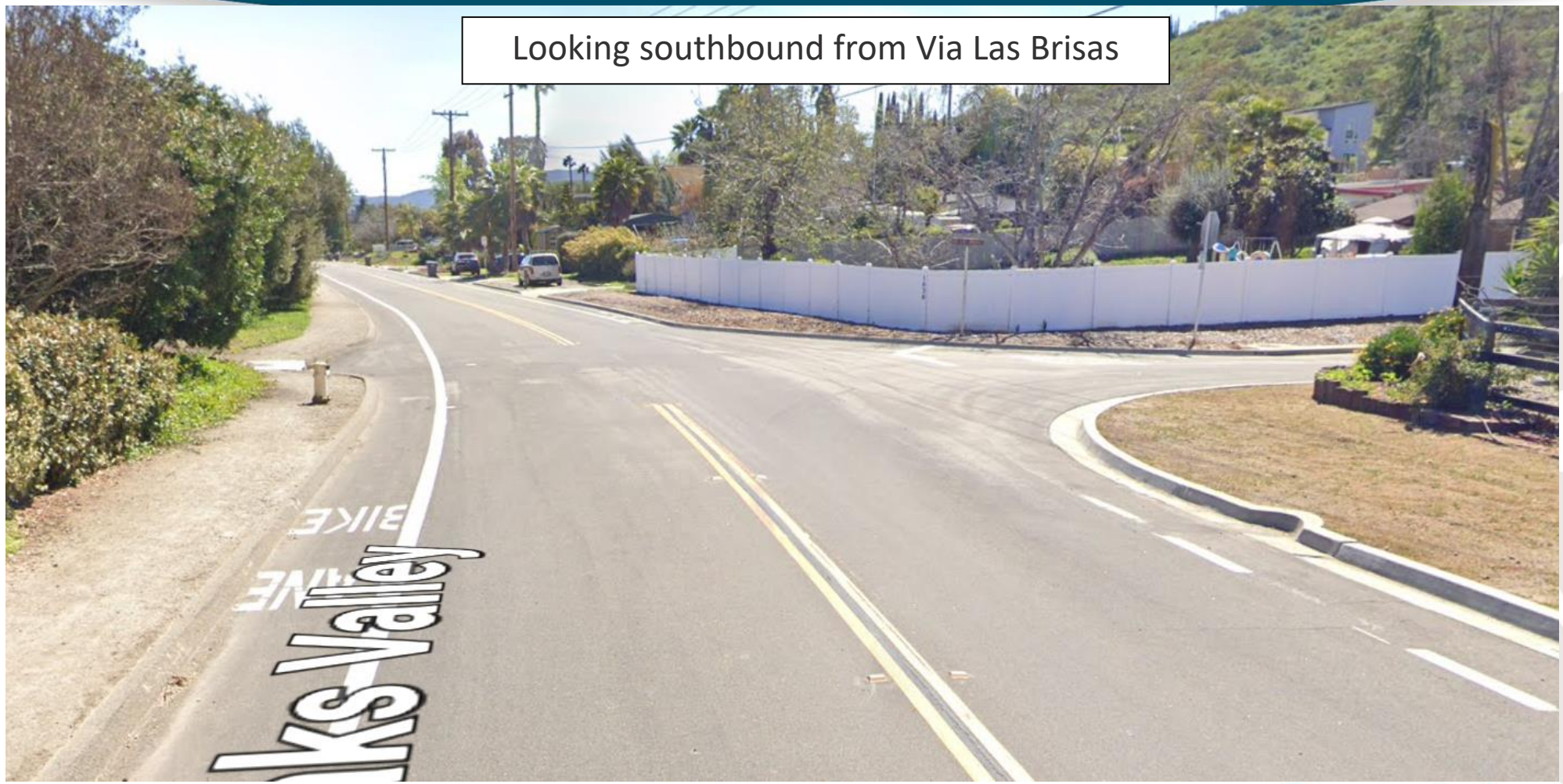
Study Area - Northern Limit



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Study Area - Southern Limit

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ENGINEERING STUDY/ANALYSIS

- Engineering staff initiated data collection for traffic volume and speed for seven days.
- 85th Percentile speed to be 41mph on most days.
- 85th Percentile speed are used for the establishment of speed limits.
- Only 50% traveling at 32mph or less.
- 5% were travelling over 45mph or more (95th percentile speed).

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ENGINEERING STUDY/ANALYSIS

Table 1. Summary of Daily Travel Speeds on the Frontage Road of N. Twin Oaks Valley Road					
Day	Speed Percentile (Percent of Vehicles traveling at Corresponding Speeds)				
	50th	Average	85th	95th	ADT
Monday 8/2/21	32	31	39	44	162
Tuesday 8/3/21	33	31	41	45	187
Wednesday 8/4/21	32	31	41	45	156
Thursday 8/5/21	31	31	41	46	169
Friday 8/6/21	31	30	41	44	127
Saturday 8/7/21	31	31	41	46	169
Sunday 8/8/21	31	30	41	44	127

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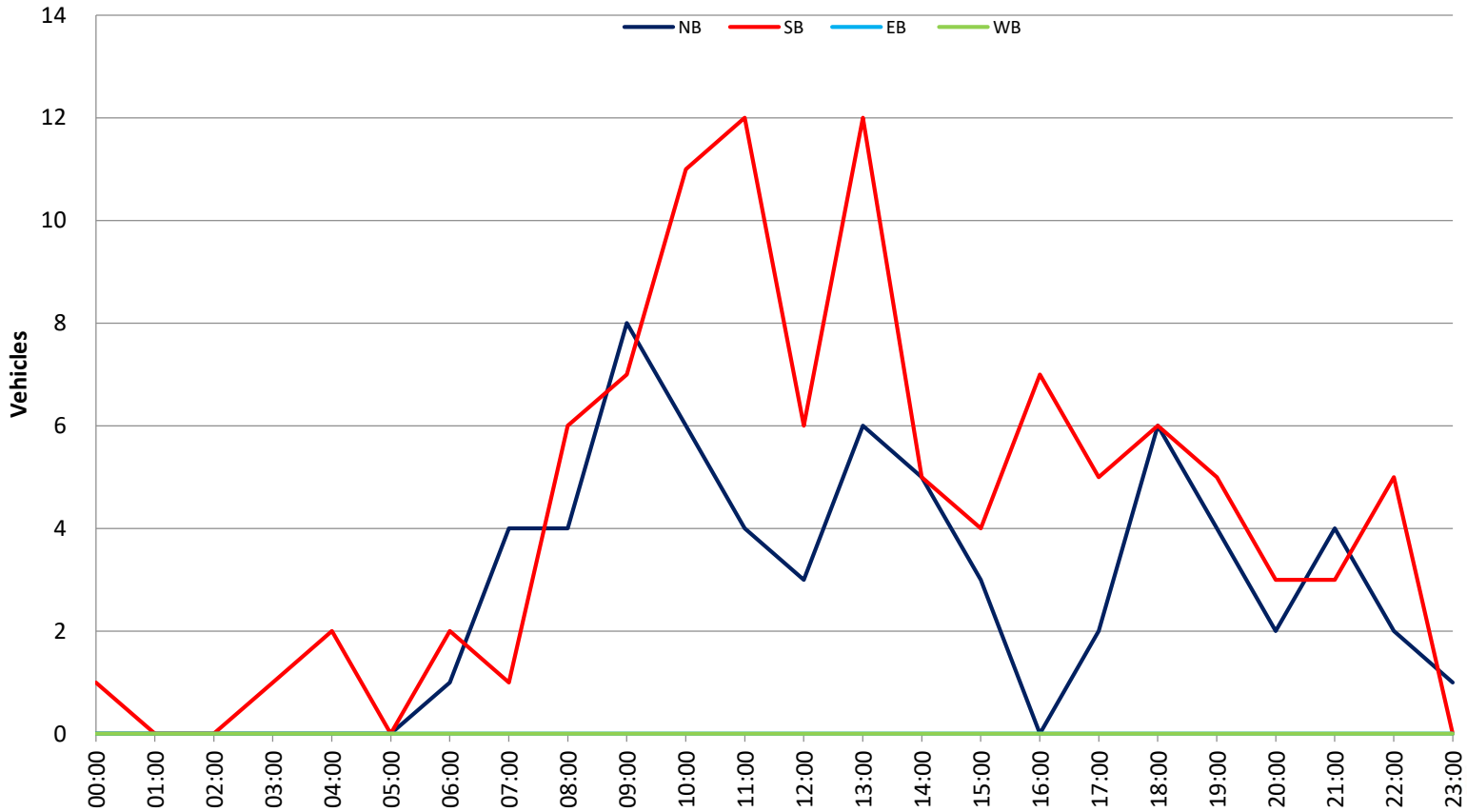
Traffic Volumes



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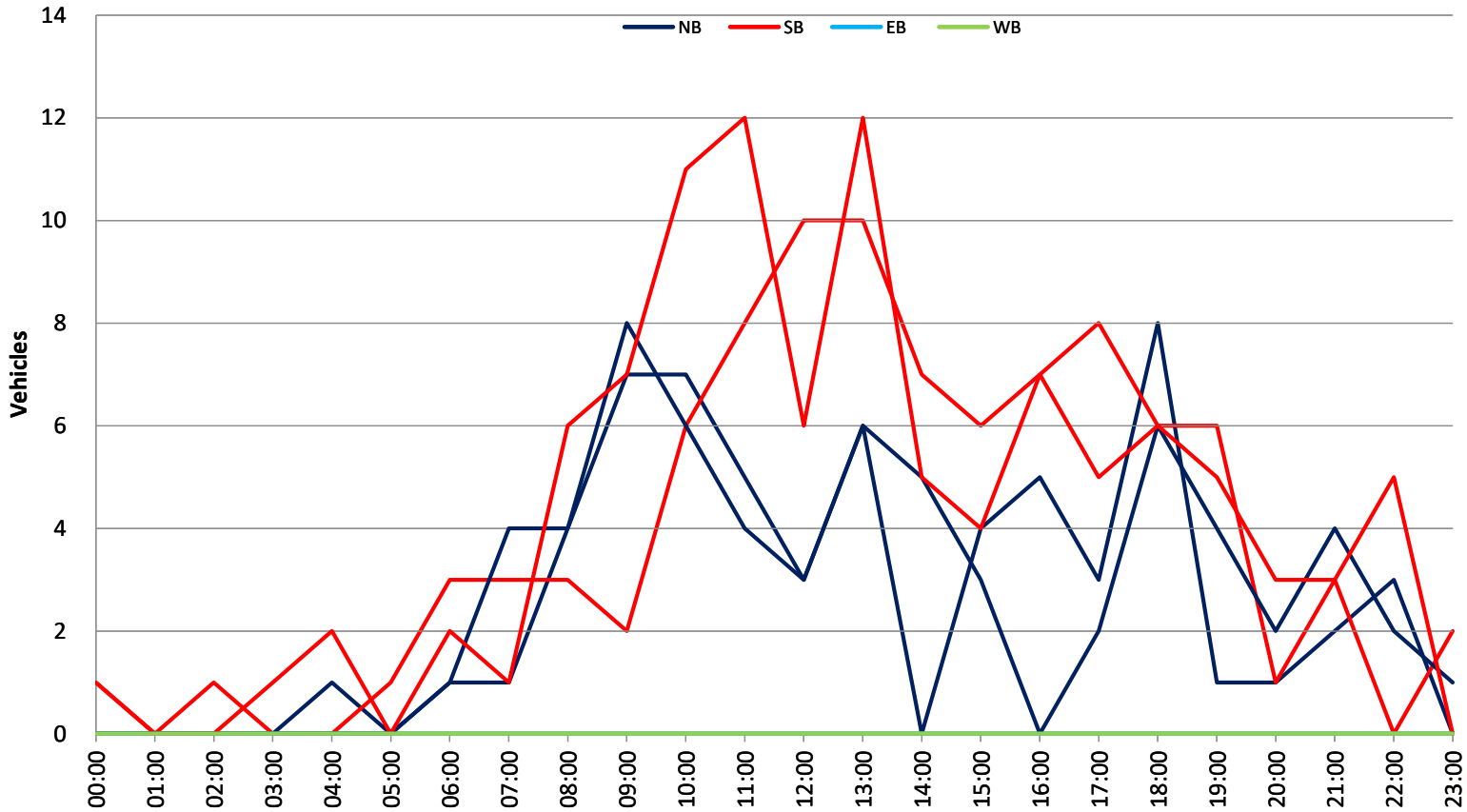
Traffic Volumes



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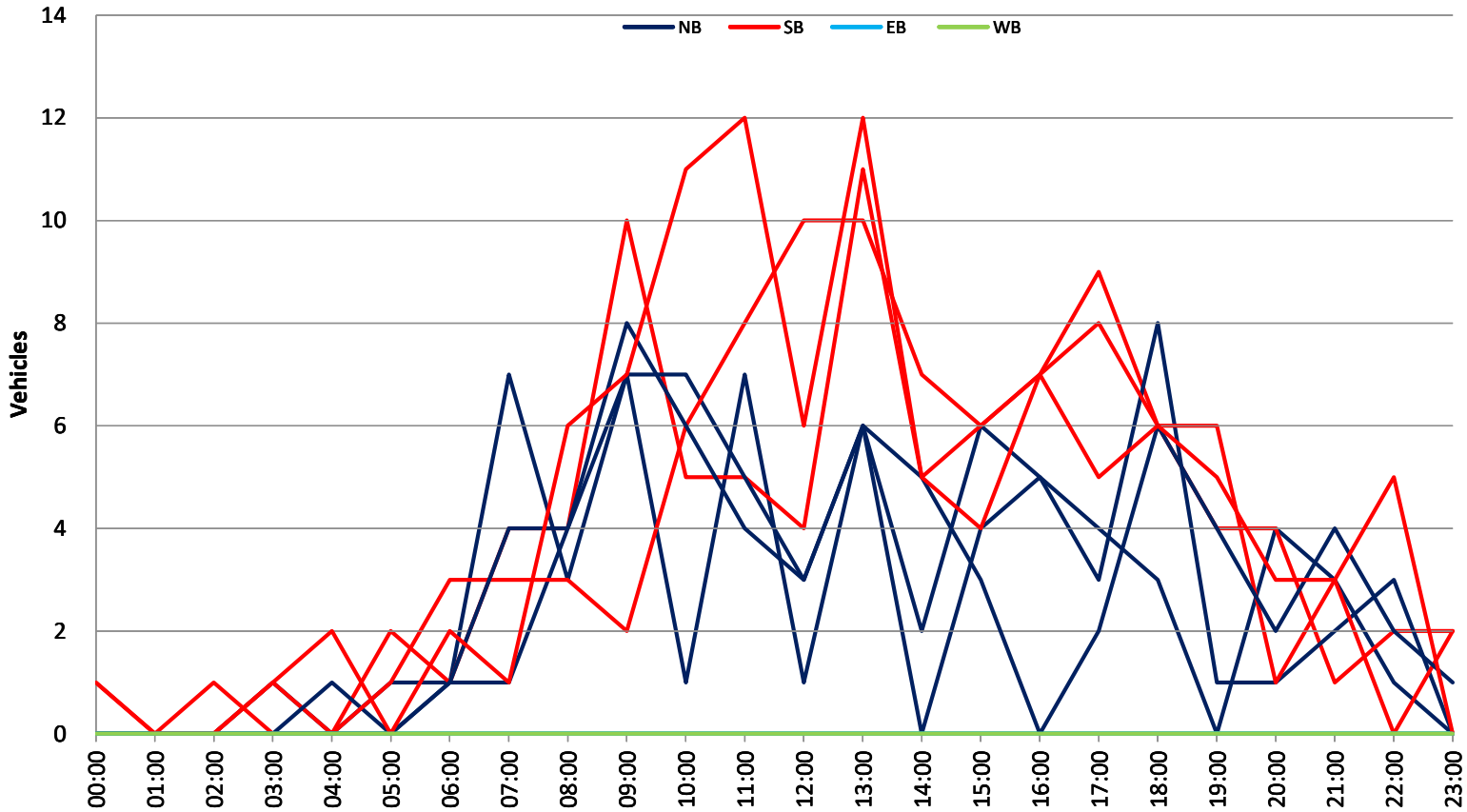
Traffic Volumes



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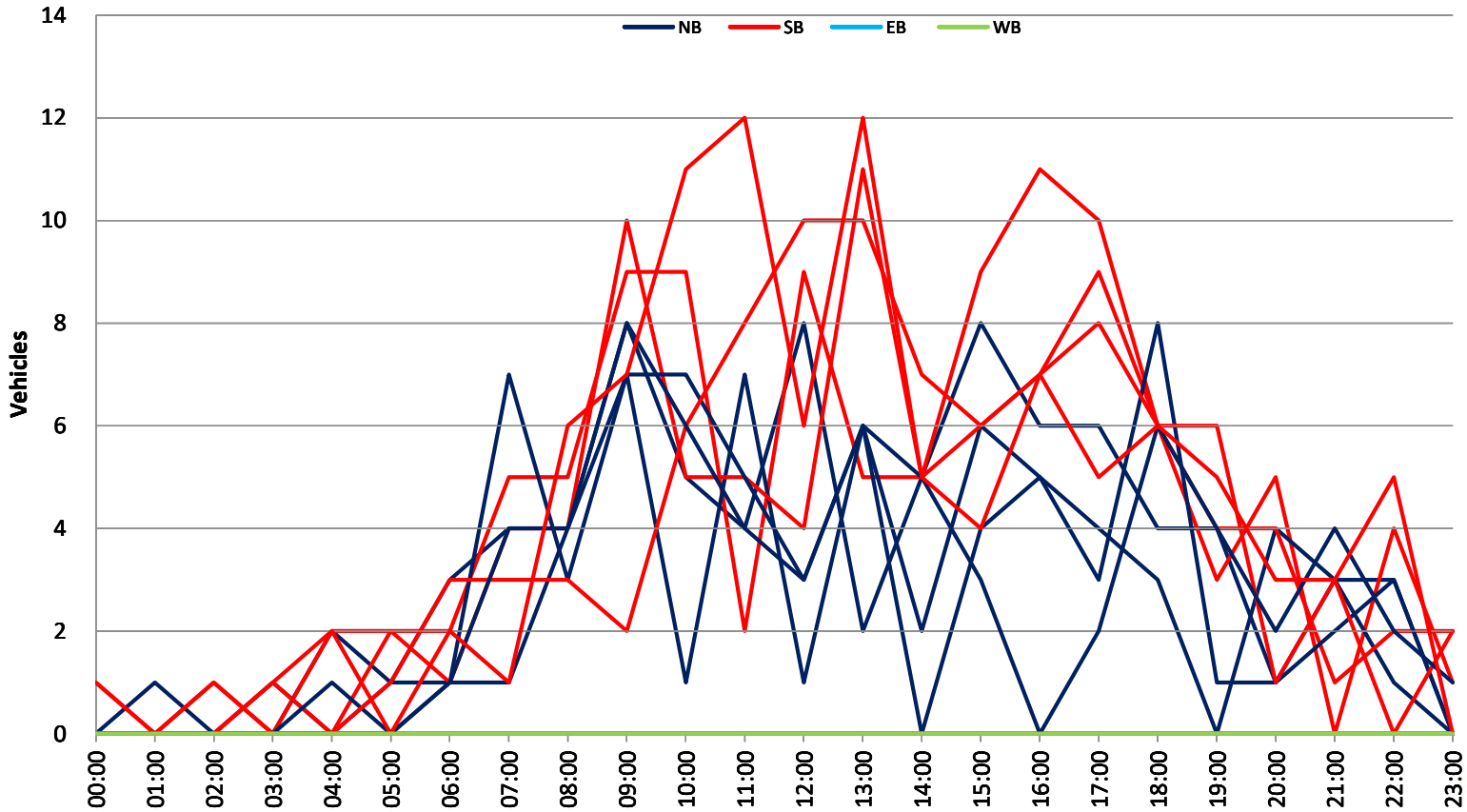
Traffic Volumes



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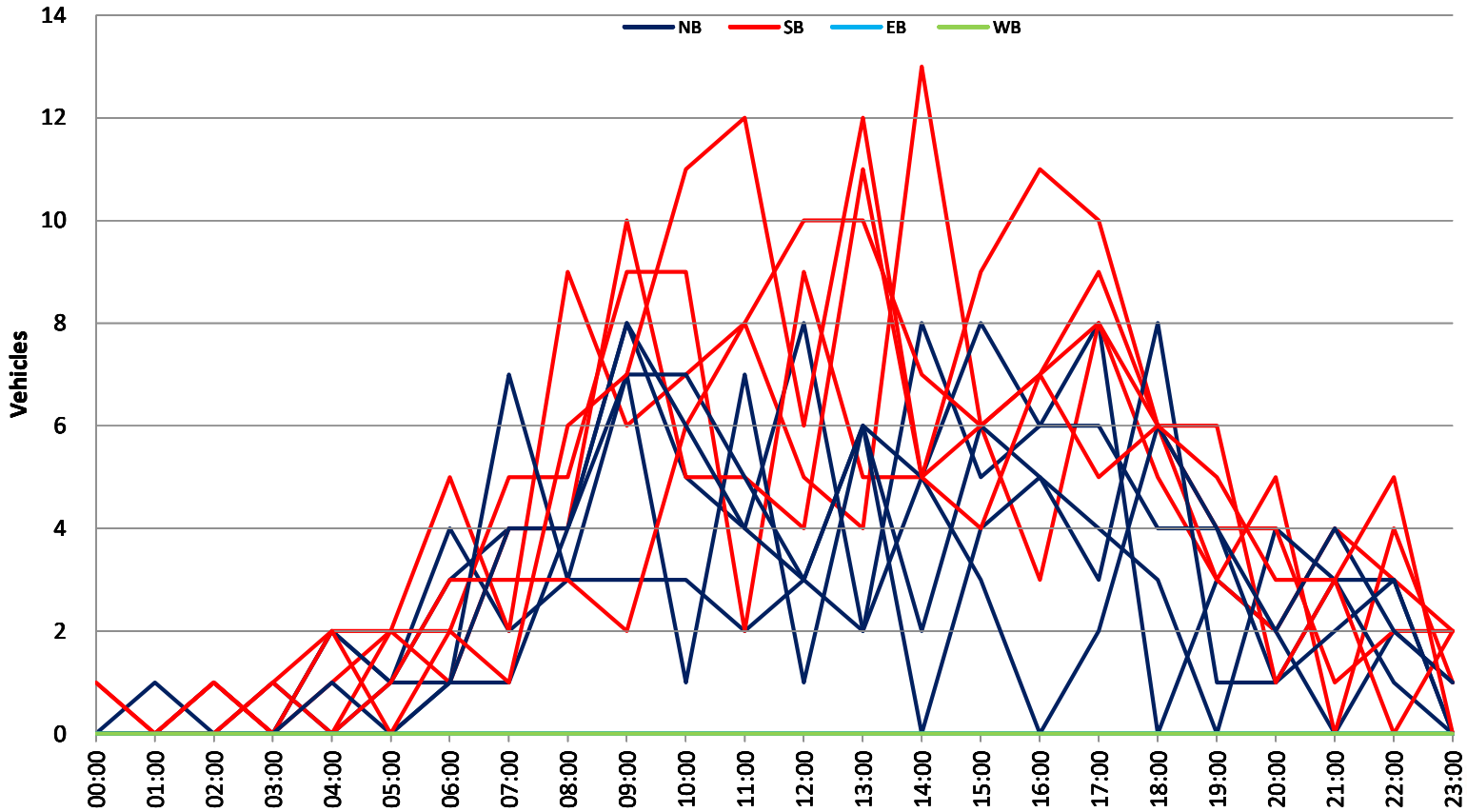
Traffic Volumes



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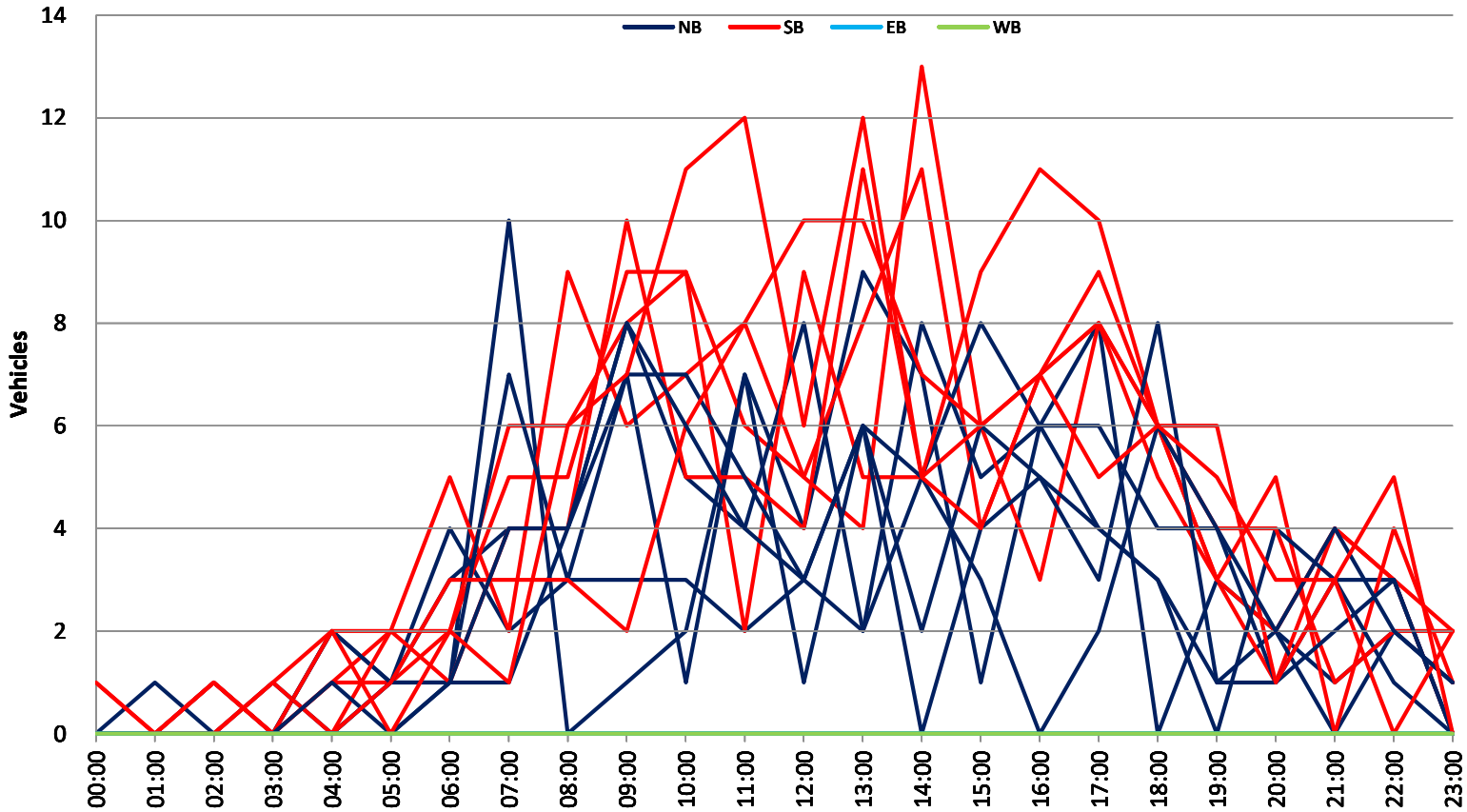
Traffic Volumes



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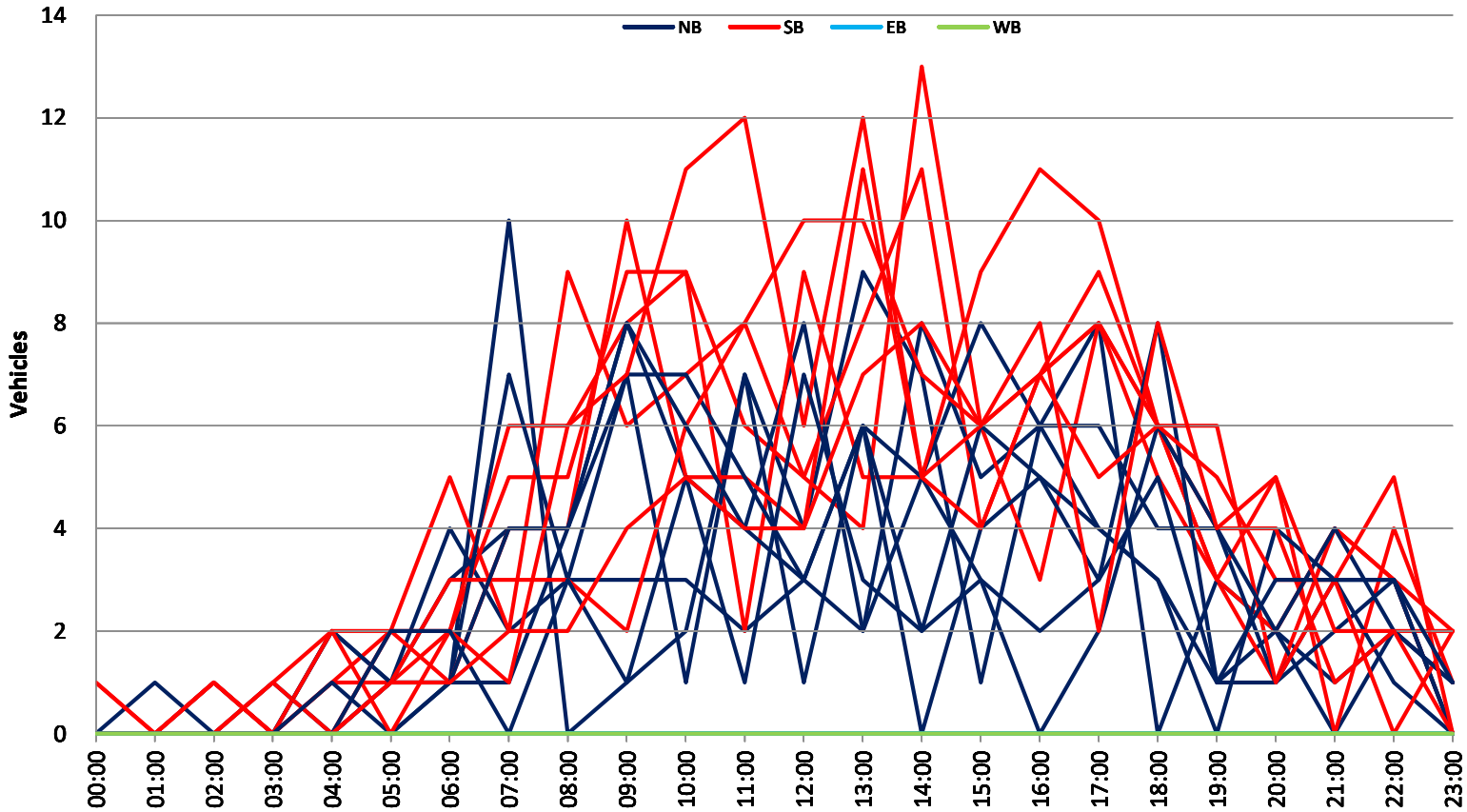
Traffic Volumes -COMBINED



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ENGINEERING STUDY/ANALYSIS

In accordance with the California Vehicle Code(CVC § 22352) :

a) A portion of a highway with 13 or more separate dwelling units on one side or 16 or more separate dwelling units on both sides of the street within a ¼ mile distance, is considered to be a “residence district”.
b) Establishes a 25-mph speed limit on “any business or residence district.

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STAFF RECOMMENDATIONS

CONCLUSION AND RECOMMENDATIONS :

1) Establishment of 25-MPH speed limit through the entire length of the Twin oaks Valley Road frontage road.
2) Installation of 25-MPH speed limit signs as indicated on the exhibit.
3) Installation of “25” Pavement markings adjacent to the speed limit signs as shown on the exhibits.
4) Deployment of the radar speed feedback trailers (at least one in the southbound direction) after the installation of the STOP signs & markings in order to heighten driver awareness of the newly posted speed limit signage in an effort to solicit voluntary compliance.

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Speed Limit Signs (Del Roy Dr@ Twin Oaks Valley Rd(frontage))

N

*NOT TO SCALE

CONSTRUCTION NOTE:

1 INSTALL NEW R2-1 (25 MPH, 24”x30”, HI-INTENSITY) SIGN ON A NEW BREAKAWAY POST.

2 INSTALL “25” PAVEMENT LEGEND NEXT TO THE SIGN.

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Speed Limit Signs (North of Via Las Brisas @ Twin Oaks Valley Rd(frontage))

*NOT TO SCALE

CONSTRUCTION NOTE:

1. INSTALL NEW R2-1 (25 MPH, 24”x30”, HI-INTENSITY) SIGN ON A NEW BREAKAWAY POST.

2. INSTALL “25” PAVEMENT LEGEND NEXT TO THE SIGN.

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AGENDA ITEM #7B

Rancho Dorado- Residential Speeding Concerns

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OVERVIEW

- TRAFFIC SAFETY CONCERNS - BACKGROUND
- VICINITY MAP
- LOCATION MAP
- PHOTOS
- ENGINEERING STUDY
- PROPOSED IMPROVEMENTS - EXHIBITS
- RECOMMENDATIONS

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TRAFFIC SAFETY CONCERNS

- City staff received traffic safety concerns or reports of excessive speeding from residents within Rancho Dorado Neighborhood from 2020 to 2021.
- The reported perceived speeding is along White Sands Drive, Coast Avenue and Island Drive.
- City staff collected speed and volume data, collision data, field measurements and observations within 2020 and 2021.
- City staff have worked with the Sheriff's department to gather speed data using "black cat" radar specifically on Coast Avenue mounted on an existing light pole.
- It was determined that City Staff would investigate these concerns and provide a Traffic Calming Report to assist in the findings.
- These findings are presented to you today for the Traffic Commission's consideration.

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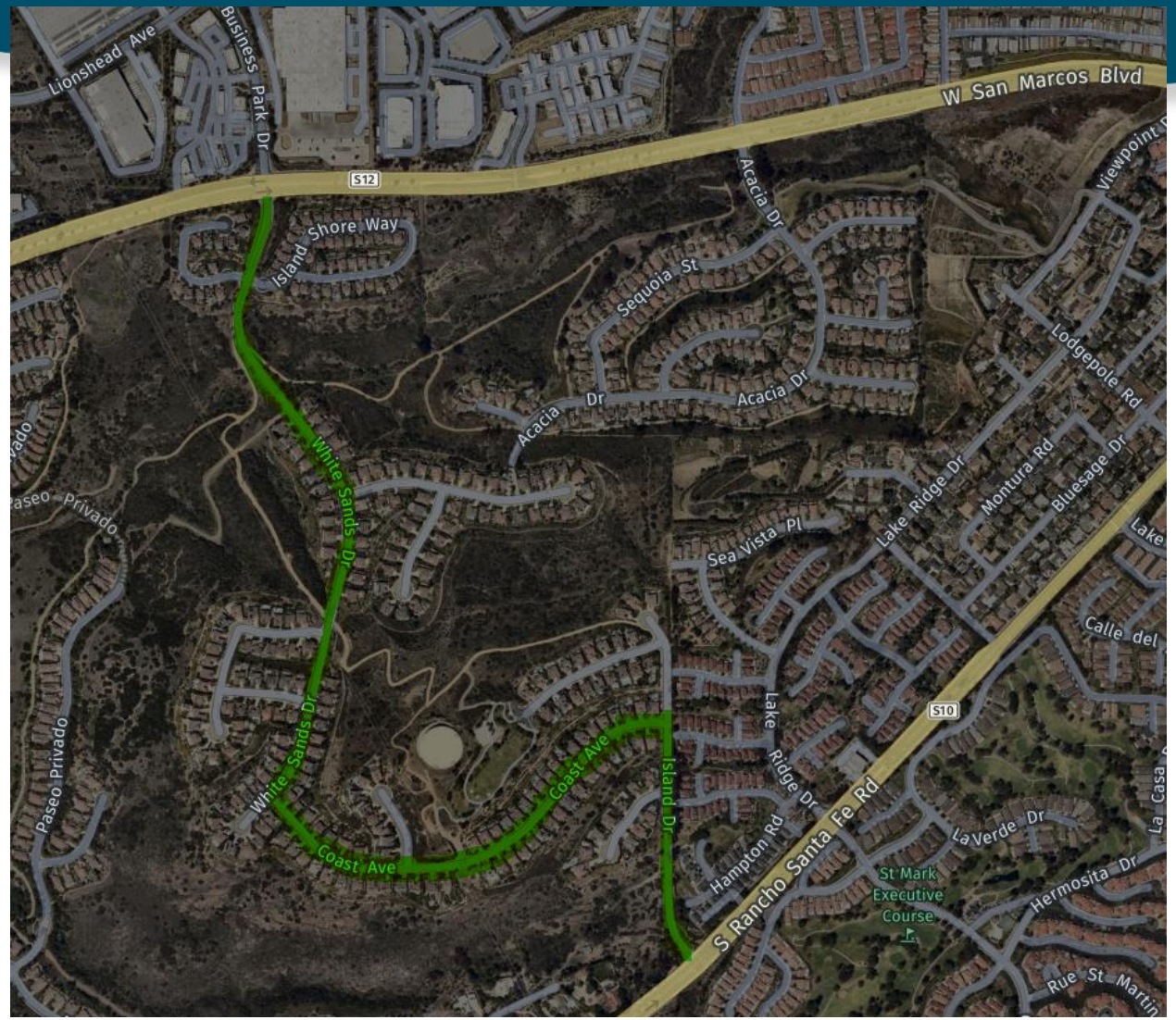
VICINITY MAP – STUDY AREA

White Sands Drive / Coast Avenue / Island Drive



- Posted Speed Limit is 25 mph, prima facie speed limit for residential density per CVC
White Sand Drive runs North-South
- Coast Avenue runs West-East
- Island Drive runs North-South
- Rancho Dorado Community
- Provides access single family homes in the area

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LOCATION MAP

- One Lane each direction residential collector street
- Runs north to south
- 25 MPH speed limit (prima facie)
- Intersects with Island Shore Way / Emerald Sea Way / Sun Valley Road / Sea Island Place / Coast Avenue
- 40 feet wide
- Vertical grade ranges from 0.5 to over 10 percent
- White Sands Drive between San Marcos Boulevard to Coast Avenue
  - Posted Speed: 25 MPH
  - 85th Percentile: 34 MPH

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WHITE SAND DRIVE NEAR MIDDLE OF RAISED MEDIAN LOOKING NORTH

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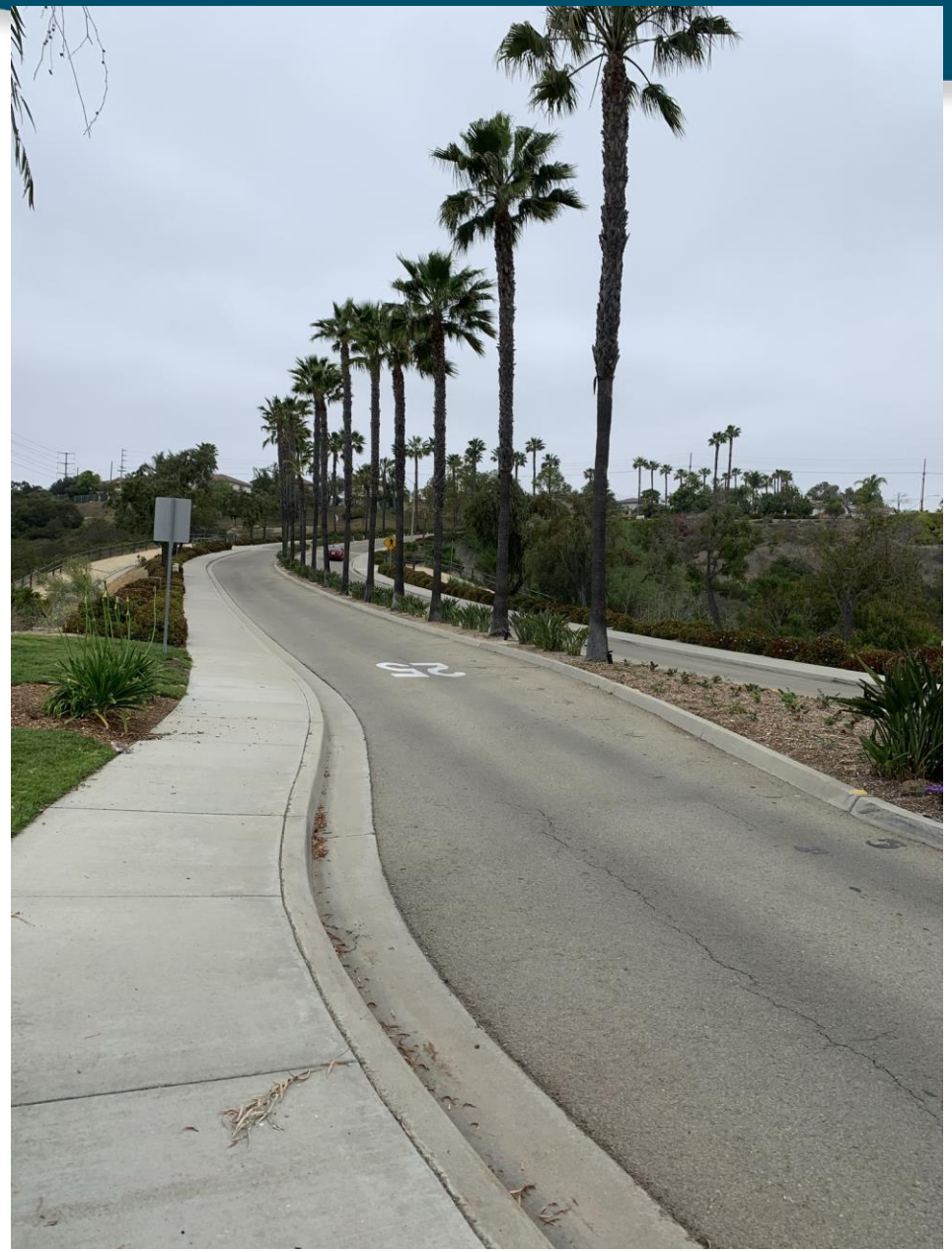

WHITE SAND DRIVE NEAR BOTTOM OF RAISED MEDIAN (LEFT PHOTO) / AT TRAIL CROSSING (RIGHT PHOTO) – HEADING SOUTH

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City past use of raised Traffic Delineators (Currently Removed)

OLD 2014 WHITE SAND DRIVE AT BOTTOM OF RAISED MEDIAN

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WHITE SANDS DRIVE HEADING SOUTH NEAR SUN VALLEY ROAD INTERSECTION

ARCOS
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WHITE SANDS DRIVE HEADING SOUTH – BEFORE SEA ISLAND PLACE (TOP PHOTO) / BEFORE GOYA PLACE (BOTTOM PHOTO)

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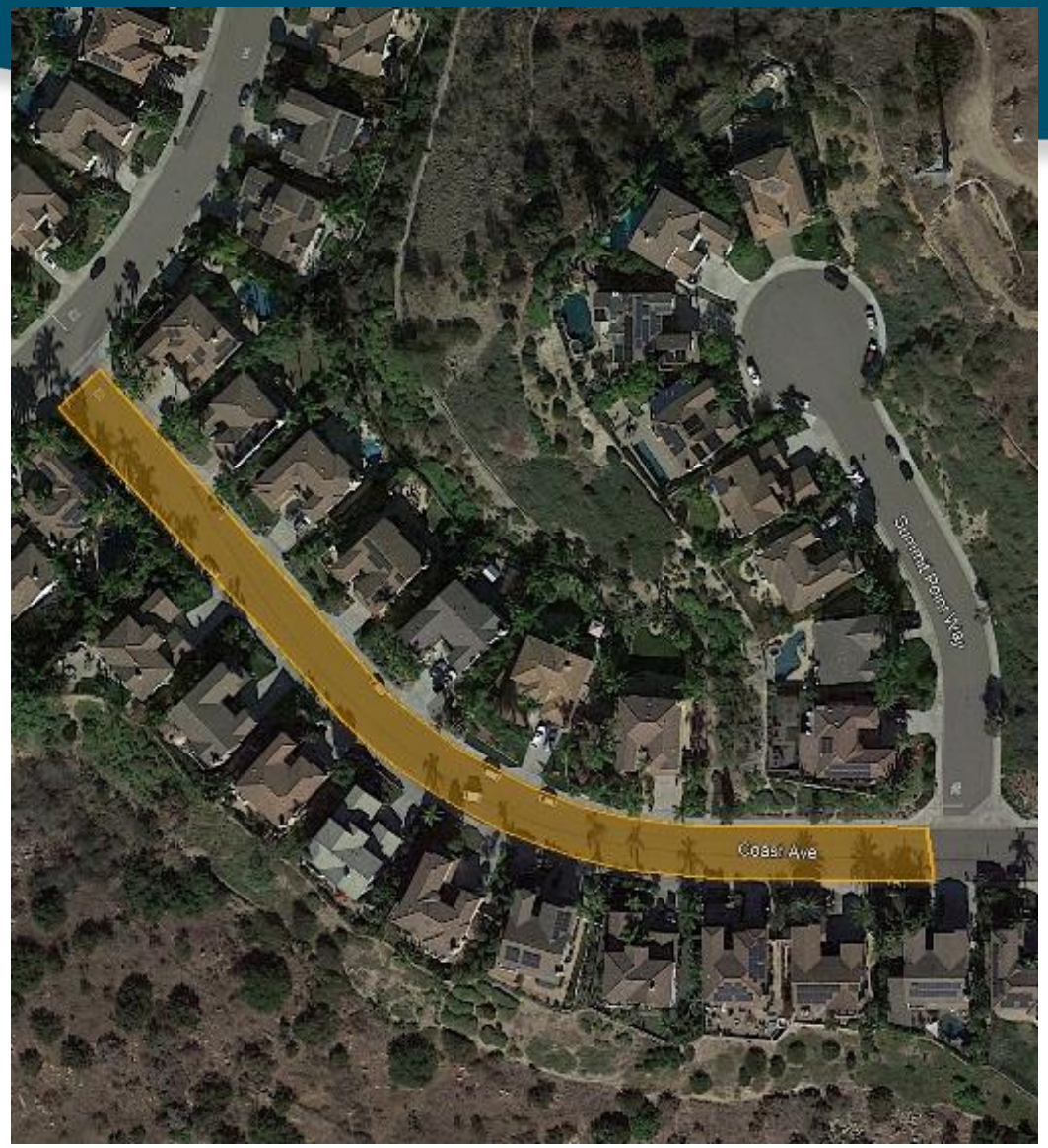
LOCATION MAP



COAST AVENUE (West)

White Sands Diver to Summit Point Way

- One Lane each direction residential collector street
- Runs west to east
- 25 MPH speed limit (prima facie)
- Intersects with Summit Point Way
- 40 feet wide
- Vertical grade ranges from 0.5 to over 10 percent
- Posted Speed: 25 MPH
- 85th Percentile: 30 MPH

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COAST AVENUE ON HORIZONTAL CURVE HEADING WEST (LEFT PHOTO) / HEADING EAST (RIGHT PHOTO)

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Discover Life's Possibilities

COAST AVENUE AT LOS REYES MONUMENT / MEDIAN

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LOCATION MAP

COAST AVENUE (East)

Summit Point Way to Island Drive

- One Lane each direction residential collector street
- Runs west to east
- 25 MPH speed limit (prima facie)
- Intersects with Summit Point Way
- 40 feet wide
- Vertical grade ranges from 0.5 to over 10 percent
- Posted Speed: 25 MPH
- 85th Percentile: 30 MPH

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COAST AVENUE HEADING WEST (LEFT PHOTO) / HEADING EAST 400’ BEFORE CURVE TO ISLAND DRIVE (RIGHT PHOTO)

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LOCATION MAP

ISLAND DRIVE

Coast Avenue to approximately 275' north of Rancho Santa Fe Road

- One Lane each direction residential collector street
- Runs west to east
- 25 MPH speed limit (prima facie)
- Intersects with Summit Point Way
- 40 feet wide
- Vertical grade ranges from 0.5 to over 10 percent
- Posted Speed: 25 MPH
- 85th Percentile: 37 MPH

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ISLAND DRIVE AT COAST AVENUE INTERSECTION HEADING NORTH (LEFT PHOTO) / HEADING SOUTH (RIGHT PHOTO)

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ISLAND DRIVE AT COAST AVENUE INTERSECTION HEADING SOUTH TO S RANCHO SANTA FE ROAD (LEFT PHOTO) / HEADING NORTH (RIGHT PHOTO)

ENGINEERING STUDY/ANALYSIS

Traffic Volumes:
White Sands Drive – 640 VPD (vehicles per day)
Coast Avenue – 332 VPD (vehicles per day)
Island Drive – 420 VPD (vehicles per day)

Speed Limit:
Prima Facie (25 MPH), posted.

Accident History (last 5 years):
White Sands Drive & Sun Valley Road – Rear End with Parked Motor Vehicle (December 2017)
San Marcos Boulevard & White Sands Drive – Broadside Collision (August 2018)
White Sands Drive & Emerald Sea Way – Non-Collision Motorcycle Crash (July 2020)

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ENGINEERING STUDY/ANALYSIS

Past Considerations:

City staff have installed previous traffic calming measures in a small roadway segment on White Sands Drive in 2014 (traffic delineators to reduce roadway width).

- This was effective (reduced 85th percentile speeds by 6 mph) but ultimately removed per the request of the residents in favor of painted roadway striping.
- Based on the residents' concerns and previous history and considerations for this neighborhood, Staff initiated a traffic safety evaluation of the corridor, to determine if traffic calming alternatives may be warranted based on a Tiered countermeasure consideration.

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ENGINEERING STUDY/ANALYSIS

Support for warranted traffic calming measures:

City's Unsafe Speed Violation Threshold Policy
California Basic Speed Rule for Speed Law Violation:
"No person shall drive a vehicle at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and surface and width of the highway. In no event shall a person drive at a speed such as to endanger the safety of persons or property." *California Vehicle Code §22350*

The City of San Marcos utilizes an unsafe speed violation threshold policy in determining where traffic calming is warranted.

For locations with a posted speed limit of 25 MPH, the 85th percentile speed, speeding violations must be at least 32 MPH.

Coast Avenue is the only street segment that does not meet this threshold at 30 MPH. For consistency, Coast Avenue has been included in Tier 1, as a reduction from the 85th percentile of 30 MPH would benefit the overall connectivity of the neighborhood.

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ENGINEERING STUDY/ANALYSIS

The results of the safety evaluation provided a traffic calming countermeasure table summary with exhibits broken down into Tier 1, Tier 2, and Tier 3 list.

- Tier 1 represents countermeasures to be discussed in an open format.
- Tier 2 represents secondary countermeasures pending the outcome and implementation from Tier 1 countermeasures.
- Tier 3 represents countermeasures which were reviewed but not recommended at this time.

Note: Speed bumps/cushions did not meet standards on road profile/grades over 7% due to safety concerns, as all three study roadway segments exceed this requirement, hence it was not considered as a Top Tier countermeasure.

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ENGINEERING STUDY/ANALYSIS

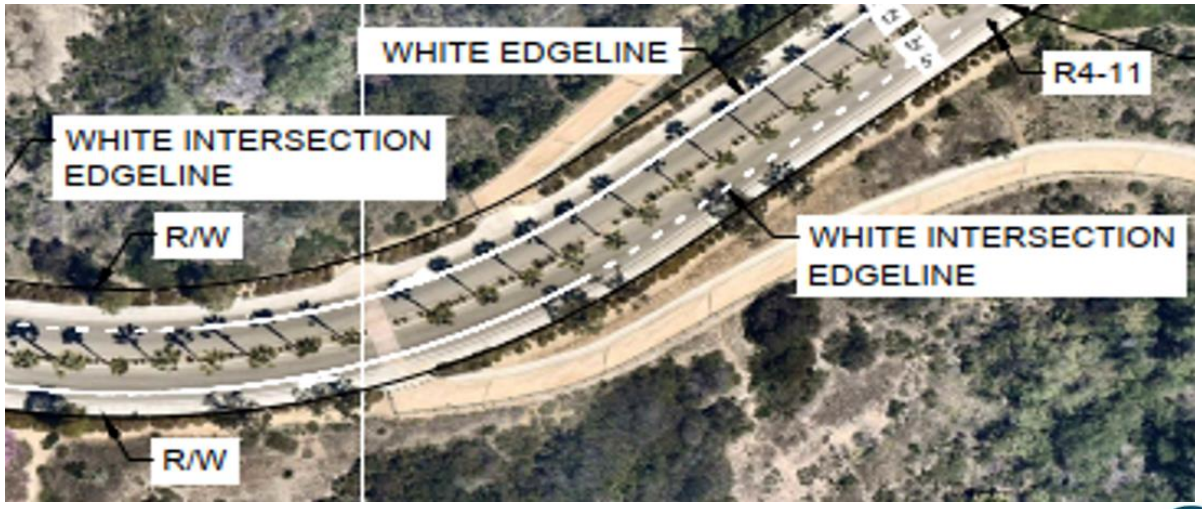
<u>Tier 1 Traffic Calming Countermeasures:</u>

Countermeasure: Class II Bike Lane

Location:

- White Sands Drive Between San Marcos Boulevard and 650’ North of Sun Valley Road, 85th Percentile 34 mph

Anticipated Speed Reduction: 2 to 3 mph



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ENGINEERING STUDY/ANALYSIS

<u>Tier 1 Traffic Calming Countermeasures:</u>

Countermeasure: Class II Bike Lane

Advantages:

- Discourages speeding by narrowing vehicle travel lanes to 12', perceived friction
- Provides new facilities exclusive to bicycle travel

Disadvantages:

- Cost

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ENGINEERING STUDY/ANALYSIS

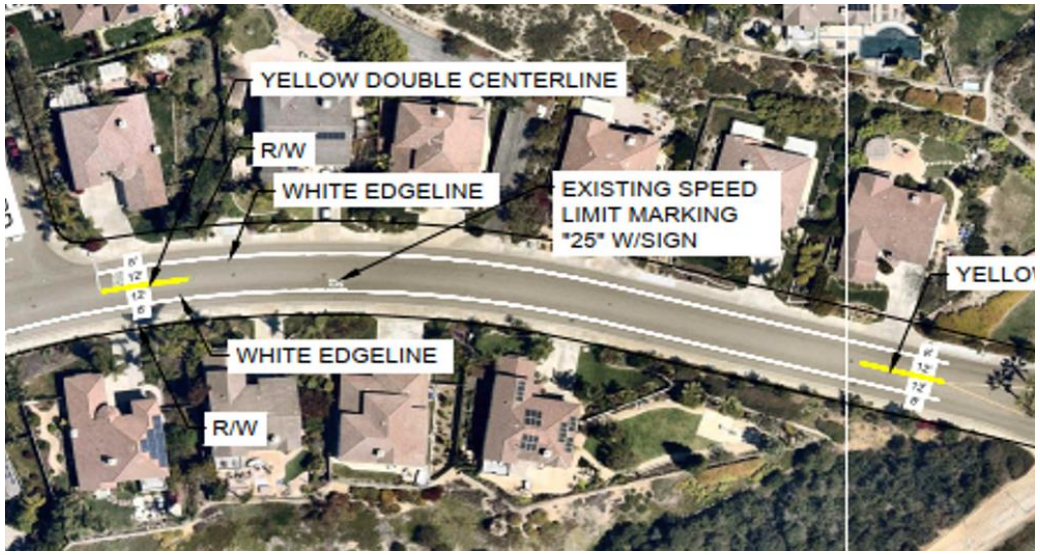
<u>Tier 1 Traffic Calming Countermeasures:</u>

Countermeasure: Parking Lane with Partial Centerline

Locations:

- Remaining portions of White Sands Drive, 85th Percentile 34 mph
- Coast Avenue full corridor, 85th Percentile 30 mph
- Island Drive, 85th Percentile 37 mph

Anticipated Speed Reduction: 2 to 3 mph



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ENGINEERING STUDY/ANALYSIS

<u>Tier 1 Traffic Calming Countermeasures:</u>

Countermeasure: Parking Lane with Partial Centerline

Advantages:

- Discourages speeding by narrowing vehicle travel lanes to 12', perceived friction
- Maintains 8' on-street parking lane

Disadvantages:

- Cost
- Partial Centerline provides less friction than a full centerline

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ENGINEERING STUDY/ANALYSIS

<u>Tier 2 Traffic Calming Countermeasures – Not Recommended at this time:</u>

Countermeasure: Parking Lane with Full Centerline

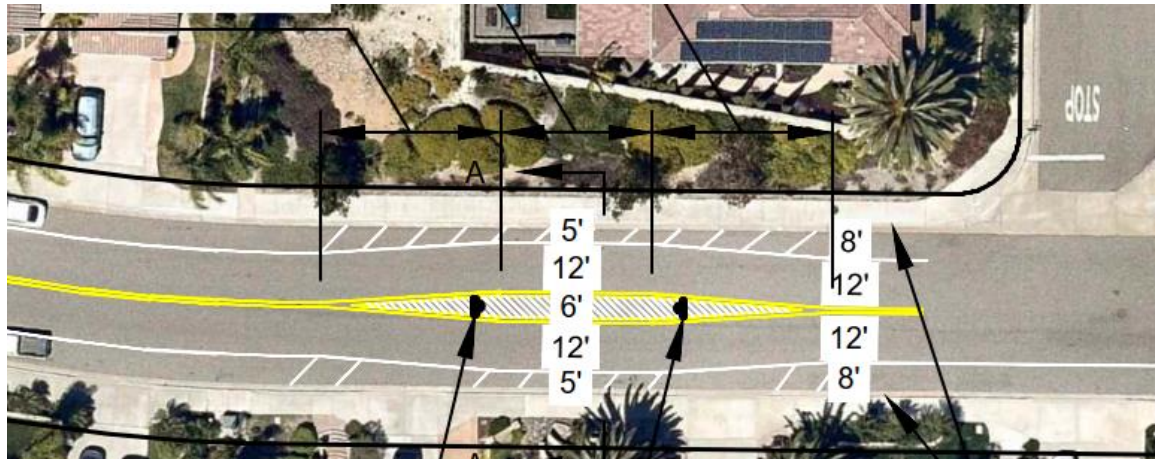
Anticipated Speed Reduction: 1 to 5 mph

Countermeasure: Horizontal Deflection with Striped Center Traffic Island with Lateral Shift

Anticipated Speed Reduction: 1 to 6 mph

Countermeasure: Horizontal Deflection with Raised Center Traffic Island with Lateral Shift

Anticipated Speed Reduction: 1 to 6 mph



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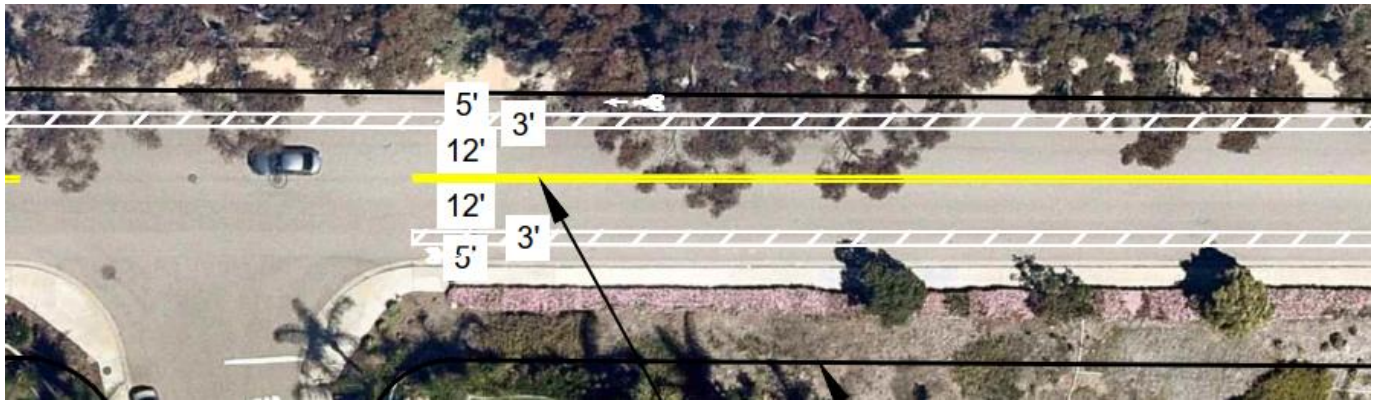
ENGINEERING STUDY/ANALYSIS

<u>Tier 2 Traffic Calming Countermeasures – Not Recommended at this time:</u>

Island Drive only - Countermeasure: Class II Buffered Bicycle Lane with Partial Centerline

Anticipated Speed Reduction: 1 to 5 mph



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ENGINEERING STUDY/ANALYSIS

<u>Tier 3 Traffic Calming Countermeasures – Not Recommended:</u>

Countermeasures:

- **Chicanes or Chokers**
- **Raised Medians**
- **Traffic Circles or intersection treatments**
- **Vertical Deflection**
  - **Speed Humps/Tables/Cushions**
- **Dynamic Speed Activated Warning Signs**
- **Road Diets**
- **Corner Extensions at Intersections**

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PROPOSED IMPROVEMENTS

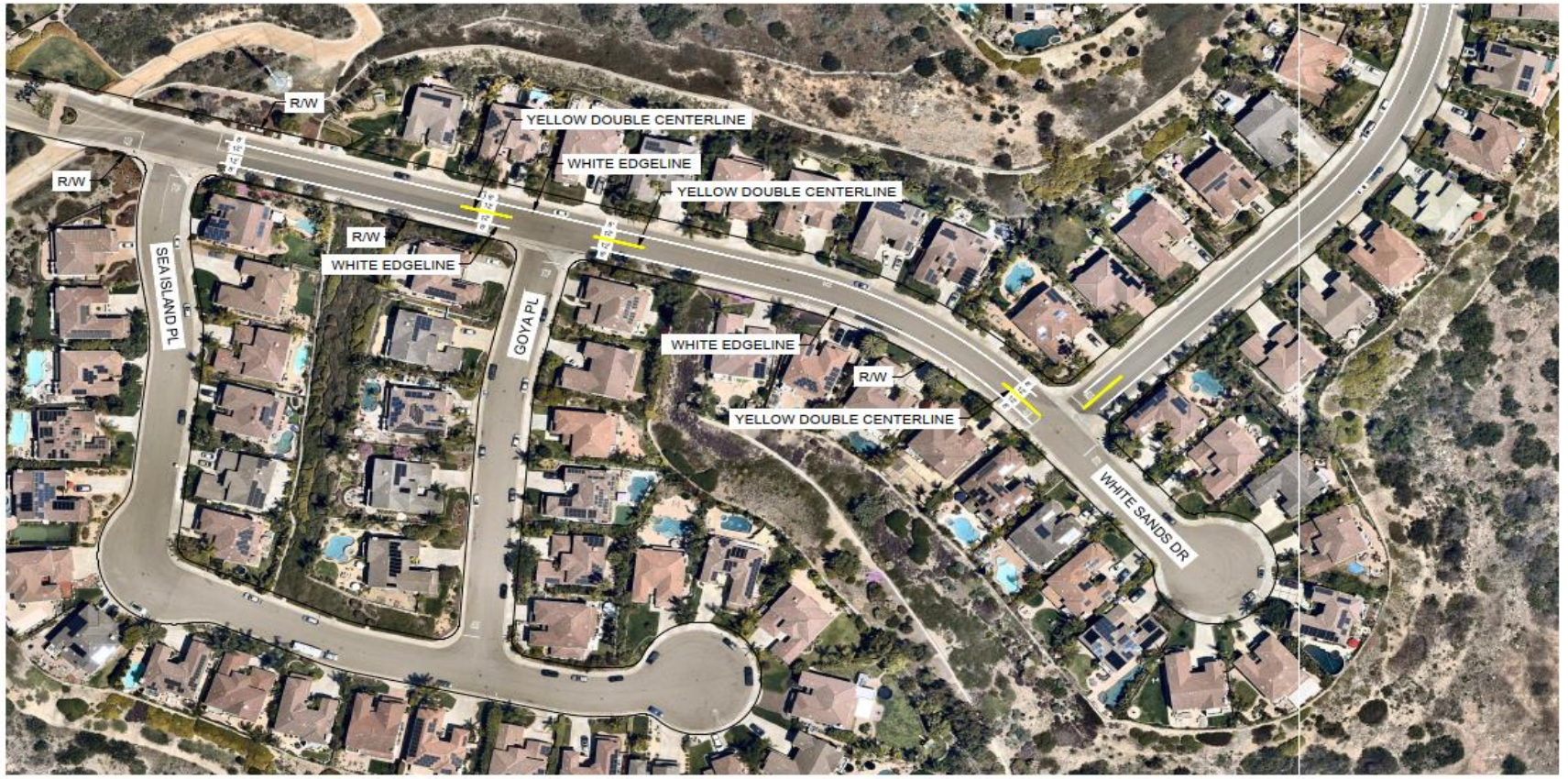
RANCHO DORADO TRAFFIC CALMING
WHITE SANDS DRIVE - TIER 1 - CLASS II BICYCLE LANE
7/8/2021
Sheet 1 of 6

Adding something awesome to make this better

PROPOSED IMPROVEMENTS

Adding something awesome to make this better

PROPOSED IMPROVEMENTS



Adding something awesome to make this better

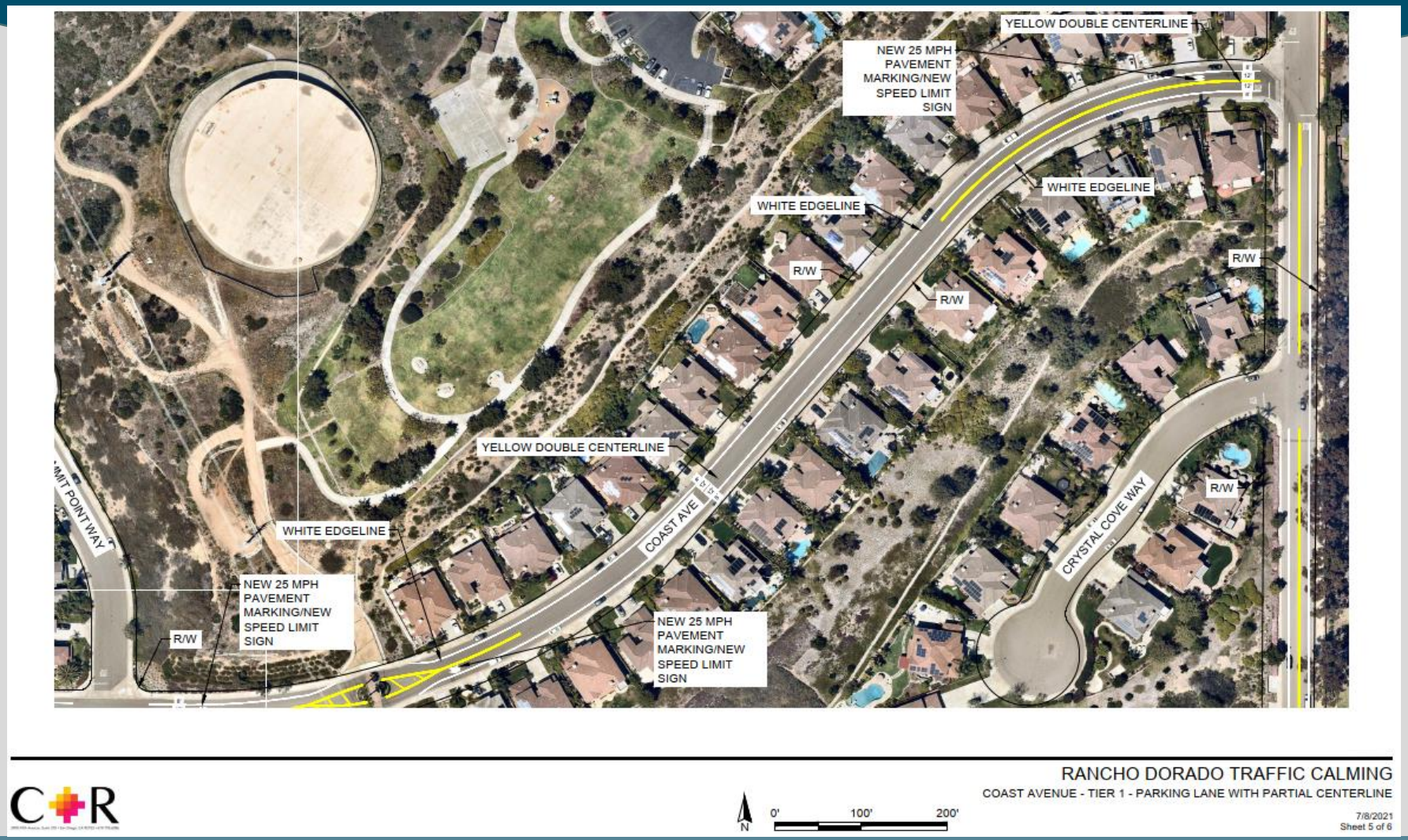
RCOS
FE'S POSSIBILITIES

PROPOSED IMPROVEMENTS

Adding something awesome to make this better

RCOS
FE'S POSSIBILITIES

PROPOSED IMPROVEMENTS



Adding something awesome to make this better

PROPOSED IMPROVEMENTS

Adding something awesome to make this better

STAFF RECOMMENDATIONS

Engineering staff recommends the following improvements:

1) Installation of edge line striping in the form of Class II Bicycle Lanes on White Sands Drive between San Marcos Boulevard and 650' North of Sun Valley Road to discourage speeding by narrowing vehicle travel lanes.

2) Installation of partial double yellow centerlines at the intersections along the project study to help motorists stay in lane as they navigate.

3) Installation of edgeline striping to define parking lanes on White Sands Drive, Coast Avenue, and Island Drive to discourage speeding by narrowing vehicle travel lanes.

4) Installation of new speed limit signs (25 MPH) on Coast Avenue between Summit Point Way and Island Drive to inform motorists of the residential 25 MPH zone.

5) Installation of new speed pavement markings (25 MPH) on Coast Avenue between Summit Point Way and Island Drive to inform motorists of the residential 25 MPH zone.

6) Recommend studying the effectiveness after one year of implementation and reporting the results.

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Q&A SLIDES

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Countermeasure / Anticipated Speed Reduction	Location	Advantages	Disadvantages	Cost
Class II Bicycle Lane / 2-3 MPH	White Sands Drive between San Marcos Boulevard and 650' north of Sun Valley Road Posted Speed: 25 MPH 85th Percentile: 34 MPH	• Discourages speeding by narrowing vehicle travel lanes to 12', perceived friction • Provides new facilities exclusive to bicycle travel	• Cost	$5,100
Parking Lane with Partial Centerline / 2-3 MPH	White Sands Drive between Sun Valley Road and Sea Island Place Posted Speed: 25 MPH 85th Percentile: 34 MPH	• Discourages speeding by narrowing vehicle travel lanes to 12', perceived friction • Maintains 8' on-street parking lane	• Cost • Partial centerline provides less friction than a full centerline	$2,300
Parking Lane with Partial Centerline / 2-3 MPH	White Sands Drive between Sea Island Place and Coast Avenue Posted Speed: 25 MPH 85th Percentile: 34 MPH	• Discourages speeding by narrowing vehicle travel lanes to 12', perceived friction • Maintains 8' on-street parking lane	• Cost • Partial centerline provides less friction than a full centerline	$3,500
Parking Lane with Partial Centerline / 2-3 MPH	Coast Avenue between White Sands Drive and Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• Discourages speeding by narrowing travel lanes to 12' • Maintains 8' on-street parking lane	• Fails to provide bicycle facilities • Partial centerline provides less friction than a full centerline	$4,000
Parking Lane with Partial Centerline / 2-3 MPH	Coast Avenue between Summit Point Way and Island Drive Posted Speed: 25 MPH 85th Percentile: 30 MPH	• Discourages speeding by narrowing travel lanes to 12' • Maintains 8' on-street parking lane	• Fails to provide bicycle facilities • Partial centerline provides less friction than a full centerline	$3,600
Parking Lane with Partial Centerline / 2-3 MPH	Island Drive between Coast Avenue and Rancho Santa Fe Road Posted Speed: 25 MPH 85th Percentile: 37 MPH	• Discourages speeding by narrowing travel lanes to 12' • Maintains 8' on-street parking lane	• Safety improvement location is not directly adjacent to any residential properties • Partial centerline provides less friction than a full centerline	$3,800

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Countermeasure / Anticipated Speed Reduction	Location	Advantages	Disadvantages	Cost
Parking Lane with Full Centerline / 1-5 MPH	White Sands Drive between Sun Valley Road and Sea Island Place Posted Speed: 25 MPH 85th Percentile: 34 MPH	• May discourage speeding by narrowing vehicle travel lanes to 12', perceived friction • Maintains 8' on-street parking lane • Sharrow pavement markers provide additional safety for bicyclists	• Cost • Full centerline is more expensive than a partial centerline • Centerline studies have not been supported in an urban setting	$3,400
Parking Lane with Full Centerline / 1-5 MPH	White Sands Drive between Sea Island Place and Coast Avenue Posted Speed: 25 MPH 85th Percentile: 34 MPH	• May discourage speeding by narrowing vehicle travel lanes to 12', perceived friction • Maintains 8' on-street parking lane • Sharrow pavement markers provide additional safety for bicyclists	• Cost • Full centerline is more expensive than a partial centerline • Centerline studies have not been supported in an urban setting	$5,200
Parking Lane with Full Centerline (Option A) / 1-5 MPH	Coast Avenue between White Sands Drive and Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• May discourage speeding by narrowing travel lanes to 12' • Maintains 8' on-street parking lane • Sharrow pavement markers provide additional safety for bicyclists	• Fails to provide bicycle facilities • Full centerline is more expensive than a partial centerline • Centerline studies have not been supported in an urban setting	$6,100
Horizontal Deflection: Striped Center Traffic Island with Lateral Shift (Option B) / 1-5 MPH	Coast Avenue between White Sands Drive and Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• May discourage speeding by narrowing travel lanes to 12' and creating lane deflection in vehicle path to the outside and back to the inside. • Striped median is more cost effective than a raised median	• Eliminates some on-street parking • May restrict driveway access in one direction for some residents • Centerline studies have not been supported in an urban setting	$8,300
Horizontal Deflection: Raised Center Traffic Island with Lateral Shift (Option C) / 1-5 MPH	Coast Avenue between White Sands Drive and Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• May discourage speeding by narrowing travel lanes to 12' and creating lane deflection in vehicle path to the outside and back to the inside. • Raised median provides additional visual cues for drivers to reduce speeding	• Eliminates some on-street parking • May restrict driveway access in one direction for some residents • Raised median is more expensive than a striped median • Centerline studies have not been supported in an urban setting	$16,000

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Countermeasure / Anticipated Speed Reduction	Location	Advantages	Disadvantages	Cost
Parking Lane with Full Centerline (Option A) / 1-5 MPH	Coast Avenue between Summit Point Way and Island Drive Posted Speed: 25 MPH 85th Percentile: 30 MPH	• May discourage speeding by narrowing travel lanes to 12' • Maintains 8' on-street parking lane • Sharrow pavement markers provide additional safety for bicyclists	• Fails to provide bicycle facilities • Full centerline is more expensive than a partial centerline • Centerline studies have not been supported in an urban setting	$5,700
Horizontal Deflection: Striped Center Traffic Island with Lateral Shift (Option B) / 1-6 MPH	Coast Avenue between Summit Point Way and Island Drive Posted Speed: 25 MPH 85th Percentile: 30 MPH	• May discourage speeding by narrowing travel lanes to 12' and creating lane deflection in vehicle path to the outside and back to the inside. • Striped median is more cost effective than a raised median	• Eliminates some on-street parking • May restrict driveway access in one direction for some residents • Centerline studies have not been supported in an urban setting	$8,300
Horizontal Deflection: Raised Center Traffic Island with Lateral Shift (Option C) / 1-6 MPH	Coast Avenue between Summit Point Way and Island Drive Posted Speed: 25 MPH 85th Percentile: 30 MPH	• May discourage speeding by narrowing travel lanes to 12' and creating lane deflection in vehicle path to the outside and back to the inside. • Raised median provides additional visual cues for drivers to reduce speeding	• Eliminates some on-street parking • May restrict driveway access in one direction for some residents • Raised median is more expensive than a striped median • Centerline studies have not been supported in an urban setting	+$16,000
Parking Lane with Full Centerline (Option A) / 1-5 MPH	Island Drive between Coast Avenue and Rancho Santa Fe Road Posted Speed: 25 MPH 85th Percentile: 37 MPH	• May discourage speeding by narrowing travel lanes to 12' • Maintains 8' on-street parking lane • Sharrow pavement markers provide additional safety for bicyclists	• Safety improvement location is not directly adjacent to any residential properties • Full centerline is more expensive than a partial centerline • Centerline studies have not been supported in an urban setting	$5,800
Class II Buffered Bicycle Lane with Partial Centerline (Option B) / 1-5 MPH	Island Drive between Coast Avenue and Rancho Santa Fe Road Posted Speed: 25 MPH 85th Percentile: 37 MPH	• May discourage speeding by narrowing travel lanes to 12' • Provides new 5' wide facilities exclusive to bicycle travel protected by 3' buffer	• Eliminates on-street parking • Safety improvement location is not directly adjacent to any residential properties • Partial centerline provides less friction than a full centerline • Centerline studies have not been supported in an urban setting	$8,000
Class II Buffered Bicycle Lane with Full Centerline (Option C) / 1-5 MPH	Island Drive between Coast Avenue and Rancho Santa Fe Road Posted Speed: 25 MPH 85th Percentile: 37 MPH	• May discourage speeding by narrowing travel lanes to 12' • Provides new 5' wide facilities exclusive to bicycle travel protected by 3' buffer	• Eliminates on-street parking • Safety improvement location is not directly adjacent to any residential properties • Full centerline is more expensive than a partial centerline • Centerline studies have not been supported in an urban setting	$9,300

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Countermeasure / Anticipated Speed Reduction	Location	Advantages	Disadvantages	Cost
Horizontal Deflection: Shoulder / Chicane Traffic Islands with Lateral Shift (Striping / Reflectors) / 3-9 MPH	Coast Avenue between White Sands Drive and Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• Discourages speeding by narrowing travel lanes to 12' and creating lane deflection in vehicle path to the outside and back to the inside.	• Creates storm water impacts near Summit Point Way • Cost	+$8,000
Raised Medians with Bike Lane Striping / 1-6 MPH	White Sands Drive, Coast Avenue, Island Drive	• Effective at discouraging speeding due to friction	• Most locations available curb to curb not applicable • Restricted on-street parking • Restricted driveway access • Cost	+$100,000
Traffic Circle / 1-8 MPH	Coast Avenue at Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• Effective at discouraging speeding • Beautification element	• Severe grades • Restricted on-street parking • Typically used at four-way intersections • Cost	+$35,000
Vertical Deflection: Speed Hump / Table / 5-8 MPH	White Sands Drive, Coast Avenue, Island Drive	• Effective at discouraging speeding	• Delays emergency response times • Noise concerns • Long-term maintenance • Drainage issues • Not recommended for severe grades	+$2,000
Speed Cushions / 5-7 MPH	White Sands Drive, Coast Avenue, Island Drive	• Reduces 85th percentile speed by 4 – 6 MPH • Does not affect emergency response times	• Grade cannot exceed 7% in vicinity • Requires 2/3 approval by nearby homeowners • Cost depending on how many/spacing	+$8,000
Horizontal Deflection: Choker (series of traffic islands) / 1-4 MPH	Coast Avenue between White Sands Drive and Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• Reduced roadway width adds friction to discourage speeding	• Reduces two-way traffic to one-way with the use of curbs • High cost	+$10,000
Dynamic Speed Activated Warning Sign (Solar) / 1-7 MPH	White Sands Drive, Coast Avenue, Island Drive	• Reduces 85th percentile speed by 2 – 7 MPH	• Visual Impact • Higher Cost • Use near school zones	+$10,000
Road Diet and/or Road Routing Restrictions / NA	White Sands Drive, Coast Avenue, Island Drive	• Typically reduces roadway widths and/or lanes	• Not applicable to project limits	+$25,000
Corner Extension at Intersection with Median Island / 1-3 MPH	Coast Avenue at Summit Point Way Posted Speed: 25 MPH 85th Percentile: 30 MPH	• Reduced roadway width adds friction to discourage speeding • Serves high pedestrian use	• High cost • Not applicable to project limits	+$40,000

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INFORMATION: Work Order Updates

- Traffic Signing and Striping Improvements – San Elijo Rd/Twin Oaks Valley Rd@ Equestrian Dr/Double Peak K-8 Driveway Signalized Intersection– item was presented to Traffic Commission in June; Traffic Commission approved staff's recommendations for the installation of "No turn on Red" sign consistent with CAMUTCD standards as a low-cost and effective countermeasure to reduce conflicts between turning traffic.
- The improvement is expected to provide westbound left turn their share of green for turning into the School driveway and also prevent southbound right turn movement to encroach into the crosswalk during red indication.

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“No Turn on Red”-Twin Oaks Valley Rd/Double Peak K-8 School Driveway

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INFORMATION: Stop Sign(Valencia Ave @ La Sombra Dr)

CONSTRUCTION NOTE:

1 Remove and salvage existing post. Install new R1-1 "STOP" sign (30"x30", Hi-Intensity) on a new breakaway post; paint stop bar and stop legend as shown. Relocate street name signs on new post.

N

*NOT TO SCALE

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INFORMATION: “No turn on Red” Sign (Twin Oaks Valley Rd@ Cassou Rd)

CONSTRUCTION NOTE:

1 Install "No turn on Red" R13A(CA)(36"X48")(Hi-Intensity) sign on the signal pole at the northeast corner of Twin Oaks Valley Rd and Cassou Rd.

N

*NOT TO SCALE

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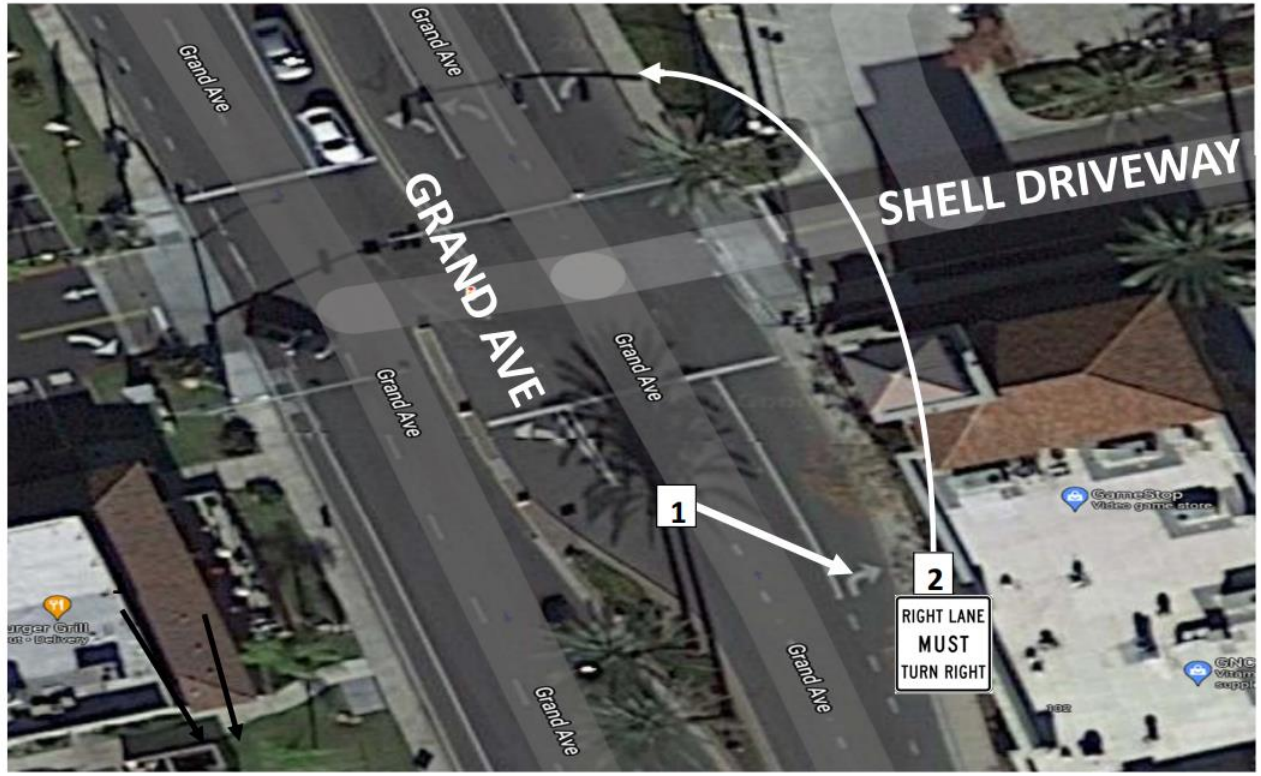
INFORMATION: Restriping and Sign relocation (Grand Ave @ Shell Driveway)

CONSTRUCTION NOTE:

1. CONVERT EXISTING TYPE IV(R) ARROW TO TYPE VII(R) ARROW.

2. RELOCATE EXISTING R3-7(R) SIGN AS SHOWN.



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