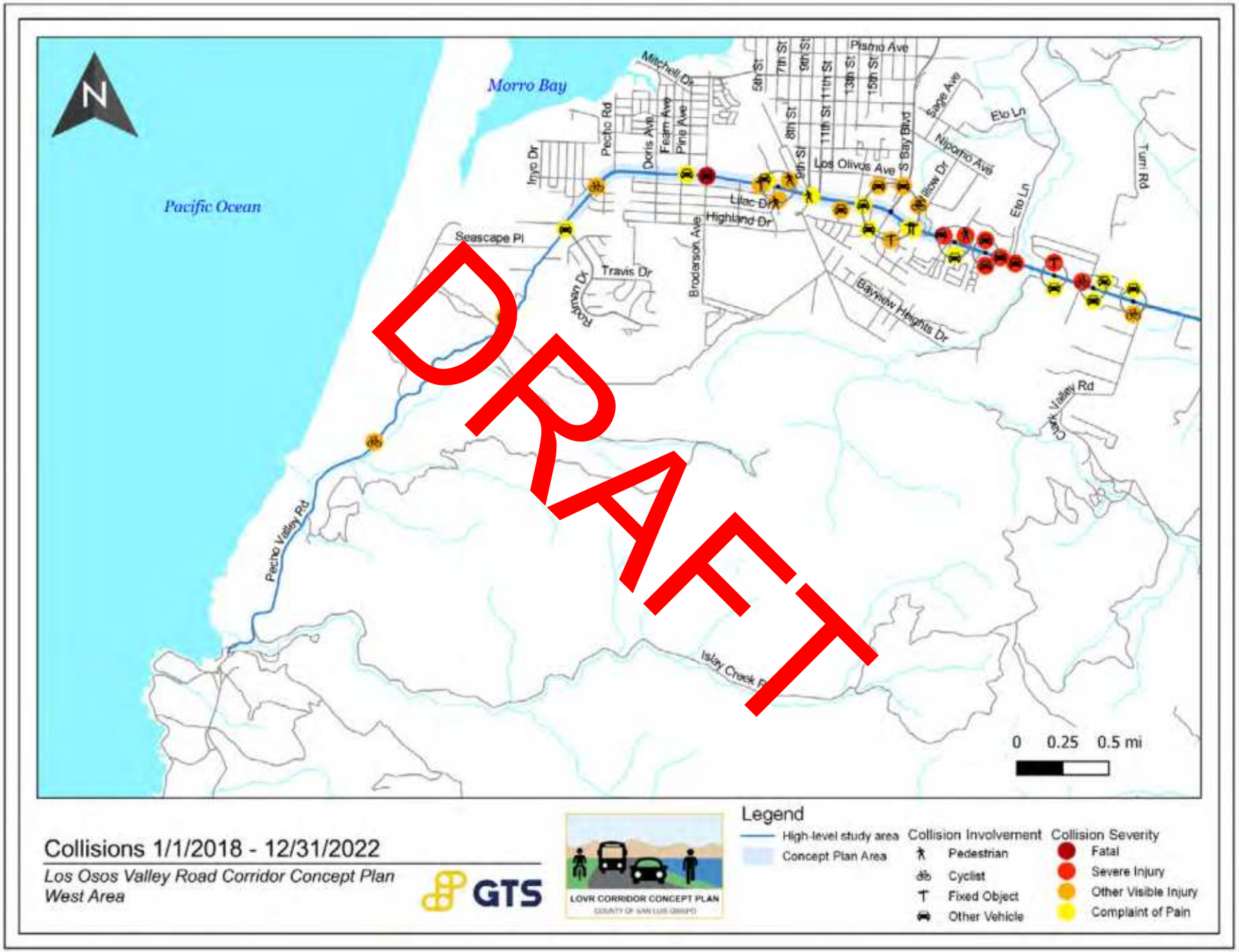


Exhibit 20. Collision map: western part of the study area

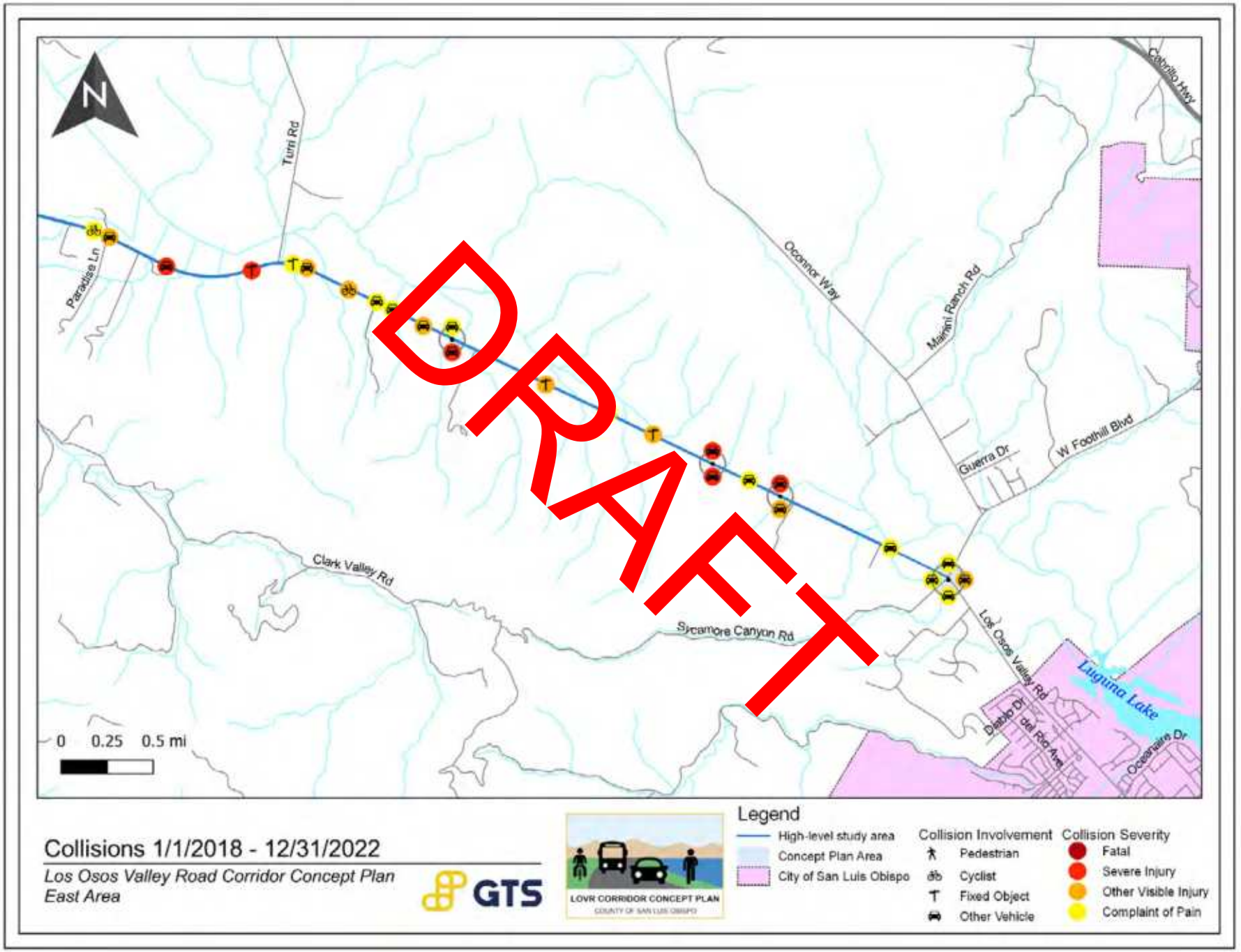


Exhibit 21. Collision map: eastern part of the study area

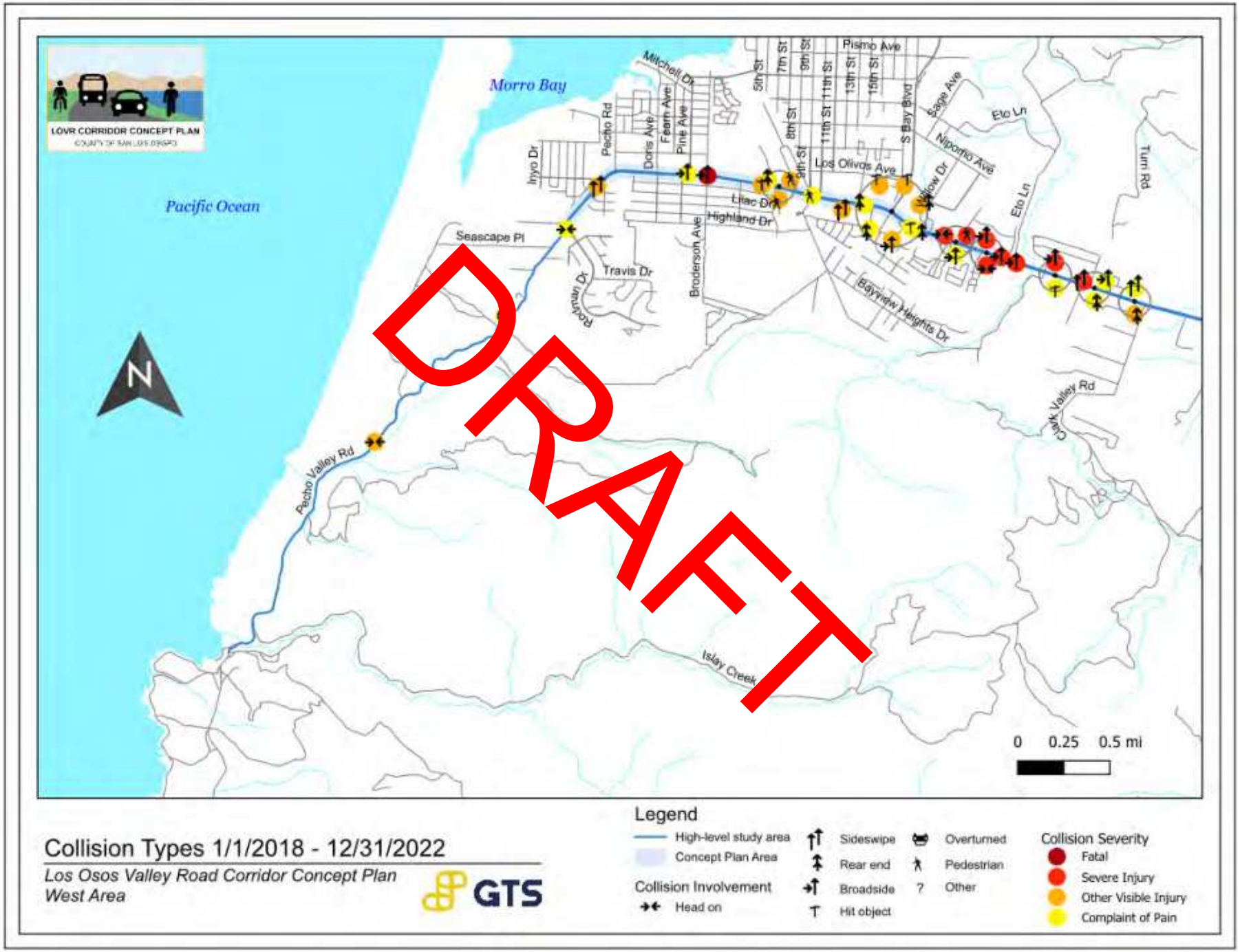


Exhibit 22. Collision types: eastern part of the study area

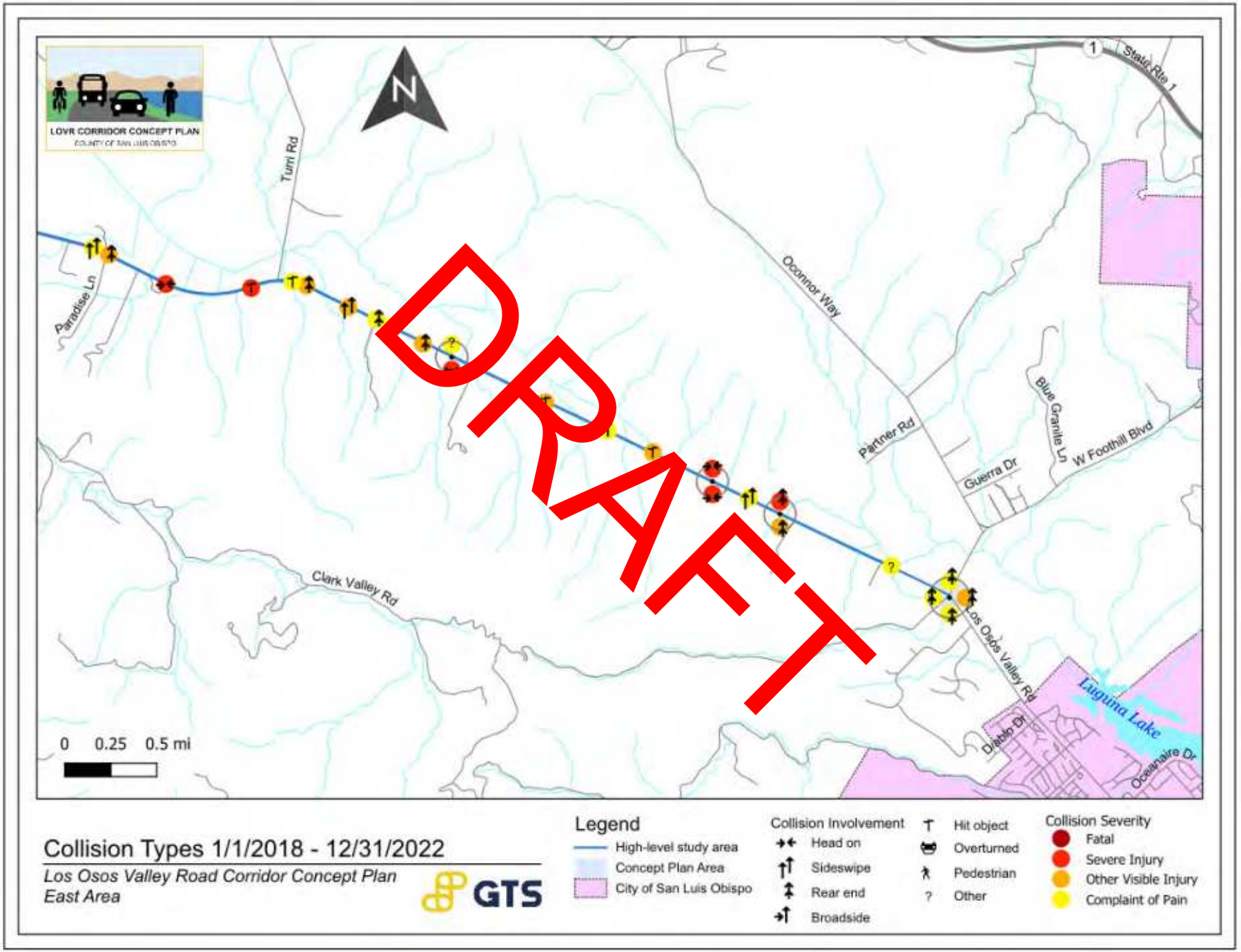


Exhibit 23. Collision types: western part of the study area

5.6. Traffic Volumes

Average Daily Traffic (ADT) and turning movement counts (TMC) were conducted along the corridor on typical weekdays and Saturdays in late September and early October 2023.

24-hour ADT counts were collected on two typical weekdays and one Saturday for the following 6 locations:

1. Between Seascape Place and Rodman Drive
2. West of Doris Avenue
3. Between Doris Avenue and 9th Street
4. Between Sunset Drive and Fairchild Way
5. West of Clark Valley Road
6. Approximately 2 miles west of Foothill Boulevard

Weekday ADT varied by location, from 1,760 daily weekday vehicles and 2,164 daily weekend vehicles at location ADT1 to 15,309 daily weekday vehicles and 11,693 daily weekend vehicles at ADT5. Daily traffic volumes immediately west of the Los Osos business district ADT3) were around 60% of those in the business district (ADT4 and ADT5). ADT figures are summarized in Exhibit 23a.

	Tuesday			Wednesday		
ADT Count Location	Eastbound	Westbound	**Combined (both directions)**	Eastbound	Westbound	**Combined (both directions)**
1	819	814	**1633**	944	942	**1886**
2	2550	2643	**5193**	2690	2766	**5456**
3	4594	4516	**9110**	4769	4772	**9541**
4	7360	7353	**14713**	7567	7545	**15112**
5	7142	8002	**15144**	7277	8197	**15474**
6	7297	7522	**14819**	7281	7580	**14861**

	Weekday Average			Saturday		
ADT Count Location	Eastbound	Westbound	**Combined (both directions)**	Eastbound	Westbound	**Combined (both directions)**
1	882	878	**1760**	1084	1080	**2164**
2	2620	2704.5	**5325**	2880	2867	**5747**
3	4682	4644	**9326**	4310	4309	**8619**
4	7464	7449	**14913**	6885	6554	**13439**
5	7210	8099.5	**15309**	5648	6045	**11693**
6	7289	7551	**14840**	5870	6062	**11932**

Exhibit 23a. Average Daily Traffic Counts

Turning movement counts were collected on a typical weekday, from 7:00 to 9:00 AM, 1:30 to 3:30 PM, and 4:00 – 6:00 PM, for the following 15 locations:

1. LOVR at Foothill Boulevard (signalized 4-way intersection with left turn lanes for both directions on LOVR, right turn lane for westbound LOVR, crosswalks on north and east legs)
2. LOVR at Turri Road (unsignalized T-intersection with turn lanes for both directions on LOVR)
3. LOVR at South Bay Boulevard (signalized 4-way intersection with left turn lanes for both directions on LOVR, right turn lane for westbound LOVR, crosswalks on north, south, and west legs)
4. LOVR at Fairchild Way (unsignalized 4-way intersection with left turn lane for westbound LOVR, two-way left turn lane on the west side of the intersection, RRFB crosswalk on west leg, crosswalk on north leg, south leg is parking lot entrance)
5. LOVR at Sunset Drive (unsignalized 4-way intersection with two-way left turn lanes on LOVR, RRFB crosswalk on west leg, crosswalk on south leg, north leg is parking lot entrance)
6. LOVR at 10th Street (signalized T-intersection with left turn lane for eastbound LOVR and two-way left turn lane on the east side of the intersection; crosswalks on north and east legs of intersection)
7. LOVR at 9th Street (signalized 4-way intersection with left turn lanes for both directions on LOVR and right turn lane for westbound LOVR; crosswalks on all legs of intersection)
8. LOVR at Palisades Avenue (signalized 4-way intersection with left turn lanes for both directions on LOVR and right turn lane for westbound LOVR; crosswalks on all legs of intersection)
9. LOVR at Ravenna Avenue (unsignalized T-intersection with no turn lanes)
10. LOVR at Broderson Avenue (unsignalized T-intersection with no turn lanes)
11. LOVR at Pine Avenue (unsignalized T-intersection with two-way left turn lane)
12. LOVR at Alexander Avenue (unsignalized T-intersection with school crosswalk and left turn lane for westbound LOVR)
13. LOVR at Doris Avenue (signalized 4-way intersection with left turn lanes for both directions on LOVR; crosswalks on all legs of intersection)
14. LOVR/PVR at Pecho Road (unsignalized T-intersection with turn lanes for both directions on PVR/LOVR)
15. PVR at Monarch Lane (unsignalized T-intersection with turn lanes for both directions on PVR)

Exhibit 24. ADT1 (PVR between Seascape Place and Ro[illegible]Drive) traffic volumes

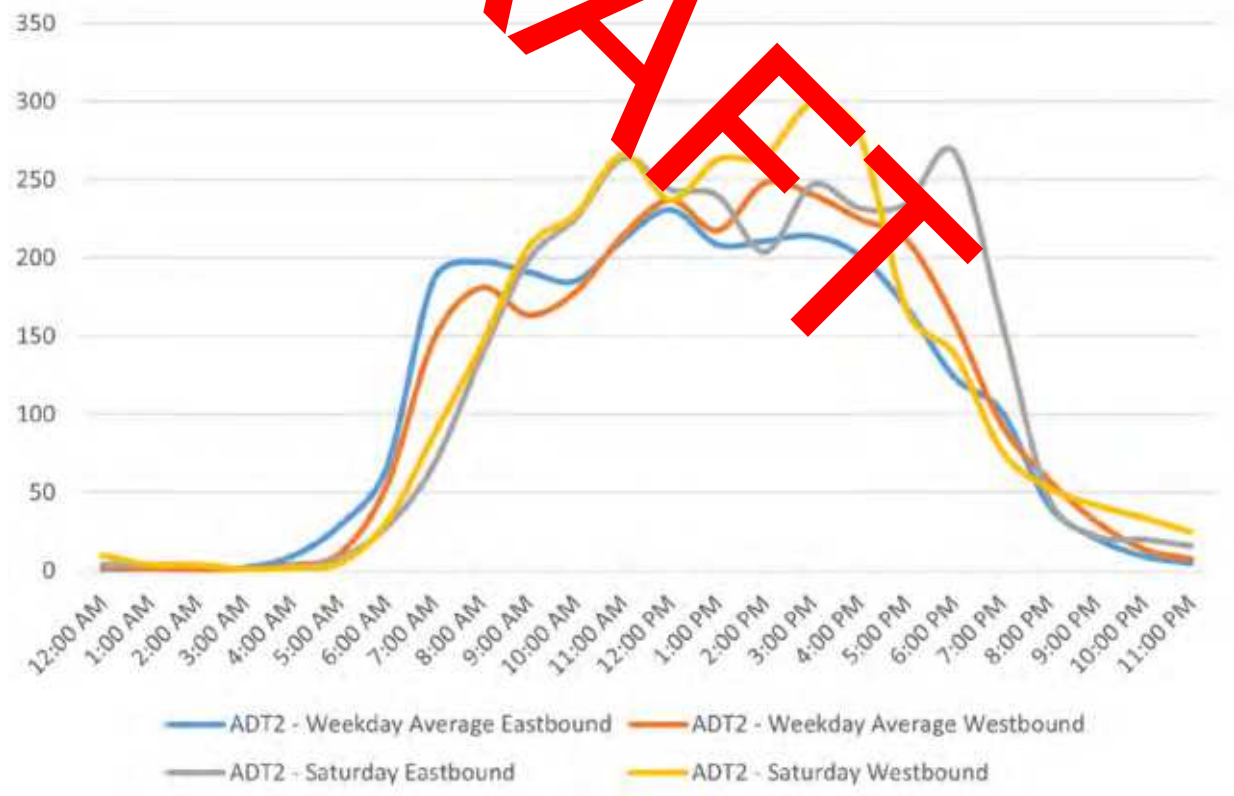


Exhibit 26. ADT2 (LOVR west of Doris Avenue) traffic volumes

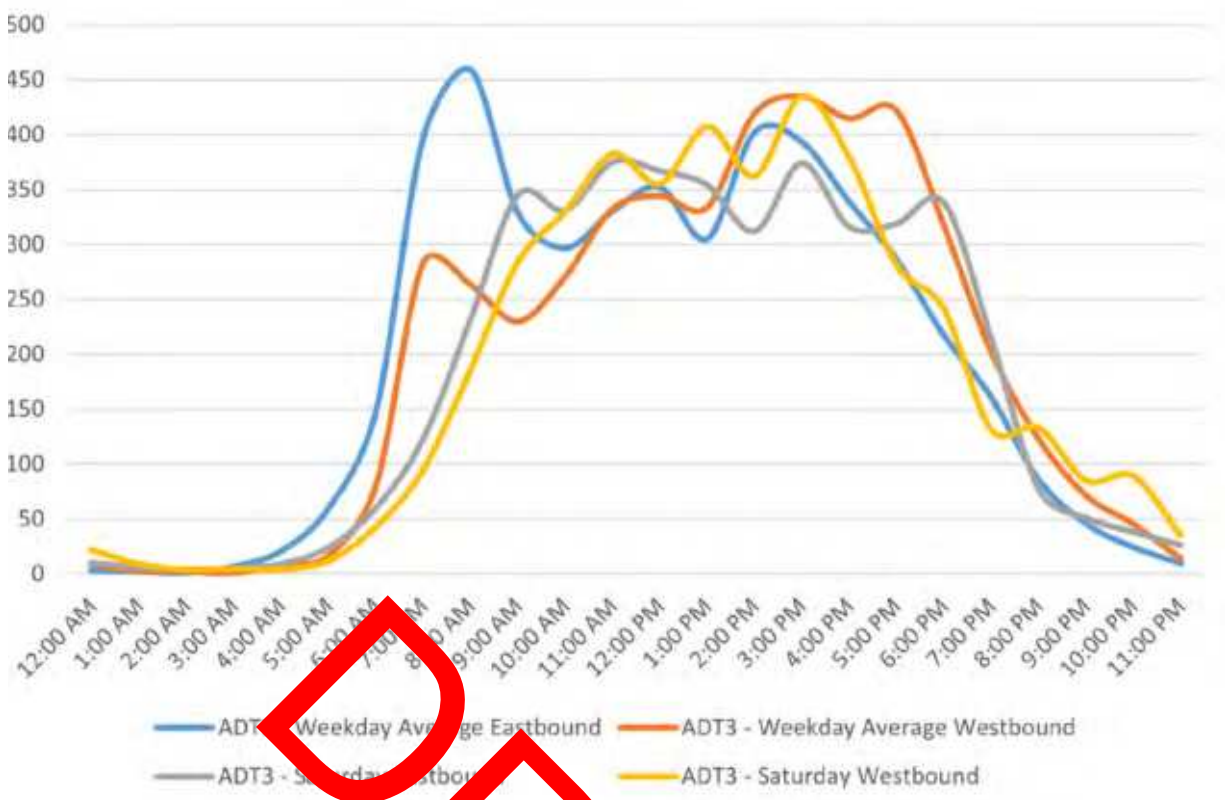


Exhibit 28. ADT3 (LOVR between Doris Avenue and 9th Street traffic volumes

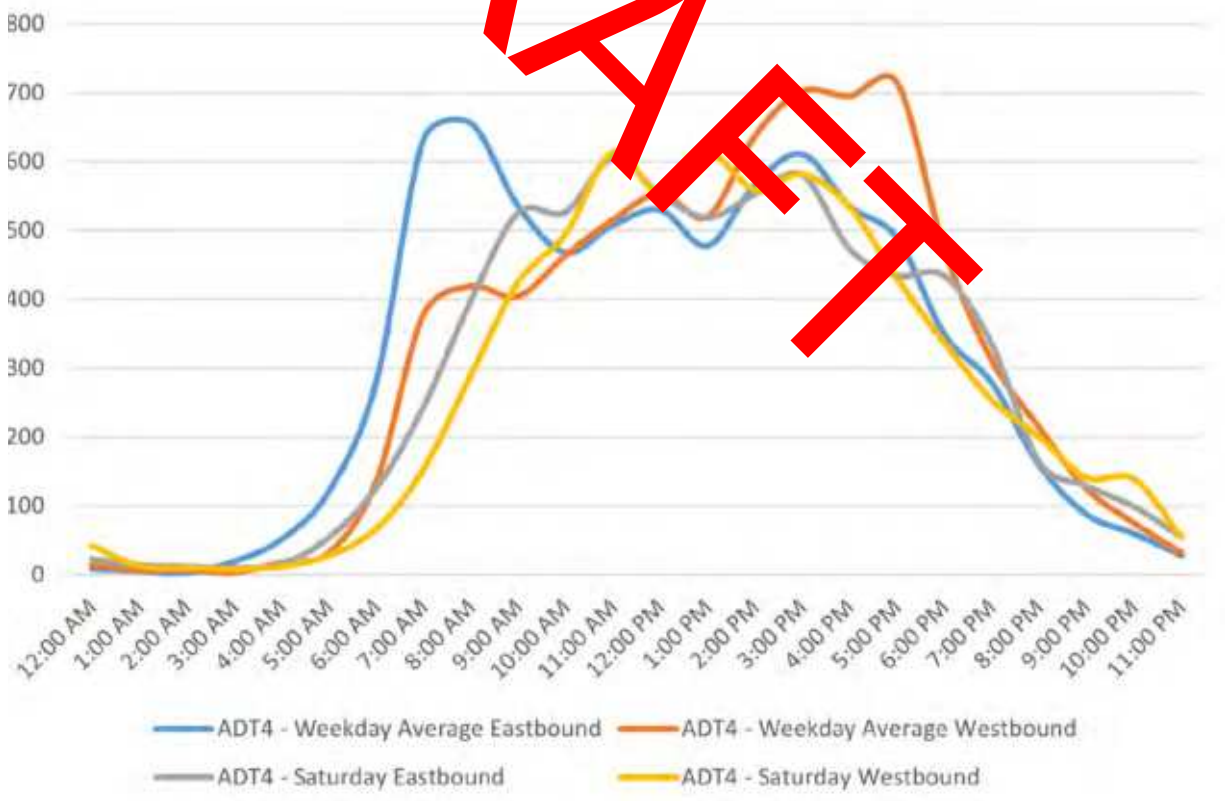


Exhibit 30. ADT4 (LOVR between Sunset Drive and Fairchild Way) traffic volumes

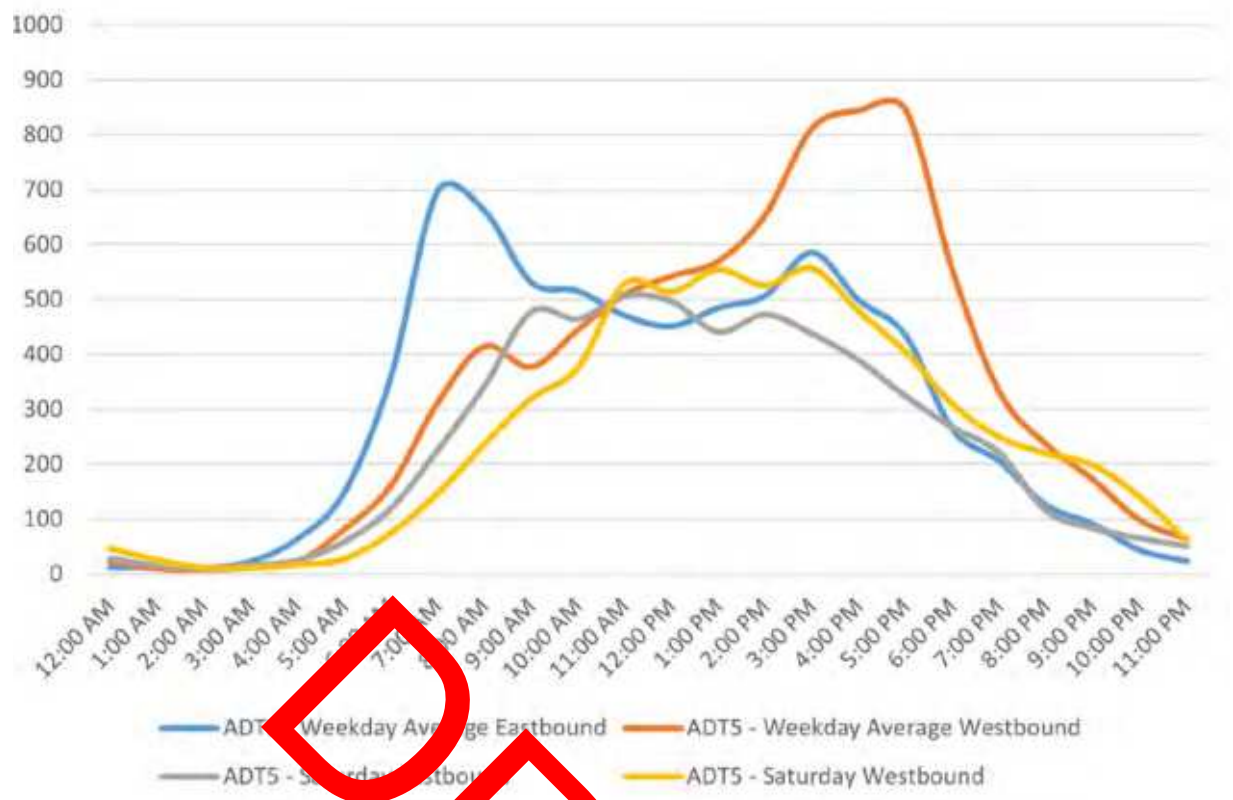


Exhibit 32. ADT5 (LOVR west of Clark Valley Road) traffic volumes

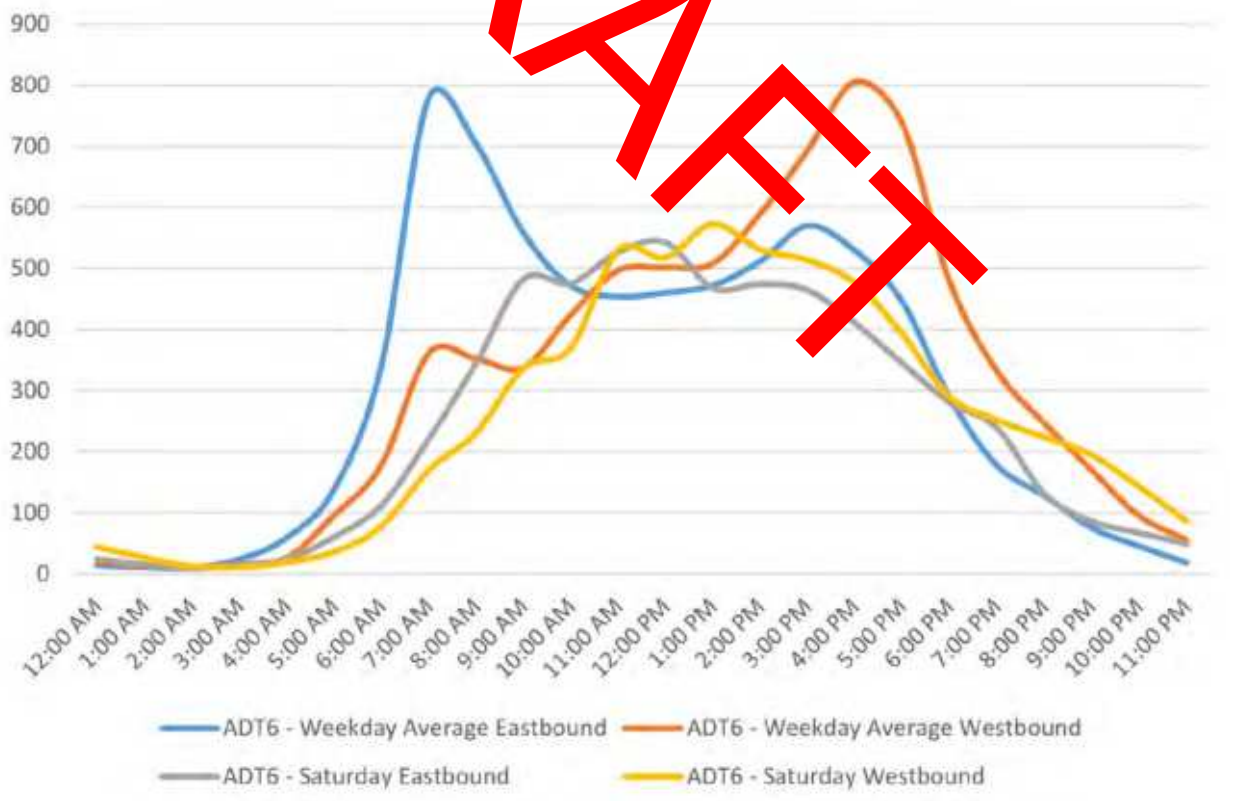


Exhibit 34. ADT6 (LOVR approximately 2 miles west of Foothill Boulevard) traffic volumes

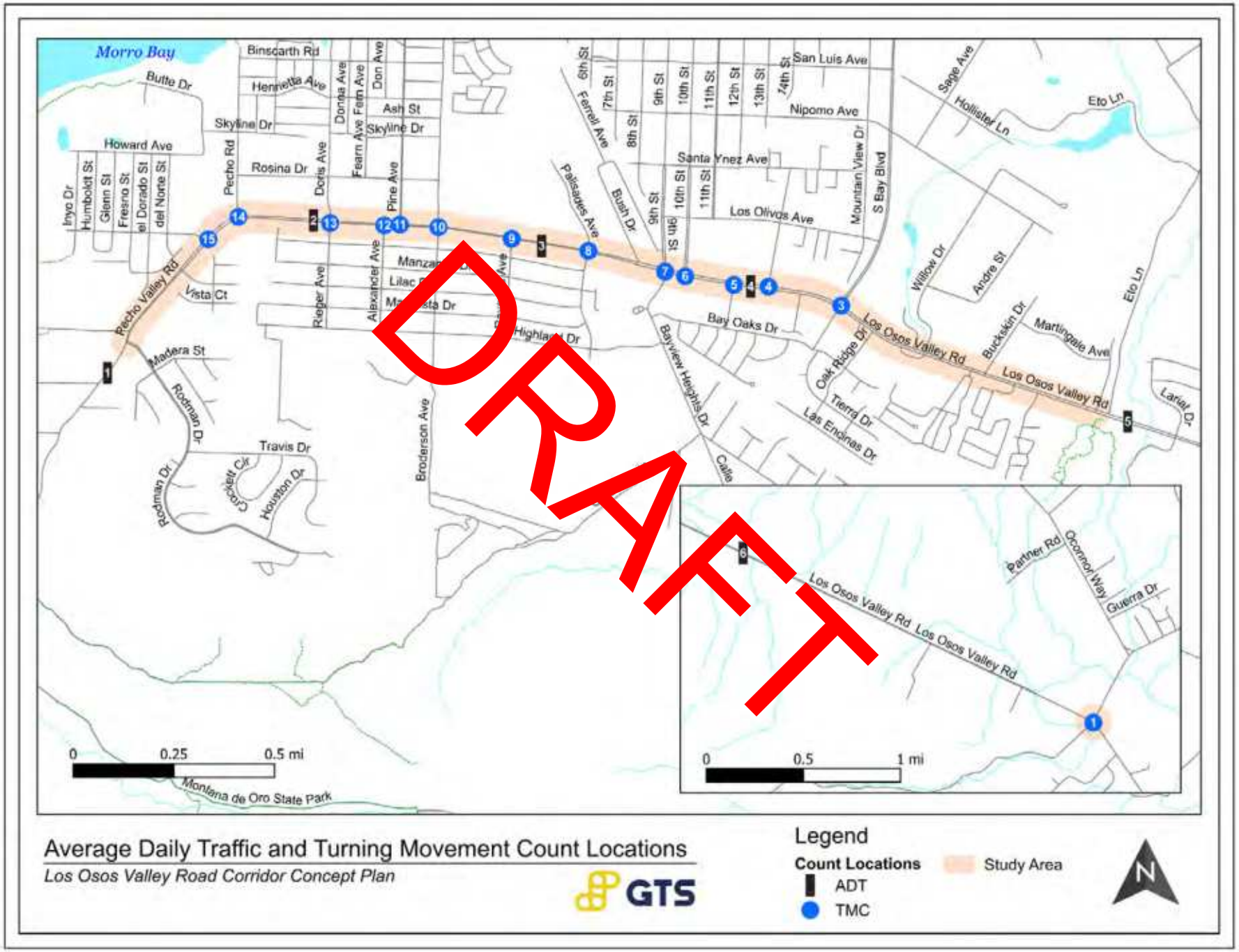


Exhibit 36. Traffic count locations

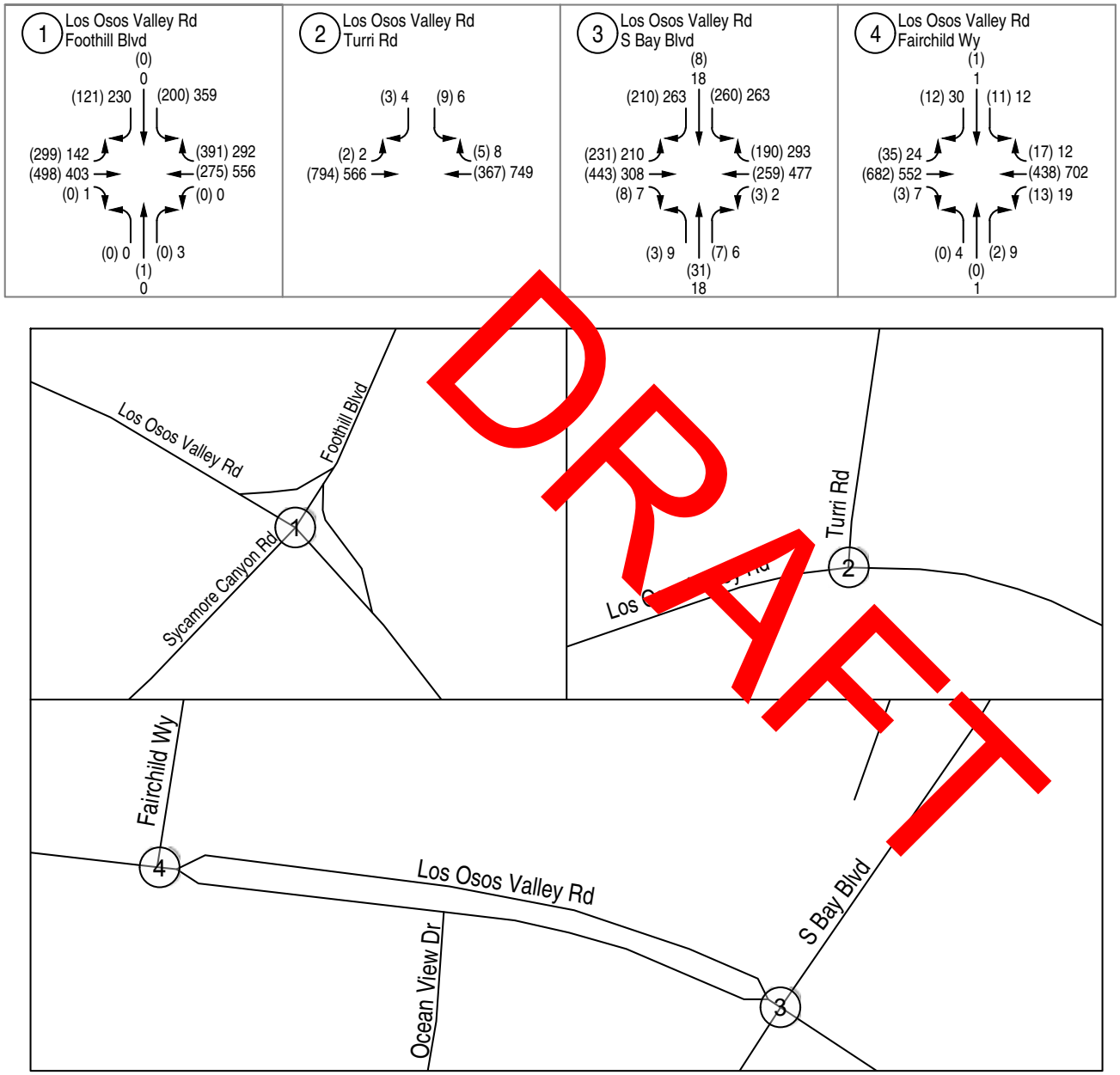


Exhibit 37. Existing turning movement volumes, Intersections 1 through 4

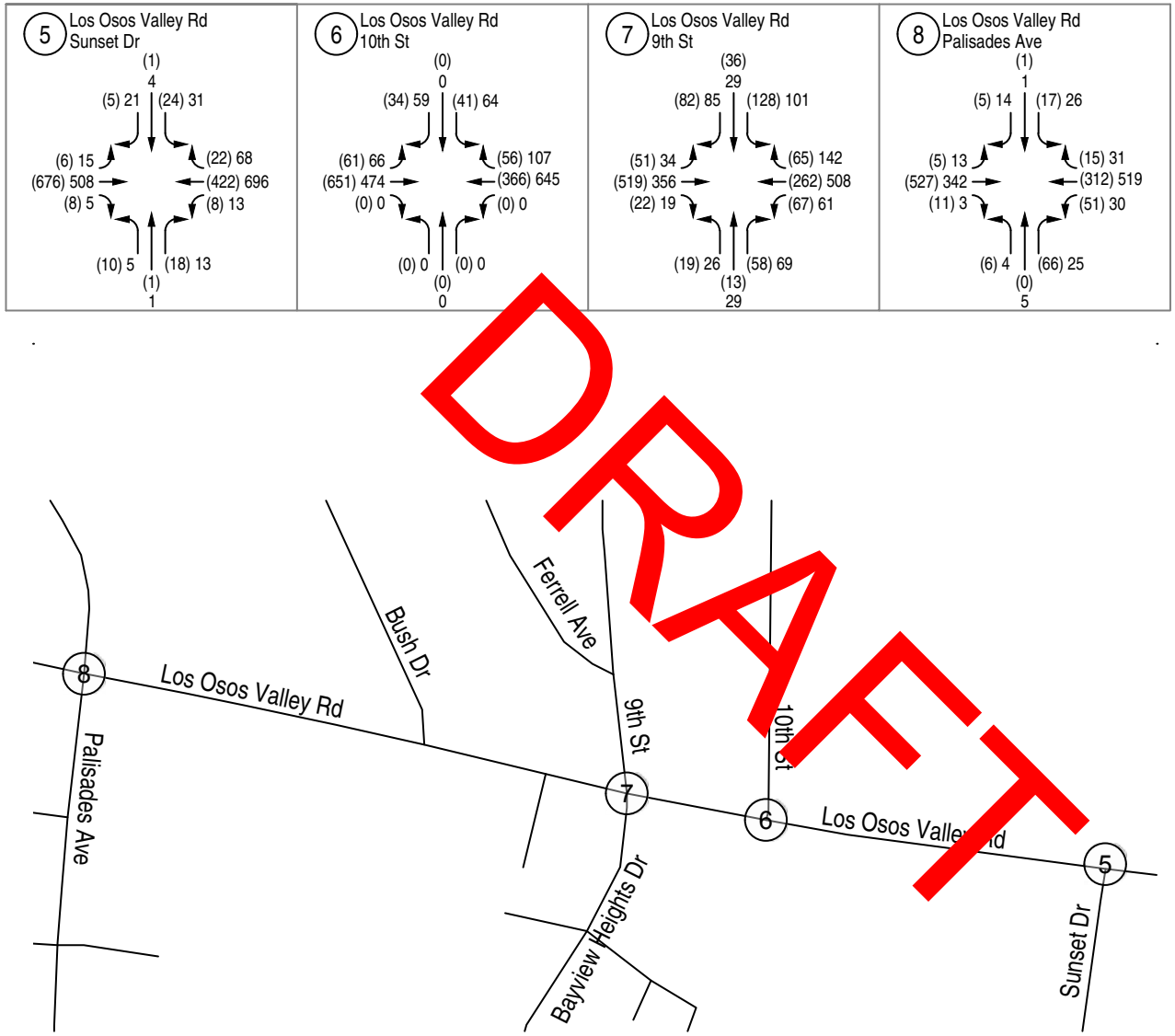
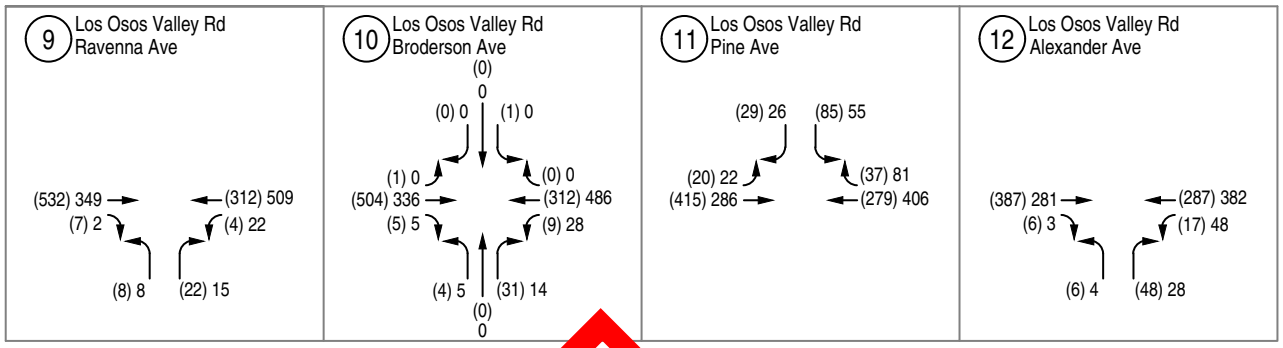
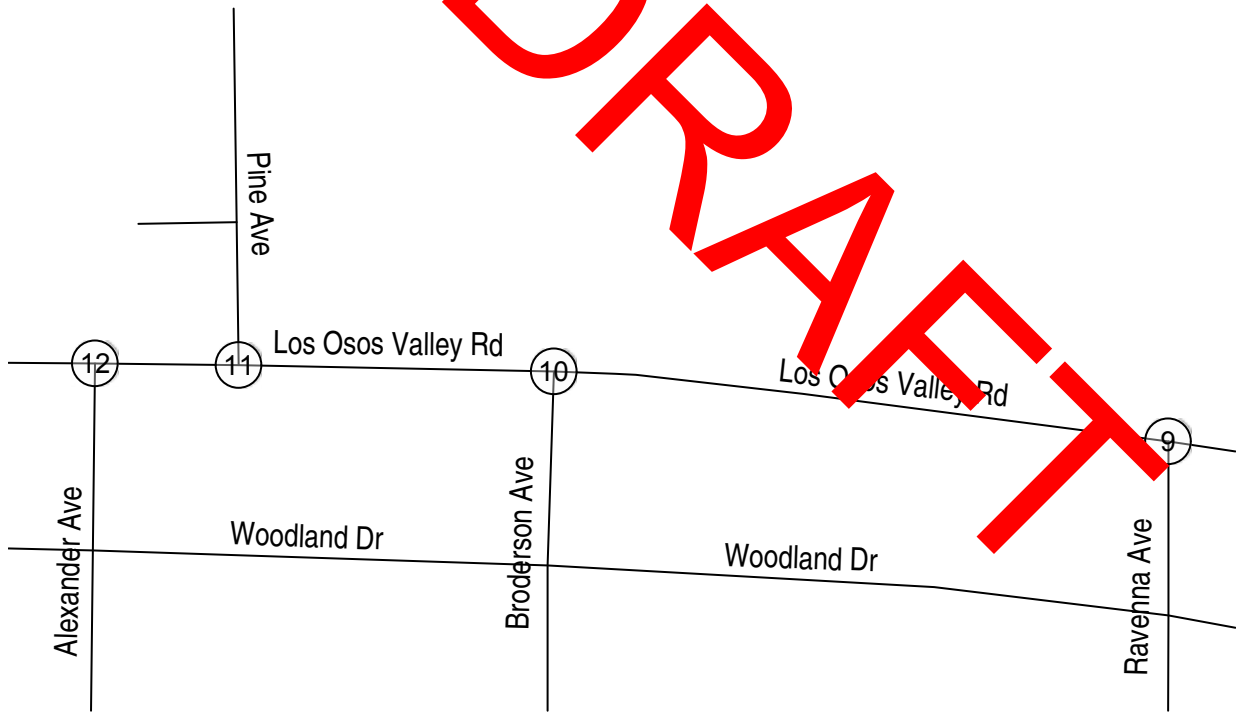


Exhibit 38. Existing turning movement volumes, Intersections 5 through 8





Legend

(X) Weekday AM Peak Hour Traffic Volumes

X Weekday PM Peak Hour Traffic Volumes

(X) Study Intersection

Exhibit 39. Existing turning movement volumes, Intersections 9 through 12

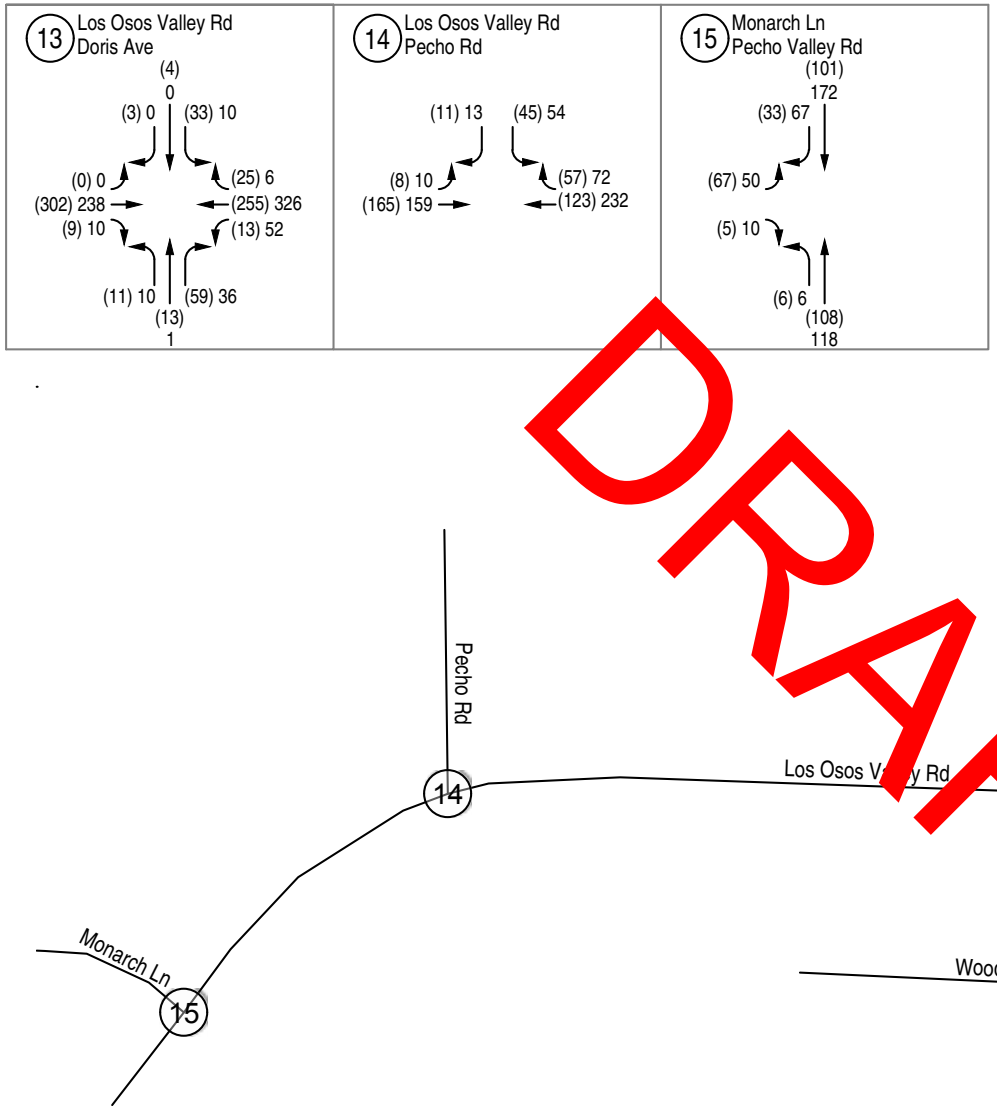


Exhibit 40. Existing turning movement volumes, Intersections 13 through 15

5.7. Constraint and Feasibility Assessment

There are a number of proposed corridor improvements across the 2016 San Luis Obispo Bikeways Plan, the 2020 Los Osos Community Plan, the 2021 Los Osos Road Fee Improvement Study (Circulation Study), and the Froom Ranch Specific Plan Traffic Impact Study that have been mentioned throughout this document. These proposals include the installation of class II bike lanes, multi-purpose paths, road widenings, and other enhancements for drivers, bicyclists, and pedestrians. This section will analyze these proposals by segment and intersection going from west to east. It also will identify constraints and overlaps between plans, and examine the feasibility of the proposed improvements.

a) Montaña De Oro State Park to Rodman Drive

The Bikeways Plan proposes the installation of a class II bikeway along the section of Pecho Valley Road (PVR) between Montaña De Oro State Park and Rodman Drive. is a two-lane road of rural character with one lane in each direction, soft shoulders, some sharp curves, and limited space for cyclists or pedestrians (see Exhibit 42). In some sections there is no shoulder. Existing constraints include steep topography and trees close to the road (see Exhibit 43). The road would need to be widened to add class II bike lanes. Widening would be challenging and involve relatively high costs due to the topography of the area. During site visits, pedestrians were observed in the roadway with limited space to walk and run and inadequate separation from vehicles. Even with the addition of class II bike lanes, this road segment would still have inadequate accommodations for pedestrians.

As an alternative to widening this section, one possibility is to develop the existing trails to better accommodate bicycle and pedestrian traffic. The existing network of dirt trails (shown in Exhibit 44) provides a connection from Sea Wind Way to Montaña De Oro State Park and could be improved to provide an alternative route, avoiding PVR but linking the same destinations.

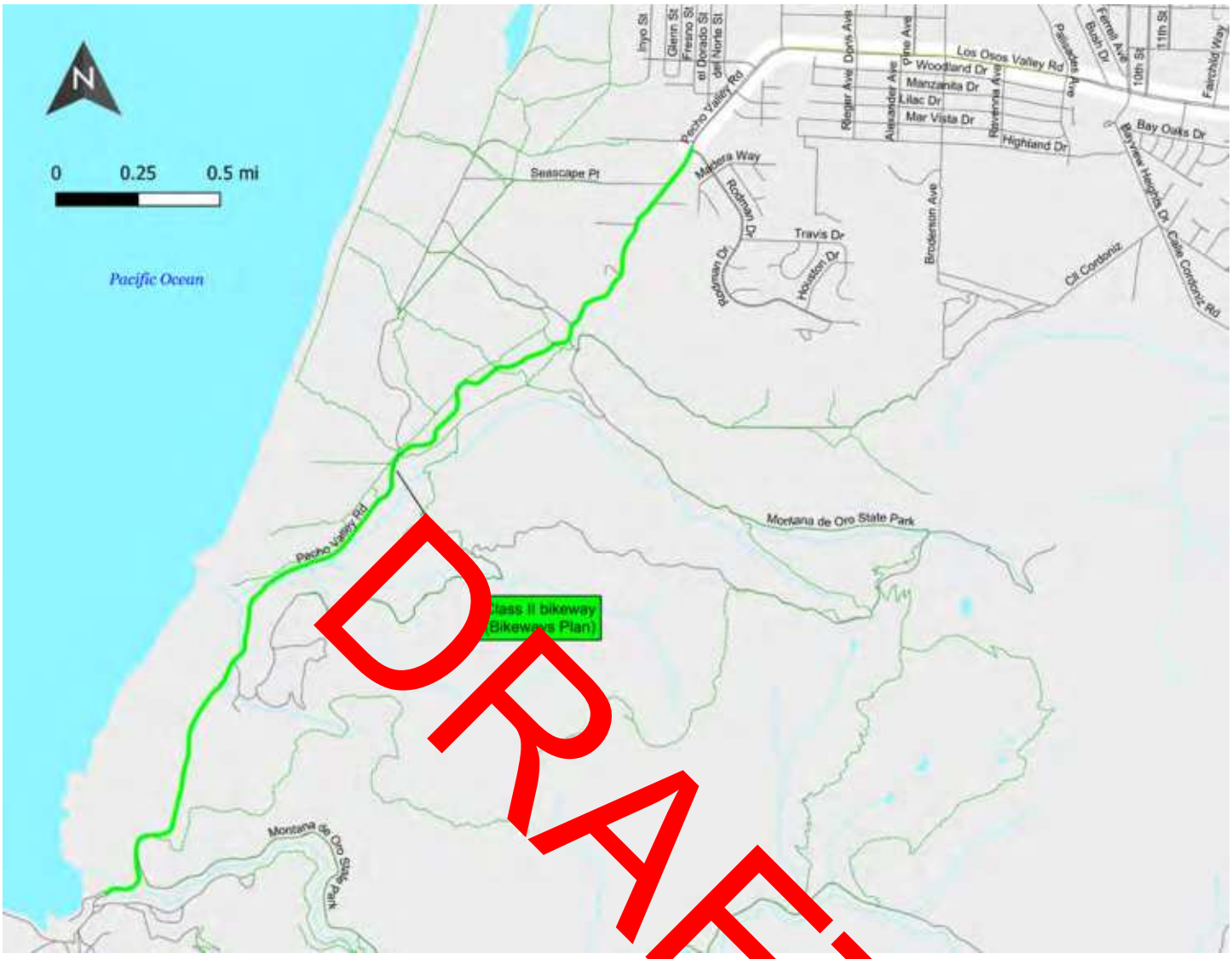


Exhibit 41. Planned improvements from Montaña De Oro State Park to Rodman Drive

Exhibit 42. View of Pecho Valley Road showing topographic constraints and limited space for pedestrians

Exhibit 44. Montaña de Oro State Park area trails

b) Rodman Drive to Doris Avenue

Although the existing plans do not call for any improvements to this section, the Corridor Concept Plan includes some improvements to bicycle and pedestrian facilities to ensure continuity and improve safety. Comments posted on the interactive website emphasized the need for such facilities. There is an existing multi-use path on the north side of PVR between Rodman Drive and Monarch Lane, and an existing 10-foot-wide sidewalk on the north side of LOVR alongside Monarch Grove Elementary School. The Corridor Concept Plan includes a multi-use path to connect these existing facilities, which would provide better continuity for pedestrians and cyclists. To improve safety, the continuous right turn lane currently serving Pecho Road and Monarch Lane is separated into two distinct right turn lanes, with the width reduced to the standard range (from the existing 17 feet).

c) Doris Avenue to Palisades Avenue

The following projects are listed in the previous plans for the section of LOVR between Doris Avenue and Palisades Avenue:

- The Bikeways Plan calls for a class II bikeway on the eastbound side of LOVR between Doris Avenue and Broderson Avenue.
- The Community Plan calls for widening LOVR between Doris Avenue and Palisades Avenue to provide a continuous center left-turn lane and constructing a multi-use trail on the westbound side of the same section.
- The Circulation Study calls for the installation of a two-way left-turn lane (TWLTL) between Pine Avenue and Palisades Ave.

Consequently, the Corridor Concept Plan includes the above improvements. The Concept Plan shows continuous class II bike lanes on each side of LOVR through this section to ensure the continuity of bike facilities, and a multi-use trail on the north side. Between Doris Avenue and Broderson Avenue, some homes are close to the road on the north side; due to these constraints, the Concept Plan shows an 8-foot-wide multi-use trail (the minimum per Caltrans standards) through this section. Between Broderson Avenue and Palisades Avenue, fewer constraints exist; therefore, a 12-foot-wide multi-use trail is shown through this section.

Exhibit 45. Planned improvements from Doris Avenue to Palisades Avenue

d) Palisades Avenue to Bush Drive

Although the existing plans do not call for any improvements to this section, the Corridor Concept Plan includes some improvements to ensure continuity of the facilities that are planned for the adjacent sections on each side of this section. This includes realignment of the sidewalk on the north side and closing the sidewalk gap on the south side of LOVR.

e) Bush Drive to South Bay Boulevard

There are several projects listed in the previous plans for the section of LOVR between Bush Drive and South Bay Boulevard:

- The Community Plan calls for the following:
  - » Construction of center medians and traffic calming measures such as bulb-outs, medians, and raised crosswalks where feasible within the Central Business District.
  - » A right turn lane for Bush Drive on westbound LOVR.
  - » Extension of the median to prevent left turns to or from Bush Drive (right-in/right-out).
  - » Crosswalks and signal synchronization at the intersection of LOVR with Bayview Heights Drive and 9th Street.

- » Crosswalks, signal synchronization, a planted median, and plantings on the south side at the intersection of LOVR with 10th Street.
- » Either a median (right-in/right-out) or crosswalks and a pedestrian signal at the intersection of LOVR with Sunset Drive.
- » A traffic signal at the intersection of LOVR with Fairchild Way (also listed in the Circulation Study).
- » A raised median from Bush Drive to Sunset Drive.
- » At the intersection of LOVR with South Bay Boulevard, a gateway feature, signal synchronization and upgrade, crosswalks, southbound dual left turn lanes (also listed in the Circulation Study), and a connection from the sidewalk to the proposed multi-use trail on the east side of South Bay Boulevard.

• The Circulation Study calls for the following:

- » A median with left-turn pockets from Bush Drive to Fairchild Way.
- » Corridor improvements from 9th Street to Los Osos Creek Bridge.
- » Left-turn restriction at the intersection of LOVR with Sunset Drive.
- » A traffic signal at the intersection of LOVR with Fairchild Way (also listed in the Community Plan).
- » Southbound dual left turn lanes at the intersection of LOVR with South Bay Boulevard (also listed in the Community Plan).

The Concept Plan includes the above features.

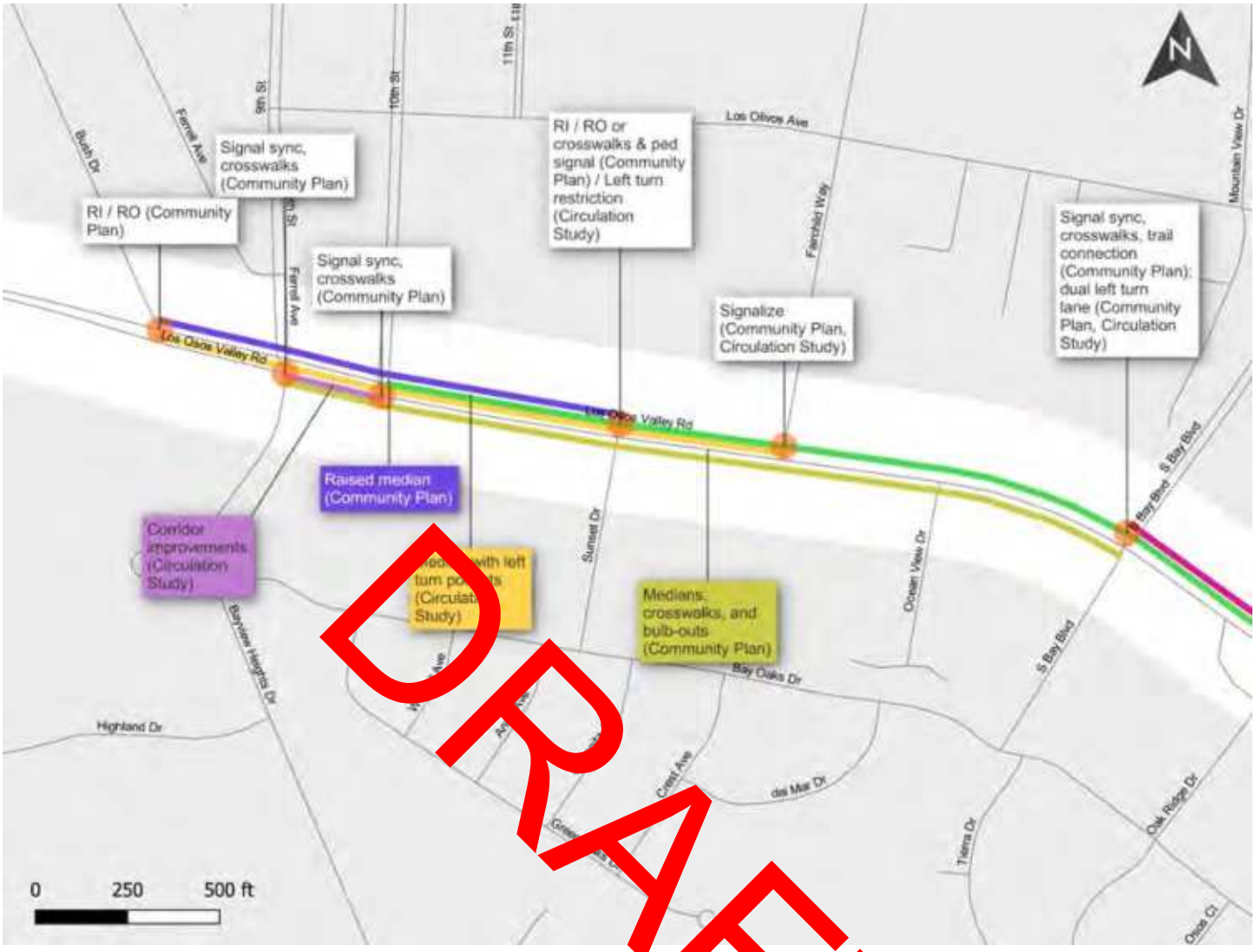


Exhibit 46. Planned improvements from Bush Drive to South Bay Boulevard

f) South Bay Boulevard to Palomino Drive

The following projects are listed in the previous plans for the section of LOVR between South Bay Boulevard and Palomino Drive:

- The Circulation Study calls for corridor improvements from 9th Street to Los Osos Creek Bridge.
- The Community Plan calls for a 4-foot-wide pedestrian trail from South Bay Boulevard to Los Osos Creek Bridge.

The Concept Plan includes the pedestrian trail.

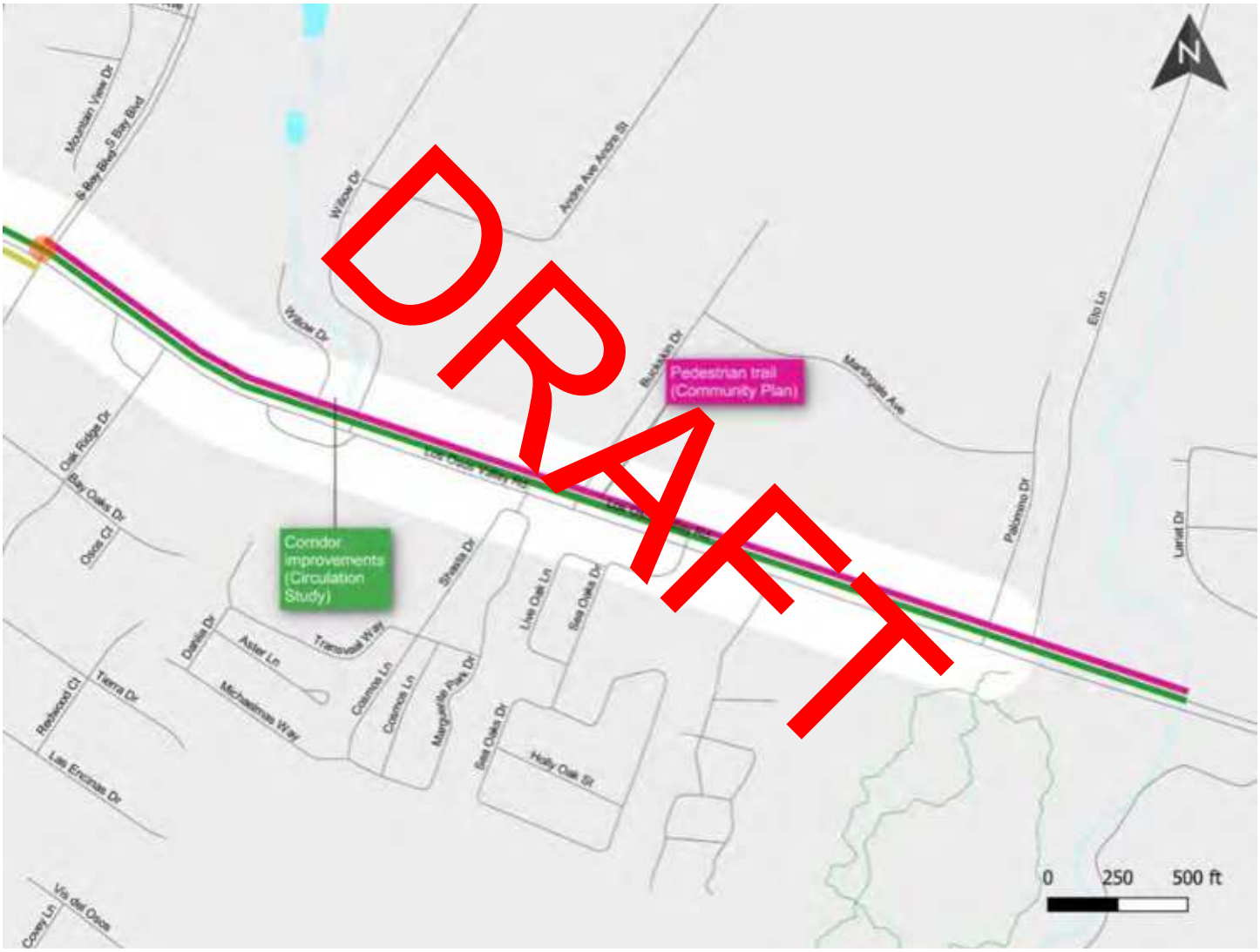


Exhibit 47. Planned improvements from South Bay Boulevard to Palomino Drive

g) LOVR / Foothill Intersection

At the intersection of Foothill Boulevard and LOVR, the Froom Ranch TIS proposes restriping the northwest-bound approach into one left-turn lane, two through lanes, and one right-turn lane. An alternative to this proposal which would remove the need for extra lanes and the traffic signal would be the installation of a roundabout with one right-turn lane. As per the City of San Luis Obispo General Plan's Circulation Element, Policy 7.1.2 states that roundabouts will be the "preferred intersection control alternative due to the vehicle speed reduction, safety, and operational benefits."

The Concept Plan includes a conceptual design for a roundabout at this intersection.

Exhibit 48. Intersection of LOVR and Foothill Blvd

5.8. Operational Analysis

This section outlines the level of service (LOS) and delay for project intersections on Los Osos Valley Road. The LOS analysis conducted in this study utilized the Highway Capacity Manual (HCM) methodology.

Highway Capacity Manual 7th Edition

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Exhibit 49 summarizes the LOS criteria for signalized intersections, as described in the Highway Capacity Manual 7th Edition (Transportation Research Board, 2022).

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable Flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F[1]	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 7th Edition, Transportation Research Board, 2022.*

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Exhibit 49. Level of Service Criteria for Signalized Intersections