



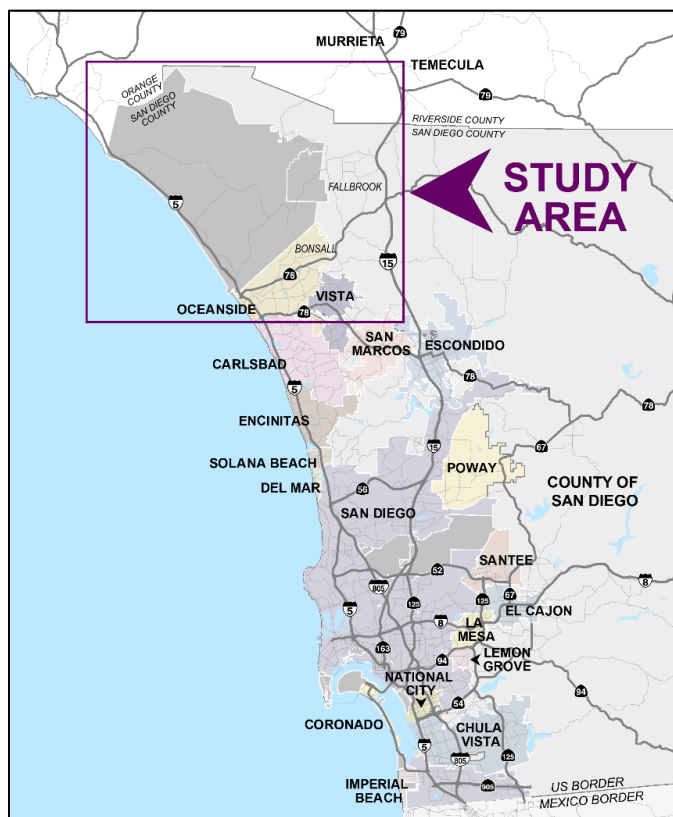
## Marine Corps Base Camp Pendleton

Marine Corps Base Camp Pendleton (Camp Pendleton) is located in North San Diego County, neighbored by the City of Oceanside to the south, the community of Fallbrook to the east, and Orange County to the north (**Figure 1**). It is the Marine Corps' largest west coast expeditionary training facility, encompassing more than 125,000 acres, and offers training facilities and specialized schools for many military employees. Camp Pendleton employs about 49,000 military personnel (**Table 1**).<sup>1</sup> However, the facility sees an average daytime population of 80,000 employees, military family members, and visitors.<sup>2</sup>

**Table 1. Camp Pendleton military personnel breakdown\***  
\*Includes civilian workers at non-DOD tenant organizations

Number of Military Personnel Employed by Camp Pendleton <sup>3</sup>	
Civilians*	5,000
Marines	40,000
Navy	4,000
<b>Total Employees</b>	<b>49,000</b>

**Figure 1. Camp Pendleton location in the region**



### Existing Connectivity

#### Freeway / Roadway Network

I-5 is a major north-south corridor that runs through Camp Pendleton (**Figure 2**). On base, military personnel in camp areas east of I-5 can access the camp areas west of I-5 by travelling on Wire Mountain Road and several private roads. Military personnel do not need to exit the base to travel between the camp areas on both sides of the I-5. I-15 is another major north-south corridor that is east of the base.

State Route 76 (SR 76) is a major east-west facility south of the base that connects I-5 and I-15. All three freeways provide access to Camp Pendleton via driving, carpooling, and vanpooling. There are several Park & Ride lots along these major corridors where commuters can meet to carpool, vanpool, or access transit services.

#### Transit

Military personnel can access Camp Pendleton via various transit services. The Oceanside Transit Center (OTC), located approximately two miles south of Camp Pendleton, is served by passenger rail, light rail, and bus service (**Figure 2**). The Amtrak, Metrolink, and NCTD COASTER are all passenger rail lines that stop at OTC. Amtrak connects major metropolitan areas along the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor; the Metrolink Commuter Rail System consists of several rail lines that connect various locations in the counties of Orange, Riverside, San Bernardino, and Los Angeles; and the COASTER connects Downtown San Diego to coastal San Diego County cities, terminating in Oceanside at OTC. Though Amtrak and Metrolink run through Camp Pendleton, there is no stop for these services on base. In addition to stopping at OTC, Amtrak and Metrolink stop three miles north of Camp Pendleton at the

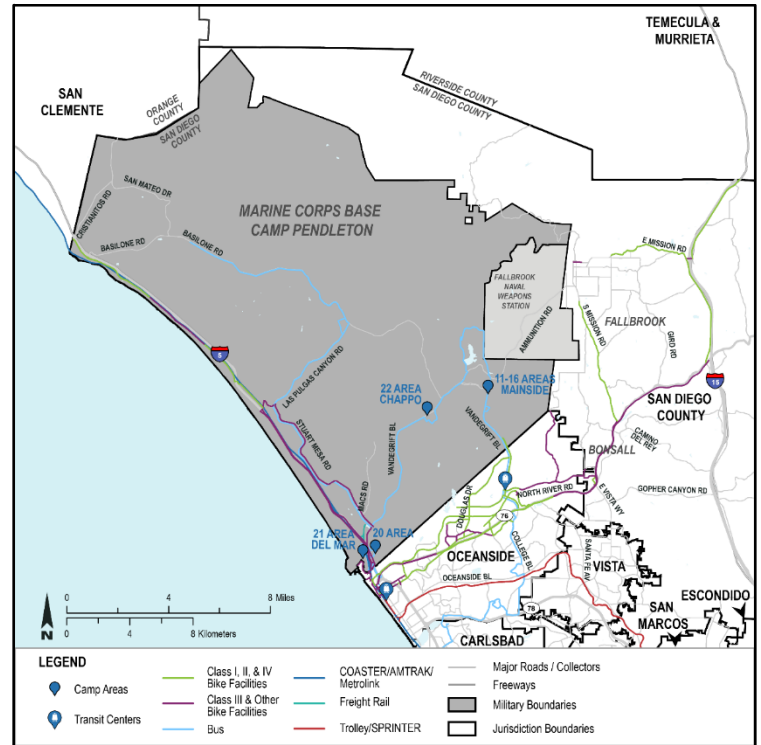
# MILITARY MULTIMODAL ACCESS STRATEGY



San Clemente Station. The NCTD SPRINTER also serves OTC. The SPRINTER is an east-west light rail that runs along the Highway 78 corridor, connecting the cities of Oceanside, Vista, San Marcos, and Escondido.

NCTD operates three transit routes (FLEX Routes 392 and 395, and BREEZE Route 315) that connect camp areas on base to each other and to transit centers in Oceanside. FLEX is an on-demand reservation service that takes passengers anywhere within the routes' FLEX zone or to the nearest transfer point for other NCTD services. FLEX Route 395 is a north-south route that connects OTC with Camp Del Mar (21 Area), Camp Los Flores (41 Area), Camp Las Pulgas (43 Area), Camp Horno (53 Area), and Camp San Onofre (52 Area). FLEX Route 392 is a north-east route that travels primarily on Vandegrift Boulevard and Coast Highway and connects OTC to 14 Area. BREEZE Route 315 is a fixed-route service that travels between Carlsbad Village Station and 14 Area on base where passengers can transfer to FLEX Route 392. The route has stops in Carlsbad, Oceanside, and Vista including the College Boulevard SPRINTER Station, San Luis Rey Transit Center, and several camp areas in Camp Pendleton.

Figure 2. Camp Pendleton existing connectivity



## Active Transportation

Bike facilities exist on the western portion of Camp Pendleton (Figure 2). There are north-south bike facilities that run along Old Pacific Highway, Las Pulgas Road, Stuart Mesa Road, and Vandegrift Boulevard. Vandegrift Boulevard, which provides access to San Luis Rey Gate, has a Class II bike lane and a posted speed limit of 50mph. This speed limit is reduced to 25mph on base. Las Pulgas Road and Stuart Mesa Road have Class III bike facilities. A mix of north-south Class I (multi-use), Class II, and Class III bike routes exist on Old Pacific Highway, which parallels the I-5. Eventually, people biking southbound must continue onto the I-5 using the freeway shoulder bike access or use the more circuitous Class III bike route on El Camino Real.

There are no other bike facilities that directly connect the surrounding jurisdictions to the base. There is also no existing bicycle network within the base to connect camp areas. Pedestrian activity is concentrated mainly within camp areas. The base is large with steep terrains and camp areas are spread out, making active transportation on base challenging.

## Mobility Programs

Camp Pendleton launched a ridesharing pilot with Lyft to improve mobility for military personnel and employees in May 2018.<sup>4</sup> Lyft developed “Base Mode” for the Marine Corps community to use within the mobile application. This mode will help increase access to Camp Pendleton by encouraging the Marine Corps community, such as marine family members to become Lyft drivers and provide rides on and off base.

# MILITARY MULTIMODAL ACCESS STRATEGY



Five North County cities (Encinitas, Del Mar, Solana Beach, Carlsbad, and Oceanside) are working together with NCTD and Camp Pendleton to have a bikeshare company run a one-year pilot program within their respective boundaries to help cover the first and last mile of trips around train stations and transit centers.

A mobility report card identifying programs and complementing infrastructure projects that support access to Camp Pendleton has been developed (**Appendix A**). Some programs have policy restrictions or contractual agreements to allow services in a military installation or City; those programs are outlined under the respective jurisdictions in the mobility report card.

## Military Personnel Commuting Patterns

Camp Pendleton has more than 38,000 military family members occupying base housing complexes.<sup>5</sup> Approximately 17,000 military family members and 18,000 single personnel live in on-base housing.<sup>6</sup> There are about 7,550 units of family housing for married personnel to live on base and 29,000 spaces in the barracks<sup>7</sup> for single personnel to live on base.<sup>8</sup>

Most of the individuals living on base use cars to get to their desired destinations on and off base. Over 60% of people living in the barracks personally own vehicles, and military families on base have two vehicles on average.<sup>9</sup> Residents of Camp Pendleton who work on base live primarily in three camp areas: 22 Area Chappo, 21 Area Del Mar, and 12-16 Areas (Mainside).<sup>10</sup> Many residents who are employed on base work in the same area that they live in. Resident workers primarily visit Mainside, followed by 32 Area Del Mar and 43 Area Las Pulgas for purposes other than work or residence.

The most frequent travel mode to other camp areas for base residents is by driving a car. Very few residents walk, bike, or take transit. Many residents are aware of the transit services to and within the base; however, a majority of residents do not use the service. Only one-quarter of base residents have used transit services. Residents whose primary work area are 22 Area Chappo (25%) and 11 Area Headquarters (23%) are more likely to be aware of and use transit services.

For off-base housing, a large portion of military employees and their families live in Oceanside, Riverside County, and central Orange County (**Table 2**). Camp Pendleton has about 12,000 military commuters.<sup>11</sup> The primary work locations of commuters living off-base are similar to residents who work on-base. Commuters primarily work at 22 Area Chappo, 21 Area Del Mar, and Mainside.<sup>12</sup> These camp areas are located near the Main, San Luis, and Fallbrook gates.

The primary commute mode for personnel living off base is driving alone (**Figure 3**). There are 526 personnel registered for 72 vanpools that go to Camp Pendleton. A popular commuting pattern is between the Temecula/Murrieta/Riverside area and Camp Pendleton, causing SR 76 and I-15 to experience more vehicular traffic. Approximately 90% of commuters arrive on Camp Pendleton between 6:30 and 8 a.m., and approximately 63% leave work between 4 and 5:30 p.m.<sup>13</sup>

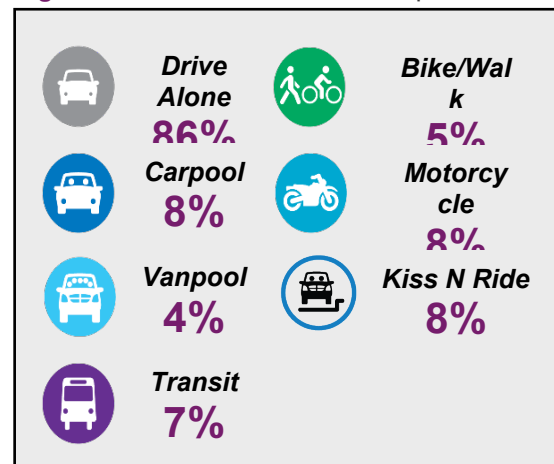
**Table 2.** Commute origin of Camp Pendleton

Commute Origin	Percent of Commuters
North San Diego County	60%
Riverside County	24%
City of San Diego	7%
Orange County	4%
Other	5%
<b>Total Responses</b>	<b>324</b>

Source: NCTD Survey, March 2012

Notes: \*Other includes other California Counties with less than 1%, out of state, and international zip codes

**Figure 3.** Commute mode to Camp Pendleton



Source: NCTD Survey, March 2012

Notes: Total of 324 Survey Responses. Other not included in percentages above. Adds to more than 100% to account for multimodal trips. Kiss N Ride stands for responses about being dropped off or picked up at a bus or train stop.

# MILITARY MULTIMODAL ACCESS STRATEGY



## BRIEFING BOOK



The cities of Carlsbad, Escondido, Fallbrook, Oceanside, San Clemente, San Marcos, Temecula, and Vista provide employment, housing, and services needed by the Camp Pendleton population. Many military employees and families rely on the surrounding communities for retail goods, institutions, and services not available on the facility. For instance, Oceanside High School has been noted as an important resource for the Camp Pendleton community as it serves as the high school for many students of military families since there is no high school on base.

### Gate Access

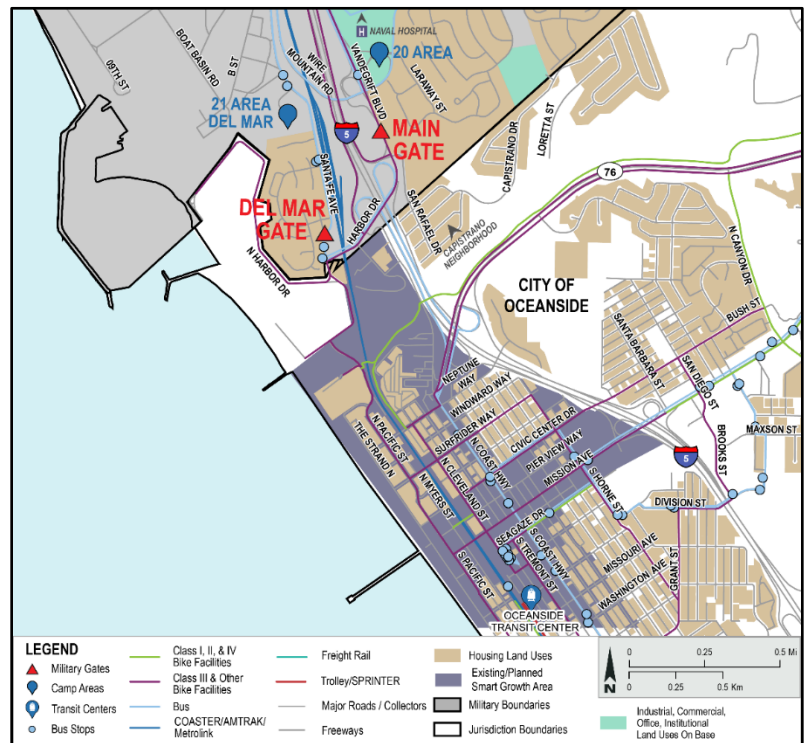
There are seven gates that provide access to Camp Pendleton. The Main, Del Mar, San Luis Rey, and Fallbrook gates provide access to the southern portion of the base. The Las Pulgas Gate provides access to central areas of the base, and the San Onofre and Cristianitos Gates provide access to the north portion of the base. The gates frequently used to enter and exit the base are the San Luis Rey, Fallbrook, and Main Gates, which will be discussed in more detail.

### Main Gate

Main Gate is located on the southwest end of Camp Pendleton along Vandegrift Boulevard, east of I-5, and north of SR 76 and the City of Oceanside (Figure 4). The gate has four inbound lanes and two outbound lanes and is open 24 hours daily.<sup>14</sup> It provides access to trucks, personal vehicles, pedestrians, and people biking. Approximately 24% of commuters enter and 20% exit Camp Pendleton using the Main Gate.<sup>15</sup>

From the gate, military personnel and visitors directly enter 20 Area, which contains destinations such as the Naval Hospital, an elementary school, and several housing areas.<sup>16</sup> People also can travel to 21 Area Del Mar by using Wire Mountain Road (an internal overpass over I-5) and 22 Area Chappo using Vandegrift Boulevard. These camp areas have been identified as some of the primary work areas for residents and commuters.<sup>17</sup>

Figure 4. Camp Pendleton Main Gate vicinity map





# MILITARY MULTIMODAL ACCESS STRATEGY



Upon exiting the gate, people can access several community facilities and resources in Oceanside such as Oceanside High School, Oceanside City Hospital, Mission Square Shopping Center, Oceanside Pier, OTC, and the downtown area.

There is no transit route that enters and exits Camp Pendleton using the Main Gate. A bike route connects Oceanside and the base via Harbor Drive and Vandegriff Boulevard. People biking can enter the base through the Main Gate. However, the gate is seen as an unattractive option for people biking due to the high traffic volume. Oceanside is making efforts to improve the connections between downtown Oceanside and Camp Pendleton.

The Main Gate experiences heavy traffic congestion and causes back-ups on Vandegriff Boulevard, Harbor Drive, and the I-5 North off-ramp during the morning commute (**Appendix B**). Vandegriff Boulevard, San Rafael Drive, and Harbor Drive experience moderate traffic congestion during the afternoon commute as people leave the gate. Queuing of vehicles at the Main Gate affects local traffic in the City of Oceanside and cut-through traffic is reported especially in the Capistrano neighborhood along San Rafael Drive.

## Del Mar Gate

The Del Mar Gate is located on the southwest end of Camp Pendleton along Santa Fe Avenue, west of I-5, and north of SR 76 and the City of Oceanside (**Figure 4**). The gate has one inbound lane and one outbound lane. It provides access to personal vehicles and pedestrians and is used by NCTD FLEX Routes 392 and 395. The gate is open weekdays from 6 a.m. to 6 p.m. However, individuals with a biometric card can access this gate 24 hours daily.<sup>18</sup> About 10% of commuters enter and 9% exit Camp Pendleton using the Del Mar Gate.<sup>19</sup>

From the gate, military personnel and visitors directly enter 21 Area Del Mar, which has several housing areas and places of work. They can travel to 20 Area using Wire Mountain Road and 22 Area Chappo using Wire Mountain Road and Vandegriff Boulevard.



Camp Pendleton construction of Vandegriff Rd (circa 1940s). Photo by Official USMC.



Main Gate at Marine Corps Base Camp Pendleton (date of photo unknown but assumed 1950s). Photo by Official USMC.



Del Mar Gate, 2011. Photo by Lance Cpl. Jon Robbart.

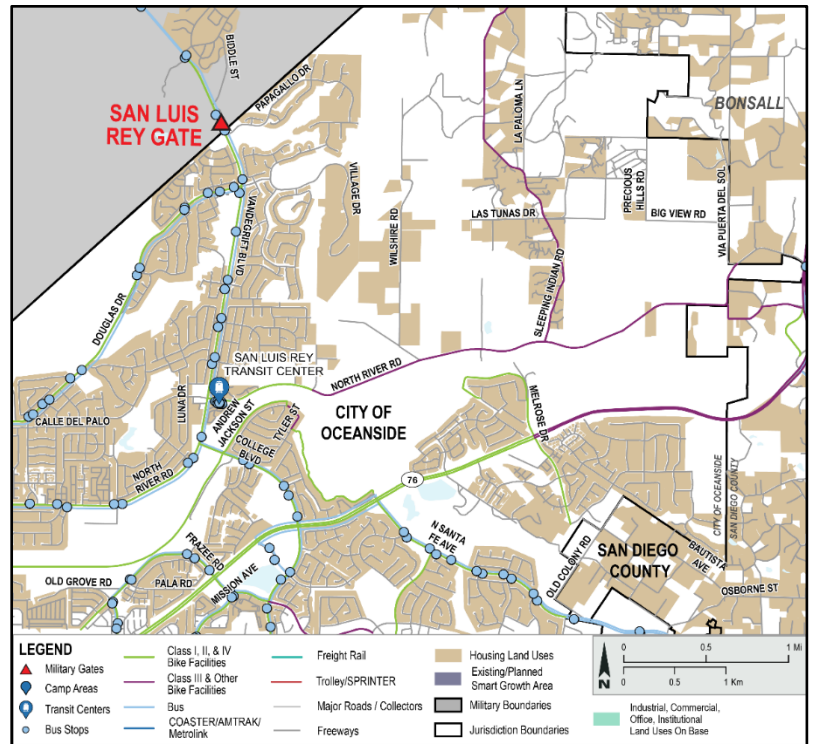


### San Luis Rey Gate

The San Luis Rey Gate is located on the southeast end of Camp Pendleton along Vandegrift Boulevard, near the intersection of Vandegrift Boulevard and Papagallo Drive (**Figure 5**). The gate has two inbound lanes and two outbound lanes and is open 24 hours daily.<sup>20</sup> It provides vehicle and pedestrian access and is used by NCTD BREEZE Route 315. It has been identified as the most used gate by commuters to enter and exit Camp Pendleton.<sup>21</sup> About 35% of commuters enter and exit the base using this gate.<sup>22</sup>

When entering the gate, people have access to Mainside and 22 Area Chappo by traveling along Vandegrift Boulevard. These camp areas provide Camp Pendleton with housing facilities, food, shopping/services, recreation, and other resources. 22 Area Chappo and Mainside also are the main work areas for many commuters and residents.<sup>23</sup> When exiting this gate, people enter Oceanside where they can access housing, elementary schools, and the San Luis Rey Transit Center.

**Figure 5.** Camp Pendleton San Luis Rey Gate vicinity map



A bike lane connects the City of Oceanside and the base through the San Luis Rey Gate via Vandegrift Boulevard.

The San Luis Rey Gate is used most by commuters coming from Fallbrook, Temecula, and Murrieta.<sup>24</sup> Due to its high usage, the San Luis Rey Gate experiences traffic back-ups during the morning commuting hours especially at the intersection of Vandegrift Boulevard and Douglas Drive (**Appendix B**). SR 76 is a major east-west corridor that connects military personnel living in inland areas to San Luis Rey Gate. This corridor experiences traffic backups going to and from the east areas. North River Road also experiences heavy traffic.



## Fallbrook Gate

Fallbrook Gate is located on the east side of Camp Pendleton along Ammunition Road, near the intersection of Mission Road and Ammunition Road (Figure 6). It is open 24 hours daily and provides vehicle and pedestrian access.<sup>25</sup> The Fallbrook gate has an additional security process as it provides direct access to the Naval Weapons Station Fallbrook. Though Fallbrook Gate is not directly near high activity areas and is under the Navy's jurisdiction, it is one of the access gates used most by commuters accessing Camp Pendleton.<sup>26</sup>

There is no transit service or bike facility that enters the base using Fallbrook Gate. The closest bus stop to this gate is a BREEZE Route 306 bus stop near the intersection of Ammunition Road and South Main Avenue. The closest bike facility is a bike lane along Mission Road that terminates at South Mission Road and Pepper Tree Lane.

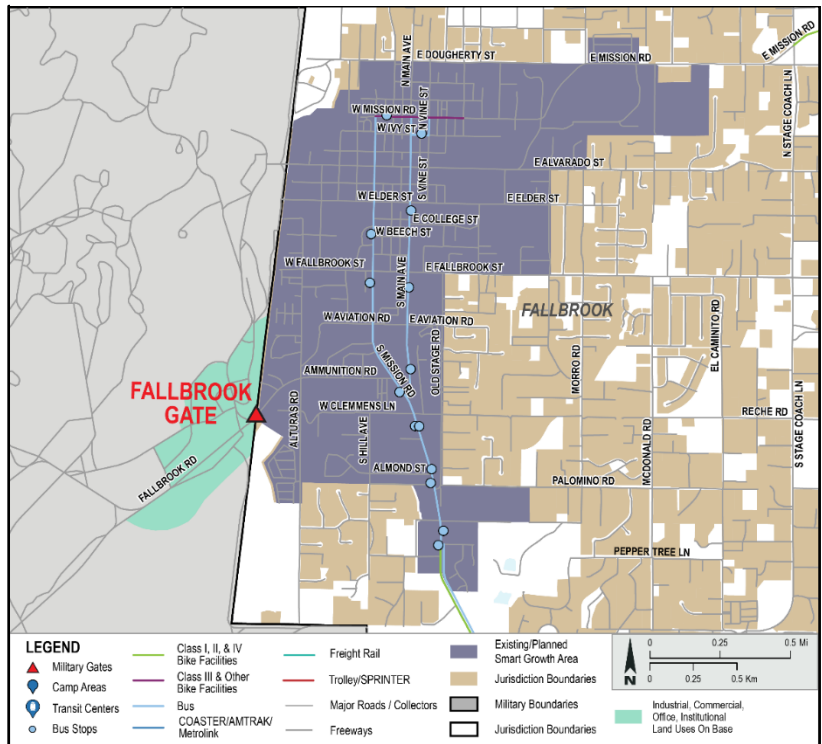
Approximately, 24% of commuters enter and 27% exit Camp Pendleton using Fallbrook Gate. The gate is heavily used by commuters living off base in the Riverside/ San Bernardino Counties, Temecula/Murrieta areas, and Fallbrook/Bonsall areas.<sup>27</sup>

There is one lane to facilitate the flow of cars entering and exiting the base via Fallbrook Gate, making the commute a very slow process. A queue of vehicles entering the base during the morning commute can back up to the intersection of Ammunition Road and South Mission Road and create heavy congestion along Alturas Road and West Aviation Road (Appendix B). During the afternoon commute, the gate traffic can create up to a three-mile back up along Ammunition Road (Appendix B). The County of San Diego has completed roadway and striping improvements leading to Fallbrook Gate to improve traffic operations and has plans to improve the pedestrian network near the gate as well, such as filling in sidewalk gaps on Ammunition Road.

## Freight/Goods Movement

I-15 and I-5 serve as major freight corridors for Camp Pendleton and the region. Goods transported to Camp Pendleton and between Camp Pendleton and other bases such as NBSD use these corridors. There is no distribution center on base. Once goods, such as ammo and food, arrive on Camp Pendleton, they are directly delivered to their final destination.

Figure 6. Camp Pendleton Fallbrook Gate vicinity map







## Summary of Challenges for Camp Pendleton

### Traffic and Regional Connectivity

- SR 76 experiences heavy traffic causing delays for commuters
- Spillover traffic into surrounding communities due to queuing at gates during peak commute periods affect freeway network and local street circulation
- Cut-through traffic on the local roadway network in Capistrano neighborhood near Main Gate; San Rafael Road is used to bypass the queue between I-5 and Main Gate
- No requirement for inbound Uber/Lyft trips to have a base-related outbound trip; concern that the increased utilization of transportation network companies will lead to more vehicles on local roads

### Mobility

- Limited resources for expediting security clearance or adding lanes at existing gates
- Security clearance requirements present challenges for transportation network company operations
- Camp Pendleton is geographically large, contains steep slopes, and has camp areas spread out throughout the base which constrains access options
- Unpredictability of delay at access gates makes it difficult for NCTD to create a reliable timetable for routes
- Bikeshare is planned for transit stations but are not permitted on NCTD buses
- Only 39% of Camp Pendleton commuters are aware of Department of Defense Transportation Incentive Program (TIP)
- NCTD requires updates to internal routing software (Trapeze) to provide more flexibility in dynamic services
- Declining transit ridership has led NCTD to reduce service to the base
- Current ridership serves mostly non-federal employees who are not eligible for TIP
- Lack of carshare service available for internal circulation.
- Shuttle system for internal trips difficult to justify as internal trips are often about moving goods, not people
- Limited fleet to support supply transport resulting in military employees using their personal vehicles to help transport goods
- Electric vehicles are seen as not a realistic option to transport supplies due to base's steep terrain

### Other

- According to California Office of Traffic Safety (OTS), in 2015, the most recent study year, Oceanside had 107 related motorcycle accidents, the highest recorded among the 56 California cities in its population group<sup>28</sup>
- City of Oceanside is bordered by Camp Pendleton to the north which is a secure facility limiting potential evacuation paths in case of an emergency
- Main Gate is difficult to navigate for bicyclists
- Limited stakeholder coordination, input, and data collection for long-range planning needs (population, jobs, housing, mobility, planned development) related to Camp Pendleton



# MILITARY MULTIMODAL ACCESS STRATEGY



BRIEFING BOOK



## Relevant Projects & Programs

Existing Planned Projects & Programs Relevant to Marine Corps Camp Pendleton					
Facility	Project Extents	Improvement Type	Subcategory	Project Improvement	Source
Coastal Rail Trail	Oceanside Boulevard to Morse St.	Active	Pedestrian/ Bicycle	Prepare an Environmental Impact Report for Coastal Rail Trail Project, a two-way pedestrian and bicycle path	Oceanside Capital Improvement Program (CIP) (2017)
Coastal Rail Trail	Oceanside Boulevard to Morse St.	Active	Pedestrian/ Bicycle	Prepare an Environmental Impact Report for Coastal Rail Trail Project, a two-way pedestrian and bicycle path	Oceanside Capital Improvement Program (2017)
I-5/ SR-78	South to East and West to South	Freeway	Connector	Freeway connector	SANDAG Regional Plan (2015)
I-5/ SR-78	South to East and West to South	Freeway	Connector	Freeway connector	SANDAG Regional Plan (2015)
I-5	Vandegrift Blvd to Orange County	Freeway	Lanes	Add four toll lanes (8F to 8F + 4T)	SANDAG Regional Plan (2015)
I-5	Manchester Ave to SR 78	Freeway	Lanes	Phase I: Add two managed lanes (8F to 8F + 2ML)	SANDAG Regional Plan (2015)
I-5	Manchester Ave to SR 78	Freeway	Lanes	Phase II: Add two managed lanes (8F + 2ML to 8F + 4ML)	SANDAG Regional Plan (2015)
I-5	SR 78 to Vandegrift Blvd	Freeway	Lanes	Phase I: Add two managed lanes (8F to 8F + 2ML)	SANDAG Regional Plan (2015)
I-5	SR 78 to Vandegrift Blvd	Freeway	Lanes	Phase II: Add two managed lanes (8F + 2ML to 8F + 4ML)	SANDAG Regional Plan (2015)
SR 78	I-5 to I-15	Freeway	Lanes	Add two managed lanes (6F to 6F + 2ML)	SANDAG Regional Plan (2015)
I-5	Vandegrift Blvd to Orange County	Freeway	Lanes	Add four toll lanes (8F to 8F + 4T)	SANDAG Regional Plan (2015)
I-5	Manchester Ave to SR 78	Freeway	Lanes	Phase I: Add two managed lanes (8F to 8F + 2ML)	SANDAG Regional Plan (2015)
I-5	Manchester Ave to SR 78	Freeway	Lanes	Phase II: Add two managed lanes (8F + 2ML to 8F + 4ML)	SANDAG Regional Plan (2015)
I-5	SR 78 to Vandegrift Blvd	Freeway	Lanes	Phase I: Add two managed lanes (8F to 8F + 2ML)	SANDAG Regional Plan (2015)

# MILITARY MULTIMODAL ACCESS STRATEGY



Existing Planned Projects & Programs Relevant to Marine Corps Camp Pendleton					
Facility	Project Extents	Improvement Type	Subcategory	Project Improvement	Source
I-5	SR 78 to Vandegrift Blvd	Freeway	Lanes	Phase II: Add two managed lanes (8F + 2ML to 8F + 4ML)	SANDAG Regional Plan (2015)
SR 78	I-5 to I-15	Freeway	Lanes	Add two managed lanes (6F to 6F + 2ML)	SANDAG Regional Plan (2015)
I-15	SR78 to Riverside County	Freeway	Lanes	Add four toll lanes (8F to 8F + 4T)	SANDAG Regional Plan (2015)
Douglas Drive	Westport Drive to Festival Drive	Roadway	Medians	Median Improvements	Oceanside Capital Improvement Program (2017)
Douglas Drive	Westport Drive to Festival Drive	Roadway	Medians	Median Improvements	Oceanside Capital Improvement Program (2017)
Route 398	Oceanside Transit Center to Downtown San Diego	Transit	Coaster	Double tracking (20-minute peak frequencies and 120-minute off-peak frequencies)	SANDAG Regional Plan (2015)
Route 398	Oceanside Transit Center to Downtown San Diego	Transit	Coaster	Double tracking (20-minute off-peak frequencies, grade separations at Leucadia Blvd, stations/platforms at Convention Center/Gaslamp Quarter and Del Mar Fairgrounds, and extension to Camp Pendleton)	SANDAG Regional Plan (2015)
Route 398	Oceanside Transit Center to Downtown San Diego	Transit	Coaster	Double tracking (completes double tracking; includes Del Mar Tunnel) plus 2 grade separations)	SANDAG Regional Plan (2015)
Route 398	Oceanside Transit Center to Downtown San Diego	Transit	Coaster	Double tracking (20-minute peak frequencies and 120-minute off-peak frequencies)	SANDAG Regional Plan (2015)
Route 398	Oceanside Transit Center to Downtown San Diego	Transit	Coaster	Double tracking (20-minute off-peak frequencies, grade separations at Leucadia Blvd, stations/platforms at Convention Center/Gaslamp Quarter and Del Mar Fairgrounds, and extension to Camp Pendleton)	SANDAG Regional Plan (2015)
Route 398	Oceanside Transit Center to Downtown San Diego	Transit	Coaster	Double tracking (completes double tracking; includes Del Mar Tunnel) plus 2 grade separations)	SANDAG Regional Plan (2015)

# MILITARY MULTIMODAL ACCESS STRATEGY



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Existing Planned Projects & Programs Relevant to Marine Corps Camp Pendleton					
Facility	Project Extents	Improvement Type	Subcategory	Project Improvement	Source
Route 474	Oceanside to Vista	Transit	<i>Rapid</i>	Connection from Oceanside to Vista via Mission Ave/ Santa Fe Rd Corridor	SANDAG Regional Plan (2015)
Route 477	Camp Pendleton to Carlsbad Village	Transit	<i>Rapid</i>	Connection from Camp Pendleton to Carlsbad Village via College Blvd, Plaza Camino Real	SANDAG Regional Plan (2015)
Route 474	Oceanside to Vista	Transit	<i>Rapid</i>	Connection from Oceanside to Vista via Mission Ave/Santa Fe Rd Corridor	SANDAG Regional Plan (2015)
Route 477	Camp Pendleton to Carlsbad Village	Transit	<i>Rapid</i>	Connection from Camp Pendleton to Carlsbad Village via College Blvd, Plaza Camino Real	SANDAG Regional Plan (2015)
Route 399	Oceanside to Escondido	Transit	Sprinter	SPRINTER efficiency improvements (20-minute frequencies by 2025); double tracking Oceanside to Escondido for 10-minute frequencies and six rail grade separations at El Camino Real, Melrose Dr, Vista Village Dr/Main St, North Dr, Civic Center, Auto Pkwy and Mission Ave	SANDAG Regional Plan (2015)
Route 399	Branch Extension to Westfield North County	Transit	Sprinter	Branch Extension to Westfield North County	SANDAG Regional Plan (2015)
Route 588	Oceanside to Escondido	Transit	Sprinter	Sprinter Express	SANDAG Regional Plan (2015)
Route 399	Oceanside to Escondido	Transit	Sprinter	SPRINTER efficiency improvements (20-minute frequencies by 2025); double tracking Oceanside to Escondido for 10-minute frequencies and six rail grade separations at El Camino Real, Melrose Dr, Vista Village Dr/Main St, North Dr, Civic Center, Auto Pkwy and Mission Ave	SANDAG Regional Plan (2015)
Route 399	Branch Extension to Westfield North County	Transit	Sprinter	Branch Extension to Westfield North County	SANDAG Regional Plan (2015)

C = Conventional Highway  
F = Freeway

ML = Managed Lanes  
T = Toll Road

R = Reversible Lanes  
OPS = Operational Improvements





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- 4 <http://www.mccscp.com/lyft>
- 5 <https://www.pendleton.marines.mil/>
- 6 The Future of Mobility. (Newell, 2017)
- 7 Billeting spaces are the bachelor enlisted quarters. Also known as barracks.
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- 9 Rea & Parker Research. (2012) Camp Pendleton Survey Report: Transportation Behavior and Attitudes about Transit)
- 10 <http://www.mccscp.com/maps/>
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- 18 <https://www.dodhousingnetwork.com/marines/camp-pendleton/gates>
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- 28 [https://www.ots.ca.gov/Media\\_and\\_Research/Rankings/default.asp](https://www.ots.ca.gov/Media_and_Research/Rankings/default.asp)

## Appendices

- Appendix A.** Marine Corps Camp Pendleton Mobility Report Card
- Appendix B.** Google Traffic Maps



# MILITARY MULTIMODAL ACCESS STRATEGY




























BRIEFING BOOK



## Appendix A.

### Marine Corps Camp Pendleton Mobility Report Card

**Mobility Report Card  
Marine Corps Camp Pendleton**

Mobility Options		Supportive Programs/Infrastructure		Related Infrastructure Project Types	
		On Base	City of Oceanside		
	<b>Walking/Biking</b>	<ul style="list-style-type: none"> <li>• Walkable within camp areas; not between camp areas</li> <li>• No existing bike network connecting camp areas</li> <li>• Steep terrain</li> </ul>	<ul style="list-style-type: none"> <li>• Substantial sidewalks and low speed limits in Downtown</li> <li>• Class II bike lanes on Vandegrift Blvd. (50 mph) to access San Luis Rey Gate</li> <li>• Mix of Class I, II, and III bike facilities on Old Pacific Hwy</li> <li>• Class III bike facilities on Las Pulgas Rd. &amp; Stuart Mesa Rd.</li> </ul>		Active Transportation
	<b>Public Transit</b>	<ul style="list-style-type: none"> <li>• NCTD BREEZE Route 315</li> <li>• No passenger rail access on base</li> </ul>	<ul style="list-style-type: none"> <li>• NCTD BREEZE Route 315</li> <li>• Amtrak, Metrolink, COASTER, and SPRINTER services at Oceanside Transit Center</li> </ul>		Transit Infrastructure
	<b>Microtransit</b>	<ul style="list-style-type: none"> <li>• NCTD FLEX Routes 392 and 395</li> <li>• Internal shuttle mostly used for goods movement</li> </ul>	<ul style="list-style-type: none"> <li>• NCTD FLEX Routes 392 and 395</li> </ul>		Local Roads
	<b>Carpool &amp; Vanpool</b>	<ul style="list-style-type: none"> <li>• Vanpool subsidy with TIPS</li> <li>• SANDAG iCommute Vanpool Program</li> <li>• No designated parking spaces for carpool or vanpool</li> </ul>	<ul style="list-style-type: none"> <li>• No existing High Occupancy Vehicle lanes on I-5 North from SR-52 to Oceanside or on SR-78</li> </ul>	 	Freeway Network Parking
	<b>Carshare</b>	<ul style="list-style-type: none"> <li>• Limited government fleet</li> </ul>	<ul style="list-style-type: none"> <li>• No current programs</li> </ul>		Parking
	<b>On-Demand Rideshare</b>	<ul style="list-style-type: none"> <li>• Waze Carpool</li> <li>• Lyft with Security Clearance</li> </ul>	<ul style="list-style-type: none"> <li>• Waze Carpool</li> <li>• Uber, Lyft</li> </ul>	 	Local Roads Curbside Designation
	<b>Bikeshare</b>	<ul style="list-style-type: none"> <li>• No current programs</li> </ul>	<ul style="list-style-type: none"> <li>• No current programs</li> <li>• Bikeshare not permitted on NCTD buses</li> </ul>	 	Active Transportation Local Roads
	<b>Electric Bike &amp; Scootershare</b>	<ul style="list-style-type: none"> <li>• No current programs</li> </ul>	<ul style="list-style-type: none"> <li>• No current programs</li> </ul>	 	Active Transportation Local Roads
	<b>Neighborhood Electric Vehicle (NEV)</b>	<ul style="list-style-type: none"> <li>• No current programs</li> </ul>	<ul style="list-style-type: none"> <li>• No current programs</li> </ul>	 	Active Transportation Local Roads
	<b>Other</b>	<ul style="list-style-type: none"> <li>• High supply of parking on base</li> </ul>	<ul style="list-style-type: none"> <li>• Limited street parking close to base</li> <li>• Bluetooth Travel-time Origin And Destination (BlueTOAD) technology along Pacific Coast Hwy</li> <li>• Smart Growth Opportunity Area: Downtown Oceanside</li> </ul>	 	Parking Transit Infrastructure





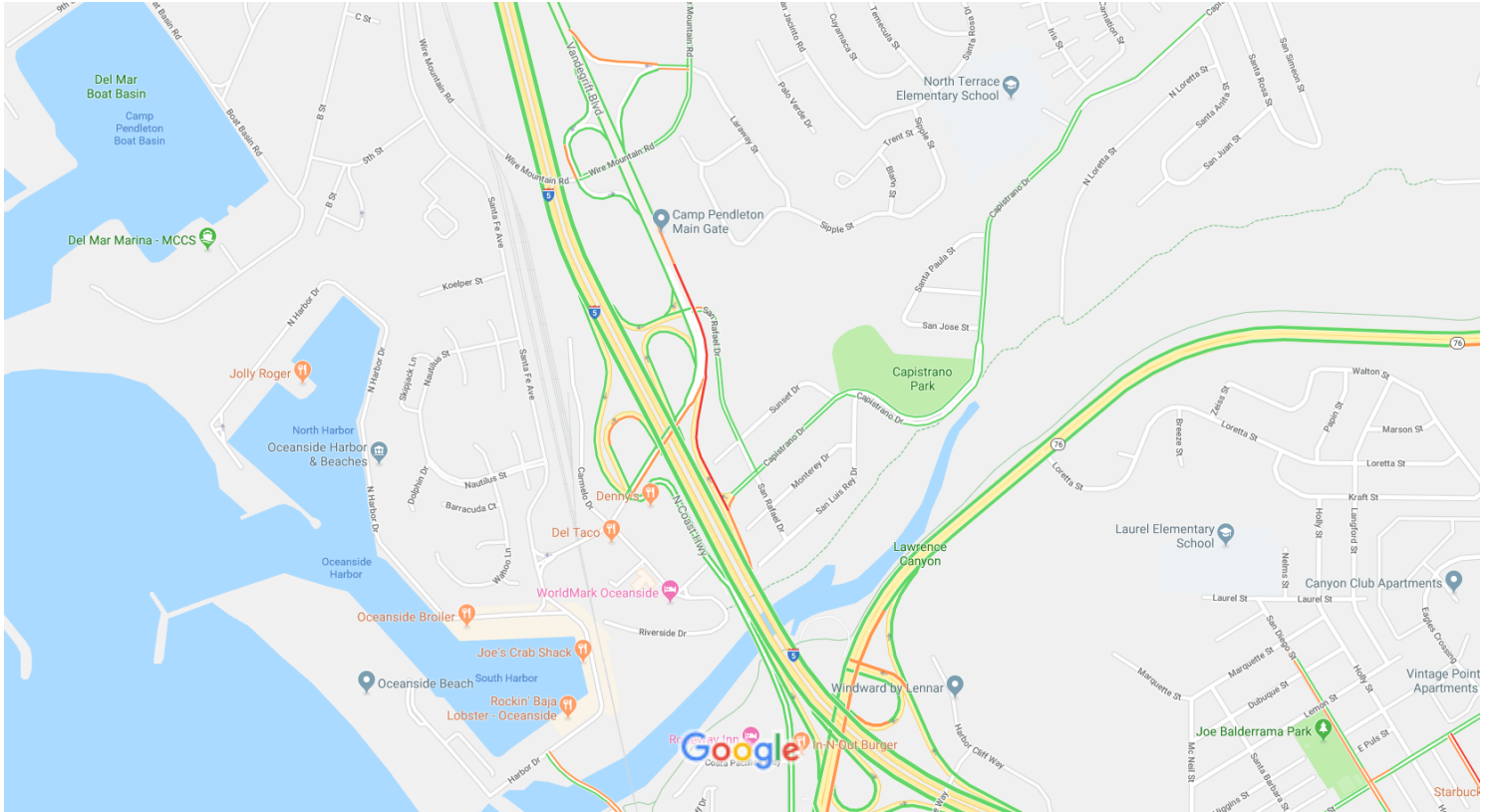
# MILITARY MULTIMODAL ACCESS STRATEGY



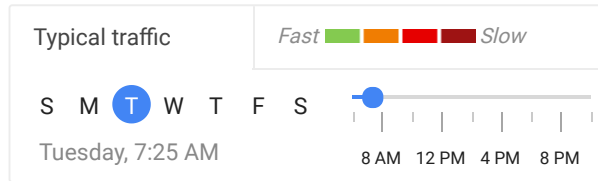
BRIEFING BOOK

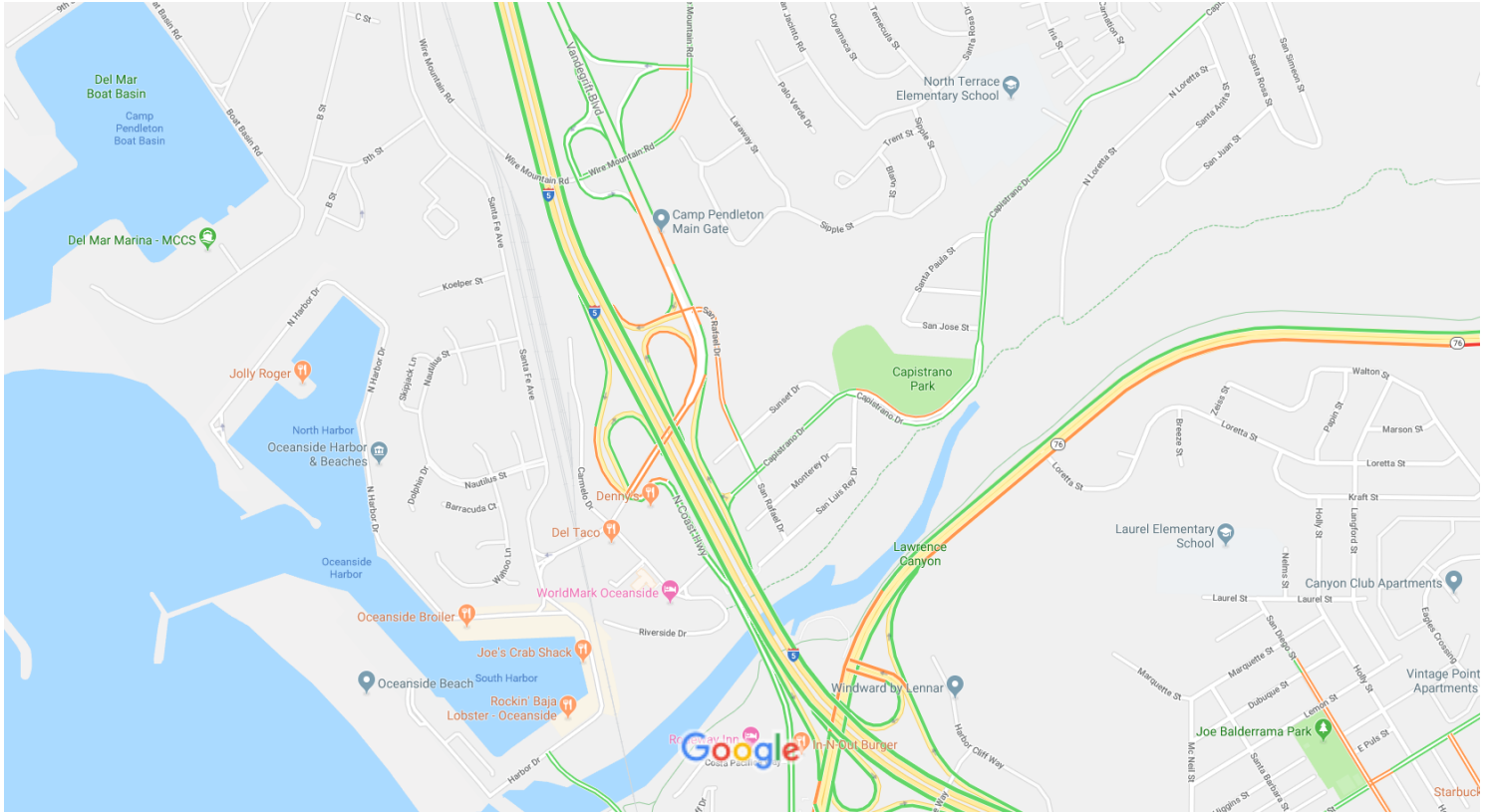


## Appendix B. Google Traffic Maps

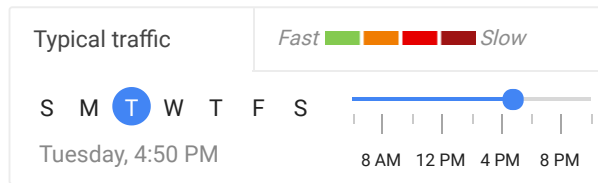


Map data ©2018 Google 500 ft

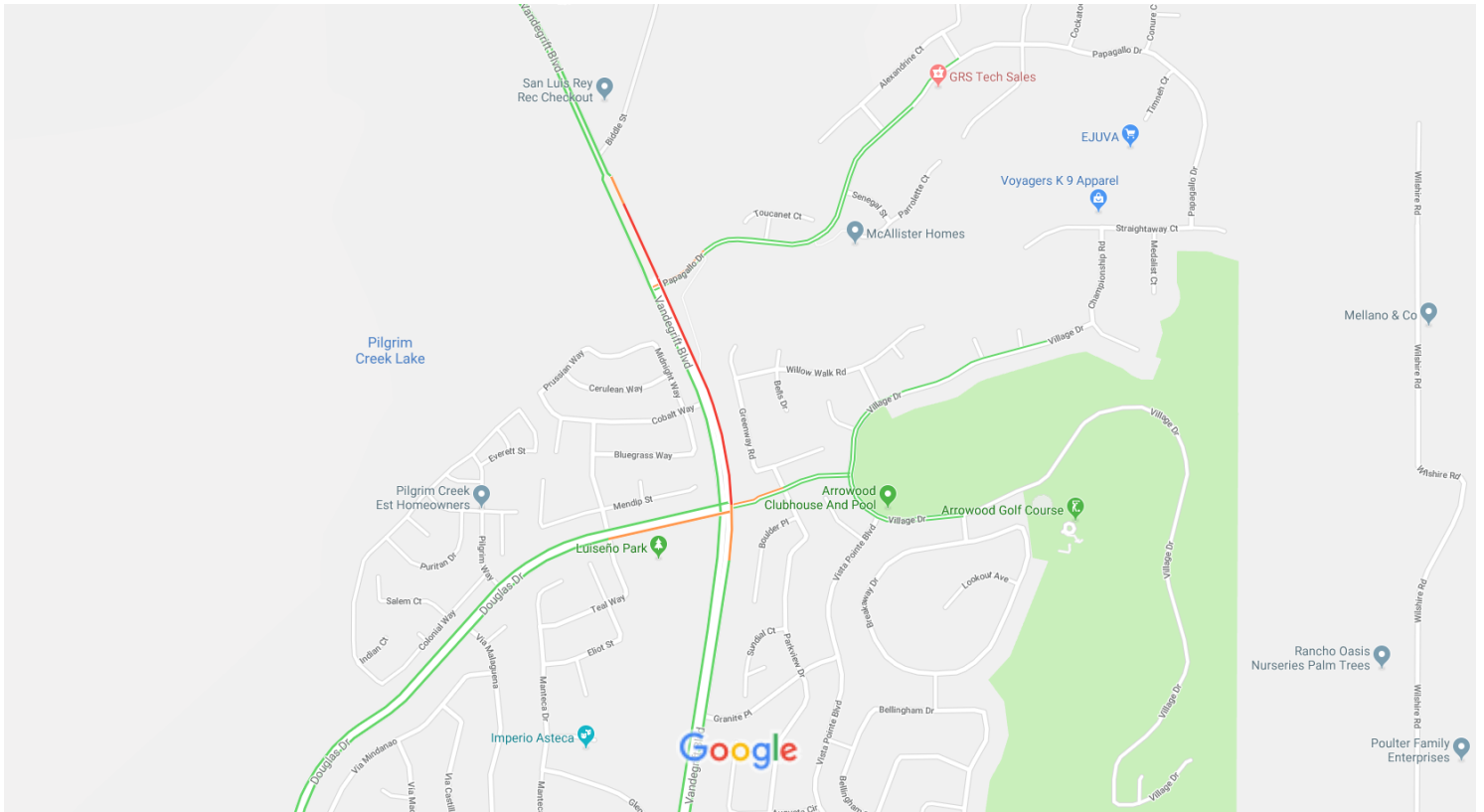




Map data ©2018 Google 500 ft







Map data ©2018 Google 500 ft

Typical traffic

Fast Slow

S M **T** W T F S

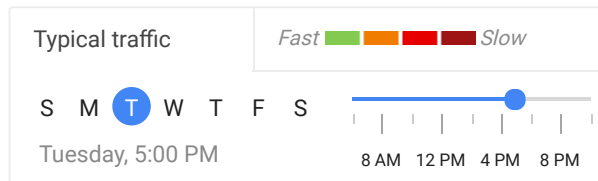
Tuesday, 7:10 AM

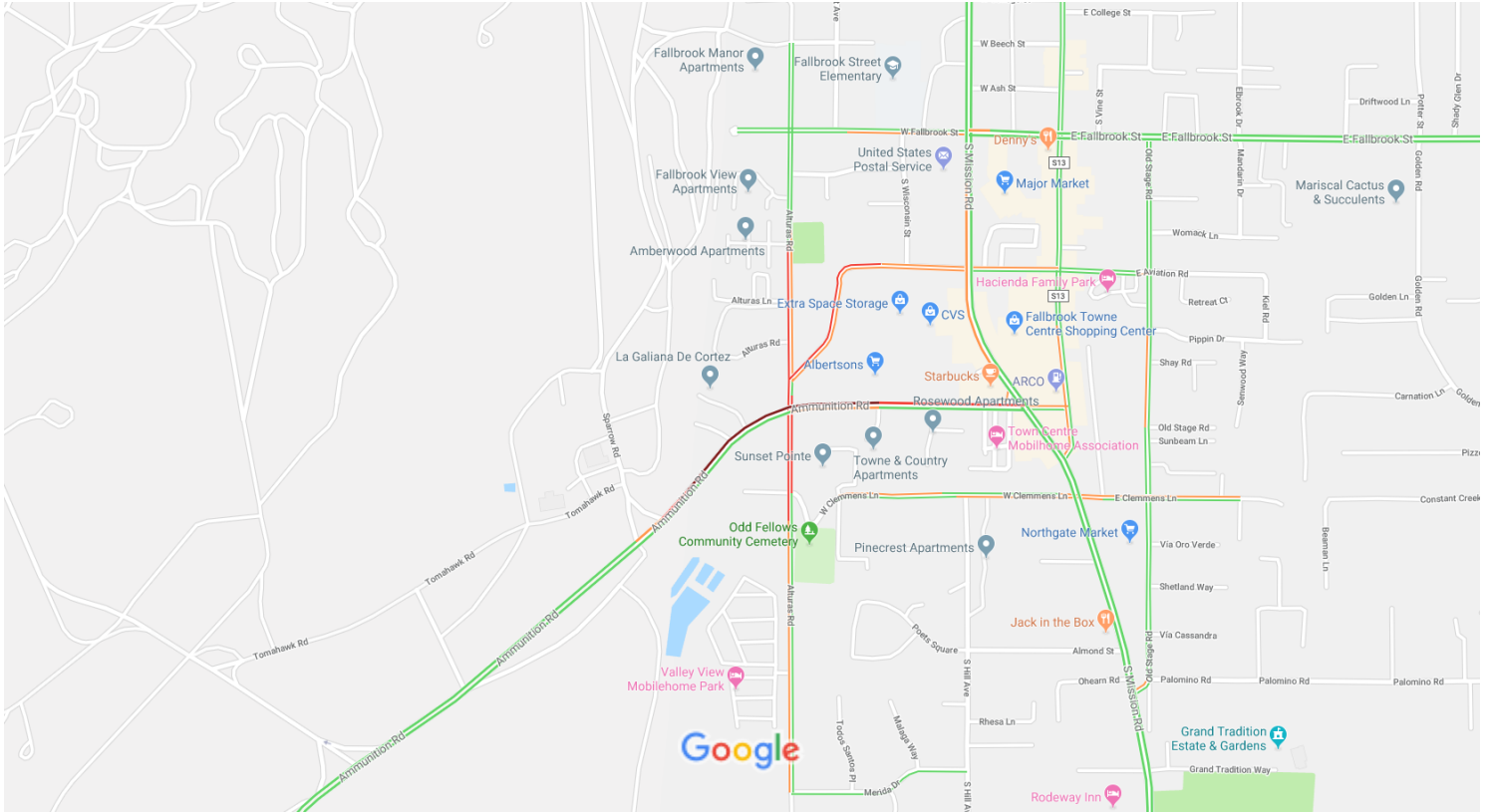
8 AM 12 PM 4 PM 8 PM

The traffic control panel shows a slider for the day of the week, with 'T' (Tuesday) selected. Below the day indicator, a time slider is set to 7:10 AM. A color-coded bar above the slider indicates traffic speed, with green representing fast, yellow representing moderate, and red representing slow. The slider is currently positioned over the green section, indicating fast traffic conditions.



Map data ©2018 Google 2000 ft





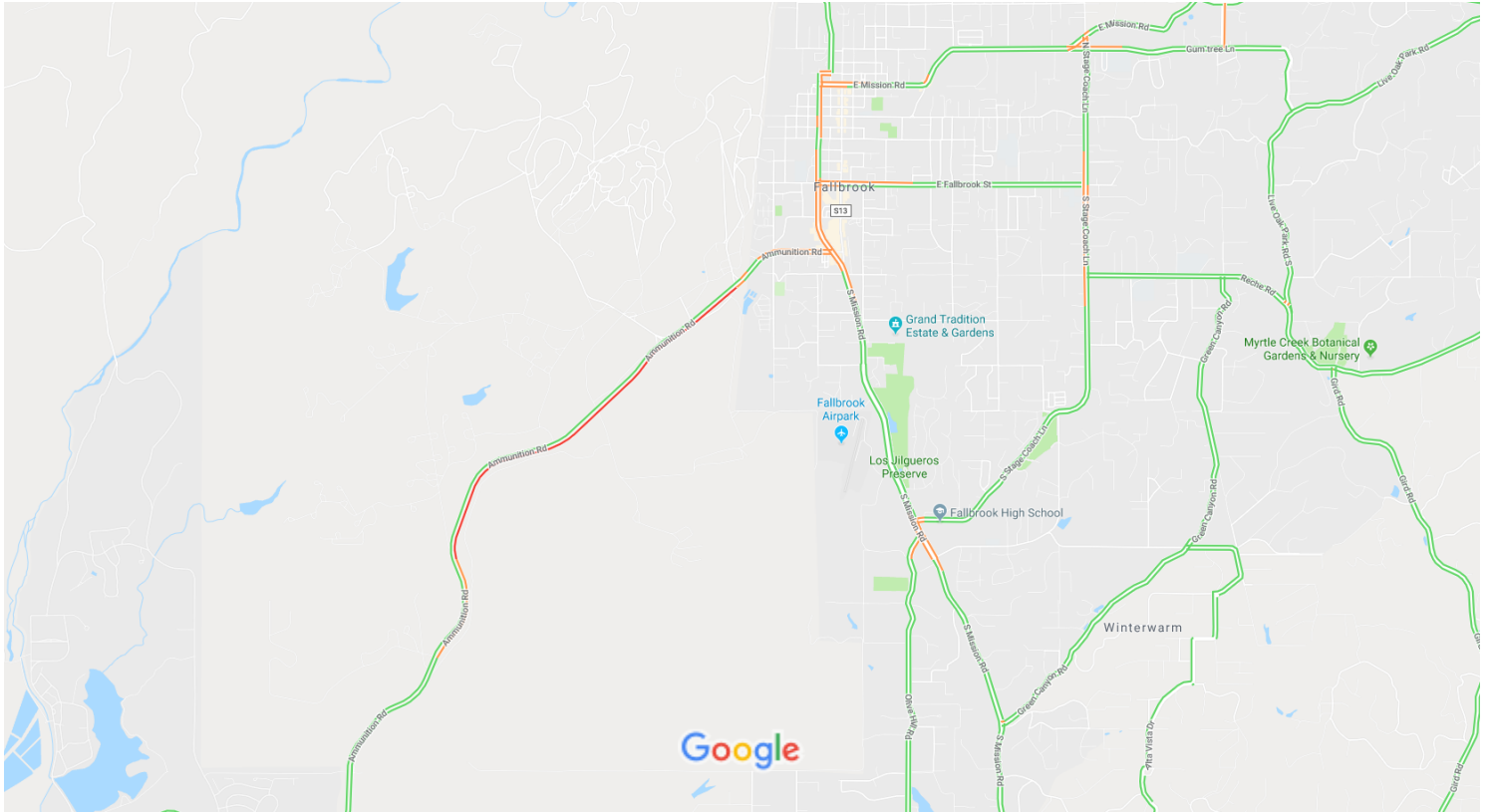
Map data ©2018 Google 500 ft

Typical traffic Fast Slow

S M T W **T** F S

Thursday, 6:40 AM 8 AM 12 PM 4 PM 8 PM





Map data ©2018 Google 2000 ft

Typical traffic

Fast Slow

S M **T** W T F S

Tuesday, 5:05 PM

8 AM 12 PM 4 PM 8 PM