
AGENDA REPORT

Meeting of the San Marcos Traffic Commission

MEETING DATE: October 5, 2022
AGENDA ITEM NO: 6A
SUBMITTED BY: Peter Kuey, P.E., Principal Civil Engineer
APPROVED BY: Isaac Etchamendy, P.E., City Engineer
SUBJECT: Rancho Dorado Community – Residential Speeding Concerns

BACKGROUND:

The Rancho Dorado Neighborhood is a residential community of 276 homes located at the western edge of the City with its main entrance at White Sands Drive along San Marcos Boulevard. The Neighborhood also has a second entrance at Rancho Santa Fe Road via Island Drive. The neighborhood is primarily characterized by single family homes. The community has significant topography and thus varying roadway grades and geometry. At the center of the community is Simmons Family Park, a public park, which is accessible via Rocky Point Way and through a network of trails which crisscross the community. A depiction of the community can be seen in the attached Vicinity Map (Figure 1).

Over the years, the City has evaluated and installed street improvements in order to address community concerns.

In December of 2013, Work Order 13-39 (Reference 1), as approved by the Traffic Commission on October 13, 2013, created an all way stop at White Sands Drive and Sea Island Place.

In March of 2014 and in response to a citizen request, Work Order 14-06 (Reference 2) installed a 25 mph speed limit sign and legend on White Sands, south of San Marcos Blvd.

In December of 2014, Work Order 14-41 (Reference 3), as approved by the Traffic Commission on October 1, 2014 (Reference 4), installed traffic delineators on White Sands Drive to reduce the roadway width to eleven feet (11'). The City immediately received numerous complaints stating the narrow lane was difficult to navigate and the delineators were not aesthetically pleasing.

After a February 4, 2015 Traffic Commission meeting (References 5 and 6), the City removed the delineators and reinstalled them to allow for a thirteen foot (13') wide lane in order to improve the ability of vehicles to navigate the narrowed lanes. A post installation evaluation of the delineator installation proved to be very successful in reducing the 85th percentile speed by six (6) miles per hour (MPH). Subsequent complaints from the Homeowner's Association (HOA) board and residents were received regarding the unappealing aesthetic nature of the delineators. The City then removed the delineators and installed striping as a compromise in achieving a reduced lane width.

In 2020 and continuing into 2022, the City began investigating concerns of speeding within the Rancho Dorado community. Residents reported perceived vehicular speeding along several roadways within the Rancho Dorado community. The roadway segments indicated in the complaint were White Sands Drive between San Marcos Boulevard and Sun Valley Road, Coast Avenue between White Sands Drive and Summit Point Way, Island Drive between Coast Avenue and Rancho Santa Fe Road and Rocky Point Way.

City staff engaged with the HOA and resident stakeholders and initiated a study to evaluate if the roadways in question were experiencing speeds sufficiently over the posted speed limit to warrant traffic calming measures. The safety evaluation collected volume data, collision data, field measurements, and observations. The result of the safety evaluation determined traffic calming countermeasures were warranted in the community. The City coordinated with the HOA and resident stakeholders regarding the recommended countermeasures. The proposed countermeasures were structured in a tiered manner with low-cost/high impact countermeasures recommended first.

The proposed Tier 1 countermeasures were provided to the HOA and resident stakeholders. On October 6, 2021, City staff recommended installation of Tier 1 improvements at the regular meeting of Traffic Commission (References 7 and 8). The Tier 1 improvements included the restriping of roadways to create visual narrowing of the roadway and the installation of new speed limit signs and speed pavement markings.

At the October 6, 2021 Traffic Commission meeting, Engineering staff was directed by the Traffic Commission to collect new traffic data and include data prior to the Covid pandemic.

On April 6, 2022, Staff presented the Traffic Commission (References 9 and 10) the revised data as requested on October 6, 2021. Based on the data, there were no significant changes with the speeding. Therefore, Staff made the same recommendations as at the October 6, 2021 meeting. In addition, Staff recommended two other mitigation measures: installation of

radar feedback signage and operating them at interim periods to improve their long-term effectiveness and continue working with the Sherriff Department in order to increase enforcement. Traffic Commission adopted the recommendations as presented.

Subsequent to the April 6th Traffic Commission Meeting, it was brought to staff's attention that appropriate public noticing requirements were not met.

On May 4, 2022, this item was brought back to the Traffic Commission (References 11 and 12). Staff recommended the same mitigation measures as presented at the April 6, 2022 Traffic Commission. During the May 4th meeting, Rancho Dorado residents expressed their concerns of speeding, the need for traffic calming measures, concerns of cut-through traffic, and the community's desire to avoid striping. The Traffic Commissioners moved to rescind the April 6th approval action and requested data on Rocky Point Way, stop sign warrant analyses, avoidance of striping, and requested other Tier 1 recommendations.

Discussion:

A. Roadway Characteristics

- *Coast Avenue, between White Sands Drive and Summit Point Way:*

This roadway section is a two-lane residential street, approximately ½ mile in length. The street provides access to single family homes with parking on both sides. Typical street width on Coast Avenue measures 40 feet curb-to-curb. 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.

- *Island Drive, between Coast Avenue and Crystal Cove Way:*

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 Island Drive measures 40 feet curb-to-curb. There are no existing bicycle facilities along Island Drive. There is an 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.

- *White Sands Drive, between Emerald Sea Way and Sun Valley Road:*

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.

The 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.

- *Rocky Point Way, between Simmons Family Park and Island Drive:*

This roadway section is a two-lane residential street, approximately 800 feet in length. The street provides access to single family homes and to the Simmons Family Park. Typical street width on Rocky Point Way measures 40 feet curb-to-curb. The slope of Coast Avenue ranges from about 3.9 to 8.9 percent.

B. Speeding in General

To evaluate the speeding concerns, the City's traffic engineering consultant, CR Associates, conducted additional speed surveys along the Rancho Dorado streets listed below:

- *Coast Avenue, between White Sands Drive and Summit Point Way – from January 10, 2022, to January 16, 2022 (Attachment 1)*
- *Island Drive, between Coast Avenue and Crystal Cove Way – from January 10, 2022, to January 16, 2022 (Attachment 2)*
- *White Sands Drive, between Emerald Sea Way and Sun Valley Road – from January 10, 2022, to January 16, 2022 (Attachment 3)*
- *Rocky Point Way, between Simmons Family Park and Island Drive – from Thursday April 28, 2022, to Saturday April 30th, 2022*

The speed survey results are provided in Table 1:

Table 1 – Speed Survey Summary (2022)

	Posted or Prima Facie Speed Limit (mph)	85 th Percentile Speed (mph)		% of Vehicles @ 35+ (mph)		Traffic Calming Warranted
		EB/NB	WB/SB	EB/NB	WB/SB	
Coast Avenue	25	28.1	29.1	6.3	12.9	NO
Island Drive	25	37	38.4	63	68.7	YES
White Sands Drive	25	34.6	35.3	50.1	50.6	YES
Rocky Point Way	25	25.3	27	2.9	5.0	NO

Table 2 provides a comparison of 2020 and 2022 speed survey data shows the 85th percentile speeds along Coast Avenue, Island Drive and White Sands Drive have been consistent.

Table 2 – 2020 vs. 2022 85th Percentile Speed Comparison

Roadway	7/7/22	1/10/22-1/16-22	4/28/22 - 4/30/22
<i>Coast Avenue, between White Sands Drive and Summit Point Way</i>	29 mph	29 mph	N/A
<i>Island Drive, between Coast Avenue and Crystal Cove Way</i>	37 mph	38 mph	N/A
<i>White Sands Drive, between Emerald Sea Way and Sun Valley Road</i>	34 mph	36 mph	N/A
<i>Rocky Point Way, between Simmons Family Park and Island Drive</i>	N/A	N/A	27 mph

The speed survey data indicates traffic calming measures on Island Drive and White Sands Drive are warranted.

C. Cut-Through Traffic

On June 1, 2022, a survey (Attachment 4) was conducted to identify vehicles cutting through the Rancho Dorado neighborhood. Video cameras were installed along White Sands Drive and Island Drive. Vehicles entering White Sands Drive from West San Marcos Boulevard were tracked to see if they traveled through the neighborhood and onto Island Drive to access South Rancho Santa Fe Road. The same analysis was done for vehicles entering South Rancho Santa Fe Road traveling through the neighborhood and onto White Sands Drive to access West San Marcos Boulevard.

On average, there were 11 vehicles (5.8% of overall traffic) during the AM peak period, 17 (8.4% of overall traffic) during the PM peak period that traveled between White Sands Drive and Island Drive in both directions. During the six hours of observation, there were 1,090 vehicles along White Sands Drive and Island Drive, of which 84 (7.7% of overall traffic) vehicles traveled between White Sand Drive and Island Drive. These percentages are relatively low when compared to the overall traffic, as delivery vehicles, including those potentially from delivery services such as Uber Eats, Grub Hubs, etc., were included in the total counts. While there are no official definitions when the amount of thru traffic is considered to be “cut through”, several agencies, including the Virginia Department of Transportation¹ warrants “residential cut through” measures be implemented when at least 40% or more of the traffic within a one hour period is identified as “cut through”.

As such, the amount of cut-through traffic traveling through the Rancho Dorado community is not considered extensive enough to warrant additional treatments. It should also be noted there are extensive multi-way stop controlled intersections throughout the community, which help to increase travel time when compared to alternative routes. Additional traffic calming measures would potentially reduce the amount of cut-through traffic as well.

D. Rocky Point Way and Simmons Family Park Usage

In addition to determining the 85th percentile speed along Rocky Point Way, data obtained from the speed surveys were also analyzed to determine the amount of vehicular trips associated with the Simmons Family Park (the “Park”). Since the data collected during April 2022 included trips from both the local residential units along Rocky Point Way and the Simmons Family Park, a trip generation was conducted to determine the estimated trips associated with the Park. Table 3 displays the total daily trips as well as the anticipated trip generation for the Park. The residential trip estimation was developed based on the trip

¹ <https://www.virginiadot.org/programs/resources/CUTTHRUPOLICY.pdf>

generation rate for Single Family Detached Housing from the SANDAG's Not So Brief Guide to Vehicular Trips Generation.

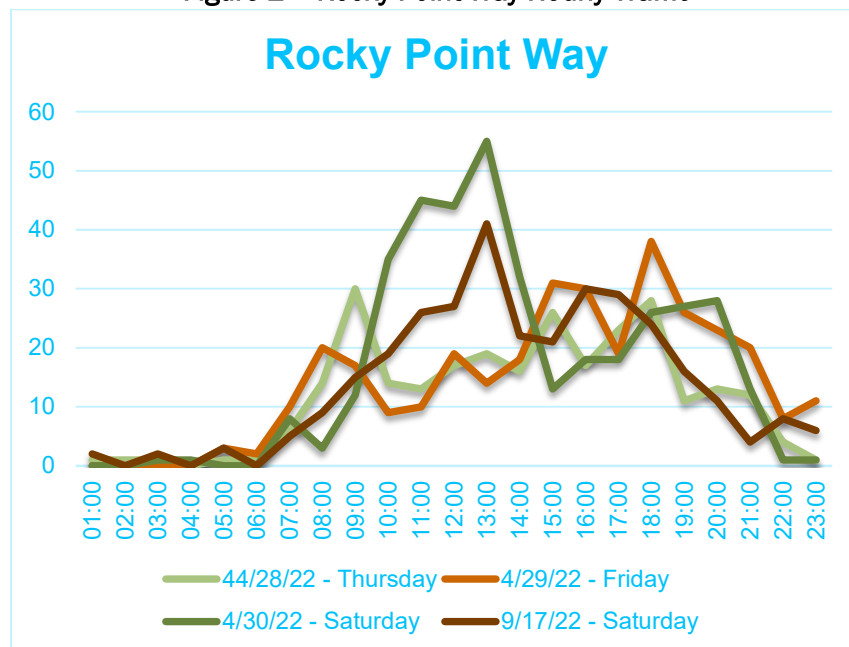
Additional data was conducted on September 17, 2022 (Attachments 5 and 6) in order to validate the trip generation associated with the Park. Data collection was conducted at both the Park driveway as well as at the eastern end of Rocky Point Way, just west of Island Drive.

Table 3 - Rocky Point Way Daily Traffic & Simmons Family Park Trip Generation

Source	4/28/2022 (Thursday)	4/29/2022 (Friday)	4/30/2022 (Saturday)	9/17/2022 (Saturday)
Daily Traffic Counts	269	328	381	311
Single Family Trips Generation - 18 dwelling units @ 10 trips per unit	180	180	180	158
Trips Associated with the Park	89	148	201	153

As shown in the table above, the theoretical trip generation associated with the park ranges from 89 daily trips (both inbound and outbound) on a Thursday, 148 trips on a Friday, and 201 trips on (Saturday) the weekend. In comparison, the September 17th actual counts show that the Park generated 153 trips on Saturday.

Figure 2 – Rocky Point Way Hourly Traffic



As shown in Figure 2, the hourly traffic along Rocky Point Way generally peaked between 7:00 AM and 9:00 AM as well as between 3:00 PM and 7:00 PM on both Thursday and Friday. This pattern is consistent with the daily commute traffic pattern, indicating most of the weekday traffic along Rocky Point Way is associated with the residents versus Park visitors.

On Saturdays, the traffic volumes along Rocky Point Way peaked between 10:00 AM and 2:00 PM. These trips are likely associated with a combination of weekend residential trips as well as park usage. This pattern indicates the weekend traffic along Rocky Point Way is evenly split between residents and Park visitors.

Due to resident’s concerns of evening usage of the Park, traffic counts at Rocky Point Way was compared to those collected at the Park Driveway. Table 4 displays the evening traffic count comparison.

Table 4 – Saturday, Sept. 17, 2022 Evening Traffic Count Comparison

Time	Rocky Point Way West of Island Dr. (Eastbound Direction)	Simmons Family Park Entrance (Eastbound Direction)
3 PM	9	4
4 PM	13	9
5 PM	15	8
6 PM	15	7
7 PM	9	4
8 PM	7	5
9 PM	1	1
10 PM	3	0
11 PM	3	0
12 AM	0	0

As shown, most of the Park traffic starts exiting the Park around 4 PM and decreases after that. The one vehicle that exits at 9 PM is associated with City staff closing the gate. Additionally, after 8 PM, there are only 7 vehicles exiting Rocky Point Way over a three-hour period, one of which is the City staff vehicle. The data presented indicates reasonable usage of a public Park, and does not indicate excessive late night activity along Rocky Point Way or at the Park.

Rocky Point Way summary,

- *The data reveals the 85th percentile speed on Rocky Point Way is within acceptable limits*
- *Park usage is heaviest during the weekend*
- *Rocky Point Way vehicular usage during the weekday is primarily residential*
- *Rocky Point Way vehicular usage during the weekend is evenly split amongst the residents and park visitors*
- *Heavy park usage during the evening does not appear to be occurring*

E. Intersection Control

The California Manual on Uniform Traffic Control Devices (CA-MUTCD) states that “YIELD or STOP signs should not be used for speed control” (Section 2B.04.05). Stop signs are intended to assign the right-of-way among motorists, pedestrians and cyclists at an intersection. The installation of a multi-way stop control is guided by Section 2B.07 of the California Manual of Uniform Traffic Control Devices (CA-MUTCD). Section 2B.07.04.C of the CA-MUTCD provides the following guidance when considering the installation of a multi-way stop control:

Minimum Volumes:

1. 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
2. The 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; but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

Based upon the minimum volumes requirements, none of the side-street stop control intersections within the Rancho Dorado community meet the minimum volume requirements. Additionally, research as well as Caltrans has indicated the installation of a multi-way stop control at unwarranted locations will create additional safety issues due to the lack of conflicting volumes. The lack of conflicting volumes would encourage unsafe behavior such as rolling stops or other traffic violations which would result in enforcement issues. Although many citizens believe that stop signs help reduce speeds on their street, numerous studies

have shown speeds are as high or higher at mid-block than those locations without stop signs. Overused of multi-way stop control may also create a false sense of safety for pedestrians.

Therefore, no additional multi-way stop controls are recommended for any of the intersections within the study area.

F. 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)

Rancho Santa Fe & Island Drive - Driver fell asleep and hit a light pole (April 2022)

Rocky Point Way - April 2022 - Drunk driver swerved and hit parked vehicles (April 2022)

There are no indications traffic calming measures are required due to accident history

G. Other Resident Complaints

During the review of the traffic concerns, the City also received outreach on several other issues. While beyond the oversight of the Traffic Commission they are provided as general context for community interactions.

In June of 2022 the HOA requested that the City consider the privatization of the roadways within the Rancho Dorado Community via their attorney. After reviewing the request and legal issues the City Manager's office issued a formal letter indicating the City did not have interest in pursuing privatization of the roadways in the community.

Over the summer several complaints came into the City regarding people accessing Simmons Family Park. Over the course of the summer the Sheriff Department coordinated with the City on the reported issues.

In July 2022 community members complained of parking duration at Simmons Family Park. The City investigated these complaints and provided parking enforcement as dictated by the Code.

H. Traffic Calming Measures

It is acknowledged the Traffic Commissioners and Rancho Dorado community desire traffic calming measures other than striping. As the speed survey data indicates, traffic calming measures are warranted on some of the Rancho Dorado streets, and striping is felt to be the most cost effective Tier 1 countermeasure that could produce tangible and lasting speed reductions. The higher than expected speeds along roadways within the Rancho Dorado community is likely due to the lack of friction along the community roadways. The roadways were designed as local roadways with parking on both sides. However, since most residents have relatively spacious driveways allowing for vehicle storage, there is a lack of parked vehicles along the roadways. This lack of street parking reduces friction, thus making the road seem wider which increases the likelihood of vehicles traveling above the speed limit. Edge striping will narrow the roadways and provide some of the friction that is currently missing.

Other Tier 1 traffic calming measures which may be considered are listed in Table 5 below. However, these options will most likely only provide temporary relief (at best) to the speeding occurring within the community and the Rancho Dorado residents will most likely ask City staff and the Traffic Commission to restudy the speeding issues in the future.

Table 5 – Tier 1 Traffic Calming Options

Tier 1 Option	Pros	Cons
Striping	<ul style="list-style-type: none"> • Cost Effective • Recommended Countermeasure by FHWA 	<ul style="list-style-type: none"> • Aesthetics • Maintenance costs
Stop Signs	<ul style="list-style-type: none"> • Low Cost • May reduce speeds within proximity of the intersection 	<ul style="list-style-type: none"> • Not recommended • Not a traffic calming measure • Intersections do not meet warrants
Yield Signs	<ul style="list-style-type: none"> • Considered at intersections 	<ul style="list-style-type: none"> • Not recommended • Not a traffic calming measure • May cause confusion on who has the right of way
Rectangular Rapid Flashing Beacons	<ul style="list-style-type: none"> • Considered at trail crossings 	<ul style="list-style-type: none"> • Not recommended • Not enough pedestrian/equestrian traffic to warrant use
Radar Feedback Signage	<ul style="list-style-type: none"> • Good education tool • Alerts driver of their operating speed which may encourage speed compliance 	<ul style="list-style-type: none"> • Duration of effectiveness is limited • May result in temporary loss of parking
Sheriff Enforcement	<ul style="list-style-type: none"> • Effective in reducing vehicle speeds 	<ul style="list-style-type: none"> • Speed reductions are temporary in nature • Resource dependent
Warning Signs	<ul style="list-style-type: none"> • Advises drivers of the speed limit 	<ul style="list-style-type: none"> • Not a regulatory sign • Potential aesthetics issues
25 mph signs and/or legends	<ul style="list-style-type: none"> • Increases driver awareness of speed limit • Low cost 	<ul style="list-style-type: none"> • Potential aesthetic issues • The sign itself is not self-enforcing
Education	<ul style="list-style-type: none"> • Brings awareness • Allows residents to express views 	<ul style="list-style-type: none"> • Limited effectiveness • Limited audience

RECOMMENDATIONS:

Based on the data, traffic calming countermeasures are warranted on a portion of the Rancho Dorado street network. Engineering staff was limited by the Traffic Commission to Tier 1 countermeasures during the May 4, 2022 Traffic Commission meeting. Therefore, Engineering staff still recommends the Traffic Commission consider implementation of the July 2021 striping plan (Attachment 7) as discussed at previous Traffic Commission meetings as a reasonable solution. Recommendations are summarized below:

1. Installation of edge line striping in the form of Class II Bicycle lands 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 intersections along the project study area to help motorists stay in lanes as they navigate through the community.
3. Installation of edge line striping to define parking lanes on White Sands Drive, Coast Avenue, Island Drive and Rocky Point Way in order to discourage speeding by narrowing the 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 25 MPH zone.
6. Install radar feedback signage and operate them at interim periods to improve their long-term effectiveness.
7. Continue to work with the Sherriff department to increase enforcement.
8. Recommend studying the effectiveness after one year of implementation and report the results.

However, in being sensitive to the Traffic Commission and community's desire to avoid striping, staff recommends only performing items No. 4-7

Figures

1. *Vicinity Map*

Attachments

1. *Speed Survey: Coast Avenue, between White Sands Drive and Summit Point Way – from January 10, 2022, to January 16, 2022*
2. *Speed Survey: Island Drive, between Coast Avenue and Crystal Cove Way – from January 10, 2022, to January 16, 2022*
3. *Speed Survey: White Sands Drive, between Emerald Sea Way and Sun Valley Road – from January 10, 2022, to January 16, 2022*
4. *Cut-Through Traffic Analysis, June 1, 2022*
5. *Traffic Counts at Simmons Family Park Entrance, September 17, 2022*
6. *Traffic Counts at Rocky Point Way, west of Island Drive, September 17, 2022*
7. *July 2021 Striping Plan*

References

1. *Work Order 13-39*
2. *Work Order 14-06*
3. *Work Order 14-41*
4. *October 1, 2014 Traffic Commission Meeting Minutes*
5. *February 4, 2015 Traffic Commission Meeting Staff Report*
6. *February 4, 2015 Traffic Commission Meeting Minutes*
7. *October 6, 2021 Traffic Commission Staff Report*
8. *October 6, 2021 Traffic Commission Meeting Minutes*
9. *April 6, 2022 Traffic Commission Staff Report*
10. *April 6, 2022 Traffic Commission Meeting Minutes*
11. *May 4, 2022 Traffic Commission Staff Report*
12. *May 4, 2022 Traffic Commission Meeting Minutes (Draft)*

Figure 1 - Vicinity Map

