
AGENDA REPORT

Meeting of the San Marcos Traffic Commission

MEETING DATE: October 6, 2021
AGENDA ITEM NO: 7B
SUBMITTED BY: Manas Bista, P.E. – Associate Civil Engineer-Traffic
APPROVED BY: Nic Abboud, P.E. – Principal Civil Engineer- Transportation
SUBJECT: Rancho Dorado Neighborhood – Residential Speeding Concerns

BACKGROUND:

Engineering staff received traffic safety concerns from San Marcos residents within the Rancho Dorado neighborhood. Residents reported perceived vehicular speeding along White Sands Drive between San Marcos Boulevard and Sun Valley Road, Coast Avenue between White Sands Drive and Summit Point Way, and Island Drive between Coast Avenue and Rancho Santa Fe Road.

In 2014, the City installed traffic delineators to reduce roadway width and speed, providing an effective travel lane width of 11 feet. The City immediately received numerous complaints stating that the narrow lane was difficult to navigate and that the delineators were not aesthetically pleasing. The delineators were removed and in 2015 the City temporarily reinstalled delineators, providing a 13-foot travel lane, to evaluate the effects of narrowing the travel lanes. The delineators proved to be very effective, reducing the 85th percentile speed by 6 MPH to 32 MPH. Since then, residents and HOA Board found the delineators visually unattractive, the City concluded painted roadway striping would narrow roadway widths and reduce speeds with similar effectiveness.

Within the last year 2020/2021 there have been a few resident's raising concerns with the speed of traffic throughout the neighborhood. Engineering staff initiated a traffic safety evaluation of White Sands Drive, Coast Avenue, and Island Drive to determine if traffic calming alternatives would be warranted. The safety evaluation focused on the concerns submitted to the City by the community, speed and volume data, collision data, field measurements and observations. 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 with the City Traffic Commission and Rancho Dorado neighborhood community for consideration of implementation.
- Tier 2 represents secondary countermeasures pending the outcome and implementation from Tier 1 countermeasures. It is recommended that the City should first consider the use of Tier 1 countermeasures, study the effectiveness over the course of a year, then continue the discussion to Tier 2 countermeasures if required. The City may consider the overall financial

costs to implement. The Community may consider the overall impacts to on-street parking and visual elements.

- Tier 3 represents countermeasures which were reviewed but not recommended at this time.

DISCUSSION:

The first of three roadway segments within the study area is located on White Sands Drive between San Marcos Boulevard and Coast Avenue. This roadway section is a two-lane residential street running north to south, approximately 0.65 miles in length. The street provides access to single family homes. Typical street width on White Sands Drive is 40 feet apart from the segment between San Marcos Boulevard and Emerald Sea Way, where it narrows from 55 feet at San Marcos Boulevard to 40 feet at Emerald Sea Way. There are two bulb outs with raised medians located at the southern terminus of the 6-foot raised median and at the trail crossing north of Sea Island Place. The road profile grade or slope of White Sands Drive ranges from 8 to 11 percent. The steepest point occurs approximately 200 feet south of Emerald Sea Way. There are existing contiguous sidewalks along White Sands Drive, with two trail crossings that serve as uncontrolled crosswalks. There are no existing bicycle facilities along White Sands Drive. There is on-street parking along both sides of the roadway south of the northern bulb out. The posted speed limit is 25 MPH, which meets the prima facie speed limit and residential density criteria per the California Vehicle Code (CVC).

The second study area is Coast Avenue from White Sands Drive to Island Drive. This roadway section is a two-lane residential street, approximately ½ mile in length. The street provides access to single family homes. There are existing contiguous sidewalks along White Sands Drive, with a trail crossing that serves as an uncontrolled crosswalk at the bulb out. Typical street width on Coast Avenue measures 40 feet curb-to-curb. There is a bulb out with raised medians approximately 250 feet east of Summit Point Way that pinches the travel lane widths to about 13.5 feet. There are no existing bicycle facilities along Coast Avenue. Along both sides of the entire roadway, there is existing on-street parking. The slope of Coast Avenue ranges from about 0.5 to over 10 percent, with the steepest point located approximately 300 feet east of Summit Point Way. There are also existing horizontal roadway segments with curvilinear alignment between Summit Point Way and Island Drive. The posted speed limit is 25 MPH, which meets the prima facie speed limit and residential density criteria per the California Vehicle Code (CVC).

The third and last study area is Island Drive from Coast Avenue to Rancho Santa Fe Road. This section is a two-lane residential street, approximately ¼ mile in length. There is an existing contiguous sidewalk along the western side of the roadway and a decomposed granite pathway on the eastern side. Typical street width on Coast Avenue measures 40 feet curb-to-curb. There are no existing bicycle facilities along Island Drive. There is existing on-street parking along both sides of the roadway. The vertical grade ranges from 1 to 20 percent, with the steepest point located approximately 150 feet south of Crystal Cove Way. The posted speed limit is 25 MPH, which meets the prima facie speed limit and residential density criteria per the California Vehicle Code (CVC).

Engineering staff conducted an engineering study to determine if traffic calming measures may be warranted on White Sands Drive, Coast Avenue, and Island Drive. Engineering staff collected both traffic speed and volume data for one mid-week day.

- On White Sands Avenue, the 85th percentile speeds recorded during the collection period were 34 MPH in both directions. According to the speed and volume data collected by the National Data & Survey Services (NDS) on July 7, 2020, a total of 922 vehicles, or 72% of the total traffic volume, were recorded exceeding the posted speed limit.
- Along Coast Avenue, the 85th percentile speed of all recorded vehicles was 30 MPH per the NDS studies in August 2020 and March 2021.
- On Island Drive, the 85th percentile speed of all recorded vehicles was 37 MPH, and 87% of the total traffic volume exceeded the posted speed limit.

Speeds greater than 7 MPH over the posted speed limit are generally considered candidates for applicable traffic calming countermeasures on residential streets.

Based on a review of the existing and adjacent single-family developments on Coast Avenue, cut-through traffic is not prevalent, and most frequent vehicles are nearby area-residents. Engineering staff also reviewed traffic collisions within the last five (5) years along White Sands Drive, Coast Avenue, and Island Drive and found that there have been three collisions reported with no discernable pattern.

Speed bumps or speed cushions are not recommended due to the existing steep roadway grades identified and delays to emergency response times.

Based on the findings of this study, Engineering staff proposes the use of white edge line striping (bike and parking lanes) as an initial traffic calming measure to help reduce speeds on residential streets. Past studies have shown a decrease in vehicle speeds ranging from 2 to 3 MPH when edgeline striping is implemented as a traffic calming measure. The proposed edgeline striping creates narrow travel lanes, which adds friction to roadway users, thereby inducing drivers to lower their speeds. Similarly, the use of bicycle and parking lane striping is a low-cost option to install and allows emergency vehicles to maintain their response speeds. These traffic calming measures are recommended on White Sands Drive, Coast Avenue, and Island Drive as the City's initial attempt to implement traffic calming measures and improve livability in the neighborhood. In addition, City staff recommends installation of additional 25 MPH speed limit signs and pavement markings on Coast Avenue between Summit Point Way and Island Drive. Along with partial use of double yellow centerline stripes at the existing intersections.

CONCLUSION AND RECOMMENDATIONS:

Engineering staff recommends the following improvements (see attached exhibit – Tier 1):

- 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.

Traffic Data/Roadway Information:

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)

Attachment(s)

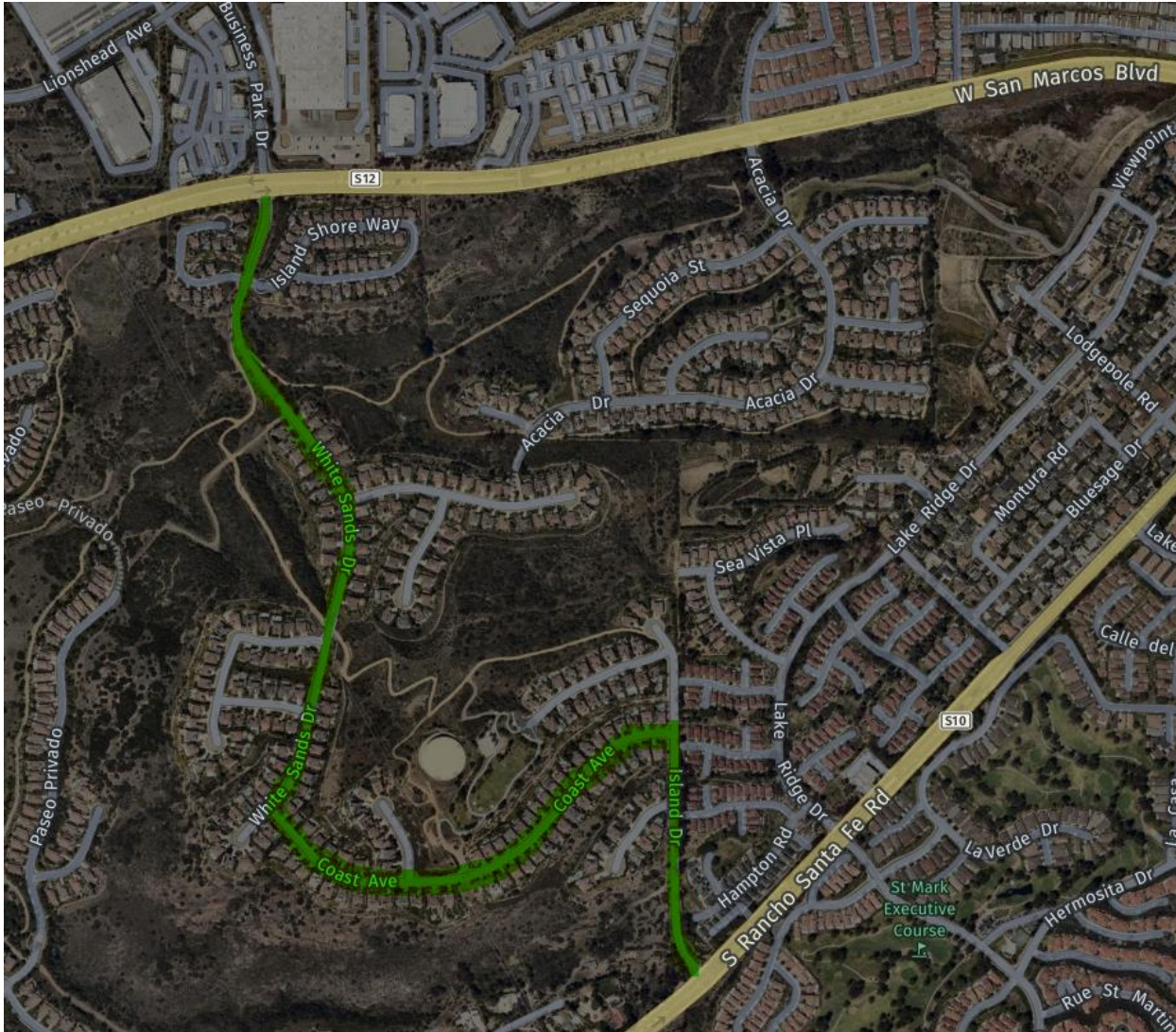
Vicinity Map

Proposed Traffic Signing and Striping Improvements Exhibit

Traffic Volume and Speed Data Sheet

Photos

Vicinity Map



Proposed Traffic Signing and Striping Improvements Exhibits



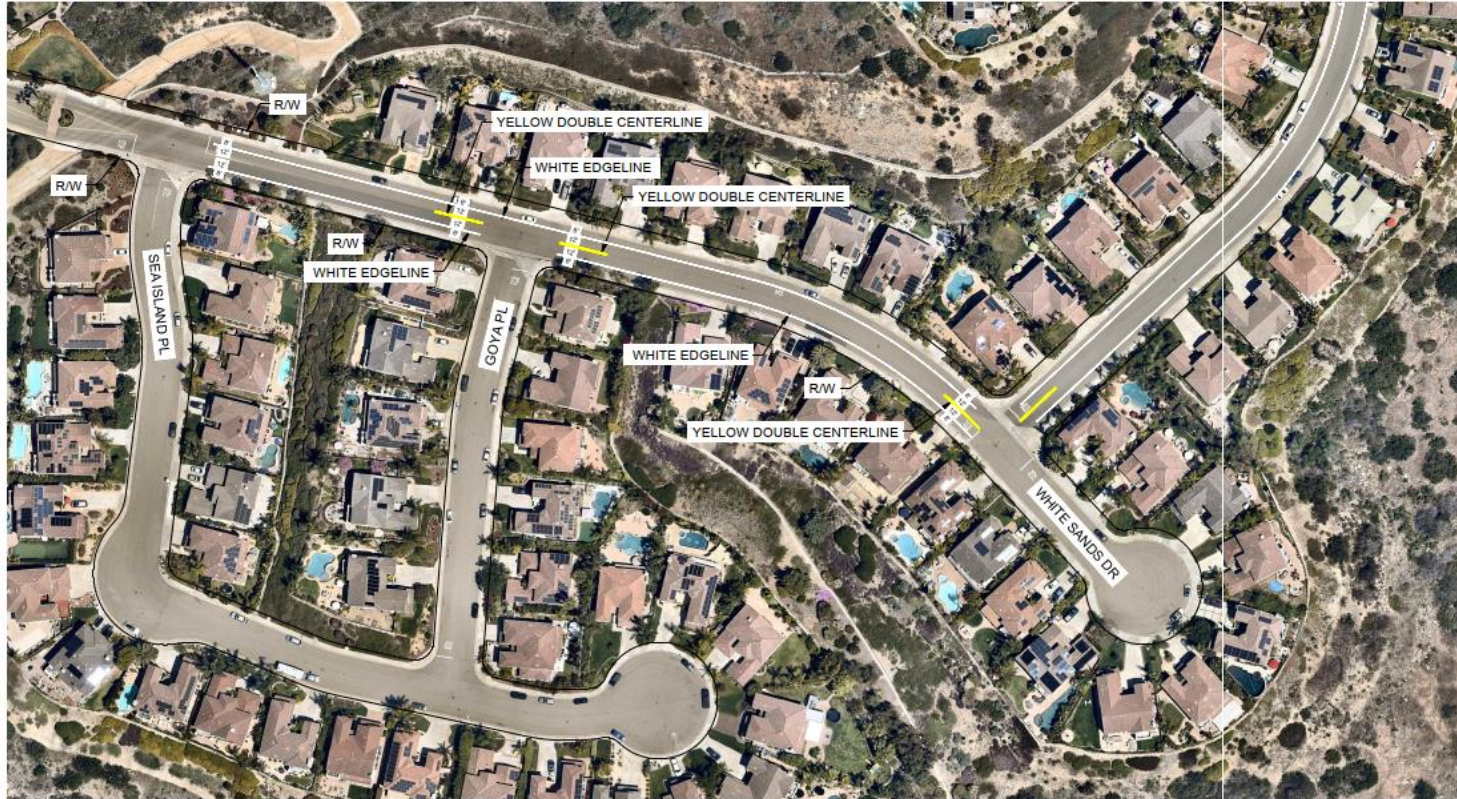
RANCHO DORADO TRAFFIC CALMING
WHITE SANDS DRIVE - TIER 1 - CLASS II BICYCLE LANE

7/8/2021
Sheet 1 of 6



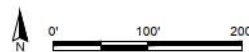
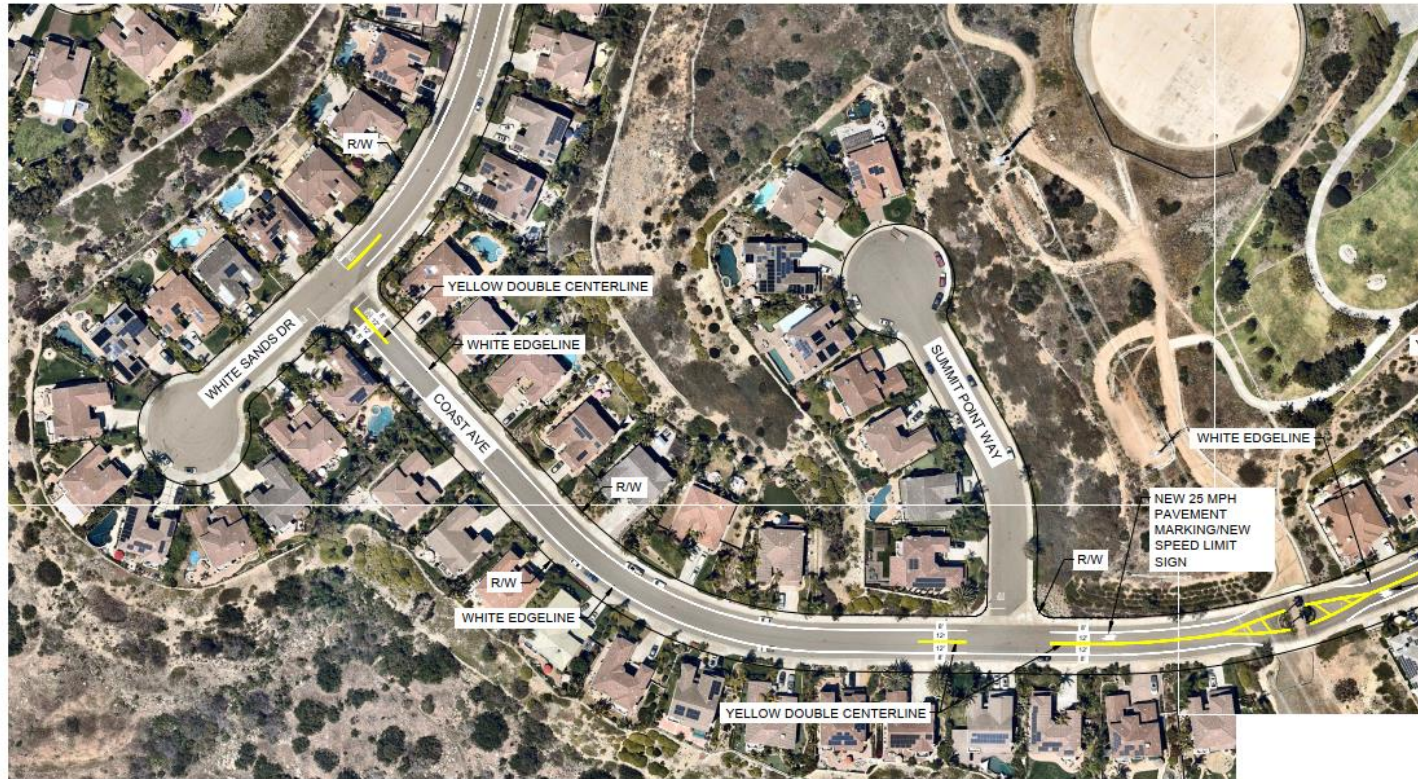
RANCHO DORADO TRAFFIC CALMING
WHITE SANDS DRIVE - TIER 1 - PARKING LANE WITH PARTIAL CENTERLINE

7/8/2021
Sheet 2 of 6

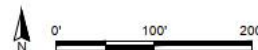


RANCHO DORADO TRAFFIC CALMING
WHITE SANDS DRIVE - TIER 1 - PARKING LANE WITH PARTIAL CENTERLINE

7/8/2021
Sheet 3 of 6



RANCHO DORADO TRAFFIC CALMING
COAST AVENUE - TIER 1 - PARKING LANE WITH PARTIAL CENTERLINE
7/8/2021
Sheet 4 of 6



RANCHO DORADO TRAFFIC CALMING
COAST AVENUE - TIER 1 - PARKING LANE WITH PARTIAL CENTERLINE

7/8/2021
Sheet 5 of 6



Traffic Volume and Speed Data Sheets

RANCHO DORADO TRAFFIC CALMING
ISLAND DRIVE - TIER 1 - PARKING LANE WITH PARTIAL CENTERLINE
7/8/2021
Sheet 6 of 6

SPEED

White Sands Dr Bet. Sun Valley Rd & Emerald Sea Way

Day: Tuesday
Date: 7/7/2020

City: San Marcos
Project #: CA20_4083_002n

North Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	1	0	4	0	0	0	0	0	0	0	6
06:00	0	0	2	6	7	1	0	0	0	0	0	0	0	16
07:00	0	0	4	9	17	7	2	0	0	0	0	0	0	39
08:00	1	2	4	14	18	6	0	0	0	0	0	0	0	45
09:00	2	3	6	19	11	1	0	0	0	0	0	0	0	42
10:00	1	1	7	20	9	4	0	0	0	0	0	0	0	42
11:00	0	2	6	10	19	4	2	0	0	0	0	0	0	43
12:00 PM	0	1	4	19	8	5	0	0	0	0	0	0	0	37
13:00	0	0	7	11	22	9	1	0	0	0	0	0	0	50
14:00	0	0	8	17	22	5	0	0	0	0	0	0	0	52
15:00	0	4	8	12	16	3	1	0	0	0	0	0	0	44
16:00	0	1	4	10	20	4	1	1	0	0	0	0	0	41
17:00	0	0	5	25	12	5	1	0	0	0	0	0	0	48
18:00	0	4	5	14	22	4	0	0	0	0	0	0	0	49
19:00	0	2	7	6	10	1	0	0	0	0	0	0	0	26
20:00	0	5	5	8	3	0	0	0	0	0	0	0	0	21
21:00	1	0	6	3	5	1	0	0	0	0	0	0	0	16
22:00	0	1	6	4	1	2	0	1	0	0	0	0	0	15
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Totals	5	26	95	211	224	66	9	2						638
% of Totals	1%	4%	15%	33%	35%	10%	1%	0%						100%

AM Volumes	4	8	30	80	83	27	5	0	0	0	0	0	0	237
% AM	1%	1%	5%	13%	13%	4%	1%							37%
M Peak Hour	09:00	09:00	10:00	10:00	11:00	07:00	07:00							08:00
Volume	2	3	7	20	13	7	2							45
PM Volumes	1	18	65	131	141	39	4	2	0	0	0	0	0	401
% PM	0%	3%	10%	21%	22%	6%	1%	0%						63%
M Peak Hour	21:00	20:00	14:00	17:00	13:00	13:00	13:00	16:00						14:00
Volume	1	5	8	25	22	3	1	1						52
Directional Peak Periods	AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
All Speeds	Volume 84 ↔ 13%				Volume 87 ↔ 14%				Volume 89 ↔ 14%				Volume 378 ↔ 59%	

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
White Sands Dr	North Bound	23	30	29	35	38	638
White Sands Dr	South Bound	21	27	27	32	35	645

SPEED

Coast Ave Bet. Island Drive & Summit Point Way

Day: Tuesday
Date: 7/7/2020

City: San Marcos
Project #: CA20_4083_003e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:00	0	0	4	0	0	0	0	0	0	0	0	0	0	4
07:00	1	3	8	1	0	0	0	0	0	0	0	0	0	13
08:00	6	7	3	2	0	0	0	0	0	0	0	0	0	18
09:00	7	12	8	1	0	0	0	0	0	0	0	0	0	28
10:00	3	9	7	1	0	0	0	0	0	0	0	0	0	20
11:00	3	10	5	4	0	0	0	0	0	0	0	0	0	22
12:00 PM	5	16	16	4	1	0	0	0	0	0	0	0	0	42
13:00	2	6	16	2	0	0	0	0	0	0	0	0	0	26
14:00	3	11	11	2	0	0	0	0	0	0	0	0	0	27
15:00	5	14	19	4	0	0	0	0	0	0	0	0	0	42
16:00	3	14	11	8	0	0	0	0	0	0	0	0	0	36
17:00	6	11	21	5	1	0	0	0	0	0	0	0	0	44
18:00	2	8	9	3	0	0	0	0	0	0	0	0	0	22
19:00	2	3	2	2	2	0	0	0	0	0	0	0	0	11
20:00	2	6	3	0	0	0	0	0	0	0	0	0	0	11
21:00	2	5	1	2	1	0	0	0	0	0	0	0	0	11
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Totals	52	138	145	43	5									383
% of Totals	14%	36%	38%	11%	1%									100%

AM Volumes	20	41	35	11	0	0	0	0	0	0	0	0	0	107
% AM	5%	11%	9%	3%										28%
AM Peak Hour	03:00	03:00	07:00	11:00										03:00
Volume	7	12	8	4										28
PM Volumes	32	97	110	32	5	0	0	0	0	0	0	0	0	276
% PM	8%	25%	29%	8%	1%									72%
PM Peak Hour	17:00	12:00	17:00	16:00	13:00									17:00
Volume	6	16	21	8	2									44
Directional Peak Periods	AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
All Speeds	Volume 31 ↔ % 8%				Volume 68 ↔ % 18%				Volume 80 ↔ % 21%				Volume 204 ↔ % 53%	

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	15	20	20	25	28	383
Coast Ave	West Bound	15	19	19	24	27	367

SPEED

Coast Ave W/O Island Dr

Day: Tuesday
Date: 3/23/2021

City: San Marcos
Project #: CA21_040049_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	9	1	0	0	0	0	0	0	0	0	0	11
07:00	0	10	16	6	0	0	0	0	0	0	0	0	0	32
08:00	0	4	9	9	1	0	0	0	0	0	0	0	0	23
09:00	0	3	12	9	2	0	0	0	0	0	0	0	0	26
10:00	0	3	10	5	1	0	0	0	0	0	0	0	0	19
11:00	0	3	9	5	1	0	0	0	0	0	0	0	0	18
12:00 PM	0	6	8	7	4	0	0	0	0	0	0	0	0	25
13:00	0	2	10	13	3	0	0	0	0	0	0	0	0	28
14:00	0	3	14	7	1	0	0	0	0	0	0	0	0	25
15:00	0	3	11	9	4	0	0	0	0	0	0	0	0	27
16:00	1	3	8	9	1	0	0	0	0	0	0	0	0	22
17:00	1	2	17	12	3	1	0	0	0	0	0	0	0	36
18:00	1	5	11	3	2	0	0	0	0	0	0	0	0	22
19:00	1	4	3	4	1	0	0	0	0	0	0	0	0	13
20:00	0	2	3	3	0	0	0	0	0	0	0	0	0	8
21:00	1	3	2	3	0	0	0	0	0	0	0	0	0	9
22:00	0	1	1	2	0	0	0	0	0	0	0	0	0	4
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	5	58	157	108	24	1								353
% of Totals	1%	16%	44%	31%	7%	0%								100%

AM Volumes	0	24	69	36	5	0	0	0	0	0	0	0	0	134	
% AM		7%	20%	10%	1%									38%	
AM Peak Hour		07:00	07:00	08:00	09:00									07:00	
Volume		10	16	3	2									32	
PM Volumes	5	34	68	72	19	1	0	0	0	0	0	0	0	219	
% PM	1%	10%	25%	20%	5%	0%								62%	
PM Peak Hour	16:00	12:00	17:00	13:00	12:00	17:00								17:00	
Volume	1	6	17	13	4	1								36	
Directional Peak Periods		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
All Speeds		Volume		%		Volume		%		Volume		%		Volume	%
		55	↔	16%		53	↔	15%		58	↔	16%		187	↔ 53%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	19	24	24	29	32	353
Coast Ave	West Bound	18	23	23	29	32	364

SPEED

Coast Ave W/O Island Dr

Day: Wednesday
Date: 3/24/2021

City: San Marcos
Project #: CA21_040049_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	6	0	0	0	0	0	0	0	0	0	0	7
07:00	1	9	13	9	0	0	0	0	0	0	0	0	0	32
08:00	2	3	6	11	1	2	0	0	0	0	0	0	0	25
09:00	0	0	10	12	1	0	0	0	0	0	0	0	0	23
10:00	0	4	10	6	0	0	0	0	0	0	0	0	0	20
11:00	0	3	6	11	5	0	0	0	0	0	0	0	0	25
12:00 PM	1	4	8	11	2	0	0	0	0	0	0	0	0	26
13:00	1	2	9	14	4	1	0	0	0	0	0	0	0	31
14:00	0	1	11	8	6	0	0	0	0	0	0	0	0	26
15:00	0	2	18	9	2	1	1	0	0	0	0	0	0	33
16:00	1	6	11	13	5	1	0	0	0	0	0	0	0	43
17:00	2	1	13	9	5	0	0	0	0	0	0	0	0	30
18:00	4	1	18	13	6	1	0	0	0	0	0	0	0	43
19:00	1	2	7	5	0	2	0	0	0	0	0	0	0	17
20:00	1	0	5	6	1	0	0	0	0	0	0	0	0	13
21:00	0	1	0	0	1	2	0	0	0	0	0	0	0	4
22:00	0	0	2	2	0	2	0	0	0	0	0	0	0	6
23:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3
Totals	14	40	156	148	39	13	1							411
% of Totals	3%	10%	38%	36%	9%	3%	0%							100%

AM Volumes	3	20	52	51	7	3	0	0	0	0	0	0	0	136
% AM	1%	5%	13%	12%	2%	1%								33%
M Peak Hour	08:00	07:00	07:00	09:00	11:00	08:00								07:00
Volume	2	9	13	12	5	2								32
PM Volumes	11	20	104	97	32	10	1	0	0	0	0	0	0	275
% PM	3%	5%	25%	24%	8%	2%	0%							67%
M Peak Hour	18:00	16:00	15:00	16:00	14:00	13:00	15:00							16:00
Volume	4	6	18	13	6	2	1							43
Directional Peak Periods	AM 7-9					NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume 57 ↔ 14%					Volume 57 ↔ 14%			Volume 73 ↔ 18%			Volume 224 ↔ 55%		

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	20	25	25	30	34	411
Coast Ave	West Bound	19	24	24	29	33	431

SPEED

Coast Ave W/O Island Dr

Day: Thursday
Date: 3/25/2021

City: San Marcos
Project #: CA21_040049_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	0	1	0	1	0	0	0	0	0	0	0	0	3
06:00	0	2	3	3	1	0	0	0	0	0	0	0	0	9
07:00	1	3	8	13	2	0	0	0	0	0	0	0	0	27
08:00	1	2	8	11	1	0	0	0	0	0	0	0	0	23
09:00	2	4	1	9	0	0	0	0	0	0	0	0	0	16
10:00	2	3	3	9	1	0	0	0	0	0	0	0	0	18
11:00	0	1	6	11	0	0	0	0	0	0	0	0	0	18
12:00 PM	0	3	10	9	4	0	0	0	0	0	0	0	0	26
13:00	0	5	12	10	1	1	1	0	0	0	0	0	0	30
14:00	1	4	14	14	3	0	0	0	0	0	0	0	0	36
15:00	1	0	8	10	5	1	0	0	0	0	0	0	0	25
16:00	0	5	10	15	3	1	0	0	0	0	0	0	0	34
17:00	0	3	9	8	1	0	0	0	0	0	0	0	0	21
18:00	1	0	11	13	0	0	0	0	0	0	0	0	0	25
19:00	1	0	5	6	1	0	0	0	0	0	0	0	0	13
20:00	1	1	2	6	2	2	0	0	0	0	0	0	0	14
21:00	1	0	2	6	1	0	0	0	0	0	0	0	0	10
22:00	0	1	4	4	1	0	0	0	0	0	0	0	0	10
23:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Totals	13	37	119	158	28	5	1							361
% of Totals	4%	10%	33%	44%	8%	1%	0%							100%

AM Volumes	7	15	31	56	8	0	0	0	0	0	0	0	0	115
% AM	2%	4%	9%	16%	2%									32%
M Peak Hour	09:00	09:00	07:00	07:00	07:00									07:00
Volume	2	4	8	13	2									27
PM Volumes	6	22	88	102	22	5	1	0	0	0	0	0	0	246
% PM	2%	6%	24%	28%	6%	1%	0%							68%
M Peak Hour	14:00	13:00	14:00	16:00	15:00	20:00	13:00							14:00
Volume	1	5	14	15	5	2	1							36
Directional Peak Periods		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes
All Speeds		Volume 50 ↔ 14%				Volume 56 ↔ 16%				Volume 55 ↔ 15%				Volume 200 ↔ 55%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	20	25	25	29	33	361
Coast Ave	West Bound	19	24	24	29	32	363

SPEED
Coast Ave W/O Island Dr

Day: Friday
Date: 3/26/2021

City: San Marcos
Project #: CA21_040049_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	1	0	0	4	1	0	0	0	0	0	0	0	0	6
07:00	0	3	15	12	1	0	0	0	0	0	0	0	0	31
08:00	2	4	9	8	5	0	0	0	0	0	0	0	0	28
09:00	1	1	7	12	4	0	0	0	0	0	0	0	0	25
10:00	1	4	11	8	2	0	0	0	0	0	0	0	0	26
11:00	0	3	5	9	3	1	0	0	0	0	0	0	0	21
12:00 PM	3	5	6	15	3	0	0	0	0	0	0	0	0	32
13:00	2	6	16	12	2	1	0	0	0	0	0	0	0	39
14:00	0	4	12	9	4	0	0	0	0	0	0	0	0	29
15:00	1	4	18	29	3	1	0	0	0	0	0	0	0	56
16:00	2	1	13	17	4	1	0	0	0	0	0	0	0	38
17:00	3	2	12	14	4	0	0	0	0	0	0	0	0	35
18:00	1	3	19	11	3	0	0	0	0	0	0	0	0	37
19:00	0	3	9	9	1	0	0	0	0	0	0	0	0	22
20:00	0	4	2	3	1	1	0	0	0	0	0	0	0	11
21:00	0	3	3	1	0	0	0	0	0	0	0	0	0	7
22:00	0	0	4	1	1	0	0	0	0	0	0	0	0	6
23:00	0	2	0	1	3	1	0	0	0	0	0	0	0	7
Totals	18	52	163	176	45	6								460
% of Totals	4%	11%	35%	38%	10%	1%								100%

AM Volumes	6	15	43	54	16	1	0	0	0	0	0	0	0	141
% AM	1%	3%	11%	12%	3%	0%								31%
AM Peak Hour	08:00	08:00	07:00	07:00	08:00	11:00								07:00
Volume	2	4	15	12	5	1								31
PM Volumes	12	37	114	122	29	5	0	0	0	0	0	0	0	319
% PM	3%	8%	25%	27%	6%	1%								69%
PM Peak Hour	12:00	13:00	18:00	15:00	14:00	13:00								15:00
Volume	3	6	19	23	4	1								56
Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes						
All Speeds		Volume	%	Volume	%	Volume	%	Volume	%					
		59	13%	71	15%	73	16%	257	56%					

Street Name	Direction	Percentiles				
		15th	50th	Average	85th	95th
Coast Ave	East Bound	20	25	25	29	33
Coast Ave	West Bound	18	23	23	29	32
		ADT				
		460				
		455				

SPEED

Coast Ave W/O Island Dr

Day: Saturday
Date: 3/27/2021

City: San Marcos
Project #: CA21_040043_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	2	1	1	0	0	0	0	0	0	0	0	4
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	1	4	2	0	0	0	0	0	0	0	0	0	7
08:00	0	3	8	2	1	0	0	0	0	0	0	0	0	14
09:00	3	0	11	8	1	0	0	0	0	0	0	0	0	23
10:00	4	5	11	6	4	0	0	0	0	0	0	0	0	30
11:00	3	9	13	6	1	1	0	0	0	0	0	0	0	33
12:00 PM	0	6	5	12	2	0	0	0	0	0	0	0	0	25
13:00	4	3	16	11	3	0	0	0	0	0	0	0	0	37
14:00	2	6	17	12	1	0	0	0	0	0	0	0	0	38
15:00	0	6	5	16	3	1	0	0	0	0	0	0	0	31
16:00	1	2	16	12	2	0	0	0	0	0	0	0	0	33
17:00	0	1	9	8	1	0	0	0	0	0	0	0	0	19
18:00	1	0	5	11	3	0	0	0	0	0	0	0	0	20
19:00	1	0	4	10	5	0	0	0	0	0	0	0	0	20
20:00	0	1	3	2	3	0	0	0	0	0	0	0	0	9
21:00	0	1	2	3	0	0	0	0	0	0	0	0	0	6
22:00	0	1	3	2	2	0	0	0	0	0	0	0	0	8
23:00	0	0	2	1	2	0	0	0	0	0	0	0	0	5
Totals	19	46	138	125	35	2								365
% of Totals	5%	13%	38%	34%	10%	1%								100%

AM Volumes	10	19	51	25	8	1	0	0	0	0	0	0	0	114			
% AM	3%	5%	14%	7%	2%	0%								31%			
M Peak Hour	10:00	11:00	11:00	09:00	10:00	11:00								11:00			
Volume	4	9	13	8	4	1								33			
PM Volumes	3	27	87	100	27	1	0	0	0	0	0	0	0	251			
% PM	2%	7%	24%	27%	7%	0%								63%			
M Peak Hour	13:00	12:00	14:00	15:00	19:00	15:00								14:00			
Volume	4	6	17	16	5	1								38			
Directional Peak Periods		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes			
All Speeds		Volume	↔		%	Volume	↔		%	Volume	↔		%	Volume	↔		%
		21			6%	62			17%	52			14%	230			63%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	19	24	24	29	33	365
Coast Ave	West Bound	18	24	24	29	32	333

SPEED
Coast Ave W/O Island Dr

Day: Sunday
Date: 3/28/2021

City: San Marcos
Project #: CA21_040043_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	2	1	0	0	0	0	0	0	0	0	0	4
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	1	0	0	0	0	0	0	0	0	0	0	2
07:00	1	1	2	2	1	0	0	0	0	0	0	0	0	7
08:00	0	3	5	4	1	0	0	0	0	0	0	0	0	13
09:00	1	1	9	6	1	0	0	0	0	0	0	0	0	18
10:00	5	2	6	10	0	0	0	0	0	0	0	0	0	23
11:00	0	2	12	16	3	0	0	0	0	0	0	0	0	33
12:00 PM	1	2	7	12	3	0	0	0	0	0	0	0	0	25
13:00	3	3	5	9	3	0	0	0	0	0	0	0	0	23
14:00	1	0	10	11	1	0	0	0	0	0	0	0	0	23
15:00	0	4	6	15	3	0	0	0	0	0	0	0	0	28
16:00	1	5	15	5	2	1	0	0	0	0	0	0	0	29
17:00	0	2	10	7	1	1	0	0	0	0	0	0	0	21
18:00	1	1	6	7	2	0	0	0	0	0	0	0	0	17
19:00	1	2	6	5	0	0	1	0	0	0	0	0	0	15
20:00	0	1	2	2	0	1	0	0	0	0	0	0	0	6
21:00	0	0	5	4	0	0	0	0	0	0	0	0	0	9
22:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Totals	16	29	109	121	22	4	1							302
% of Totals	5%	10%	36%	40%	7%	1%	0%							100%

AM Volumes	8	3	37	41	7	1	0	0	0	0	0	0	0	103
% AM	3%	3%	12%	14%	2%	0%								34%
M Peak Hour	10:00	08:00	11:00	11:00	11:00	01:00								11:00
Volume	5	3	12	16	3	1								33
PM Volumes	8	20	72	80	15	3	1	0	0	0	0	0	0	193
% PM	3%	7%	24%	26%	5%	1%	0%							66%
M Peak Hour	13:00	16:00	16:00	15:00	12:00	16:00	13:00							16:00
Volume	3	5	15	15	3	1	1							29
Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes						
All Speeds		Volume 20 ↔ % 7%		Volume 48 ↔ % 16%		Volume 50 ↔ % 17%		Volume 184 ↔ % 61%						

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	20	25	24	29	33	302
Coast Ave	West Bound	18	24	24	29	32	325

SPEED

Coast Ave W/O Island Dr

Day: Monday
Date: 3/29/2021

City: San Marcos
Project #: CA21_040049_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:00	0	0	1	2	1	0	0	0	0	0	0	0	0	4
07:00	0	3	6	4	0	0	0	0	0	0	0	0	0	13
08:00	2	5	8	11	3	0	0	0	0	0	0	0	0	29
09:00	1	4	4	7	2	0	0	0	0	0	0	0	0	18
10:00	1	2	4	16	2	0	0	0	0	0	0	0	0	25
11:00	1	3	13	10	5	0	0	0	0	0	0	0	0	32
12:00 PM	0	2	2	7	2	0	0	0	0	0	0	0	0	13
13:00	2	4	12	15	4	0	0	0	0	0	0	0	0	37
14:00	2	3	14	7	1	1	0	0	0	0	0	0	0	28
15:00	0	3	9	19	2	0	1	0	0	0	0	0	0	34
16:00	1	0	10	17	5	1	0	0	0	0	0	0	0	34
17:00	0	0	9	6	4	1	0	0	0	0	0	0	0	20
18:00	0	2	12	6	2	0	0	0	0	0	0	0	0	22
19:00	0	1	5	5	1	0	0	0	0	0	0	0	0	12
20:00	0	0	3	5	2	0	0	0	0	0	0	0	0	10
21:00	0	0	1	2	0	0	0	0	0	0	0	0	0	3
22:00	0	0	3	2	0	0	0	0	0	0	0	0	0	5
23:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3
Totals	10	33	120	142	38	4	1							348
% of Totals	3%	9%	34%	41%	11%	1%	0%							100%

AM Volumes	5	18	38	50	15	1	0	0	0	0	0	0	0	127		
% AM	1%	5%	11%	14%	4%	0%								36%		
M Peak Hour	08:00	08:00	11:00	10:00	11:00	02:00								11:00		
Volume	2	5	13	16	5	1								32		
PM Volumes	5	15	82	32	23	3	1	0	0	0	0	0	0	221		
% PM	1%	4%	24%	26%	7%	1%	0%							64%		
M Peak Hour	13:00	13:00	14:00	15:00	16:00	14:00	15:00							13:00		
Volume	2	4	14	19	5	1	1							37		
Directional Peak Periods		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes		
All Speeds		Volume		%		Volume		%		Volume		%		Volume	%	
		42	↔	12%		50	↔	14%		54	↔	16%		202	↔	58%

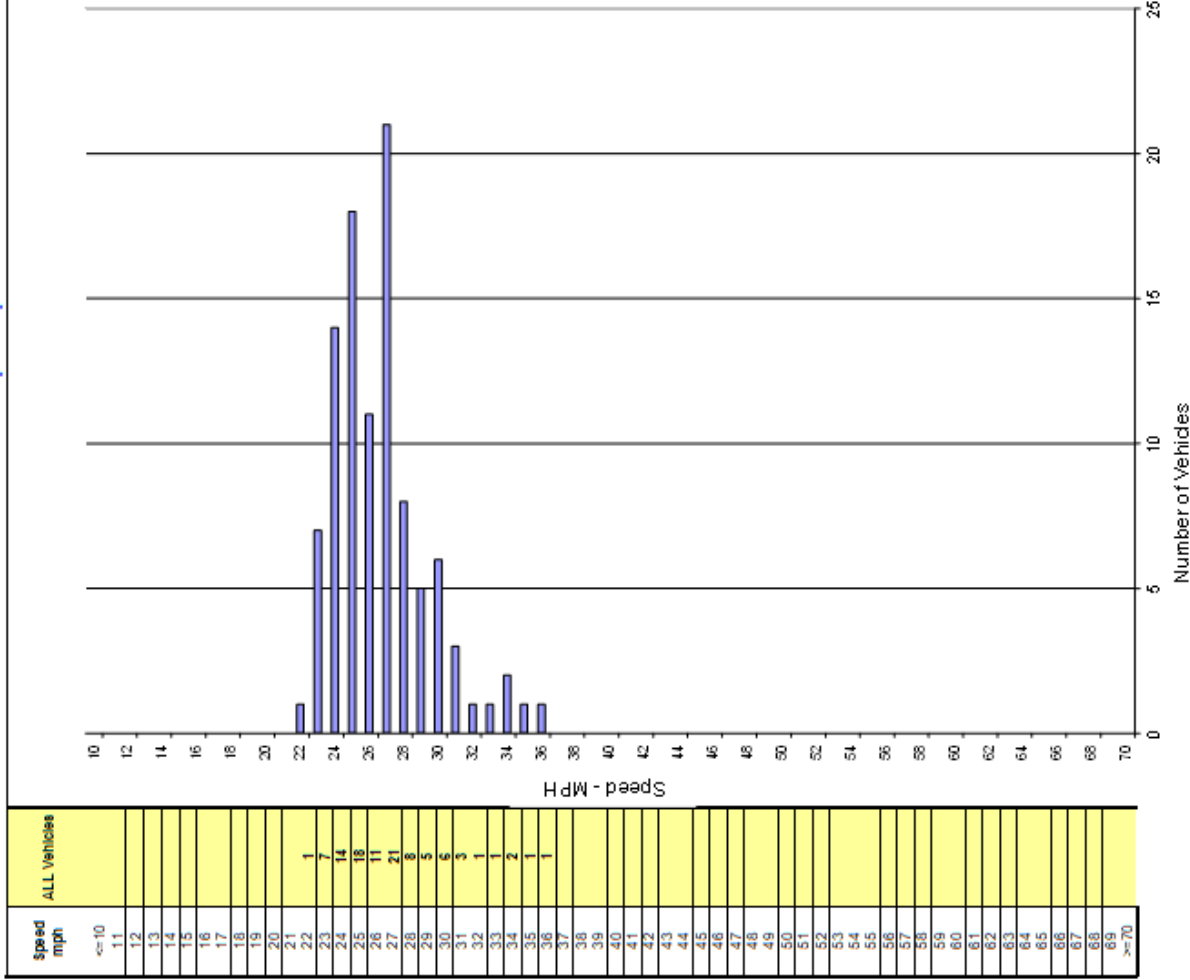
Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	20	25	25	30	33	348
Coast Ave	West Bound	19	25	25	30	33	355

Spot Speed Study

Prepared by: National Data & Surveying Services
City of San Marcos

DATE: 4/20/2021
TIME: 15:00-17:00
Location: 2138 Coast Ave
Posted Speed: 25 MPH Clear/Dry
Project #: 21-040070-001

Eastbound & Westbound Spot Speeds



Class	Count	Range	SPEED PARAMETERS				% / # Above Pace
			50th Percentile 26 mph	85th Percentile 29 mph	10 MPH Pace 22 - 31	Percent In Pace 94%	
ALL	100	22 - 36			94	0% / 0	8% / 8

SPEED

Coast Ave Bet. Island Drive & Summit Point Way

Day: Tuesday
Date: 7/7/2020

City: San Marcos
Project #: CA20_4083_003e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:00	0	0	4	0	0	0	0	0	0	0	0	0	0	4
07:00	1	3	8	1	0	0	0	0	0	0	0	0	0	13
08:00	6	7	3	2	0	0	0	0	0	0	0	0	0	18
09:00	7	12	8	1	0	0	0	0	0	0	0	0	0	28
10:00	3	9	7	1	0	0	0	0	0	0	0	0	0	20
11:00	3	10	5	4	0	0	0	0	0	0	0	0	0	22
12:00 PM	5	16	16	4	1	0	0	0	0	0	0	0	0	42
13:00	2	6	16	2	0	0	0	0	0	0	0	0	0	26
14:00	3	11	11	2	0	0	0	0	0	0	0	0	0	27
15:00	5	14	19	4	0	0	0	0	0	0	0	0	0	42
16:00	3	14	11	8	0	0	0	0	0	0	0	0	0	36
17:00	6	11	21	5	1	0	0	0	0	0	0	0	0	44
18:00	2	8	9	3	0	0	0	0	0	0	0	0	0	22
19:00	2	3	2	2	2	0	0	0	0	0	0	0	0	11
20:00	2	6	3	0	0	0	0	0	0	0	0	0	0	11
21:00	2	5	1	2	1	0	0	0	0	0	0	0	0	11
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Totals	52	138	145	43	5									383
% of Totals	14%	36%	38%	11%	1%									100%

AM Volumes	20	41	35	11	0	0	0	0	0	0	0	0	0	107
% AM	5%	11%	9%	3%										28%
AM Peak Hour	09:00	09:00	07:00	11:00										09:00
Volume	7	12	8	4										28
PM Volumes	32	97	110	32	5	0	0	0	0	0	0	0	0	276
% PM	8%	25%	29%	8%	1%									72%
PM Peak Hour	17:00	12:00	17:00	16:00	13:00									17:00
Volume	6	16	21	8	2									44
Directional Peak Periods	AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
All Speeds	Volume 31 ↔ 8%				Volume 68 ↔ 18%				Volume 80 ↔ 21%				Volume 204 ↔ 53%	

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Coast Ave	East Bound	15	20	20	25	28	383
Coast Ave	West Bound	15	19	19	24	27	367

SPEED

Island Dr Bet. Crystal Cove Way & Coast Ave

Day: Tuesday
Date: 7/7/2020

City: San Marcos
Project #: CA20_4083_001n

North Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	2	1	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	2	1	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	3	2	2	3	1	0	0	0	0	0	0	11
07:00	0	1	0	3	3	1	0	0	0	0	0	0	0	8
08:00	0	2	1	5	10	6	1	0	0	0	0	0	0	25
09:00	0	0	0	7	5	4	0	0	0	0	0	0	0	16
10:00	0	1	2	8	11	9	2	0	0	0	0	0	0	33
11:00	0	3	0	10	18	11	0	0	0	0	0	0	0	42
12:00 PM	0	1	4	6	12	5	1	1	0	0	0	0	0	30
13:00	0	2	1	7	9	12	2	0	0	0	0	0	0	33
14:00	0	1	3	8	18	7	1	0	0	0	0	0	0	38
15:00	0	0	1	10	16	10	1	0	0	0	0	0	0	38
16:00	0	1	1	8	22	14	1	0	0	0	0	0	0	47
17:00	0	3	0	9	16	5	4	1	0	0	0	0	0	38
18:00	1	1	1	3	17	5	0	0	0	0	0	0	0	28
19:00	0	2	1	5	12	5	1	1	0	0	0	0	0	27
20:00	0	1	2	5	9	0	0	0	0	0	0	0	0	17
21:00	0	1	0	8	4	4	0	0	0	0	0	0	0	17
22:00	0	0	2	5	2	2	1	1	0	0	0	0	0	13
23:00	0	0	2	2	2	0	0	0	0	0	0	0	0	6
Totals	1	20	25	113	191	104	16	4						474
% of Totals	0%	4%	5%	24%	40%	22%	3%	1%						100%

AM Volumes	0	7	7	37	52	35	4	0	0	0	0	0	0	142
% AM		1%	1%	8%	11%	7%	1%							30%
M Peak Hour		11:00	06:00	11:00	11:00	11:00	10:00							11:00
Volume		3	3	10	18	11	2							42
PM Volumes	1	13	18	76	139	69	12	4	0	0	0	0	0	332
% PM	0%	3%	4%	16%	29%	15%	3%	1%						70%
M Peak Hour	18:00	17:00	12:00	15:00	16:00	16:00	17:00	12:00						16:00
Volume	1	3	4	10	22	14	4	1						47
Directional Peak Periods	AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
All Speeds	Volume 33 ↔ % 7%				Volume 63 ↔ % 13%				Volume 85 ↔ % 18%				Volume 293 ↔ % 62%	

Street Name	Direction	Percentiles				
		15th	50th	Average	85th	95th
Island Dr	North Bound	26	32	32	38	40
Island Dr	South Bound	25	31	30	36	39
						ADT 474

Photos



White Sand Drive – Heading South from W San Marcos Blvd



White Sand Drive – Heading South at Monte Verde Monument Sign



City past use of raised Traffic Delineators (Currently Removed)
Year 2014 - White Sand Drive Looking North at Monte Verde Monument Sign



White Sands Drive Heading South before Sun Valley Road Intersection



White Sands Drive Heading South after Sun Valley Road Intersection



White Sands Drive Heading South before Sea Island Place Intersection



White Sands Drive Heading South after Sea Island Place and before Goya Place



White Sands Drive Heading South after Goya Place



White Sands Drive at Coast Avenue



Coast Avenue heading East from White Sands Drive



Coast Avenue heading East before Summit Point Way



Coast Avenue heading East at Summit Point Way



Coast Avenue heading East at Los Reyes Monument / Median



Coast Avenue heading East after Los Reyes Monument / Median



Coast Avenue heading East 300 feet from Los Reyes Monument / Median



Coast Avenue heading East 400 feet before Curve to Island Dr



Coast Avenue at Island Dr



Island Drive heading South



Island Drive before curve to S Rancho Santa Fe Rd