

Draft Final Existing Conditions Report



PREPARED FOR

VENTURA COUNTY TRANSPORTATION COMMISSION
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

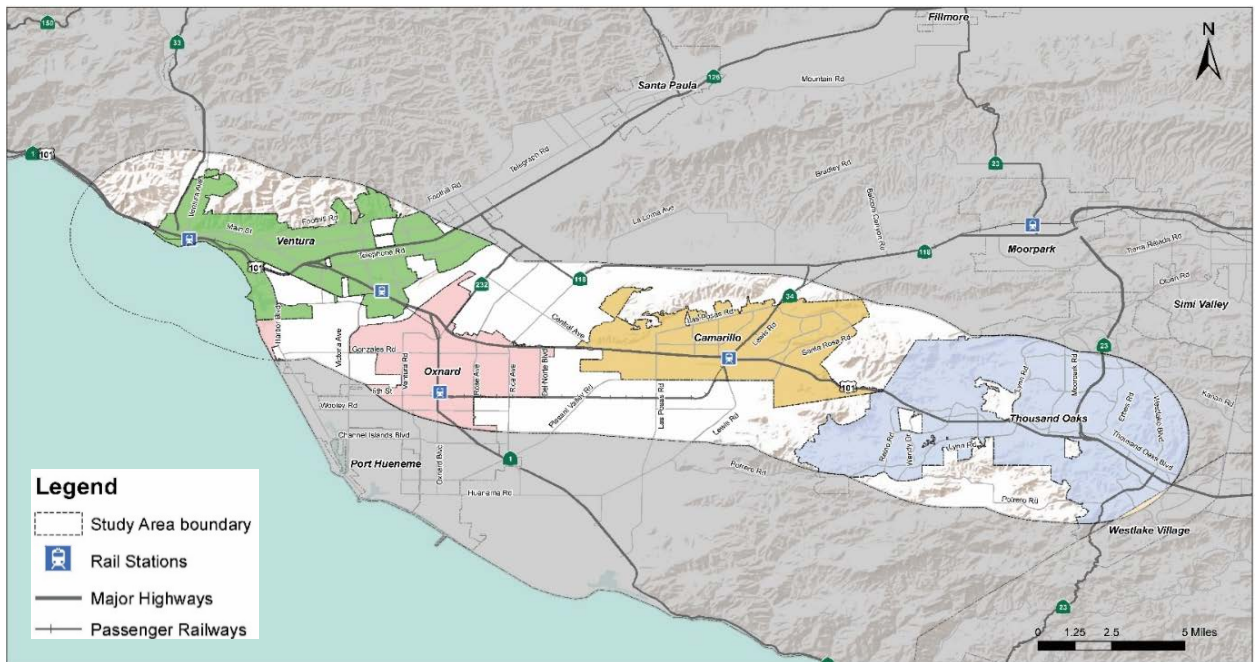
PREPARED BY

ITERIS, INC.

1 INTRODUCTION

The US 101 is often known as the “main street” of Ventura County, traversing the County connecting communities and activity centers. The freeway is a vital regional as well as local connector, doing double duty of handling long distance trips as well as local traffic where surface street connectivity is lacking between cities. The freeway is set in diverse physical environments, as it crosses the County, including rural, agricultural and urban and commercial corridors. It is also diverse in terms of the terrain environment, from the relatively flat areas in the west through farmland and commercial and industrial uses in the Oxnard Plain to rolling and hilly terrain with steep grades, such as the Conejo Grade, connecting again to relatively level areas in the Conejo Valley in the east County. These diverse features give the US 101 corridor unique challenges for the development of multi-modal mobility and traffic operational improvements. The study area is shown in **Figure 1**.

Figure 1 – Study Area



2 LAND USE AND DEMOGRAPHICS

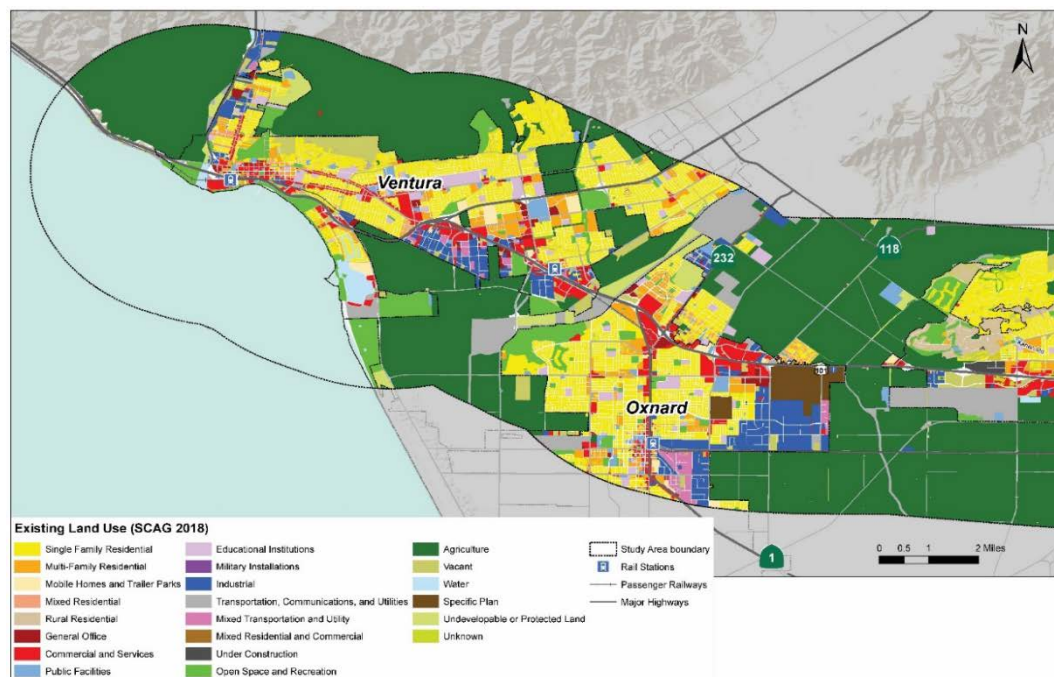
Land use, population, and employment play key roles in influencing travel behavior. Developments along the US 101 Corridor are concentrated in four incorporated communities separated by County lands that predominately contain a mix of agriculture and open space uses. The urbanized areas include the City of Ventura, City of Oxnard, City of Camarillo, and City of Thousand Oaks. Each is recognized as a distinct and cohesive community containing the full complement of land uses typical of a suburban city including residential, commercial, industrial, cultural, recreational, government, and services. The highest intensities of development are generally located within close proximity to the US 101, with two exceptions. One area of intensity located perpendicular to the corridor extends south of the freeway in the City of Oxnard and includes the Oxnard Civic Core adjoining the city's transit center. Another area of intensity extends north of the corridor in the City of Ventura along Ventura Avenue, running parallel to California State Route 33.

Information regarding existing land uses and zoning designations are primarily sourced from the SCAG's 2016 land use dataset, updated in November 2018. The data is based on each local jurisdiction's input received during SCAG's 2020 RTP/SCS Local Input and Envisioning Process. The SCAG 2016 land use codes for zoning and existing land use were mapped, analyzed, and refined to correct evident errors.

2.1 Development

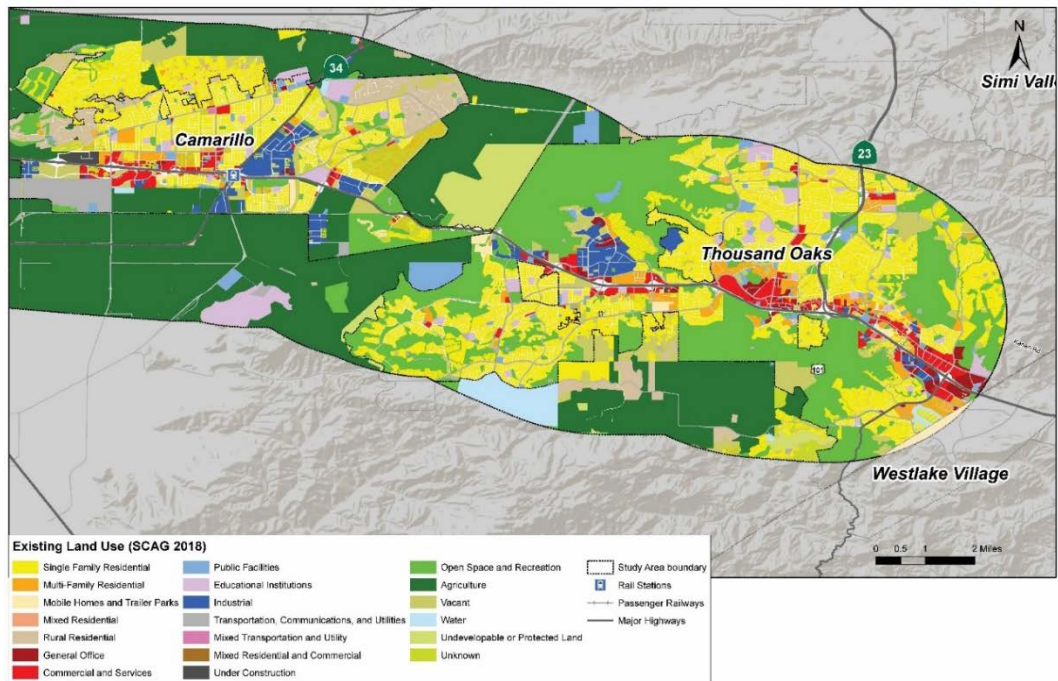
The study area is essentially multi-nucleated and suburban in nature, consisting primarily of open space, agriculture, and housing. Development is concentrated at multiple centralized nodes and along major corridors. These distinct concentrations of development are surrounded by low-density residential development and separated from each other by undeveloped open space and agricultural uses. Commercial centers and industrial centers typically exist within a quarter or half mile of the US 101 Corridor and higher density housing within a mile of the Corridor, which can be seen in **Figures 2 and 3**. While land use groupings are oriented along the freeways, the downtown and community cores of each city extend along the branching intra-city corridors, such as SR 23, and city corridors, like Thousand Oaks Boulevard.

Figure 2 – Existing Land Use Map, West



Source: SCAG

Figure 3 – Existing Land Use Map, East



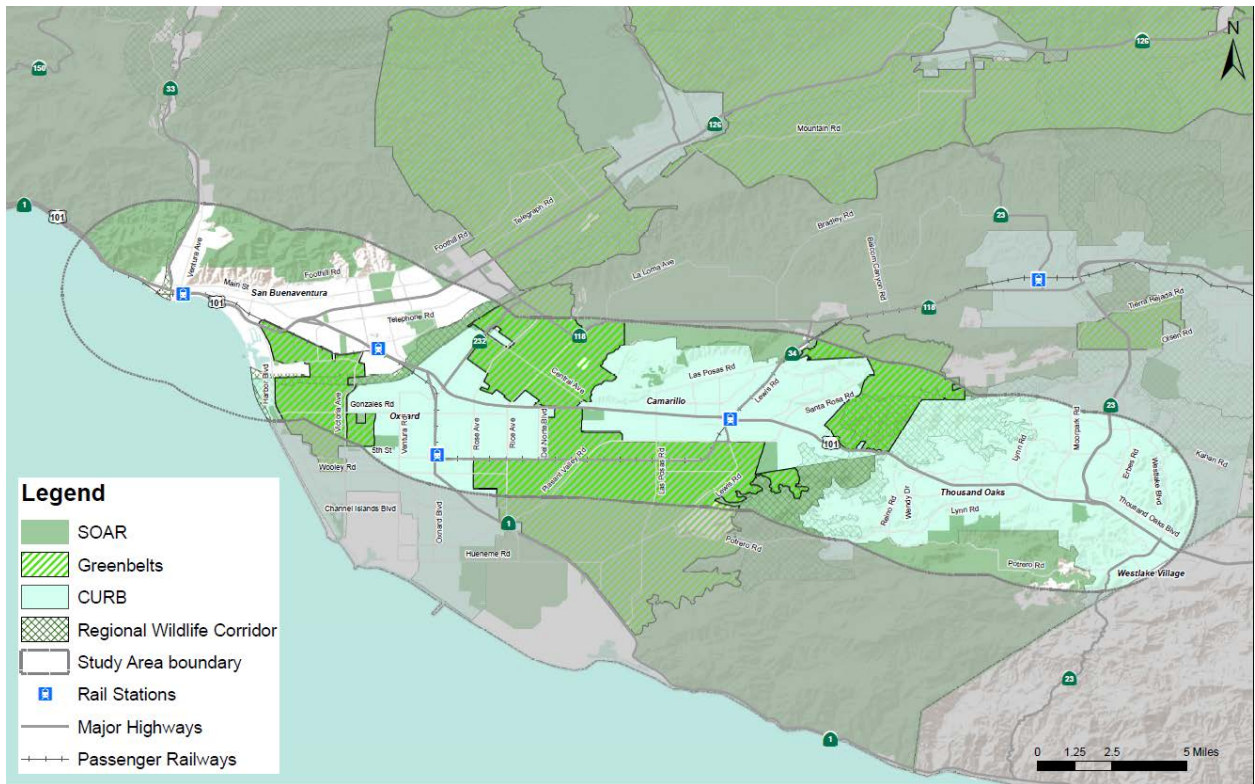
Source: SCAG

2.2 Open Space and Agriculture

While the development patterns organically grew from the area's initial settlements, their separation by agriculture and open space has been in effect since the adoption of the Guidelines for Orderly Development (adopted by the Board of Supervisors in 1969, and revised and adopted in 1996), that encourage urban development to occur within incorporated Cities. These efforts are reinforced by administration of voter-approved Save Open Space and Agricultural Resources (SOAR) initiatives. The first SOAR initiative was passed in 1995 in the City of Ventura; since then other SOAR initiatives passed in the corridor cities of Oxnard, Camarillo, and Thousand Oaks as well as in the unincorporated areas of Ventura County. This will continue to affect land use development as the SOAR initiatives were renewed by voters in November 2016, extending their expiration date to 2050. The act and its companion measures establish the City Urban Restriction Boundary (CURB) lines around the cities and requires a majority vote of the people in order to rezone unincorporated open space, agricultural or rural land for development. To date, few properties have successfully been rezoned for these purposes.

The result is the preservation of open space and agricultural lands while concentrating development in city incorporated areas. SOAR is reinforced by greenbelts, which are voluntarily enacted agreements between the Board of Supervisors and one or more City Councils regarding development of agricultural and/or open space areas beyond city limits. Cities commit to not annex any property within a greenbelt while the Board agrees to restrict development to uses consistent with existing zoning. Regional wildlife corridor regulations, adopted by the Ventura County Board of Supervisors in 2019, enhance and protect linkages for animal migration to ensure the future health of the County's natural resources. The objectives of these regulations are to minimize direct and indirect barriers to wildlife movement and reduce vegetation loss and habitat fragmentation, while simultaneously protecting property rights. The regulations create development buffers around surface water and road crossings, encourage compact development, and limit outdoor night lighting, impermeable fencing, and planting of invasive species. The SOAR area, greenbelts, and regional wildlife corridors are shown in **Figure 4**.

Figure 4 – SOAR Boundaries, Greenbelts, & Regional Wildlife Corridors



A consequence of SOAR is that infrastructure improvements and services derived from revenues accumulated through development fees have almost exclusively been internalized within each city's jurisdictional boundaries.

2.3 Primary Land Uses

As documented in **Table 1**, roughly 16 percent of the existing land use in the study area is open space, recreation, and undevelopable or protected land. An additional 31 percent of the study area is agricultural and 14 percent of the study area is open space + recreation. Much of this area will continue to be protected by the Guidelines for Orderly Development, greenbelt agreements, and SOAR policies. Residential land uses make up less than a quarter of the study area acreage. The top three land use types are: agriculture, single-family residential and open space/recreation.

Table 1 – Existing Land Use, Study Area

LAND USE	ACRES	% OF ACRES
Residential		
Single-family Residential	28,023.3	18.67%
Multi-Family Residential	4,014.7	2.67%
Mobile Homes and Trailer Parks	774.9	0.52%
Mixed Residential	268.2	0.18%
Rural Residential	2,606.8	1.74%
Commercial and Office		
Commercial and Services	4,187.6	2.79%
General Office Use	1,275.6	0.85%
Institutional Facilities		
Facilities	2,702.1	1.80%
Educational Institutions	3,300.9	2.20%
Military Installations	7.4	0.00%
Industrial	4,966.2	3.31%
Transportation, Communications, and Utilities	4,991.6	3.33%
Mixed Uses		
Mixed Commercial and Industrial	520.3	0.35%

Mixed Residential and Commercial	8.5	0.01%
Under Construction	142.2	0.09%
Undeveloped Space		
Open Space and Recreation	20,618.0	13.73%
Vacant	5,269.9	3.51%
Agriculture	46,638.6	31.07%
Water	1,550.5	1.03%
Undevelopable or Protected Land	3,442.2	2.29%
Specific Plan	887.3	0.59%
Unknown	13,925.6	9.28%
Total	150,122.2	

Source: SCAG

CITY OF VENTURA

The historic core of the City of Ventura is located directly off US 101 along Main Street and California Street with its comparatively dense mix of commercial, office, multi-family housing, coastal-serving uses, and smaller industries. The traditional street grid, small blocks, and shared parking facilities contribute to the area's urban character and walkability. A secondary core of employment and activity, predominately auto-oriented industrial and commercial uses, is located to the east, generally south of the US 101 and flanking Telephone Road. Single-family residential neighborhoods, which make up 36 percent of the City's acreage, extend outward from these areas, with scattered commercial centers and pockets of multi-family housing. Commercial corridors extend parallel to US 101 and SR 33 including Ventura Avenue, Main Street, and Thompson Boulevard.

CITY OF OXNARD

The City of Oxnard's historic core, which contains a similar mix of uses as the City of Ventura's downtown, is located south of US 101 along Oxnard Boulevard and abutting the Oxnard Transit Center, which serves Amtrak, Metrolink, and bus services. In the core there is a concentrated mix of commercial, multi-family residential, educational, public facilities, and industrial uses in close proximity to one another. Oxnard Boulevard is a major connector between the US 101 and SR 1, which runs along the coast and connects to US 101 to the east of downtown.

Though City policies emphasize infill and intensification, particularly of housing, redevelopment activity in the City's historic core has been slow to occur. Most recent development and economic activity have occurred north of the core, abutting US 101 in proximity to Vineyard Avenue and Oxnard Boulevards. This includes a major project, River Park, that is designed as a pedestrian-oriented village containing a mix of single-family and apartment housing and national brand retailers. Commercial properties south of River Park have also been redeveloped. Like City of Ventura, a second center of jobs and economic activity occurs to the east of the City's core, flanking Rice Avenue, which is the most sizable concentration of industrial development in the study area. These centers of development are predominately surrounded by single-family housing neighborhoods, which are nearly a third of the City of Oxnard's existing land use in the study area.

CITY OF CAMARILLO

Camarillo's urban form and land uses exhibit a more typically suburban pattern of development. A small, pedestrian-oriented downtown area with restaurants and small shops extends along three blocks of Ventura Avenue between Lewis Road and Cedar Drive. Lands both north and south of US 101 extending west between Carmen Drive and Las Posas Road are developed with large scale commercial centers, including a regional Outlet Center, and professional offices, all of which are characterized by large footprint buildings surrounded by extensive surface parking lots. Flanking these uses, particularly to the north of the commercial centers, are multifamily housing developments. Defining the southwestern edge of this area is the Camarillo Airport, a heavily used private aviation facility. To the east and north of US 101, employment is concentrated in multi-tenant office and industrial parks between Lewis Road and Conejo Creek. Like the City of Ventura and City of Oxnard, single-family neighborhoods surround and extend outward, primarily to the north of these centers.

Camarillo's commercial core aligns with US 101, with a concentration of industrial development also northeast of

the US 101 and SR 34 interchange. Multi-family residential and institutional uses are clustered around these two areas. The majority of the city's land use is low density residential, which occupies a third of the city's area. Open space and agriculture occupy nearly a quarter of the existing land use.

CITY OF THOUSAND OAKS

Thousand Oaks is characterized by three primary mixed-use and activity nodes. The historic community core is a linear corridor parallel to US 101 that extends generally from Lynn Road to Hampshire Road, anchored by a regional mall in the west and a mix of automobile-oriented businesses and centers, offices, and government facilities along its length. A recently adopted Specific Plan promotes the integration of moderate density mixed-use building and housing in this area. To the east and extending to the City boundary with Agoura Hills and LA County is an area guided by the development master plan for Westlake Village. Here, properties are developed as commercial centers with larger multi-tenant buildings, restaurants, and offices fronted by expansive surface parking lots and landscape typical of suburban communities. A significant deviation from this pattern is the property at the southeast intersection of Westlake Boulevard and Thousand Oaks Boulevard planned and developed as a pedestrian-active lifestyle center. The third node located in the west, extends from Wendy Drive to Ventu Park and contains major technology and bio-medical uses abutted by moderate to high density housing. As found in the other Cities in the study area, single-family housing neighborhoods surround and extend outward from these centers and corridors.

The existing land use and zoning are similar in spatial organization; commercial, industrial, and multifamily development is concentrated adjacent to US 101. There is a notable concentration of mixed commercial, office, and industrial development on the eastern end of the corridor near the Los Angeles County border and SR 23. More than 75 percent of the City within the study area is either a single-family residential or an open space and recreation.

UNINCORPORATED VENTURA COUNTY

The balance of the study area is located in Unincorporated Ventura County. This area is relatively undeveloped – more than 60 percent of the existing land use is agricultural. There are limited single-family residences scattered throughout the unincorporated area with concentrations adjacent to Thousand Oaks and north of Camarillo. Existing land use in the study area is summarized by jurisdiction in **Table 2**.

Table 2 – Existing Land Use, Study Area by Jurisdiction

EXISTING LAND USE	CITY OF VENTURA		CITY OF OXNARD		CITY OF CAMARILLO		CITY OF THOUSAND OAKS		UNINCORPORATED VENTURA COUNTY	
	Acres	% of Total	Acres	% of Total	Acres	% of Total	Acres	% of Total	Acres	% of Total
Residential										
Single-family Residential	5,565.7	36.5%	3,414.8	29.3%	3,465.4	22.1%	10,842.9	31.9%	4,734.5	6.4%
Multi-Family Residential	1,171.9	7.7%	891.3	7.6%	587.7	3.8%	1,329.8	3.9%	34.1	0.0%
Mobile Homes and Trailer Parks	280.2	1.8%	107.0	0.9%	174.2	1.1%	211.2	0.6%	2.2	0.0%
Mixed Residential	93.8	0.6%	4.3	0.0%					170.1	0.2%
Rural Residential	8.3	0.1%			1,833.9	11.7%			764.6	1.0%
Commercial and Office										
Commercial and Services	1,290.0	8.5%	1,088.8	9.3%	579.7	3.7%	1,191.8	3.5%	37.3	0.1%
General Office Use	287.8	1.9%	186.9	1.6%	91.8	0.6%	694.1	2.0%	15.0	0.0%
Institutional Facilities										
Facilities	447.7	2.9%	284.9	2.4%	286.1	1.8%	645.3	1.9%	1,038.1	1.4%
Educational Institutions	613.2	4.0%	406.7	3.5%	490.2	3.1%	819.5	2.4%	971.3	1.3%
Military Installations	7.4	0.0%								
Industrial	931.9	6.1%	1,709.5	14.7%	1,007.9	6.4%	787.7	2.3%	529.2	0.7%
Transportation, Communications, and Utilities	470.8	3.1%	427.0	3.7%	1,189.3	7.6%	354.7	1.0%	2,549.8	3.5%
Mixed Uses										
Mixed Commercial and Industrial	124.1	0.8%	331.5	2.8%	28.1	0.2%	10.7	0.0%	25.8	0.0%
Mixed Residential and Commercial	1.1	0.0%	1.4	0.0%	1.9	0.0%	0.3	0.0%	3.8	0.0%
Undeveloped Space										
Open Space & Recreation	1,796.3	11.8%	1,327.7	11.4%	1,846.6	11.8%	15,020.0	44.2%	627.4	0.9%
Vacant	830.1	5.4%	210.9	1.8%	977.1	6.2%	1,602.1	4.7%	1,649.6	2.2%
Agriculture	378.5	2.5%	45.1	0.4%	1,680.5	10.7%	0.1	0.0%	44,534.3	60.5%
Water	382.5	2.5%	4.4	0.0%	75.7	0.5%	96.5	0.3%	991.5	1.3%
Undevelopable or Protected Land	315.5	2.1%	326.2	2.8%	129.6	0.8%			2,800.4	3.8%
Specific Plan			887.3	7.6%						
Under Construction							12.5	0.0%		
Unknown	254.9	1.7%	4.7	0.0%	1,222.7	7.8%	371.0	1.1%	12,072.3	16.4%
Total	15,251.8		11,660.3		15,668.5		33,990.1		73,551.4	

Source: SCAG

2.4 Population and Employment

Existing population, household, and employment information was compiled for each city from Transportation Analysis Zones (TAZs) that are within the study area. Over 420,000 people live within the study area, representing approximately half of the population of the entire Ventura County. Nearly 90 percent of the population in the study area lives in the incorporated cities. The most populous cities are the City of Thousand Oaks, City of Oxnard, and City of Ventura. In the study area as a whole, there are on average 3.0 people living in each household, which is on par with the county as a whole, but this varies throughout the study area. The City of Ventura has 2.6 people per household while City of Oxnard has the highest people per house ratio of 3.9. Population and household information is shown in **Table 3**.

Table 3 – Existing Population, Household, and Employment

CITY OR COUNTY	POPULATION	HOUSEHOLDS	PEOPLE PER HOUSEHOLD
Ventura	94,317	36,033	2.6
Oxnard	105,359	26,795	3.9
Camarillo	61,284	23,020	2.7
Thousand Oaks	115,240	41,431	2.8
Unincorporated	45,257	14,659	3.1
Total	421,457	141,938	3.0

Source: SCAG

The economy of the study area employs nearly 200,000 people, representing approximately half of the jobs in the entire Ventura County. 90 percent of the jobs are also located in incorporated cities. For the study area as a whole, the population to employment ratio is 2.12 and the households to employment ratio is 1.39. Population and employment information is shown in **Table 4**.

Table 4 – Existing Population, Household, and Employment

CITY OR COUNTY	POPULATION	HOUSEHOLDS	EMPLOYMENT	POP/EMPLOYMENT RATIO	HOUSEHOLDS / EMPLOYMENT RATIO
Ventura	94,317	36,033	71,992	1.31	2.00
Oxnard	105,359	26,795	30,889	3.41	1.15
Camarillo	61,284	23,020	9,282	6.60	0.40
Thousand Oaks	115,240	41,431	69,024	1.67	1.67
Unincorporated	45,257	14,659	17,274	2.62	1.18
Total	421,457	141,938	198,461	2.12	1.39

Source: SCAG

The City of Ventura has a population of approximately 94,300. It has roughly 36,000 households and nearly twice as many jobs, resulting in a households to employment ratio of 0.5. Areas, like the City of Ventura, with lower than average household to employment ratios typically function as a regional employment center, with many living outside of the city commuting to jobs within city limits.

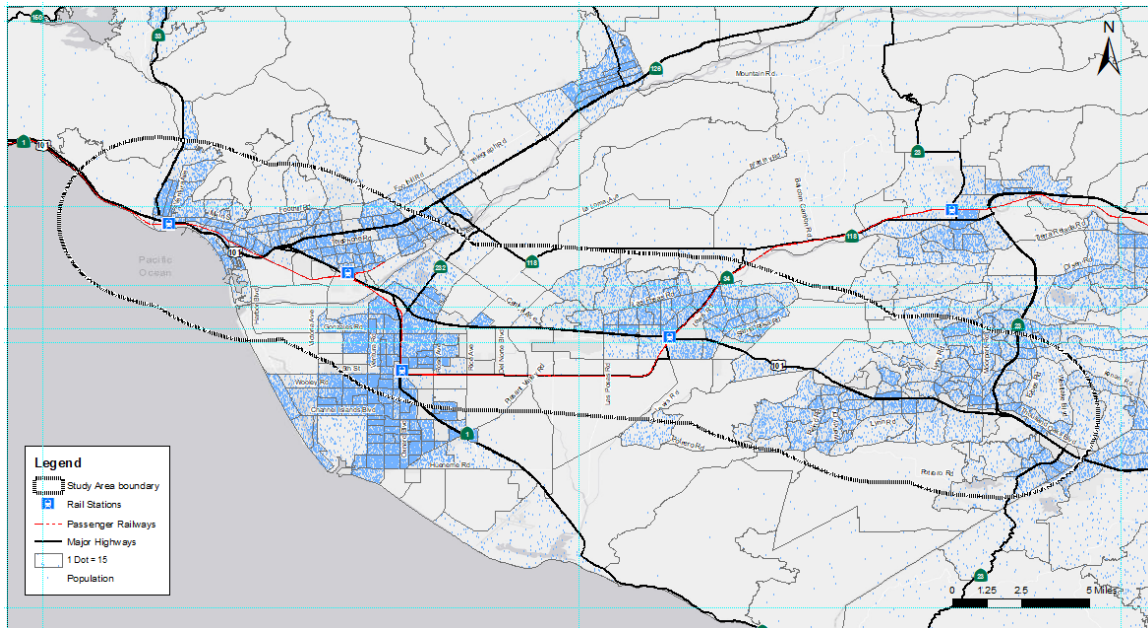
The City of Oxnard has a population of 105,400, nearly 27,000 households, and approximately 31,000 jobs. Oxnard has the highest persons per household ratio in the study area, at a rate of 3.9 people in each housing unit. This may indicate that more families or unrelated people live together within the City. Oxnard's ratio of population to employment and households to employment are both higher than the average for the study area.

The City of Camarillo has a population of 61,300, more than 23,000 households, and roughly 9,000 jobs. Both the population to employment and the household to employment ratios are higher than average for the study area. There are nearly two and a half households for every job available in Camarillo indicating many city residents must travel outside of the city to reach their place of employment.

The City of Thousand Oaks is the most populous city in the study area with more than 115,000 residents. The city has approximately 41,000 households, and 69,000 jobs. On average 2.8 people live in each household, which is close to the average for the study area. There are 1.67 people for each job and 0.6 households for each job indicating Thousand Oaks functions as an employment center, with many living outside of the city commuting to jobs within city limits.

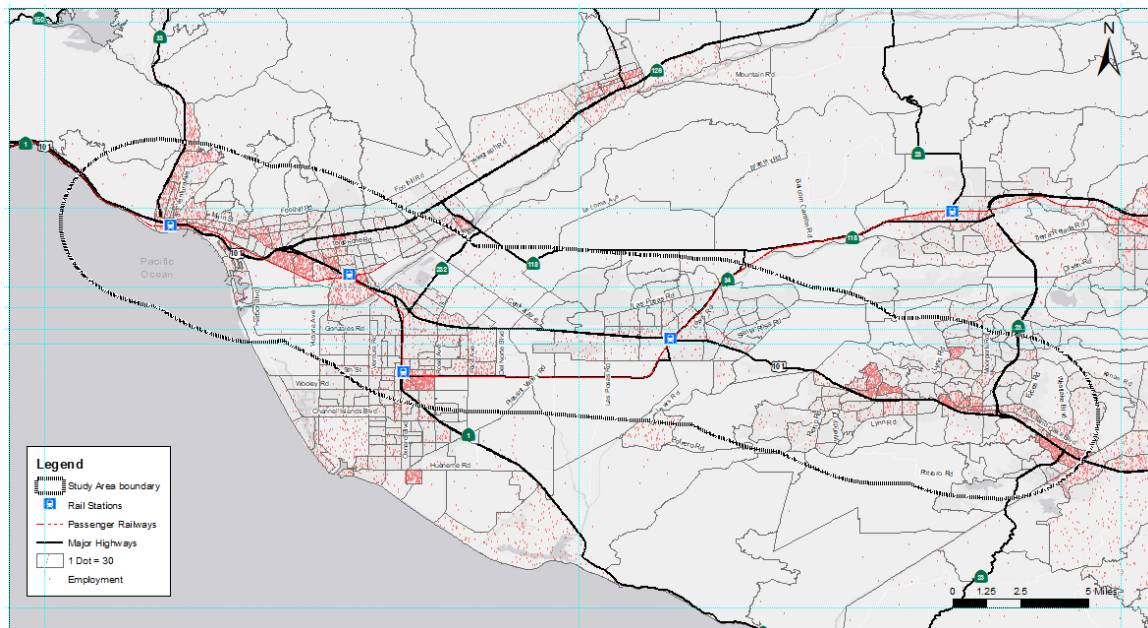
Unincorporated Ventura County accounts for roughly 10 percent of the population, households, and jobs in the study area. The area has an average of 3.1 people per household and 2.62 people per job. Population and employment density in the study area is illustrated in **Figure 5** and **Figure 6**.

Figure 5 – Existing Population Density Map by TAZ



Source: SCAG

Figure 6 – Existing Employment Density Map by TAZ



Source: SCAG

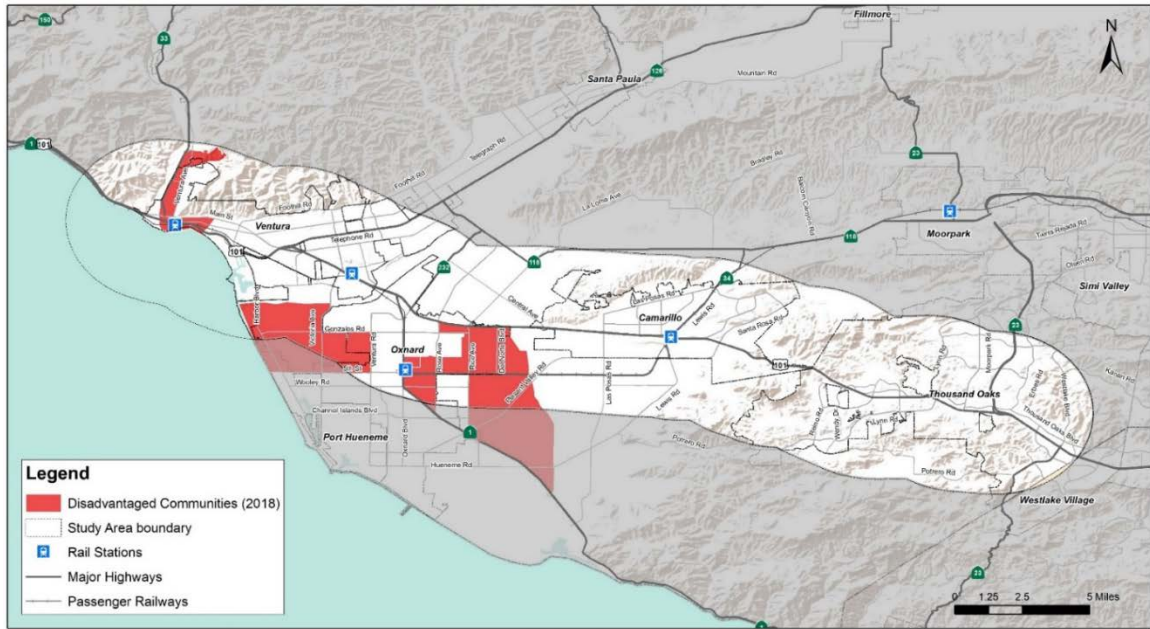
2.5 Disadvantaged Communities

According to the California Energy Commission, disadvantaged communities are those most burdened by pollution from multiple sources and most vulnerable to its effects, taking into account socioeconomic characteristics and underlying health status. A quarter of the proceeds from the State of California's Greenhouse Gas Reduction Fund go to projects that provide a benefit to disadvantaged communities. To determine which communities are disadvantaged, the Office of Environmental Health Hazard Assessment analyzed 20 health and socioeconomic wellbeing indicators at the census tract level to develop the California Communities Environmental Health

Screening Tool (“CalEnviroScreen”). Pursuant to Senate Bill 535, CalEPA designates disadvantaged communities as those at or above the 75th percentile as determined by CalEnviroScreen.

As of the 2018 CalEnviroScreen 3.0 update, there are seven disadvantaged communities with 31,900 people that fall completely or partially within the study area. As seen in **Figure 7**, these communities are concentrated west of Camarillo in and around the cities of Ventura and Oxnard.

Figure 7 – Disadvantaged Communities (2018)



Source: 2018 CalEnviroScreen 3.0

3 TRAVEL MARKET

The transportation system is mainly comprised of two components: Travel Demand (trips) and Transportation Supply (infrastructure). As previously discussed, Ventura County’s primary residential and jobs centers are concentrated in four main jurisdictions (City of Ventura, City of Oxnard, City of Camarillo, and City of Thousand Oaks) along the US 101 Corridor. Over 420,000 residents and nearly 200,000 workers travel in the study area to undertake a variety of activities such as work, school, shopping, leisure, and goods movement. Within the study area, population is concentrated in the four cities and jobs are concentrated in the cities of Ventura and Thousand Oaks.

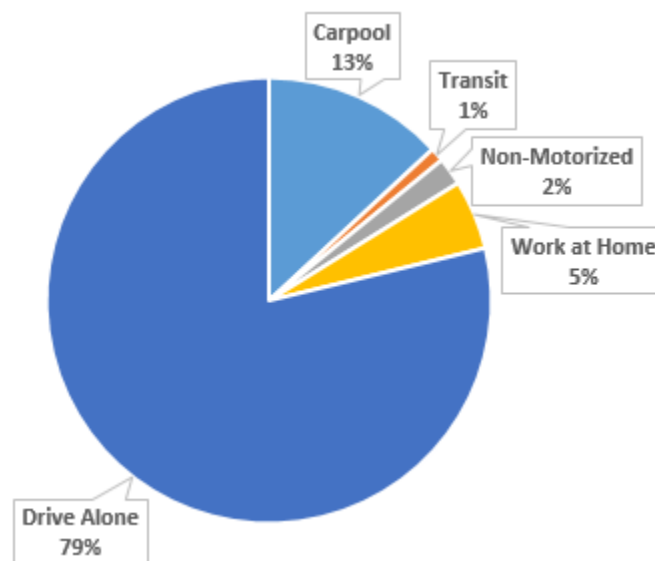
There are over 1.9 million daily auto trips made every day by residents and employees in the study area. This represents 50 percent of the trips in Ventura County. These 1.9 million trips represent most travel in the study area as it is very auto-centric. Data shows over 90 percent of commutes are by car. Highways and arterials in the corridor are the most essential elements of the area’s transportation infrastructure, crisscrossing the study area connecting major activity centers. US 101 is the key route for travel as much of the existing a new residential communities and commercial development is formed along the highway in the corridor area.

3.1 Commute Mode Choice

Data shows 91 percent of commutes are by car in the study area. High auto use is often found in suburban and rural areas with low-density land uses like the US-101 corridor. Transit accounts for just 1 percent of commutes. Notably, when examining the group that commute by car, there is a sizable portion of commuters that carpool. In the study area, 78 percent of workers drove alone and 13 percent carpooled. The share of commuters that carpool is higher in the study area compared to Ventura County as a whole (13 percent in the study area compared to 10 percent in Ventura County). Carpooling is particularly popular in the City of Oxnard where 19 percent of residents in the study area carpool to work.

Work At Home is the third most popular option in the corridor after Drive Alone and Carpool. Five percent of workers in the study area Work At Home. It is particularly popular in the City of Thousand Oaks where nearly 1 in 10 workers works from home. **Figure 8** illustrates the average commute mode share in the study area and **Table 5** show commute mode share for the four main jurisdictions.

Figure 8 – Average Mode Share in the Corridor



Source: U.S. Census Bureau: American Community Survey (2017; 5-year)

Table 5 – Mode Share by City

CITY	DRIVE ALONE	CARPOOL	TRANSIT	NON-MOTORIZED	WORK AT HOME
Ventura	79%	10%	1.8%	3%	6%
Oxnard	76%	19%	1.1%	2%	3%
Camarillo	82%	9%	1.3%	2%	5%
Thousand Oaks	80%	8%	1.2%	2%	9%

Source: U.S. Census Bureau: American Community Survey (2017; 5-year)

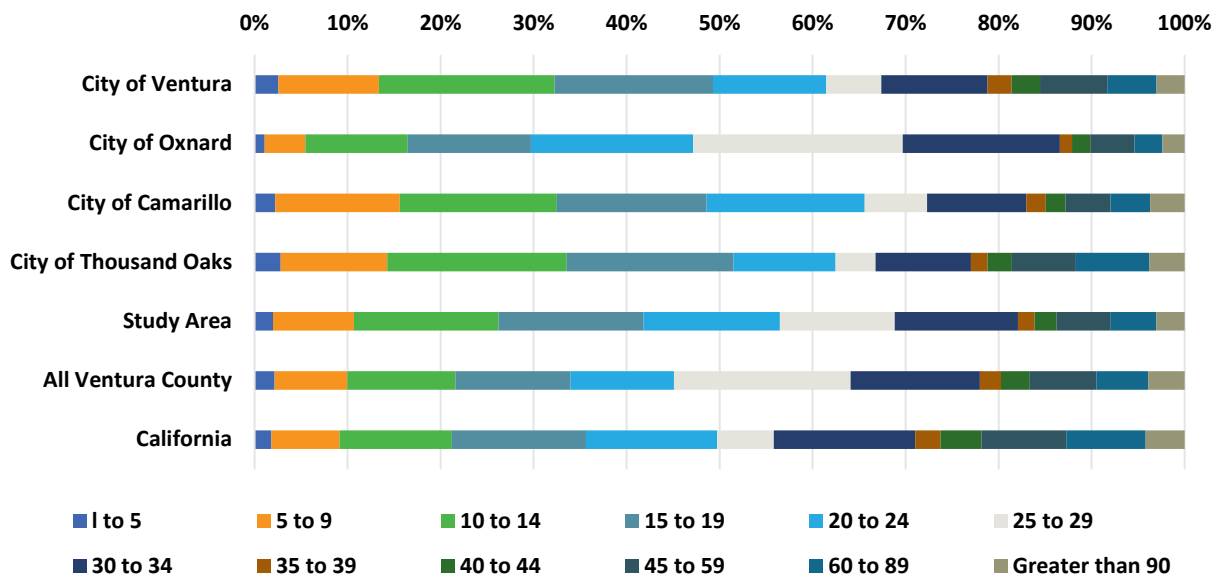
3.2 Commute Time

Except for individuals who work at home, nearly a quarter-million workers in the study area must find a way to travel to their jobs each workday. Their choice of transportation mode, departure time, trip origin and destination all play key roles in determining door-to-door travel time. The collective result of these daily decisions is reflected in the commute times for the study area. The majority (58 percent) of workers commute between 10 to 30 minutes to work. 23 percent commute 30 to 60 minutes, 11 percent commute less than 10 minutes, and 8 percent commute over one hour. A summary of journey-to-work travel time is illustrated in **Figure 9** and tabulated in **Table 6**.

Commuting time varies based on place of residence, place of employment and mode of travel. Across the four main jurisdictions, commute time distribution skewed towards shorter commutes. A majority of workers have commutes under 30 minutes with the plurality of workers having commutes between 10 to 30 minutes. Of the group of commuters with commutes under 30 minutes, workers who live in Oxnard tend to have slightly longer commutes with more workers who have commutes between 25 and 29 minutes compared to the rest of the study area.

When it comes to long commutes, Thousand Oaks stands out for having the most commutes over one hour each way. Thousand Oaks residents who commute outside the city travel south to Los Angeles County and drive north to Camarillo, Oxnard, and Ventura to work. In addition to long drive distances, AM and PM congestion on highways in the Thousand Oaks lengthens travel times.

Figure 9 – Journey-to-Work Travel Times (minutes) by City



Source: U.S. Census Bureau: American Community Survey (2017; 5-year)

Table 6 – Journey-to-Work Travel Times (minutes) by City

CITY	<10 MINS.	10 TO 30 MINS	30-60 MINS	>60 MINS
Ventura	13%	54%	24%	8%
Oxnard	5%	64%	25%	5%
Camarillo	16%	57%	20%	8%
Thousand Oaks	14%	53%	22%	12%
Study Area	11%	58%	23%	8%
Ventura County	10%	54%	26%	10%
California (State)	9%	47%	31%	13%

Source: U.S. Census Bureau: American Community Survey (2017; 5-year)

3.3 Travel Patterns

Daily auto trips are examined to gain valuable insight into the daily activity patterns of travelers in the region. The majority (58%) of daily trips are internal-internal trips meaning they both originate and end within the corridor study area. Daily internal-internal trips typically represent trips to school, shopping, and leisure which are often proximate to home. They also represent trips to/from work for workers who live and work within the study area. City-to-city trip analysis shows for all cities, the majority of trips stay within the city. The largest city-to-city flows are between Oxnard and Ventura. 24,000 trips originate in Oxnard and end in Ventura and 23,000 trips originate in Ventura and end in Oxnard each day. Daily flows by origin-destination pairs are summarized in **Table 7**.

Table 7 – Daily Flow / Travel Patterns Within Study Area

ORIGIN/DESTINATION	CAMARILLO	OXNARD	VENTURA	THOUSAND OAKS	OTHER DESTINATIONS
Camarillo	54,000	9,000	7,000	13,000	47,761
Oxnard	9,000	85,000	24,000	6,000	78,819
Ventura	7,000	23,000	235,000	2,000	74,300
Thousand Oaks	13,000	6,000	2,000	214,000	131,490
Other Origins	48,000	77,000	75,000	135,000	38,620,000

In addition, there are approximately 18,000 daily through vehicle trips along the corridor. The remaining trips travel to or originate from outside of the study area (internal-external trips and external-internal trips). Approximately 28 percent of study area trips stay within the Ventura County, 12 percent to/from Los Angeles County and beyond, and 2 percent to/from Santa Barbara. Workers commuting from homes within the study area to job centers outside of the county account for most of the trips to/from Los Angeles and Santa Barbara counties. Around 17 percent of workers living in Ventura County commute to Los Angeles County for work and around 3 percent of workers living in Ventura County commute to Santa Barbara County for work. Housing costs in Los Angeles and Santa Barbara counties continue to rise and workers choose to live in Ventura County where housing is more affordable. There is also a small share of Ventura County workers who live outside the county. Around 10 percent of Ventura County workers live in Los Angeles County. County-to-county commuting flows are tabulated in **Table 8** and **Table 9**. The generalized origin and destination of the auto trips are depicted in **Figure 10**.

Table 8 – County-to-County Commuting Flows for Workers Living in Ventura County.

WORKPLACE	SHARE
Ventura County	78.5%
Los Angeles County	17.3%
Santa Barbara County	3.3%
Other	0.9%

Source: ACS 2012-2016 via CTPP (Census Transportation Planning Products) County to County Flows

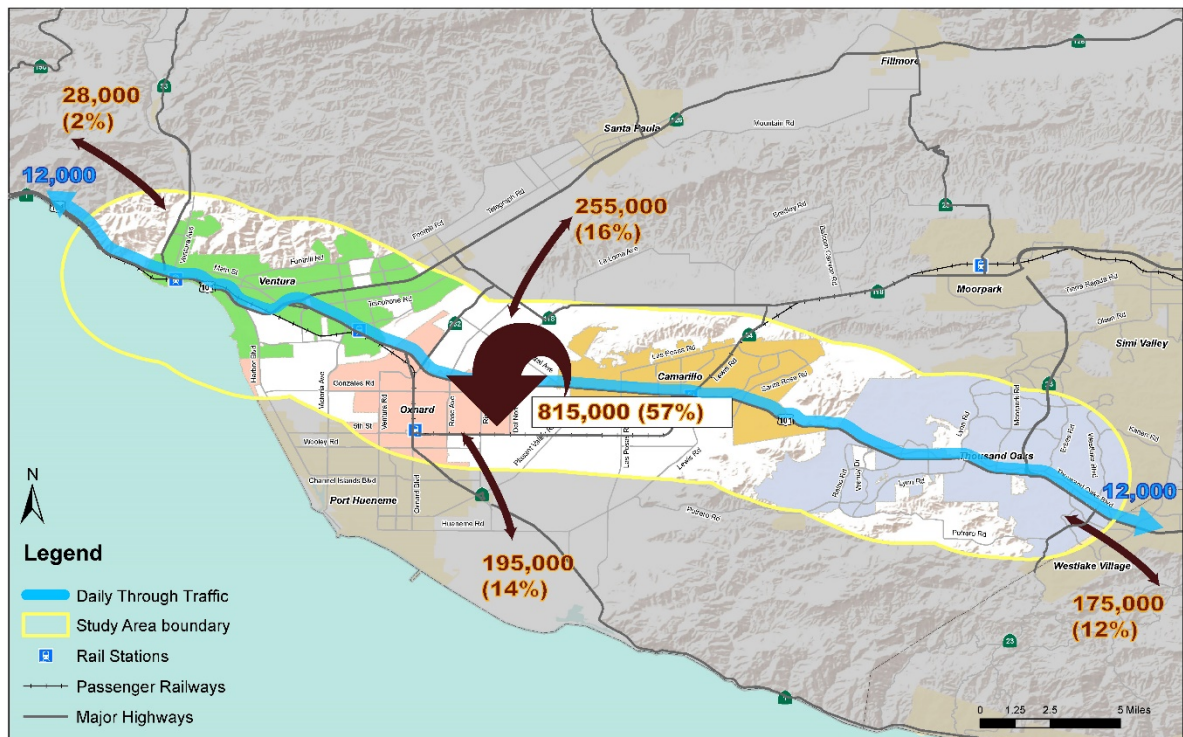
Note: This data includes all of Ventura County (including outside of the study area)

Table 9 – County-to-County Commuting Flows for Workers Working in Ventura County

WORKPLACE	SHARE
Ventura County	87.5%
Los Angeles County	10.8%
Santa Barbara County	0.6%
Other	0.1%

Source: ACS 2012-2016 via CTPP (Census Transportation Planning Products) County to County Flows
 Note: This data includes all of Ventura County (including outside of the study area)

Figure 10 – Existing Daily Auto Trips in and to/from the Corridor



4 FREEWAY

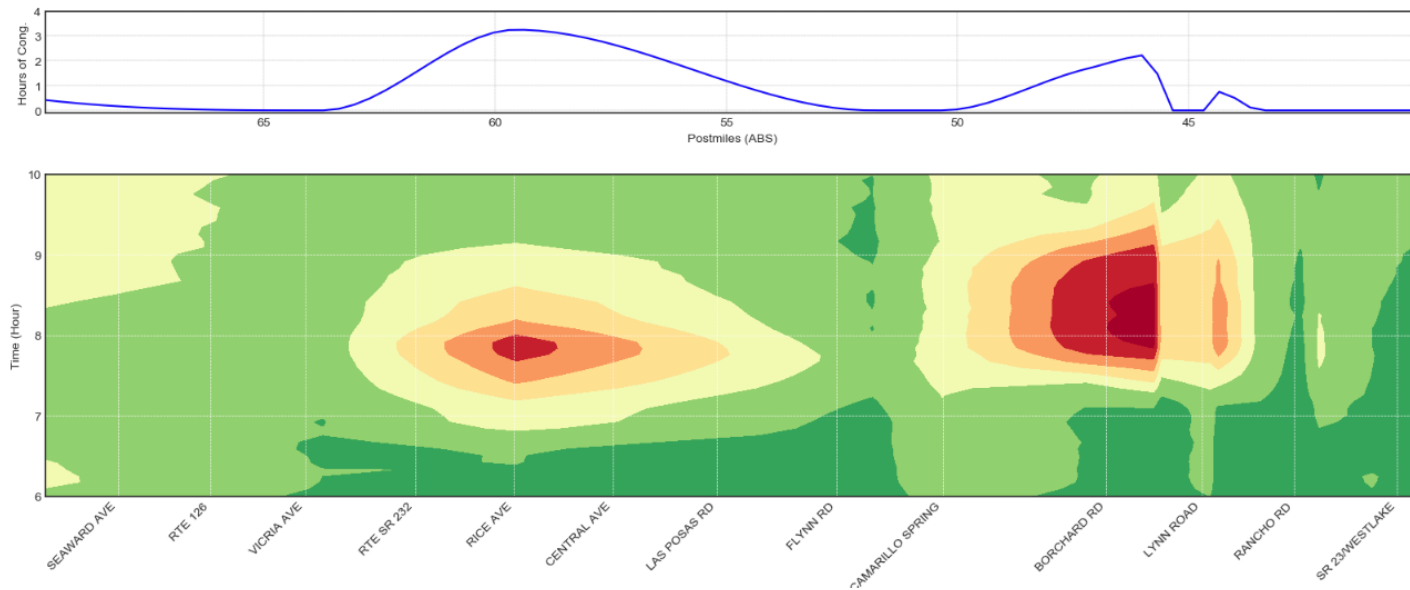
Built in the late 1950s and opened in April of 1960; currently, the US 101 Corridor in the project area has generally three lanes in each direction from SR 33 in the City of Ventura to Moorpark Road in Thousand Oaks and four lanes from Moorpark Road to east of SR 23. It currently has no high occupancy vehicle (HOV) lanes and a limited areas with auxiliary lanes, which are both the subject of a major study by the Ventura County Transportation Commission (VCTC) and Caltrans. The freeway carries from a high of just over 200,000 daily trips in Thousand Oaks on the east side near SR 23 to approximately 150,000 in mid-corridor in Camarillo, to a low of 75,000 west of SR 33 on the western end of the corridor. Peak hour volumes in the corresponding segments range from 19,000 vehicle per hour (vph) in the east to 12,000 middle, and a low of about 6,000 vph on the western end of the corridor. With the diversity of the environment and the origin-destinations that it connects, the corridor's daily and peak hour traffic flows yield some unique operational and congestion patterns and issues from both geographical and time of day standpoint:

- Unlike other freeway corridor in Southern California which exhibit generally similar levels but typically reversed capacity issues and congestion in opposite peak, the typical AM and PM peaking patterns and locations of congestion on the US 101 corridor are significantly different in either peak. The congestion heat maps, **Figure 11** and **Figure 13**, depict typical morning and afternoon congestion patterns along the study corridor. The line graphs identify locations and hours of congestions when speed drops below 45 miles per hour. **Figure 12** and **Figure 14** provide Level-of-Service (LOS) based demand over capacity.

Figure 11 and **Figure 13** display the duration of congestion metric (as a vertical line chart) along with a congestion scan – for the study corridor's freeway lanes. A congestion scan is a two-dimensional contour plot, showing the average weekday traffic speeds with time of day on the vertical axis and distance along the study corridor on the horizontal axis.

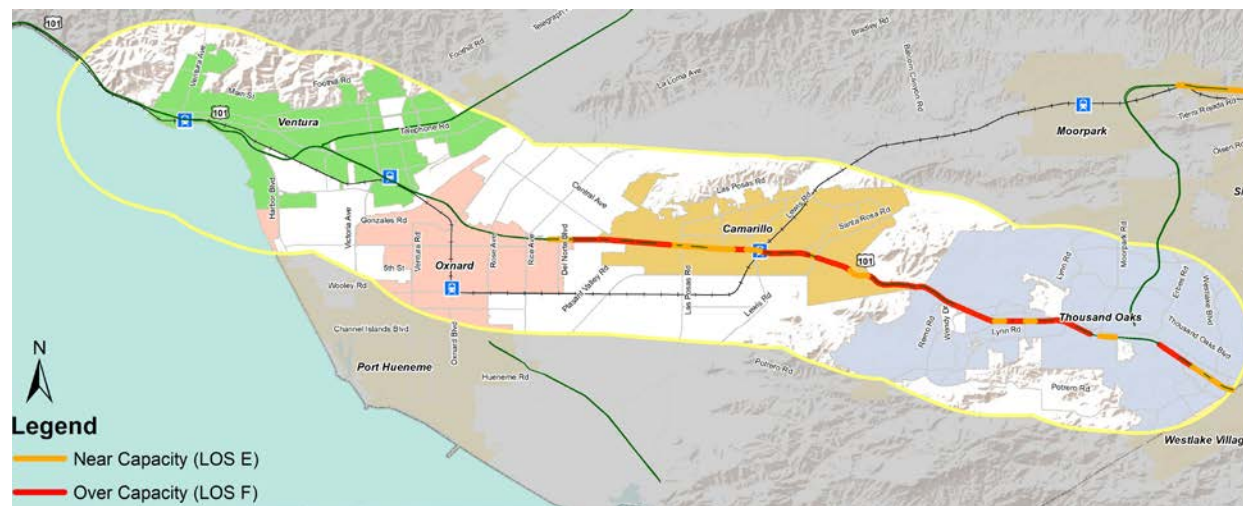
- Typical morning congestion patterns along the study corridor, as shown in **Figure 11**, are considerably lighter than the evening and are concentrated eastbound in the eastern portion of the corridor approaching SR 23 and towards the Los Angeles County line. As shown in **Figure 11**, during the AM peak period, the stretch of freeway between the Vineyard Avenue (SR 232) and Rice Avenue is congested for about 2 hours from 7:00 AM to 9:00 AM and the stretch of freeway between Camarillo Spring Road and Lynn Road is congested for about 2.5 hours from 7:00 AM to 9:30 AM.
- In contrast, evening congestion patterns are consistently much heavier and are significantly widespread through a larger portion of the corridor, especially in mid-corridor area from Vineyard Avenue (SR 232) in Oxnard to Lewis Road (SR 34) in Camarillo as shown in **Figure 13**. During the PM peak period, the stretch of freeway between the SR 23 and Ventu Park Road is congested for about 3 hours from 3:30 PM to 6:30 PM; and the stretch of freeway between Camarillo Spring Road and Rice Avenue is congested for about 3.5 hours from 3:30 -6:30 PM.
- It can be concluded by these congestion and duration disparities are due to the traffic composition and highly different patterns in the two peaks. While, in the AM peak, with most of the commercial activity centered still closed, a majority of the traffic is commute and school related. In contrast, in the PM, the composition and volumes of traffic are much more varied and complex, and include shopping, recreational and commercial trips combined with the regular school and commute return traffic. This is rather intuitive since the US 101 corridor serves as an access facility for the majority of the county's concentration of commercial land uses, especially in the central parts of the corridor in Camarillo.

Figure 11 – Typical Southbound US 101 AM Congestion Patterns and Hours of Delay (Speed <45 mph)



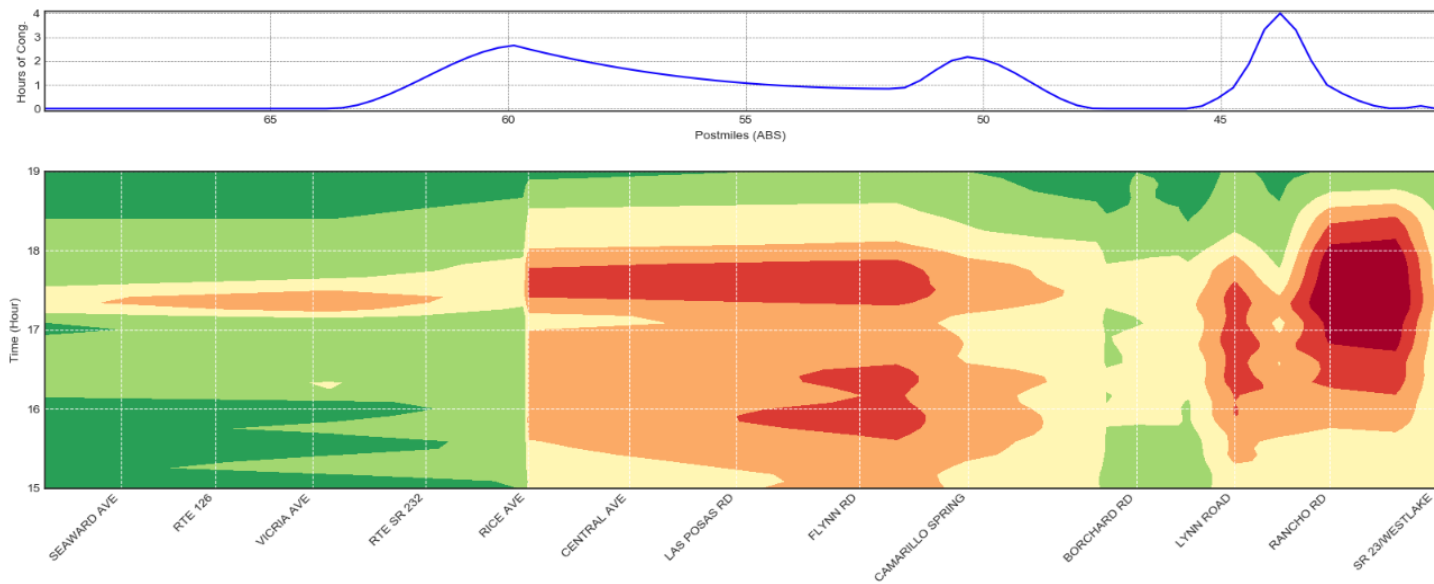
Source: PeMS, Iteris

Figure 12 – AM Peak Period LOS (Demand/Capacity)



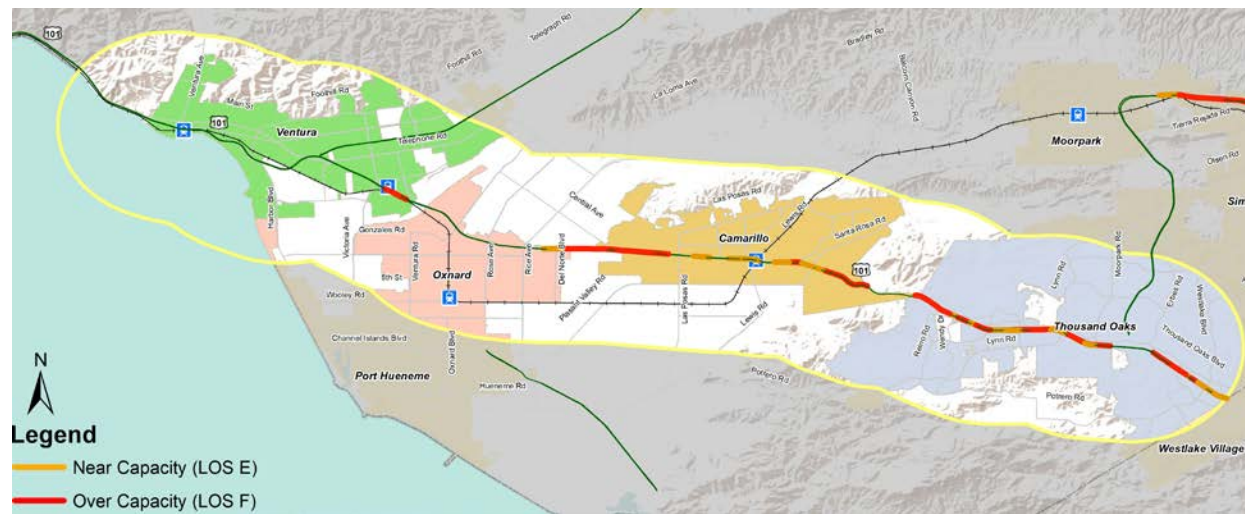
Source: VCTM

Figure 13 – Typical Northbound US 101 PM Congestion Patterns and Hours of Delay (Speed <45 mph)



Source: PeMS, Iteris

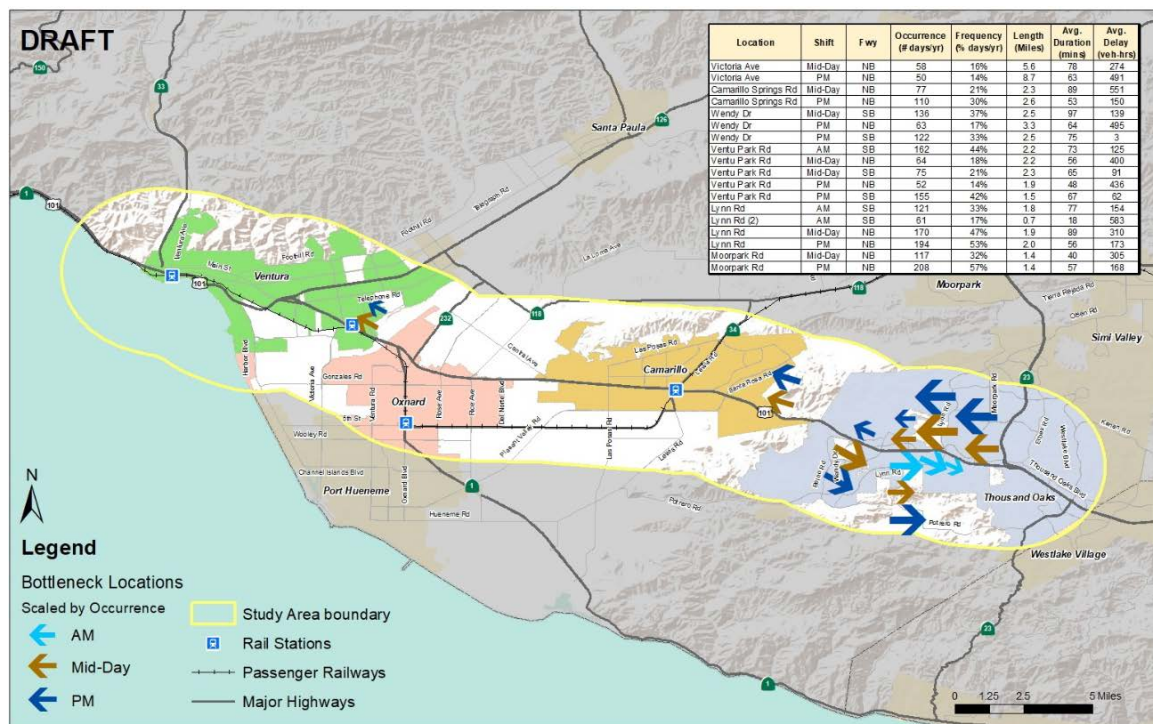
Figure 14 – PM Peak Period LOS (Demand/Capacity)



Source: VCTM

- Investigating the above phenomena more closely with Caltrans traffic and speed data, **Figure 15** shows the locations of recurring, persistent traffic “bottlenecks” along the project corridor. Bottlenecks in this context are defined as locations where significant speed degradation occurs in more that 20 percent of the days throughout the year. Arrows correspond to the morning, mid-day and evening period bottleneck patterns by direction and proportional in magnitude, as listed in the accompanying table.
- This data also corroborates the previous observations, confirming that the evening and mid-day congestion patterns are much more pronounced than the morning, with some segments from Lynn Road to Wendy Drive exhibiting recurring delay patterns that consistently occur between 35 to 47 percent of the days during the year, with significant average delays (as high as 200 vehicle hours), lasting for 60 to 90 minutes in the afternoon periods.

Figure 15 – Recurring "Bottleneck" Locations



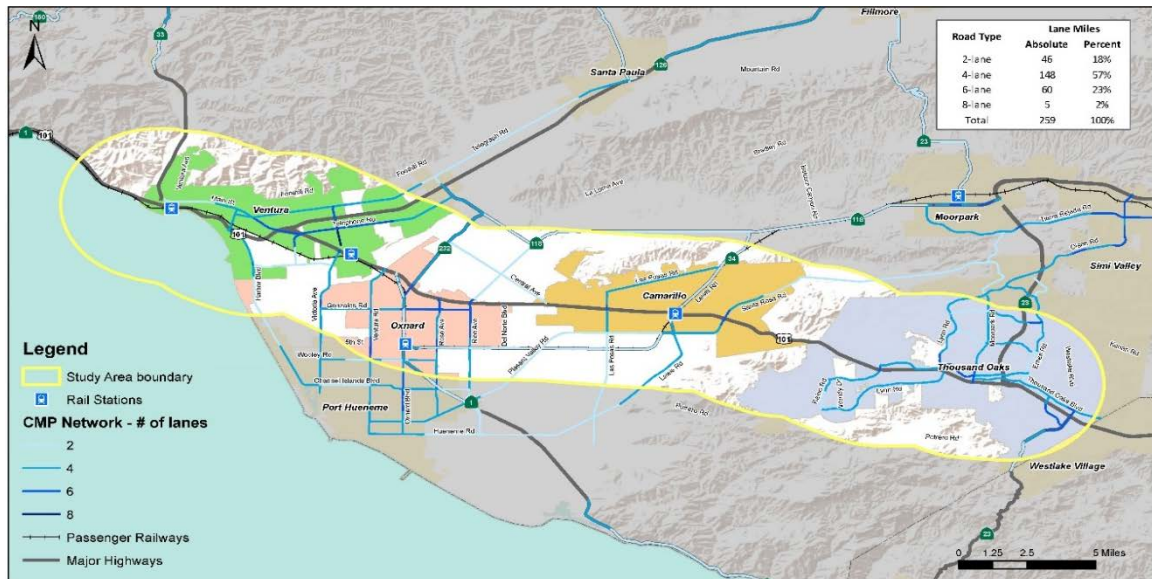
Source: Caltrans PeMS, Iteris

The major current improvement efforts along the US 101 Corridor include primarily the current VCTC/Caltrans effort called a Project Approval and Environmental Documentation (PA&ED), generally from the SR 33 in the City of Ventura to SR 23 in Thousand Oaks which investigates the development of improvement alternatives including HOV lanes and other related enhancements adjacent to the corridor such as interchange and ramp improvements and auxiliary lanes.

5 ARTERIAL/LOCAL STREETS

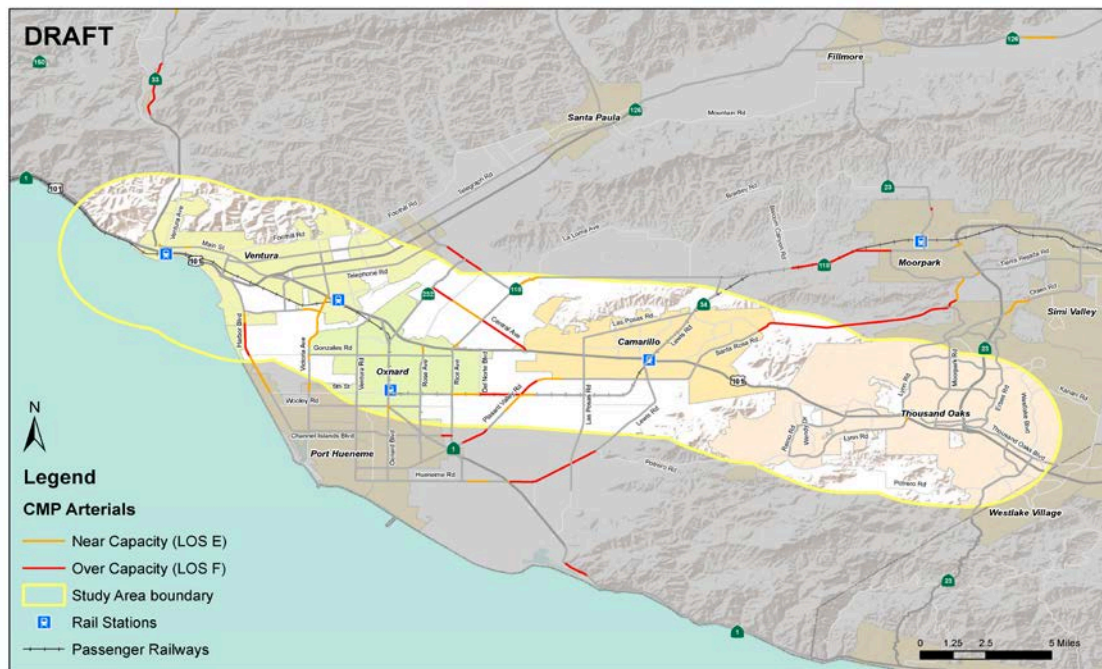
Local streets and roads are the backbones of the Ventura County transportation system. Roads provide important connections within and between local communities, and from the highway system to local streets. Automobiles, buses, bicycles, pedestrians all use the local streets and roads. The arterials identified in the County Congestion Management Plan (CMP) are exhibited in **Figure 16**. The intent of the CMP is to more efficiently link land use and transportation, thereby prompting reasonable growth management programs that will effectively utilize transportation funds, alleviate traffic congestion and related impacts, and improve air quality.

Figure 16 – CMP Network Capacity



There are approximately 260 lane miles of arterials including state highways in the study with more than half (57 percent) being 4-lane roads as shown in Figure 16. The demand over roadway capacity (Level-of-Service) are presented in **Figure 17**. Majority of the CMP roadways have LOS D or better with an average PM peak period speed of approximately 35 MPH within the study area.

Figure 17 – CMP Network Level of Service (LOS)



5.1 Arterials with Highest Daily Volumes

VICTORIA AVENUE (CITY OF VENTURA AND CITY OF OXNARD)

2018 CMP ADT Counts (south of Olivas Park Drive) – ADT: 44,900; AM Peak: 3,430; PM Peak: 3,850

Victoria Avenue is a north-south arterial on the west-side of the study area. The arterial runs through the City of Ventura and along the western edge of the City of Oxnard. The arterial connects the City of Ventura and US 101 to communities on the west-side of City of Oxnard. North of the US 101 in the City of Ventura, the road is lined by local shopping centers, grocery stores, residential communities, the Ventura County government offices, and Buena High School. South of US 101 in the City of Oxnard, the arterial passes through agriculture + open space, residential neighborhoods, local shopping centers, grocery stores, Channel Island marina, and Naval Construction Battalion Center Port Hueneme.

RICE AVENUE (SR 1) (CITY OF OXNARD)

2018 CMP ADT Counts (south of 5th Street/SR 34) – ADT: 36,700; AM Peak: 2,500; PM Peak: 2,700

Rice Avenue is a north-south arterial on the west-side of the study area. The arterial runs south from US 101 through the eastern edge of the City of Oxnard. Rice Avenue connects US 101 to east-side of the City of Oxnard and continues running further south connecting to US 1 towards Point Mugu and Malibu. Along the corridor is a concentration of industrial and commercial businesses north of 5th Street and agriculture land uses south of 5th Street. Traffic on the arterial grew 3 percent between 2017 and 2018.

SANTA ROSA ROAD (CITY OF CAMARILLO)

2018 CMP ADT Counts (west of Moorpark Road) – ADT: 22,100; AM Peak: 2,130; PM Peak: 2,240

Santa Rosa Road is an east-west arterial on the north-side of the study area. The arterial runs from the east-side of the City of Camarillo to the northern edge of the City of Thousand Oaks through Santa Rosa Valley. The road intersects US 101 in the City of Camarillo. Santa Rosa Road connects the City of Camarillo to the north-side to the City of Thousand Oaks, Moorpark, and Simi Valley. The arterial is lined by primarily single-family residential development and agriculture land uses. Traffic on Santa Rosa Road increased 2 percent in 2018 compared to the previous year.

HARBOR BOULEVARD (CITY OF VENTURA AND CITY OF OXNARD)

2018 CMP ADT Counts (north of Gonzales Road) – ADT: 21,700; AM Peak: 1,850; PM Peak: 2,180

Harbor Boulevard is a north-south arterial on the western edge of the study area. Harbor Boulevard intersects the US 101 corridor in the City of Ventura and links the corridor with the west-side of the City of Oxnard and continues on south to Port Hueneme. The arterial runs along the coast and is adjacent to Ventura Marina, Mandalay power plant, Mandalay State Beach, Oxnard Dunes, Oxnard Shores, and Channel Island Marina. Traffic on the arterial has increased and grew nearly 3 percent year-over-year.

MOORPARK ROAD (CITY OF THOUSAND OAKS)

2018 CMP ADT Counts (north of Santa Rosa Road) – ADT: 20,700; AM Peak: 2,490; PM Peak: 1,780

Moorpark Road is a north-south arterial on the east-side of the study area. The road serves as one of the primary north-south routes in the City of Thousand Oaks that runs parallel to SR 33. Moorpark Road connects US 101 to many primarily single-family residential neighborhoods on the north-east side of the community. The arterial is flanked by many activity centers including local shopping centers, grocery stores, Thousand Oaks High School, Thousand Oaks Community Center + Community Park, Kaiser Permanente Thousand Oaks Medical Offices (off Hillcrest Drive), Janss Marketplace shopping mall (open-air mall with box-box stores and casual eateries), and open space recreation areas south of US 101 (Hope Nature Preserve, Los Robles Open Space, and Conejo Ridge Open Space). Traffic on the arterial is growing and traffic increased nearly 5 percent between 2017 and 2018.

Ventura County is facing challenges in maintain its existing roadways. The roadways in Ventura County is estimated to have \$438 million shortfall of funds in maintaining the existing roads, streets and arterials over the next 10 years. In 30 years, there will be a \$2.4 billion need, but only \$1.1 billion is available, leaving a \$1.3 billion shortfall. As discussed in Land Use section, the Guidelines for Orderly Development and SOAR allow for very little development that would generate developer fees to improve arterial connections between the cities.

6 TRANSIT AND ACTIVE TRANSPORTATION

6.1 Transit and Rail

Ventura County is served by thirteen separate service operators providing fixed route services and demand responsive service (Dial-A-Ride). In addition, Metrolink and Amtrak operate daily commuter rail service within Ventura County and in the Los Angeles region. There is also rail service to Santa Barbara County. The key operators within the US 101 corridor area are: Metrolink/Amtrak, Gold Coast Transit District, Ventura County Transportation Commission (VCTC Intercity), Camarillo Area Transit and Thousand Oaks Transit.

The majority of transit and rail service in Ventura County occurs within the study area. Three out of four of the Metrolink and Amtrak stations in the County are in the study area. The entire Camarillo Area Transit fixed route service is within the study area. All of Thousand Oaks Transit's fixed routes are within the study area with the exception of one bus stop on Route 2/2B. 62 percent of Gold Coast Transit District bus stops are within the study area. Nearly all GCTD routes in Ventura are within the study area and about half in Oxnard are within the study area. All VCTC Intercity routes intersect the study area. VCTC Intercity Hwy 101/Conejo Routes 50-55 travel along the US 101 corridor.

FIXED ROUTE TRANSIT

The Gold Coast Transit District operates 17 fixed bus routes, serving the communities of Oxnard, Ventura, Port Hueneme, and Ojai. The VCTC operates an intercity bus network, primarily within Ventura County, but extending into Santa Barbara and Los Angeles Counties. The VCTC intercity bus runs eight routes to Oxnard, Ventura, Camarillo, Thousand Oaks, Moorpark, Simi Valley, Santa Paula, Fillmore, Piru, Carpinteria, Santa Barbara, and Goleta. Thousand Oaks Transit operates five routes, while Camarillo Transit operates two. **Figure 18** shows a map of all fixed-route services in the County. A summary of number of routes, peak vehicles, and communities served by each service provider is included in **Table 10**.

Figure 18 – Fixed-Route Transit Service

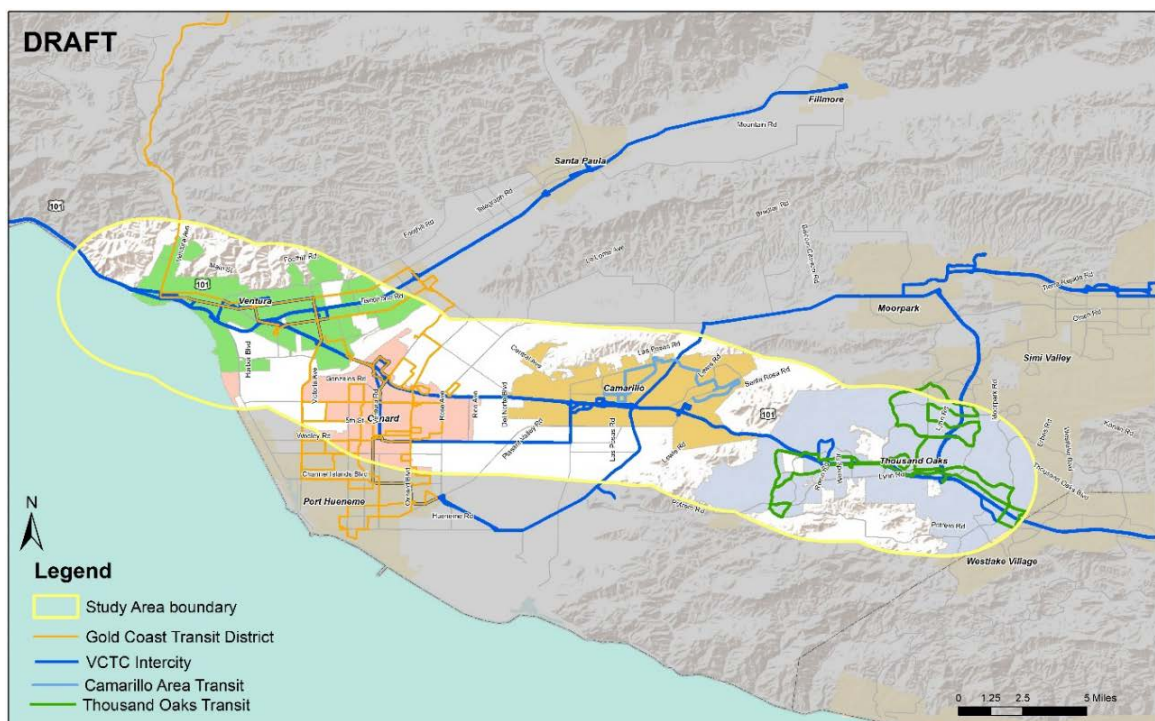


Table 10 – Service Provider Summary

SERVICE PROVIDER	ROUTES	PEAK VEHICLES	BUS STOPS	COMMUNITIES SERVED
Gold Coast Transit District	17	47	683	Oxnard, Ventura, Port Hueneme, Ojai
VCTC Intercity	8	35	96	Oxnard, Ventura, Camarillo, Thousand Oaks, Moorpark, Simi Valley, Santa Paula, Fillmore, Piru, Carpinteria, Santa Barbara, Goleta
Thousand Oaks Transit	5	10	116	Thousand Oaks, Moorpark
Camarillo Area Transit	2	2	14	Camarillo

Source: 2017 NTD

A summary of annual ridership served by each service provider is provided in **Table 11**. Of the service providers, Gold Coast Transit District has the highest number of annual boardings at 3.6 million. This is more than twice as many boardings as all other service providers combined. As shown, ridership productivity is highest amongst transit providers with robust systems and/or bi-directional routes. **Figure 19** illustrates typical weekday boardings and alightings of bus stops in the study area and **Table 12** highlights the bus stops with the most boardings and alightings.

Table 11 – Fixed Route Annual Ridership FY 2017

OPERATIONAL CHARACTERISTICS	GOLD COAST	VCTC INTERCITY	THOUSAND OAKS	CAMARILLO
Boardings	3,616,387	795,830	156,478	82,501
Total Revenue Miles	2,192,066	1,781,057	372,036	54,274
Total Revenue Hours	203,536	70,285	24,908	5,402
Operating Cost	18,924,544	\$8,585,041	\$2,403,475	\$369,788
Operating Speed (mph)	10.8	25.3	14.9	10.0
Passengers per Rev Hr	17.8	11.3	6.3	15.3
Cost per Passenger	\$5.23	\$10.79	\$15.36	\$4.48
Peak Vehicles	47	35	10	2

Source: 2017 NTD

Figure 19 – Fixed-Route Transit Service Bus Stop Typical Weekday Boardings and Alightings

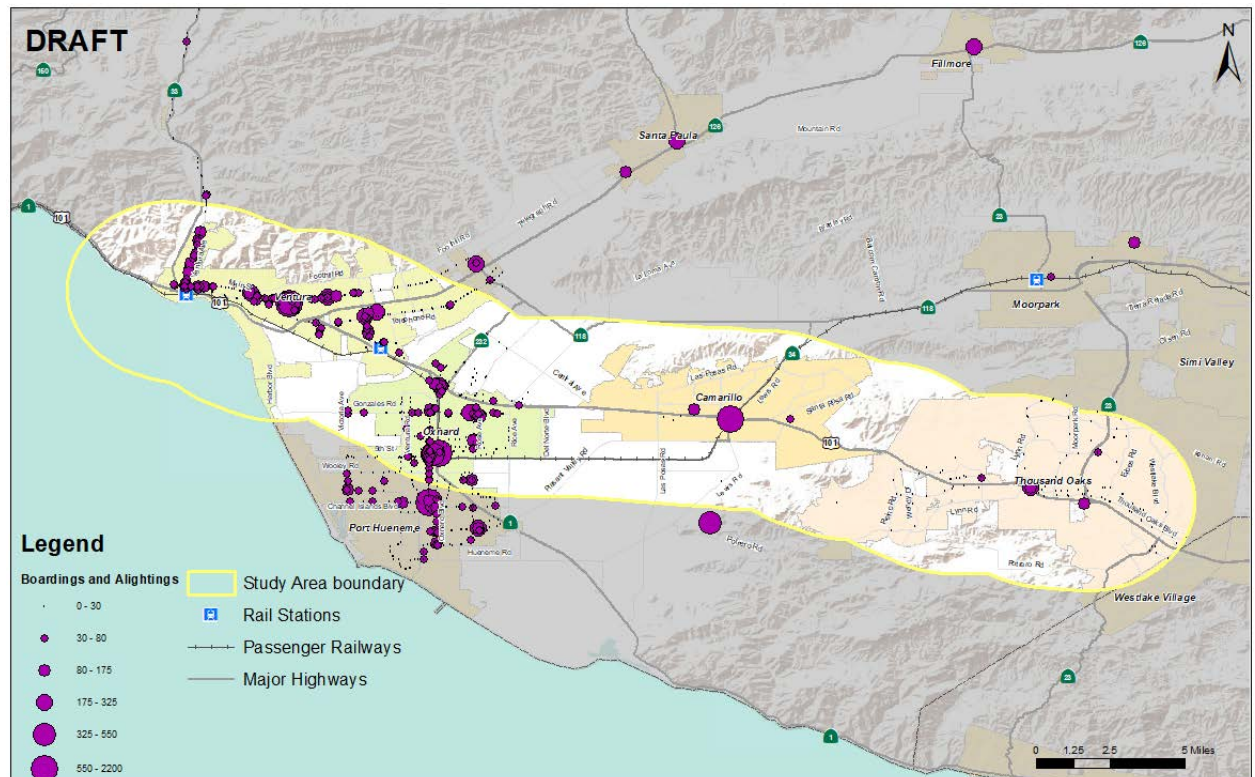


Table 12 – Bus Stops with Most Daily Boardings and Alightings

RANK	BUS STOP	OPERATOR	BOARDINGS	ALIGHTINGS	TOTAL
1	Oxnard Transit Center	Gold Coast	1,150	1,040	2,190
2	Ventura Transit Center	Gold Coast	1,000	960	1,970
3	Camarillo Metrolink Station	VCTC Intercity	280	290	570
4	C Street Transfer Center #1	Gold Coast	220	340	560
5	4 th and B Street #1	Gold Coast	500	20	520
6	4 th and B Street #2	Gold Coast	20	490	510
7	Pacific View Mall	VCTC Intercity	230	210	440

Source: 2018 Gold Coast, VCTC Intercity, Thousand Oaks

DEMAND RESPONSE TRANSIT

Demand-Response Transit (DRT) or Dial-A-Ride (DAR) is a non-fixed route, flexible transit service providing curb-to-curb or door-to-door pickups and drop-offs of passenger in response to calls from passengers to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations. A summary of DRT annual ridership served by each transit provider is provided in **Table 13**.

Table 13 – On-Demand Annual Ridership FF 2017

OPERATIONAL CHARACTERISTICS	GOLD COAST	VCTC INTERCITY	THOUSAND OAKS	CAMARILLO
Boardings	102,424	25,263	83,850	96,942
Total Revenue Miles	735,001	173,820	632,544	272,509
Total Revenue Hours	49,188	11,181	37,681	26,347
Operating Cost	3,028,862	\$740,221	\$2,928,927	\$1,540,503
Operating Speed (mph)	14.9	15.5	16.8	10.3
Passengers per Rev Hr	2.1	2.3	2.2	3.7
Cost per Passenger	\$29.57	\$29.30	\$34.93	\$15.89
Peak Vehicles	23	10	18	14

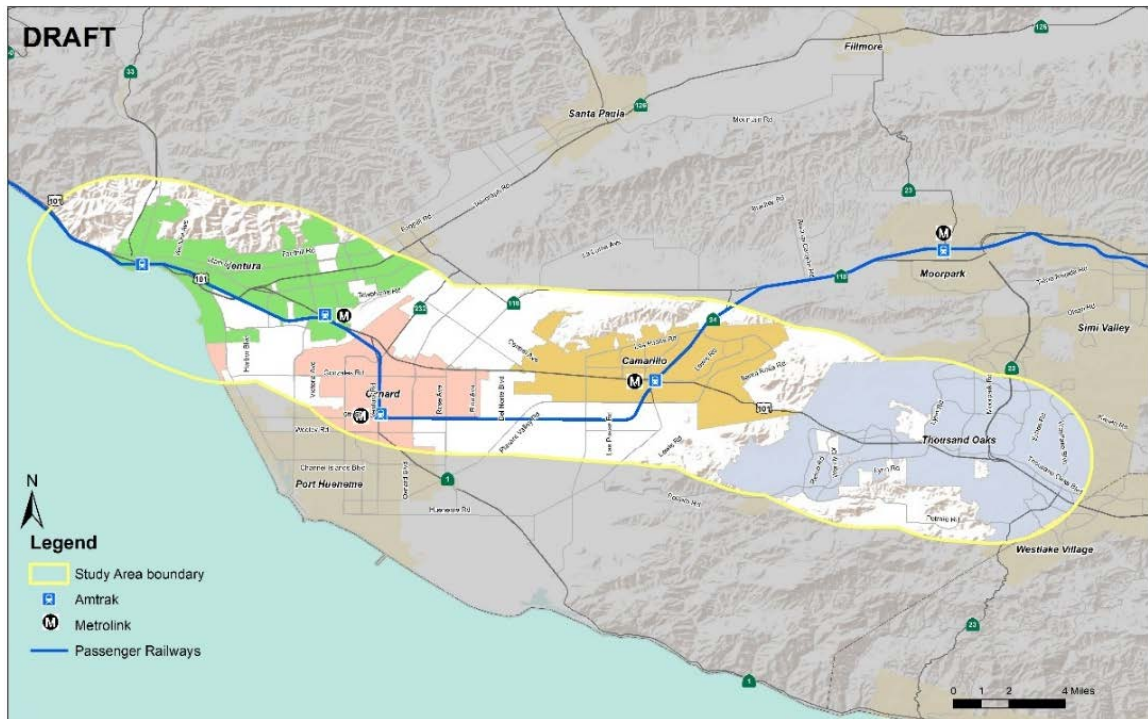
Source: 2017 NTD

PASSENGER RAIL

Metrolink is Southern California’s commuter rail operator in Los Angeles, Orange, Riverside, and San Bernardino and Ventura counties. The Ventura County Line serves three stations within the study area including East Ventura, Oxnard, and Camarillo. From these stations, 3 trains operate weekdays to Los Angeles (Union Station), with return trips in the afternoon and evening. Daily weekday ridership on the Ventura County Line averages 3,700 boardings (Metrolink, 2018). The railroad right-of-way used for passenger travel in the study area is owned by Union Pacific Railroad, which operates freight trains on those same tracks.

Amtrak operates commuter rail between San Luis Obispo, Los Angeles, and San Diego on its Pacific Surfliner line, with stations in Ventura, East Ventura, Oxnard and Camarillo in the Corridor study area. The Pacific Surfliner line operates six northbound trains and six southbound trains daily. A map of commuter rail system in the study area is provided in **Figure 20**.

Figure 20 – Metrolink and Amtrak Services



RIDERSHIP TRENDS

Transit service and ridership in the study area have been decreasing which are the trends experienced by much of the public transit industry. Speculations about the cause of the decline includes but not limited to the rise of transportation network companies such as Lyft and Uber as well as improvements in the general economy and wages that makes it possible for more people to own and operate their own vehicles. A recent SCAG study (Falling Transit Ridership: California and Southern California, 2018) attributes the decline in transit ridership primarily to increased motor vehicle access, particularly among low-income households that have traditionally supplied the region with its most frequent and reliable transit users. Studies also note that decreased ridership reduces funds available for transit service.

As discussed in Travel Markets and Patterns section, 78 percent of workers drive alone and 13 percent carpool. Carpooling is particularly popular in Oxnard where 19 percent of residents in the study area carpool to work. The majority (58%) of workers commute between 10 to 30 minutes to work. However, a very small proportion of corridor commuters use transit or travel by a non-motorized mode. There is a large population that might switch modes if there were more options, particularly options that could save them time. Travelers will choose to ride transit (or non-motorized modes) when they believe the mode has the lowest relative costs as measured by money, time, and uncertainty. If transit is cheaper, faster and more reliable than driving, travelers are more likely to choose transit over driving to get to their destinations. It is also a challenge to travel between cities on the existing transit services.

PARK AND RIDE

There are 10 Park & Ride facilities providing over 1,000 free parking spots in the study area as illustrated in **Figure 21**. Eight out of 10 of the facilities are along the US-101 corridor. Each Metrolink rail station has a Park & Ride facility which are for Metrolink riders only. A summary of all Park & Ride facilities is in **Table 14**.

Figure 21 – Park and Ride

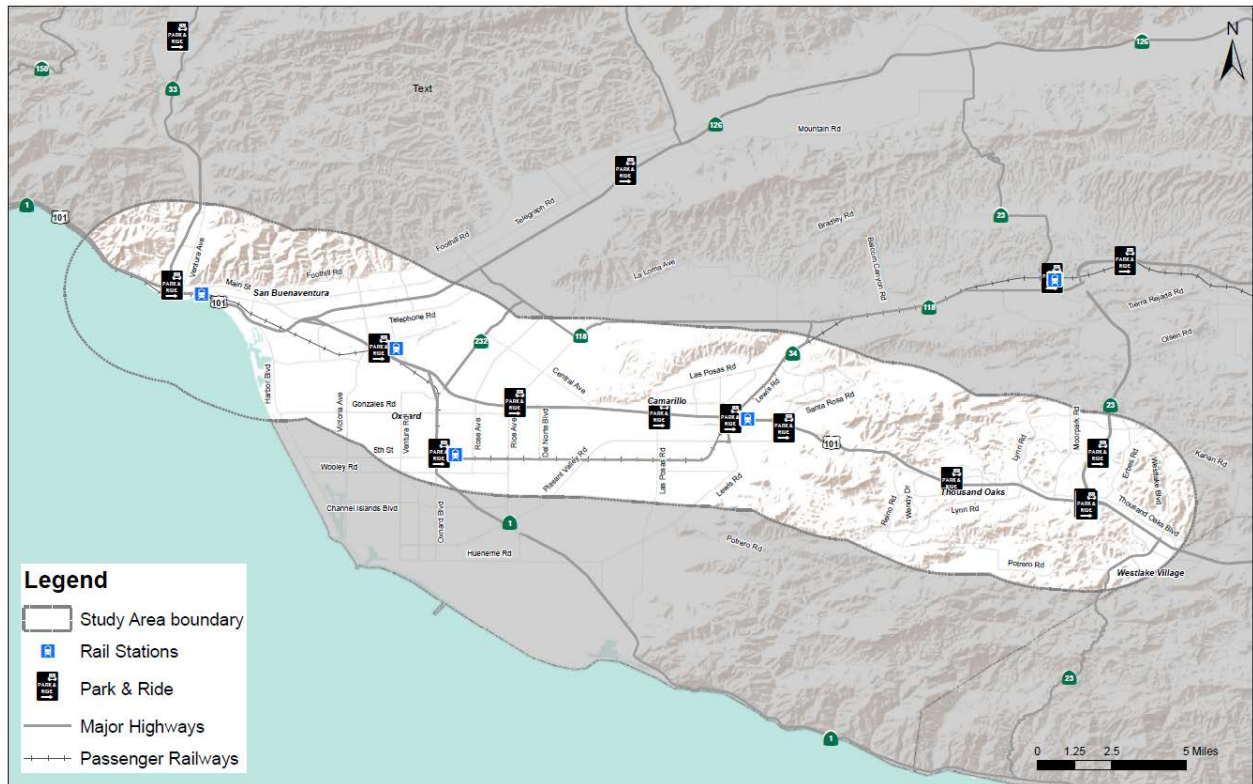


Table 14 – Park & Ride Facilities

FACILITY LOCATION	CITY	SPACES
6175 Ventura Blvd (Metrolink Only)	Ventura	55
Lockwood & Factory Outlet Center	Oxnard	72
2621 E. Ventura Blvd	Oxnard	20
201 E. Fourth St.(Metrolink Only)	Oxnard	75
690 Ventura Blvd	Camarillo	122
30 N Lewis Rd (Metrolink Only)	Camarillo	220
US 101 and Santa Rosa Rd	Camarillo	141
475 Rancho Conejo Blvd	Thousand Oaks	183
Rancho Rd & SR-23 & US-101	Thousand Oaks	183
SR-23 & Janss Rd	Thousand Oaks	n/a
Total		1,071

Source: VCTC; go511.com

6.2 Active Transportation

Active and low-speed transportation, defined here as alternative travel modes that operate at lower speeds than conventional automobiles and focus on non-pollutant means of propulsion including walking, cycling, scooters, and neighborhood electric vehicles are an important part of the Ventura County multi-modal transportation system. Active transportation is also key to supporting transit riders as many transit trips start and/or end on foot. As stated in the SCAG's 2016 RTP/SCS, Ventura County has some active transportation connections between local jurisdictions (Ventura to Ojai), but lacks regional bike routes and signage. However, VCTC has just completed its Bicycle Wayfinding Plan to help improve the convenience and safety of people traveling by bike in Ventura County.

There are four types of bikeway facilities recognized by the State of California – Class I, Class II, Class III, and Class IV facilities. Class I facilities are multi-use paths, often referred to as bicycle paths physically separated from motor

vehicle routes. They are intended to accommodate multiple user groups, including cyclists, pedestrians, and, in some cases, Neighborhood Electric Vehicles (NEVs). Class II facilities are referred to as bicycle lanes and provide exclusive space for cyclists on roadways. Class III facilities are known as bicycle routes are designated by signage and painted “sharrows” in vehicle lanes. Class IV facilities are separated bikeways or “bicycle boulevards”, which are physically separated from motor traffic with a vertical feature, such as a curb. The existing bikeway facilities in Ventura County are shown in **Figure 22**. The miles of existing bikeways in the Ventura County is shown in **Table 15**.

Figure 22 – Bikeway Facilities

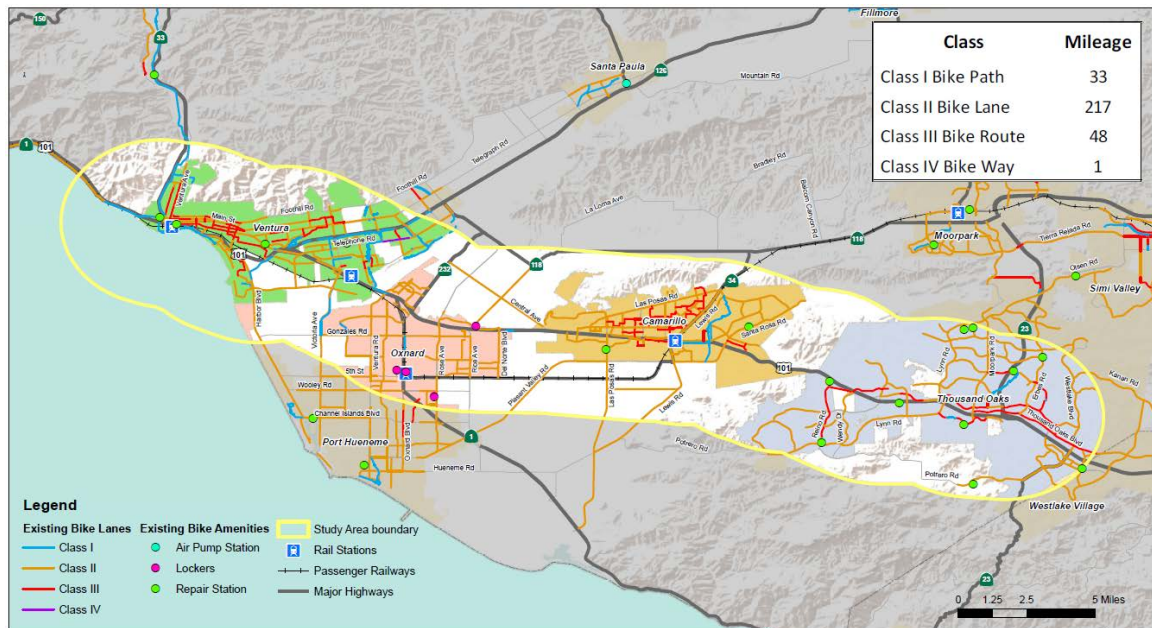


Table 15 – Miles of Existing Bikeways (2012)

BICYCLE FACILITY TYPE	STUDY AREA	VENTURA COUNTY
Class I	33	80
Class II	217	361
Class III	48	70
Class IV	1	1
Total	299	512

Source: SCAG's RTPSCS, Active Transportation, 2016
VCTC Existing Bike Lane Inventory 2018 by City by Class – Centerline Miles

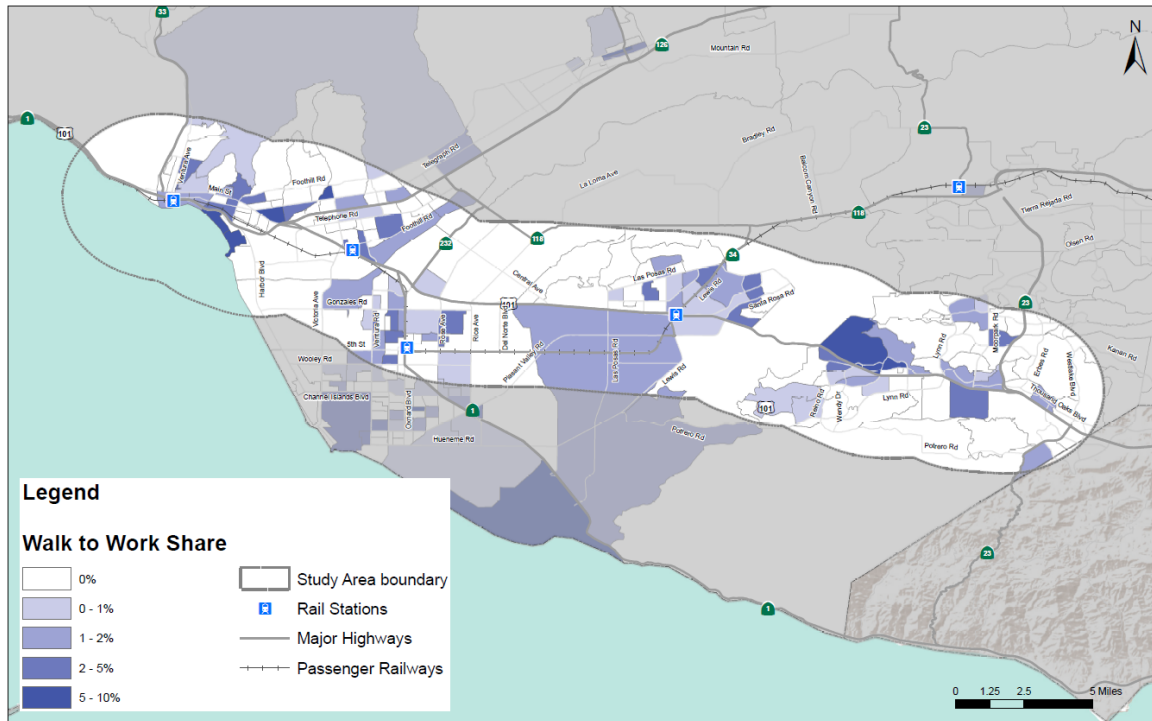
LOCATION OF NON-MOTORIZED COMMUTES

Only 0.7 percent of commuters living in the study area bike to work. There are around 1,500 workers who bike to work representing 65 percent of all Ventura County bike commuters. Workers who commute by bicycle are concentrated in Ventura, Oxnard, and Camarillo. There is a higher concentration of bicycle commuters in Ventura communities south of the US-101 along the coast and along Telegraph Road. In Oxnard, there are communities with high number of bicycle commuters along Oxnard Boulevard and near the St. John's Regional Medical Center. In Camarillo, bicycle commuters are primarily in communities east of SR-34. **Figure 23** illustrates the aggregate of workers who commute by bike by census tract in the study area.

1.8 percent of commuters living in the study walk to work. There are around 3,800 workers who walk to work representing 54 percent of all Ventura County walk commuters. Workers who commute by walking are concentrated in Ventura, Camarillo, and Thousand Oaks. In Ventura, there are a higher number of commuters who walk in neighborhoods south of SR-126. In Camarillo, commuters who walk are concentrated in neighborhoods proximate to commercial centers north of the US-101. In Thousand Oaks, walking commuters live in near

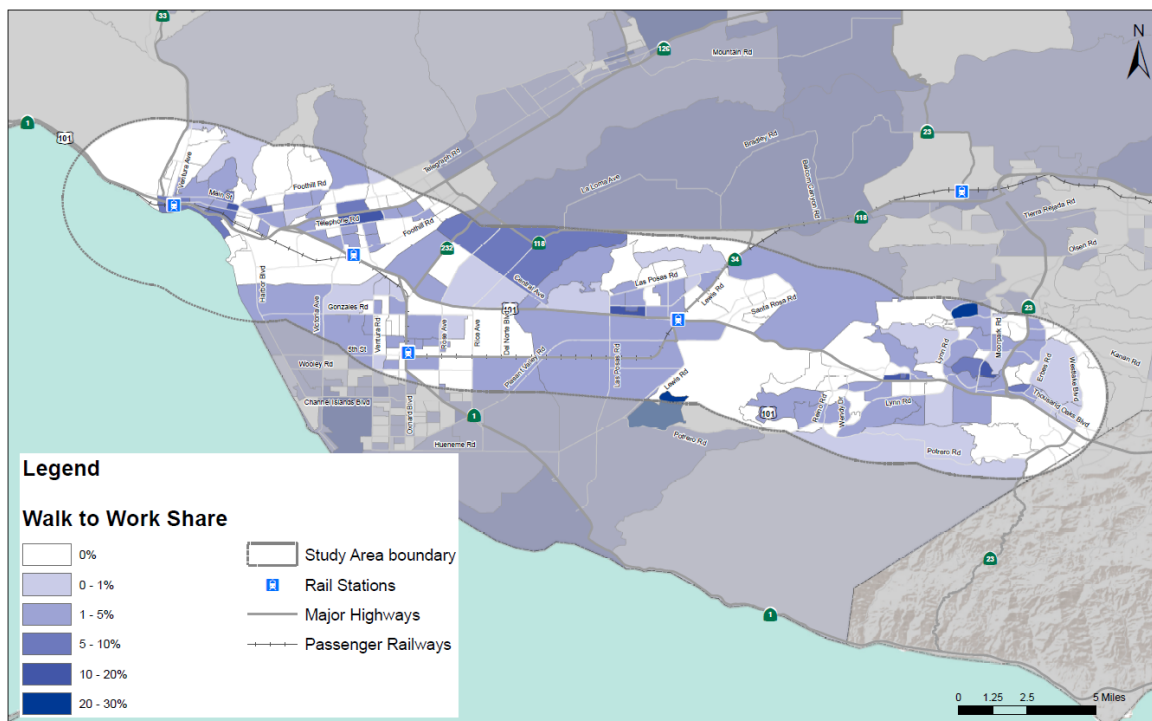
commercial development along Rancho Conejo Boulevard. Commuters who walk to work also live in agriculture areas in unincorporated County areas. **Figure 24** illustrates the aggregate of workers who commute by walking by census tract in the study area.

Figure 23 – Workers Commute by Bicycle



Source: 2017 American Community Survey (5-year)

Figure 24 – Workers Commute by Walking



Source: 2017 American Community Survey (5-year)

7 SAFETY

No transportation facility is designed to be unsafe however; areas with high incidents of recurring collisions may need additional safety-focused countermeasures to address specific issues. These may include additional warning signs in areas of limited visibility or auxiliary lanes and other supportive facilities where breakdowns occur. To analyze the safety within the study area, vehicle collision data was collected for the three-year period from January 1, 2016 to December 31, 2018. The collision data was obtained from the UC Berkeley Transportation Injury Mapping System (TIMS) website and modified to standardize primary and secondary street names and add geographic coordinates where missing. TIMS data comes from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS).

Comparing the study area to the countywide collision data, the frequency and type of collisions are consistent with the study area encompassing the urbanized core of the county as shown in **Tables 6 and 7**. Approximately half of the vehicle collisions in Ventura County occur in the US 101 corridor, with ten percent on US 101 itself. It has the majority of the pedestrian, bicycle and truck involved collisions but a minority of motorcycle collisions. While the number of overall injury collisions is higher in the study area as compared to the county as a whole, the severity of those injuries is relatively lower—due to lower speeds in the urbanized areas. Additional information regarding traffic safety in the study area, including accident analysis of TASAS data and City records, will be available in the upcoming US-101 HOV PA&ED report.

Table 6 – Type of Collision

INVOLVED WITH	TOTAL IN COUNTY	STUDY AREA TOTAL	STUDY AREA AS PERCENT OF COUNTY TOTAL
All Collisions	12,106	6,904	57%
Pedestrian	689	381	55%
Bicycle	770	415	54%
Motorcycle	746	360	48%
Truck	344	176	51%

Table 7 – Injury Collisions

TYPE OF INJURY	COUNTY	STUDY AREA	STUDY AREA AS PERCENT OF COUNTY
Fatal	162	68	42%
Severe Injuries	819	368	45%
Visible Injuries	4,555	2,581	57%
Complaint of Pain	11,611	6,748	58%
Total Injuries	17,147	9,765	57%

7.1 Study Area Collisions

Overall there were 6,904 collisions resulting in 9,765 injuries and 68 deaths in the study area January 1, 2016 to December 31, 2018 according to the TIMS data as shown in **Table 8**. Approximately 20 percent or 1,400 of collisions were on the US 101 mainline and 28 percent of collisions were located on or adjacent to study area state highways (inclusive of US 101). Pedestrian and bicycle involved collisions accounted for approximately six percent of total collisions each. Twenty percent of pedestrian/vehicle incidents resulted in fatalities and nearly every pedestrian and bicycle involved collision resulted in an injury due to the vulnerability of persons traveling by walking or biking as compared to vehicles.

Table 8 – Collision Types and Injuries

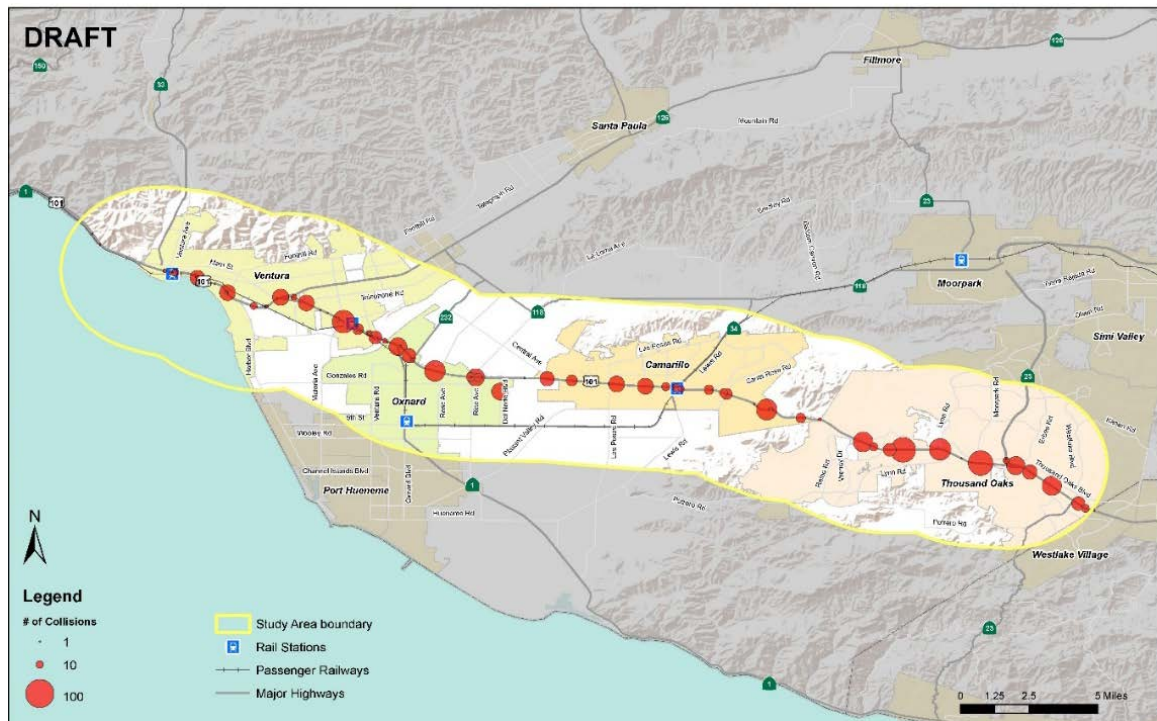
STUDY AREA COLLISIONS	NUMBER	PERCENT	INJURIES AND FATALITIES	PERCENT
Total Collisions	6,904	100%	9,765	100%
Pedestrian Collisions	431	6.2%	417	4.3%
Bicycle Collisions	452	6.5%	420	4.3%
US 101 Mainline	1,400	20.3%	1,944	19.9%
All State Highways	1,933	28.0%	2,696	27.6%

7.2 US 101 Freeway

The vast majority of collisions along the US 101 freeway are rear-end collisions (63 percent of total) caused by unsafe speed (65.5 percent of total and 92 percent of rear-end collisions). Rear-end collisions are caused by following too closely to react to periodic slow-downs in the flow of the freeway and are generally focused around areas of changing topography, visibility, and vehicle weaving conditions. The other most common type of collisions are hit object collisions (18 percent) and sideswipe collisions (9 percent). Top collision hot spots along the mainline of US 101 (from north to south) are near Victoria Avenue in Ventura; Rose Avenue in Oxnard; Camarillo Springs Road in Camarillo, Wendy Drive, Ventu Park Road, Lynn Road, and Moorpark Road in Thousand Oaks. **Figure 25** illustrates the accident locations on US 101 including ramps in the study area.

Overall there were 389 collisions on state highway ramps in the study area with another 229 occurring within 250 feet of a ramp, but not on the state highway itself. Thousand Oaks had the highest concentration of collisions on ramps. Locations with the highest number of ramp collision locations serving US 101 are Victoria Avenue in Ventura; Oxnard Boulevard and Rose Avenue in Oxnard; and Moorpark Road, Hampshire Road, Ventu Park Road, Hillcrest Drive, and Lynn Road in Thousand Oaks.

Figure 25 – US 101 Collisions



7.3 Corridor Arterials

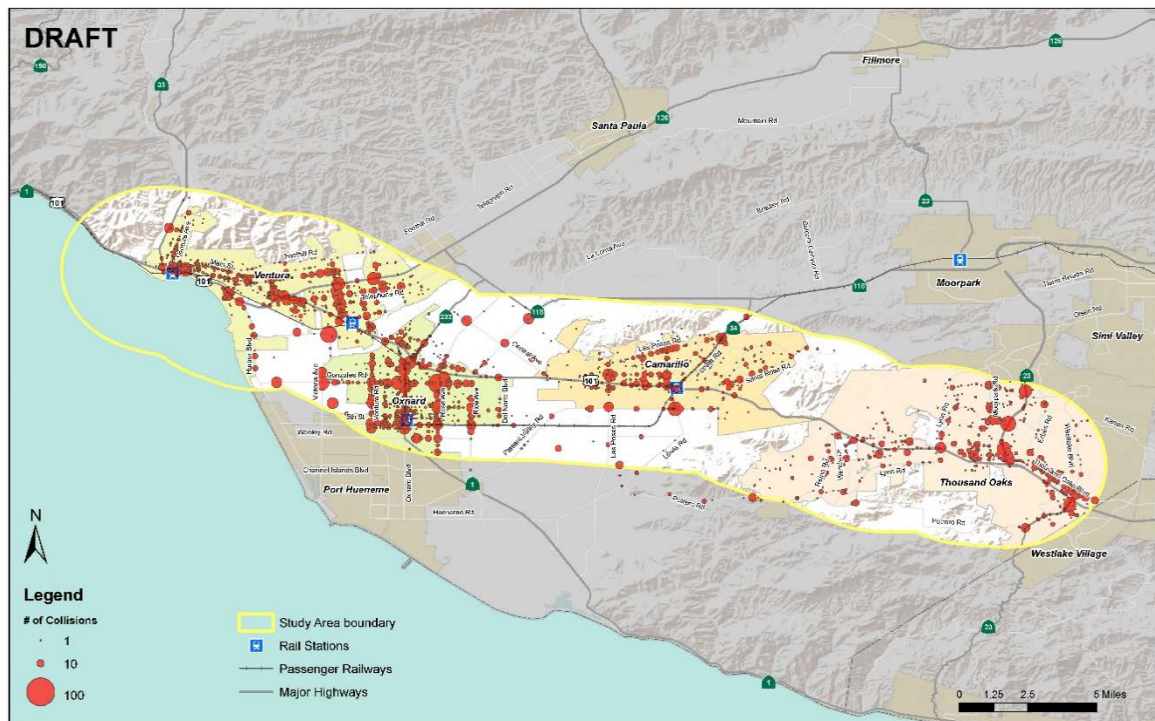
As illustrated in **Figure 26**, corridor arterials with US 101 interchanges with high numbers of collisions are (from north to south):

- Main Street, Telephone Road, and Victoria Avenue in Ventura
- E. Vineyard Avenue (SR 232) and Rose Avenue south of US 101 in Oxnard
- Las Posas Road, Carmen Drive, Ameill Road, and Pleasant Valley Road in Camarillo
- Rancho Conejo Boulevard, Ventu Park, Lynn Road, Moorpark Road and Westlake Boulevard in Thousand Oaks

Parallel arterial corridors with a high number of collisions are:

- Main Street in Ventura
- Gonzales Road in Oxnard
- Central Avenue and SR-118 in the unincorporated area between Oxnard and Camarillo
- Las Posas Road north of Earl Joseph Avenue and 5th Street/Lewis Road (SR 34) in Camarillo
- Hillcrest Drive, Thousand Oaks Boulevard in Thousand Oaks

Figure 26 – Arterial Collisions



7.4 Pedestrian and Bike Collision Locations

The pedestrian and bike collisions are illustrated in **Figures 27 and 28**. The top study area locations for pedestrian involved collisions are Gonzales Road at Rose Avenue in Oxnard and 5th Street at Ventura Road in Oxnard and Telephone Road at US 101 and Victoria Avenue at SR-126 in Ventura.

There are a number of bicycle-involved collision hot spots concentrated around US 101 interchange and ramp-area locations such as:

- Along Main Street in Ventura (especially near the US 101 and SR-33 interchange and US 101 and SR 126 interchange).
- Along Thousand Oaks Boulevard near the US 101 and SR-23 interchange.

Specific locations of concentrated bicycle-involved collisions are Potrero Road at Via Acosta in Thousand Oaks, Thille Street at Victoria Avenue in Ventura, Oxnard Boulevard and Gonzales Road in Oxnard, and Main Street at Mills Road in Ventura.

Figure 27 – Pedestrian Collisions

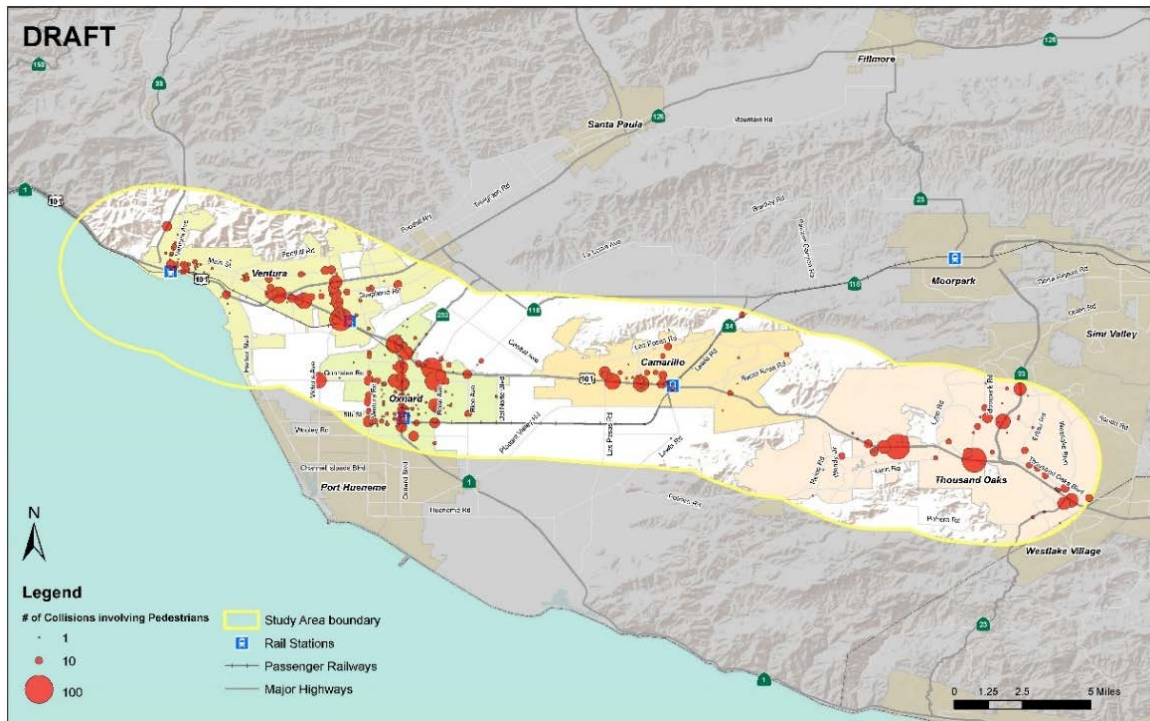


Figure 28 – Bike Collisions

