

Appendix B.2

Mobility Analysis Guidelines



Mobility Analysis Guidelines

September 2024

CITY OF ENCINITAS

MOBILITY ANALYSIS GUIDELINES

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I. LOCAL MOBILITY ANALYSIS

The authority for requiring non-CEQA transportation analysis and requiring project improvement conditions to address identified deficiencies lies in the City's project review authority and General Plan policies to shape the long-term development of the City, as well as protect its environmental, social, cultural, and economic resources.

The local mobility analysis (LMA) evaluates the effects of a proposed development project on the safety, operation, and mobility of circulation network users (automobiles, bicycles, pedestrians, and transit users) in the proximate area of the project. The LMA will:

- Specify the City's screening criteria and determine when a study is required, confirm the study area, and methodologies to assess the potential need for off-site operation improvements to the project study area multi-modal transportation network.
- Ensure that the local transportation facilities will have sufficient capacity to accommodate the project's demand on various modes of travel, and that improvements identified by the City are constructed when needed, consistent with the City's standards and policies.
- Ensure consistency with transportation planning documents (such as the Active Transportation Plan (ATP), Modal Alternatives Plan (MAP), or an equivalent document).
- Establish measures of effectiveness to maintain vehicular level of service (LOS) consistent with the City's General Plan Mobility Element, which may be amended as needed.
- Facilitate site project access and roadway frontage infrastructure improvements to serve the project vicinity.

Detailed information on the analysis methodologies, standards, and thresholds derives from Part II of the ITE Guidelines for Traffic Impact Studies in the San Diego Region (Appendix B). All projects are required to coordinate the scope of study and obtain City Traffic Engineering staff approval prior to preparing the LMA to ensure an efficient review process.

ANALYSIS REQUIREMENTS

A LMA shall be prepared for all projects based on the following screening criteria:

- If a proposed project is in conformance with the Land Use and/or Mobility Element of the General Plan, and it generates traffic greater than 1,000 total average daily trips (ADT) or 100 peak-hour trips.
- If a proposed project is not in conformance with the Land Use and/or Mobility Element of the General Plan, use threshold rates of 500 ADT or 50 peak-hour trips.

In addition to the above thresholds, the following procedure is applicable:

- Any application for a new nonresidential project in excess of 2,000 square feet of building area and any residential project resulting in five or more units, shall submit a traffic study to the satisfaction of the City Traffic Engineer. The traffic study shall be completed by a City-approved traffic engineer.

If the proposed project adds 20 or more peak-hour trips to any existing on- or off-ramp; consult with the City. Additional coordination with Caltrans may be needed. Trip generation as related to Vehicle Miles Traveled (VMT) shall be determined following the guidelines outlined in the City's SB 743 VMT Analysis Guidelines. Trip generation for LOS and other metrics related to bicycle and pedestrian mobility are discussed below. Both the analysis scenarios and the facilities that need to be analyzed are to be confirmed with City staff (see SB 743 VMT Analysis Guidelines) prior to conducting an LMA through the scoping process. The LMA shall use the current state-of-the-practice analysis methodologies to analyze traffic conditions. General requirements for analysis in the LMA are outlined below:

Vehicular/Automobile

Consistent with the state-of-the-practice, the City has an LOS standard of LOS D or better for all City streets. The level of service definitions for different street segments based on their classifications and average daily vehicle trips (ADT) within the City of Encinitas are provided in Table 1. Two-way left turn lane median treatments are noted in the table as "TWLTL."

MOBILITY ANALYSIS GUIDELINES

Table 1 Level of Service (LOS) Standards: Street Segments Average Daily Vehicle Trip Thresholds

ID	Street Type	Lanes (# up to)	Median	Level of Service		
				C	D	E
Connectors Prime (CNP) and Connector Major (CNM) connect neighborhoods and destinations across longer distances (beyond typical bike/walk distance)						
CNP-6M	Suburban Connector	6	Raised Median	50,000	55,000	60,000
CNP-4N	Suburban Connector	4	None	35,000	40,000	45,000
CNM-4M	Suburban Connector	4	Raised Median	30,000	35,000	40,000
CNM-4L	Suburban Connector	4	TWLTL	20,000	25,000	30,000
Suburban Collectors (SC), Urban Village Collectors (UVC) and Rural Collectors (RC) provide mobility in, out and through neighborhoods and destinations						
SC-4M	Suburban Collector	4	Raised Median	25,000	30,000	35,000
SC-4L	Suburban Collector	4	TWLTL	15,000	20,000	25,000
SC-2M	Suburban Collector	2	Raised Median	15,000	18,000	20,000
SC-2L	Suburban Collector	2	TWLTL	10,000	13,000	15,000
SC-2N	Suburban Collector	2	None	5,000	7,500	10,000
SC-1N	Suburban Collector	1	None	4,000	6,500	7,500
UVC-2M	Urban Village Collector	2	Raised Median	15,000	18,000	20,000
UVC-2L	Urban Village Collector	2	TWLTL	10,000	13,000	15,000
UVC-2N	Urban Village Collector	2	None	5,000	7,500	10,000
RC-2N	Rural Collector	2	None	5,000	7,500	10,000
Residential Neighborways (RN) provide local access to residential streets. Often within walksheds of key destinations						

ID	Street Type	Lanes (# up to)	Median	Level of Service		
				C	D	E
RN-2M	Residential Neighborway	2	Raised Median	10,000	13,000	15,000
RN-2L	Residential Neighborway	2	TWLTL	7,500	10,000	13,000
RN-2N	Residential Neighborway	2	None	5,000	7,500	10,000
RN-1N	Residential Neighborway	1	None	3,000	5,000	7,500
Special Designation Corridors provide mobility along Coast Highway 101 (CC) and the El Camino Real (E), often in accordance with specific plans or other focused plans.						
E-6M	El Camino Real Suburban Corridor	6	Raised Median	50,000	55,000	60,000
CCM-4M	Coast Highway 101 Urban Village Corridor	4	Raised Median	30,000	35,000	40,000
CC-4M	Coast Highway 101 Urban Village Corridor	4	None	30,000	35,000	40,000
CC-4L	Coast Highway 101 Urban Village Corridor	4	TWLTL	30,000	35,000	40,000
CC-3M	Coast Highway 101 Urban Village Corridor	3	Raised Median	20,000	25,000	30,000

NOTE: The volumes and the average daily level of service listed are intended as a general planning guideline. Number of intersections, travel speeds, presence of on-street parking, and many other design factors affect roadway capacity.

At a minimum, the vehicular study area should include at least all site access points and major intersections (signalized and un-signalized) adjacent to the site in the study area and all local roadway segments classified in the Mobility Element, intersections, and mainline freeway locations and ramps where the proposed project will add 50 or more peak-hour trips in either direction to the existing roadway traffic. The City Traffic Engineering staff shall approve the final study area prior to preparing the LMA.

At isolated intersections that are not heavily congested, deterministic methods that apply Highway Capacity Manual (HCM) equations for each intersection in isolation can be used. The current version of the HCM reflects current state-of-the-practice methodology. There are several software packages that use deterministic methods such as Synchro, Vistro (previously Traffix), and Highway Capacity Software. The HCM methodology assigns an LOS grade to an intersection based on estimated delay.

For intersections that are closely spaced, have a unique geometry, or are part of a congested corridor, micro-simulation analysis should be performed. Micro-simulation can more accurately evaluate intersections with unique characteristics or in congested systems because the method accounts for how intersections within a system interact with one another. For example, if a vehicle queue extends from an intersection and blocks a different intersection, micro-simulation will account for that condition, whereas deterministic methods will not. Micro-simulation should also be considered when determining required turn lane storage if the analyst believes deterministic methods are not producing reasonable maximum or 95th percentile queue lengths. There are several micro-simulation software packages such as SimTraffic (which is a module of Synchro) and Vissim.

Signalized intersections, all-way-stop intersections, and roundabouts should have the entire intersection average vehicle delay reported. Minor side-street stop intersections should have the worst-case movement average vehicle delay reported.

It is required that the methodology and software proposed for use is coordinated with City staff. City staff may also request the consultant provide micro-simulation electronic files for review.

Pedestrian

The pedestrian analysis shall document existing and planned pedestrian facilities and any substandard or missing facilities (e.g., missing sidewalk, curb ramps, major obstructions) measured from each pedestrian access point (e.g., driveways, on-site sidewalk connections to the street) and extending $\frac{1}{4}$ mile in each direction. The analysis shall also document facilities connecting to transit stops within two blocks of the project. Additional areas may be included to address special cases such as schools and retail centers. Planned facilities shall be determined based on relevant planning documents (e.g., ATP, MAP, Public Roads Standards, or equivalent plan, other City planning documents) to be provided by the City. Applicants are responsible for any improvements to accommodate transitions to existing facilities, including roadway, pedestrian, or bicycle facilities.

Bicycle/Micromobility

The bicycle analysis shall document existing and planned bicycle facilities and any substandard or missing facilities (e.g., bike lane gaps, obstructions) on roadways adjacent to the project, extending one mile in each direction and both directions of bicycle travel shall be evaluated. Planned facilities shall be determined based on relevant planning documents (e.g., General Plan, Mobility Element, ATP, MAP, or current equivalent plan, etc.) to be provided by the City.

Public Transit

The transit analysis shall focus on transit amenities and connectivity to transit, especially for projects within a half-mile walkshed to a major transit stop or a high-quality transit corridor, or a microtransit or future transit options. The analysis shall identify the closest transit routes and stops to the project within a half-mile walking distance and documentation of amenities at existing transit stops (e.g., shelters, maps, benches). Evaluation of transit amenities shall be completed considering the requirements in the latest North County Transit District (NCTD) Bus Stop Development Handbook and improved where demand of the project warrants such improvement. Project applicants shall always coordinate with City and NCTD staff to determine appropriate transit amenities and applicable guidelines. The analysis shall include discussion on the quality of the nearby transit facilities, including frequency of service, and connections to hubs, microtransit, and future transit options, etc.

ANALYSIS METHODOLOGY

Site Access & Circulation

The LMA shall address the following site-specific topics, where applicable:

- Appropriate access management standards for median openings and spacing between major driveway connections
- Potential sight distance problems
- Potential pedestrian, bicycle, or equestrian conflicts
- Relationship of internal circulation facilities to public streets
- Sufficiency of driveway length at major entrances
- On-site circulation as it impacts the public roadway system or access to public transportation and bicycle/pedestrian network
- Potential for shared access among developments, including alternate access roads.

Data Collection & Study Periods

The LMA shall apply the following practices for data collection and study periods:

- Traffic counts shall be collected for each of the study locations and shall be no more than two years old unless older counts are demonstrated to be still valid for Existing Conditions. Counts older than four years old must be updated. Coordination with City staff is required to determine appropriate use of any historic data.
- The LMA shall provide tables and map figures of the traffic count data. Technical Appendices shall include original traffic count data sheets.
- Traffic counts shall typically be conducted during a.m. and p.m. peak periods on weekdays (Tuesdays, Wednesdays, or Thursdays), unless approved by City staff. For typical commute hours, the peak hours will fall between 7 and 9 a.m. and between 4 and 6 p.m.
- Other peak hours, off-peak, or special event peak periods, may also be required depending on the project location and type of use. Projects involving or located near schools may need to evaluate traffic during the associated school hours of operation (e.g., morning drop-off and afternoon dismissal times). If the study necessitates a weekend analysis, Saturday from 11 a.m. to 1 p.m. will be the analyzed peak period. The need for analysis during non-typical commute times shall be approved by City Traffic Engineering staff during the scoping process.

- New development projects can receive credit for any current active trip generating use on the project site. However, no credit is given for vacant sites.
- Traffic data shall not be collected on weeks that include a holiday and non-school session time periods, unless approved by City staff.

Other Data Collection Considerations

Other considerations in data collection documentation and analysis shall incorporate all applicable components that relate to the transportation network, which may include:

- Speed limits and average/85th percentile vehicle speed
- Parking characteristics (on-street parking presence and type, bus stops)
- Signing (static, dynamic, or variable) and pavement markings
- School zone
- Signal phasing and timing plans
- Intersection control type
- Right turn and left turn treatments
- Railroad crossing location
- Ramp metering
- Pedestrian counts
- Bicycle counts
- Transit stops (type, frequency/schedule, dwell time, trip length, bus blockage)
- Roadway classification (functional class, rural/urban designation, access class, area type)
- Cross section elements (number, width and purpose of lanes, shoulder type and width, median type and width, pavement type and rating condition, cross slope, sidewalk, bicycle lane)
- Geometry (horizontal and vertical alignment, storage lengths, intersection/interchange configurations, auxiliary lanes)
- Pedestrian and bicycle accommodation
- Transit (location, position, proportions with shelters and benches)
- Roadside (clear zone width, lateral clearance, driveway counts)

Study Scenarios

The following scenarios shall be evaluated for the LMA:

- Existing Conditions
- Existing Plus Proposed Project Conditions
- Near Term (approved and pending) Conditions
- Near Term Plus Proposed Project Conditions (includes near term approved and pending projects)
- If inconsistent with General Plan: Horizon Year Conditions (typically 20 years in the future)
- If inconsistent with General Plan: Horizon Year Plus Proposed Project Conditions

Trip generation and distribution shall be determined following the VMT Analysis Guidelines in Part I of this document.

PROCESS FOR IDENTIFYING MOBILITY IMPROVEMENTS

In general, a project shall consider feasible improvements to accommodate the addition of the proposed project's vehicular, pedestrian, and bicycle traffic, and both the transit access and increased demand for transit services and facilities.

The following process shall be followed to determine the mobility improvements required as part of a prospective development project:

- **Step 1.** Consult these *Mobility Analysis Guidelines* to determine the required analyses for vehicle-miles traveled (pursuant to SB 743), LOS, and other metrics as necessary.
- **Step 2.** Review for consistency with the goals and policies in the *Mobility Element*, Land Use Element, other elements of the *General Plan*, and the *Climate Action Plan*.
- **Step 3.** Consult the multimodal network maps in the *Mobility Element*, plus the supporting roadway classifications (Table 3) and typical cross-sections in this document, to understand the basic characteristics of the streets in question. The map, table, and cross-sections specify each classified street's mobility function, travel lanes, median type, and potential treatments for parkway and shoulder space.
- **Step 4.** Consult the *Active Transportation Plan*, *Modal Alternatives Plan*, *Local Roadway Safety Plan*, *Public Roads Standards*, and other adopted multimodal plans and standards to determine any pedestrian, bicycle, micromobility, or other special features or amenities that shall be constructed as a part of the required street and transportation improvements.
- **Step 5.** In situations of conflict, multimodal facilities prescribed by the *Mobility Element*, *Active Transportation Plan*, *Modal Alternatives Plan*, *Local Roadway Safety Plan*, and other adopted multimodal plans and standards shall take priority over parking facilities. Specifically:
 - **Parkway:** Features such as sidewalks and road edge treatments shall be consistent with the adopted pedestrian network and applicable design standards.
 - **Shoulder:** Bicycle/micromobility facility shall replace the shoulder if the street is part of the adopted bicycle network. Parking may be substituted for paved shoulder or added if there is sufficient right-of-way width.

Vehicular/Automobile

The following vehicular/automobile standards shall be used to identify if a project is responsible for transportation operational improvements due to expected traffic impacts. If the existing LOS is D or better, preservation of at least LOS D shall be maintained, or acceptable improvements shall be identified and approved by the City Traffic Engineering staff to maintain LOS D.

If at any time the project causes the values in Table 2, Level of Service Standards, to be exceeded on a roadway segment or at an intersection that is currently operating at an LOS E or worse, the project shall identify measures to reduce any operational deficiency and/or make improvements that will result in not exceeding the values in Table 2. Below are the proposed standards for determining when improvements are needed to a roadway segment or an intersection. The total intersection control delay for signalized and all-way stop intersections, and the worst movement delay for side street stop-controlled intersections shall be used to identify the traffic impacts.

Table 2: Level of Service Standards

LOS with Project	Allowable Changes due to Project		
	Roadway Segments		Intersections
	V/C	Speed Reduction (mph)	Delay (sec/veh)
E or F	0.02	1	2

Notes: Transportation improvements shall be required as approved by the City Traffic Engineer for any segment or intersection operating at LOS F. V/C is volume-to-capacity ratio. The roadway capacity is the LOS D standards as defined in Table 1.

Pedestrian

The project shall construct sidewalks to close sidewalk gaps adjacent to the project site, including any planned improvements pursuant to the *Mobility Element, Active Transportation Plan, Local Roadway Safety Plan, Public Roads Standards*, and other adopted multimodal plans and standards.

The project shall remove sidewalk obstructions that limit the pedestrian accessible route to less than four feet in width adjacent to the project site.

The project shall construct curb ramps and meet Americans with Disabilities Act accessibility standards for any intersections adjacent to the project site.

The project shall construct traffic calming and pedestrian-related signal timing changes (e.g., leading pedestrian interval signal timing, pedestrian signal head upgrades, installation of accessible signal features) to accommodate an increase in pedestrian demand on roadways and intersections adjacent to the project site.

Bicycle/Micromobility

Micromobility refers to a range of small, lightweight vehicles operating at speeds typically below 25 km/h and driven by users personally. Micromobility devices include bicycles, e-bikes, electric scooters, electric skateboards, and other wheeled and assistive devices. The project should construct (or preserve space for) any planned bicycle/micromobility facility pursuant to the *Mobility Element, Active Transportation Plan, Modal Alternatives Plan, Local Roadway Safety Plan*, and other adopted multimodal plans and standards.

The project shall consider upgrading adjacent bicycle/micromobility facilities by adding upgraded treatments (e.g., adding buffers or protected bike lanes, where appropriate) to accommodate an increase in bicycle/micromobility demand.

The project shall construct any planned bicycle/micromobility facilities adjacent to the project frontage to be consistent with the *Mobility Element, Active Transportation Plan, Modal Alternatives Plan, Local Roadway Safety Plan*, and other adopted multimodal plans and standards.

Project Fair Share Calculations

The project mitigation fair share contribution shall be calculated based on the percentage of the proposed project's contribution to each study location that is impacted. The fair share contribution is calculated using the total trips generated by the project divided by the total "new" traffic, which is the net increase in traffic volume from all proposed projects and growth using the following formula:

$$\text{Fair Share \%} = \frac{\text{Project Trips}}{\text{Future With Project Trips} - \text{Existing Trips}} \times 100$$

Trips noted above shall correspond to the peak hour where the impact occurs for intersections or daily trips for roadway segments. If a project has impacts during both peak hours as defined herein, then the analysis shall identify the peak hour for fair share assessment that has the highest project burden for the fair share contribution determination.

STREET CLASSIFICATIONS

Table 3 lists the City’s classified streets with details including street type, vehicular function, number of lanes, median type, and typical right-of-way width.

It is important to note that some streets in Table 3, Roadway Classifications, are located within a Specific Plan Area or identified as special case local streets in the Public Road Standards, and therefore may be subject to additional considerations or requirements as listed in those plans. These plans may outline landscape or streetscape improvements, pedestrian, speed and/or median treatments, widths, or other characteristics, and will take precedence over the features and cross-sections described below.

Table 3 Roadway Classifications

ID	Street Typology	Vehicular Function	Lanes	Median	Preferred ROW
Connectors Prime (CNP) and Connector Major (CNM) connect neighborhoods and destinations across longer distances (beyond typical bike/walk distance)					
CNP-6M	Suburban Connector	Prime Arterial	6	Raised median	135'
CNP-4N	Suburban Connector	Prime Arterial	4	None	135'
CNM-4M	Suburban Connector	Major Arterial	4	Raised median	100'
CNM-4L	Suburban Connector	Major Arterial	4	TWLTL	100'
Suburban Collectors (SC), Urban Village Collectors (UVC) and Rural Collectors (RC) provide mobility in, out and through neighborhoods and destinations					
SC-4M	Suburban Collector	Collector	4	Raised median	75'
SC-4L	Suburban Collector	Collector	4	TWLTL	75'
SC-2M	Suburban Collector	Collector	2	Raised median	75'
SC-2L	Suburban Collector	Collector	2	TWLTL	75'
SC-2N	Suburban Collector	Collector	2	None	75'
SC-1N	Suburban Collector	Collector	1	None	75'
UVC-2M	Urban Village Collector	Collector	2	Raised median	85'
UVC-2L	Urban Village Collector	Collector	2	TWLTL	85'
UVC-2N	Urban Village Collector	Collector	2	None	85'
RC-2N	Rural Collector	Collector	2	None	81'

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Residential Neighborways (RN) provide local access to residential streets. Often within walksheds of key destinations					
RN-2M	Residential Neighborway	Local	2	Raised median	70'
RN-2L	Residential Neighborway	Local	2	TWLTL	70'
RN-2N	Residential Neighborway	Local	2	None	70'
RN-1N	Residential Neighborway	Local	1	None	70'
Special Designation Corridors Provide mobility along Coast Highway 101 (CC) and the El Camino Real (E) Suburban Corridor.					
E-6M	El Camino Real Suburban Corridor	Prime Arterial	6	Raised median	150'
CCM-4M	Coast 101 Urban Village Corridor	Major Arterial	4	Raised median	125'
CC-4M	Coast 101 Urban Village Corridor	Collector	4	None	125'
CC-4L	Coast 101 Urban Village Corridor	Collector	4	TWLTL	125'
CC-3M	Coast 101 Urban Village Corridor	Collector	3	Raised Median	125'

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Table 4 Classified Street Network

Street Name	Bound 1	Bound 2	Classification	Vehicular Function	2050 Lanes	2050 Median
Balour Dr	Encinitas Blvd	Melba Rd	Suburban Collector	Collector	2	TWLTL
Balour Dr	Melba Rd	Santa Fe Dr	Suburban Collector	Collector	2	None
Birmingham Dr	San Elijo Ave	Carol View Dr	Urban Village Collector	Collector	2	None
Birmingham Dr	Carol View Dr	Villa Cardiff Dr	Urban Village Collector	Collector	2	None
Birmingham Dr	Villa Cardiff Dr	Lake Dr	Suburban Collector	Collector	2	None
Bonita Dr	Requeza St	Melba Rd	Residential Neighborway	Local	2	None
Bonita Dr	Melba Rd	Santa Fe Dr	Residential Neighborway	Local	2	None
Cerro St	Encinitas Blvd	Avenida De Las Adelsas	Residential Neighborway	Local	2	Median
Cerro St	Avenida De Las Adelsas	S El Camino Real	Residential Neighborway	Local	2	TWLTL
Chesterfield Dr	S Coast Highway 101	Oxford Ave	Residential Neighborway	Local	2	None
Chesterfield Dr	Oxford Ave	Edinburg Ave	Residential Neighborway	Local	2	None
Cornish Dr	E D St	San Elijo Ave	Residential Neighborway	Local	2	None
Crest Dr	Santa Fe Dr	Melba Rd	Residential Neighborway	Local	2	None
E D St	S Coast Highway 101	Stratford Dr	Residential Neighborway	Local	2	None
E F St	S Vulcan Ave	Cornish Dr	Suburban Collector	Collector	2	None
E Glaucus St	N Vulcan Ave	Hygeia Ave	Residential Neighborway	Local	2	None
E Glaucus St	Hygeia Ave	Hymettus Ave	Residential Neighborway	Local	2	None
E Glaucus St	Hymettus Ave	Orpheus Ave	Residential Neighborway	Local	2	None
Edinburg Ave	Liverpool Dr	Chesterfield Dr	Residential Neighborway	Local	2	None
El Camino Del Norte	City Boundary	Rancho Santa Fe Rd	Rural Collector	Collector	2	None
El Camino Real	City Boundary	Leucadia Blvd	El Camino Real Suburban Corridor	Prime Arterial	6	Median
El Camino Real	Leucadia Blvd	Encinitas Blvd	El Camino Real Suburban Corridor	Prime Arterial	6	Median
El Camino Real	Crest Dr	Manchester Ave	Suburban Connector (Prime Arterial)	Prime Arterial	6	Median
El Portal St	La Mesa Ave	La Veta Ave	Residential Neighborway	Local	2	None

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Street Name	Bound 1	Bound 2	Classification	Vehicular Function	2050 Lanes	2050 Median
El Portal St	La Veta Ave	N Coast Highway 101	Residential Neighborway	Local	2	None
Encinitas Blvd ⁴	N Coast Highway 101	I-5	Suburban Connector (Major Arterial)	Major Arterial	4	TWLTL
Encinitas Blvd ⁴	I-5	Calle Magdalena	Suburban Connector (Major Arterial)	Major Arterial	4	Median
Encinitas Blvd ⁴	Calle Magdalena	Westlake St	Suburban Connector (Major Arterial)	Major Arterial	4	Median
Encinitas Blvd ⁴	Westlake St	N El Camino Real	Suburban Connector (Major Arterial)	Major Arterial	4	Median
Encinitas Blvd ⁴	N El Camino Real	Rancho Santa Fe Rd	Suburban Connector (Major Arterial)	Major Arterial	4	TWLTL
Garden View Rd	City Limits	El Camino Real	Suburban Collector	Collector	4	Median
Garden View Rd	El Camino Real	Garden View Ct	Suburban Collector	Collector	4	TWLTL
Garden View Rd	Garden View Ct	Glen Arbor Dr	Suburban Collector	Collector	2	None
Glen Arbor Dr	Garden View Rd	Willowspring Dr	Residential Neighborway	Local	1	None
Glen Arbor Dr	Willowspring Dr	Mountain Vista Dr	Residential Neighborway	Local	1	None
Glen Arbor Dr	Mountain Vista Dr	N Willowspring Dr	Residential Neighborway	Local	1	None
Grandview St	Neptune Ave	N Coast Highway 101	Residential Neighborway	Local	2	None
Hymettus Ave	E Glaucus St	E Glaucus St	Residential Neighborway	Local	2	None
La Costa Ave ³	N Coast Highway 101/Carlsbad Blvd	Piraeus St	Urban Village Collector	Collector	4	Median
La Costa Ave ³	Piraeus St	City Boundary	Suburban Connector (Major Arterial)	Major Arterial	4	Median
Lake Dr	Santa Fe Dr	Birmingham Dr	Suburban Collector	Collector	2	None
Leucadia Blvd	N Coast Highway 101	Orpheus Ave	Urban Village Collector	Collector	2	TWLTL
Leucadia Blvd	Orpheus Ave	N El Camino Real	Suburban Connector (Major Arterial)	Major Arterial	4	Median
Liverpool Dr	Edinburg Ave	Mackinnon Ave	Residential Neighborway	Local	2	None
Lone Jack Rd	Rancho Santa Fe Rd	Lone Hill Ln	Residential Neighborway	Local	2	None
Mackinnon Ave	Santa Fe Dr	I-Villa Cardiff Dr	Suburban Collector	Collector	2	None
Mackinnon Ave	Villa Cardiff Dr	Birmingham Dr	Suburban Collector	Collector	2	None
Manchester Ave	Rossini Dr	San Elijo Ave	Residential Neighborway	Local	2	None
Manchester Ave	San Elijo Ave	I-5	Urban Village Collector	Collector	2	None

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Street Name	Bound 1	Bound 2	Classification	Vehicular Function	2050 Lanes	2050 Median
Manchester Ave ⁵	I-5	El Camino Real	Suburban Connector (Prime Arterial)	Prime Arterial	4	Median*
Manchester Ave	El Camino Real	Encinitas Blvd	Rural Collector	Collector	2	None
Melba Rd	Cornish Dr	Stratford Dr	Residential Neighborway	Local	2	None
Melba Rd	Regal Rd	Bonita Dr	Residential Neighborway	Local	2	None
Melba Rd	Bonita Dr	Balour Dr	Residential Neighborway	Local	2	None
Melba Rd	Balour Dr	Crest Dr	Residential Neighborway	Local	2	None
Montgomery Ave	Rossini Dr	Westminster Rd	Residential Neighborway	Local	2	None
Mountain Vista Dr	N El Camino Real	Village Park Way	Suburban Collector	Collector	2	TWLTL
Mountain Vista Dr	Village Park Way	Glen Arbor Dr	Suburban Collector	Collector	2	TWLTL
Mountain Vista Dr	Glen Arbor Dr	N Willowspring Dr	Suburban Collector	Collector	2	TWLTL
Mozart Ave	Montgomery Ave	San Elijo Ave	Residential Neighborway	Local	2	None
N Coast Highway 101	La Costa Ave	Leucadia Blvd	Coast 101 Urban Village Corridor	Collector	3	Median
N Coast Highway 101	Leucadia Blvd	Encinitas Blvd	Coast 101 Urban Village Corridor	Collector	4	Median
N El Portal St	El Portal St	Neptune Ave	Residential Neighborway	Local	2	None
N Vulcan Ave	La Costa Ave	Encinitas Blvd	Urban Village Collector	Collector	2	None
Nardo Rd	Requeza St	Santa Fe Dr	Suburban Collector	Collector	2	None
Neptune Ave	Grandview St	Sylvia St	Residential Neighborway	Local	1	None
Olivenhain Rd	N El Camino Real	City Boundary	Suburban Connector (Major Arterial)	Major Arterial	4	Median
Orpheus Ave	E Glaucus Rd	N Vulcan Ave	Residential Neighborway	Local	2	None
Piraeus St	Glaucus St	Leucadia Blvd	Suburban Collector	Collector	2	None
Puebla St ¹	Clark Ave	Del Rio Ave	Residential Neighborway	Local	2	None
Puebla St ¹	Del Rio Ave	Saxony Rd	Residential Neighborway	Local	2	None
Quail Gardens Dr	Swallowtail Blvd	Encinitas Blvd	Suburban Collector	Collector	2	Median
Quail Hollow Dr	Saxony Rd	Swallowtail Blvd	Suburban Collector	Collector	2	None
Rancho Santa Fe Rd	El Camino del Norte	Manchester Ave	Rural Collector	Collector	2	None
Regal Rd	Requeza St	Santa Fe Dr	Residential Neighborway	Local	2	None
Requeza St	Nardo Rd	Dead End	Residential Neighborway	Local	2	None
Requeza St	Cornish Dr	I-5	Suburban Collector	Collector	2	None

MOBILITY ANALYSIS GUIDELINES

Street Name	Bound 1	Bound 2	Classification	Vehicular Function	2050 Lanes	2050 Median
Requeza St	I-5	Nardo Rd	Suburban Collector	Collector	2	None
Rossini Dr	Montgomery Ave	Manchester Ave	Residential Neighborway	Local	2	None
S Coast Highway 101	Encinitas Blvd	W D St	Coast 101 Urban Village Corridor	Collector	4	Median
S Coast Highway 101	W D St	W J St	Coast 101 Urban Village Corridor	Collector	4	TWLTL
S Coast Highway 101	W J St	W K St	Coast 101 Urban Village Corridor	Collector	4	TWLTL
S Coast Highway 101	W K St	City Boundary	Coast 101 Urban Village Corridor	Major Arterial	4	Median
S El Portal St	El Portal St	Neptune Ave	Residential Neighborway	Local	2	None
S Rancho Santa Fe Rd	Encinitas Blvd	City Boundary	Rural Collector	Collector	2	None
S San Elijo Ave	Santa Fe Dr	Cornish Dr	Urban Village Collector	Collector	2	None
S Vulcan Ave	E St	Encinitas Blvd	Urban Village Collector	Collector	2	None
S Vulcan Ave	Encinitas Blvd	Santa Fe Dr	Urban Village Collector	Collector	2	None
S Willowspring Dr	S El Camino Real	Encinitas Blvd	Residential Neighborway	Local	2	None
San Elijo Ave	Santa Fe Dr	Chesterfield Dr	Urban Village Collector	Collector	2	None
San Elijo Ave	Chesterfield Dr	Kilkenny Dr	Urban Village Collector	Collector	2	None
San Elijo Ave	Kilkenny Dr	Manchester Ave	Urban Village Collector	Collector	2	None
Santa Fe Dr	I-5	Gardena Rd	Suburban Collector	Collector	2	TWLTL
Santa Fe Dr	Gardena Rd	Nardo Rd	Suburban Collector	Collector	2	TWLTL
Santa Fe Dr	Nardo Rd	Lake Dr	Suburban Collector	Collector	2	TWLTL
Santa Fe Dr	Lake Dr	S El Camino Real	Suburban Collector	Collector	2	TWLTL
Santa Fe Dr	S San Elijo Ave	Rubenstein Ave	Urban Village Collector	Collector	2	None
Santa Fe Dr	Rubenstein Ave	I-5	Urban Village Collector	Collector	2	TWLTL
Second St	W D St	W K St	Residential Neighborway	Local	2	None
Stratford Dr	E D St	Santa Fe Dr	Residential Neighborway	Local	2	None
Summit Ave	Santa Fe Dr	Westminster Rd	Residential Neighborway	Local	2	None
Sylvia St	Neptune Ave	Third St	Residential Neighborway	Local	2	None
Third St	W K St	W B St	Residential Neighborway	Local	2	None
Third St	W B St	Sylvia St	Residential Neighborway	Local	2	None

MOBILITY ANALYSIS GUIDELINES

Street Name	Bound 1	Bound 2	Classification	Vehicular Function	2050 Lanes	2050 Median
Via Cantebria	Garden View Dr	Encinitas Blvd	Suburban Collector	Collector	4	TWLTL
Via Molena	Via Cantebria	El Camino Real	Residential Neighborway	Local	2	None
Via Montoro ²	El Camino Real	Via Cantebria	Residential Neighborway	Local	2	None
Villa Cardiff Dr	Mackinnon Ave	Birmingham Dr	Suburban Collector	Collector	2	None
Village Park Way	Mountain Vista Dr	Encinitas Blvd	Suburban Collector	Collector	4	Median
W B St	Third St	N Coast Highway 101	Urban Village Collector	Collector	2	None
W D St	Third St	N Coast Highway 101	Residential Neighborway	Local	2	None
W K St	Third St	S Coast Highway 101	Residential Neighborway	Local	2	None
W Leucadia Blvd	Neptune Ave	N Coast Highway 101	Residential Neighborway	Local	2	None
Wandering Rd.	N Willowspring Dr	Mountain Vista Dr	Residential Neighborway	Local	2	None
Westlake St	Encinitas Blvd	Requeza St	Suburban Collector	Collector	2	None
Westminster Dr	Summit Ave	Montgomery Ave	Residential Neighborway	Local	2	None
Willowspring Dr	Glen Arbor Dr	Glen Arbor Dr	Residential Neighborway	Local	2	None
Willowspring Dr	Glen Arbor Dr	Encinitas Blvd	Residential Neighborway	Local	2	None
Willowspring Dr	Garden View Rd	Glen Arbor Dr	Residential Neighborway	Local	1	None
Willowspring Dr	Glen Arbor Dr	Mountain Vista Dr	Residential Neighborway	Local	1	None
Willowspring Dr	Mountain Vista Dr	Red Gap Court	Residential Neighborway	Local	1	None
Windsor Rd	Santa Fe Dr	Munevar Rd	Residential Neighborway	Local	2	None
Windsor Rd	Munevar Rd	Villa Cardiff Dr	Residential Neighborway	Local	2	None
Woodlake Dr	Windsor Rd	Lake Dr	Residential Neighborway	Local	2	None

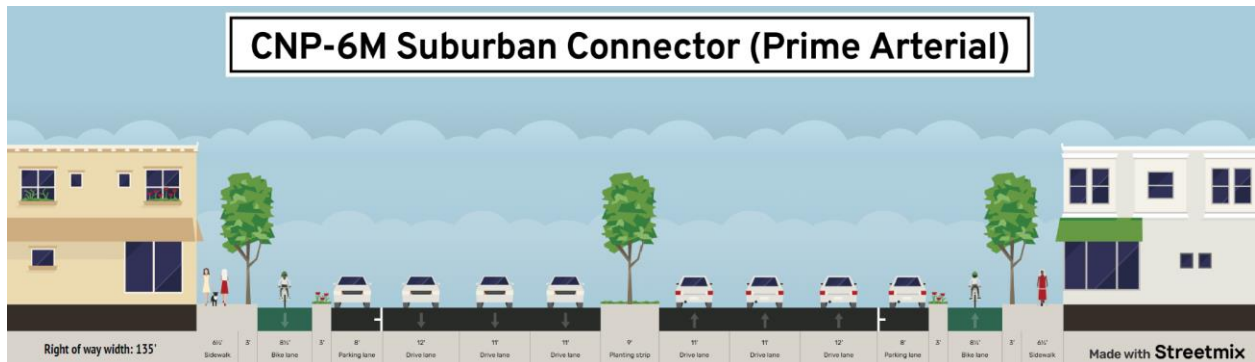
NOTES:

1. The removal of the existing roadblock is not mandated by the inclusion of Puebla St. in the classified network.
2. Four (4) lanes at intersection.
3. La Costa Avenue's classification and anticipated volumes suggests it may be appropriate for 4 lanes capacity.
4. Subject to the provisions of the El Camino Real Specific Plan (ECRSP).
5. No median currently present but due to width of turn lane, the median for this segment of Manchester has been labeled as such.

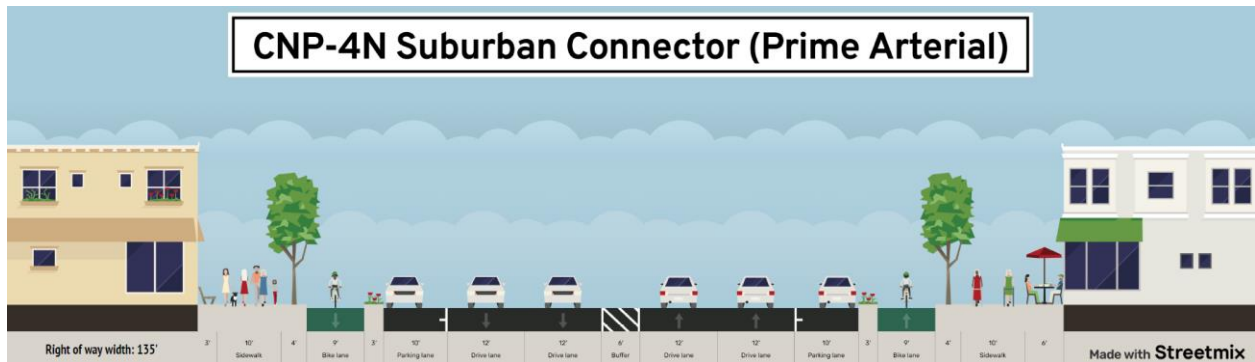
TYPICAL STREET CROSS-SECTIONS

This section provides typical cross-sections for all street types. For special case streets, reference the identified streets list and street cross-sections in the *Public Road Standards*.

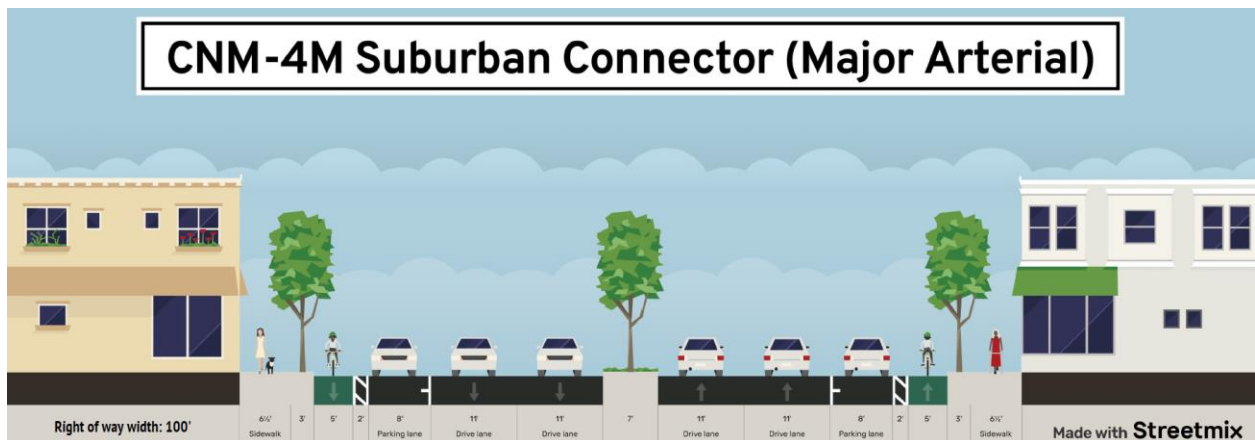
CNP-6M: Suburban Connector (Primate Arterial) – Six Lanes with Raised Median



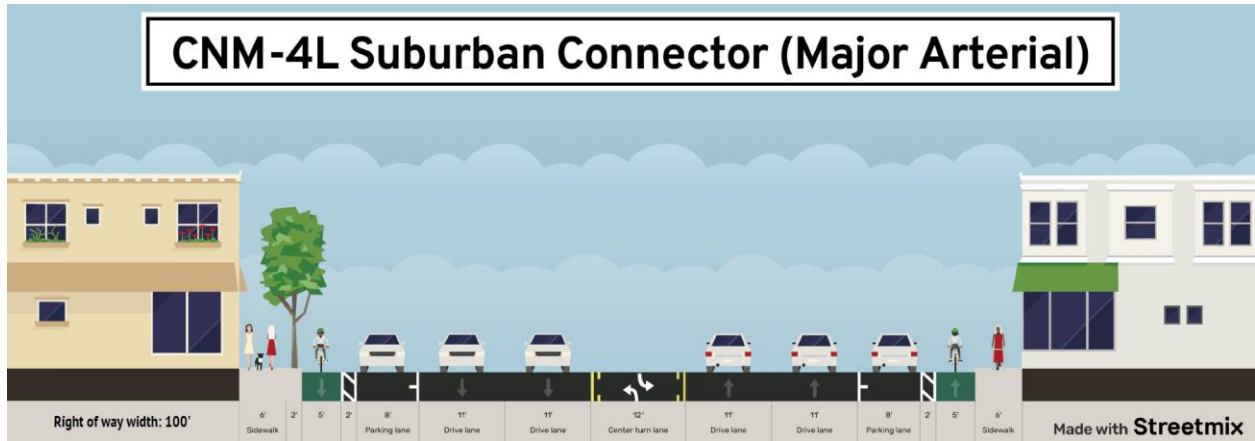
CNP-4N: Suburban Connector (Prime Arterial) – Four Lanes with no Median



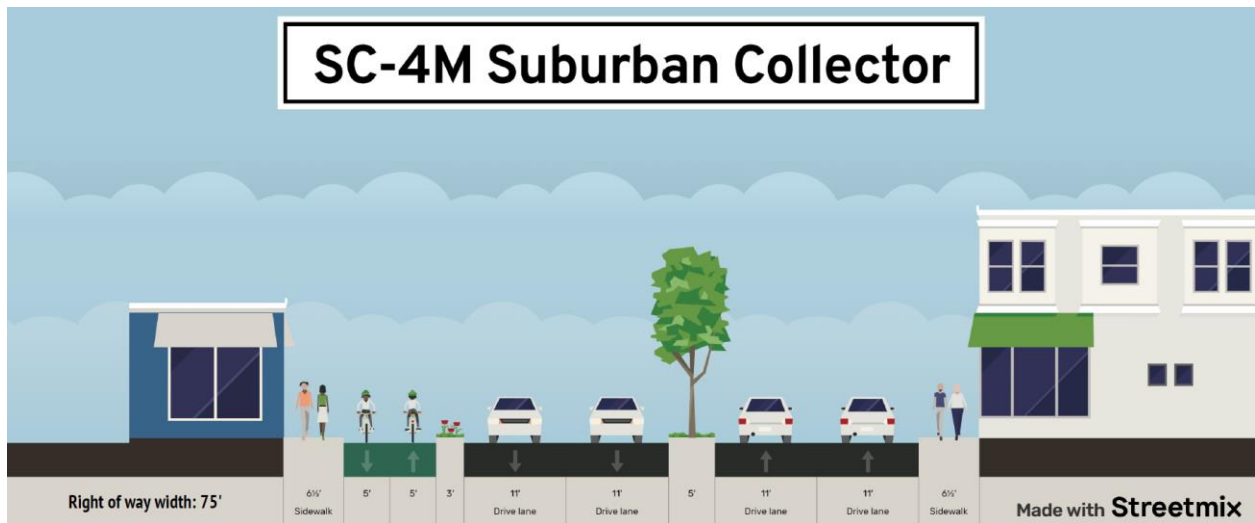
CNM-4M: Suburban Connector (Major Arterial) – Four Lanes with Raised Median



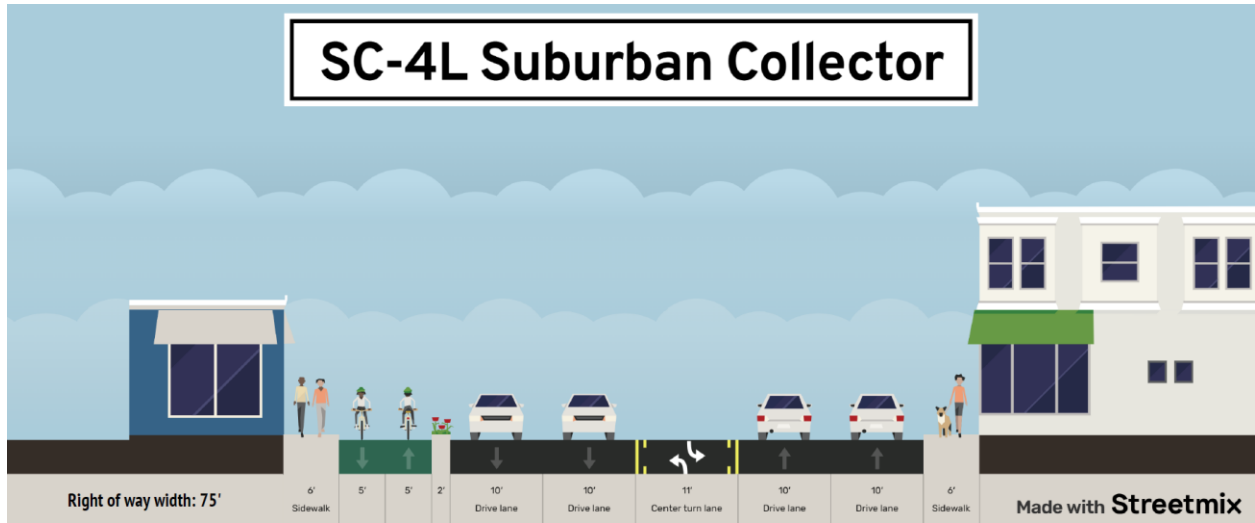
CNM-4L: Suburban Connector (Major Arterial) – Four Lanes with TWLTL



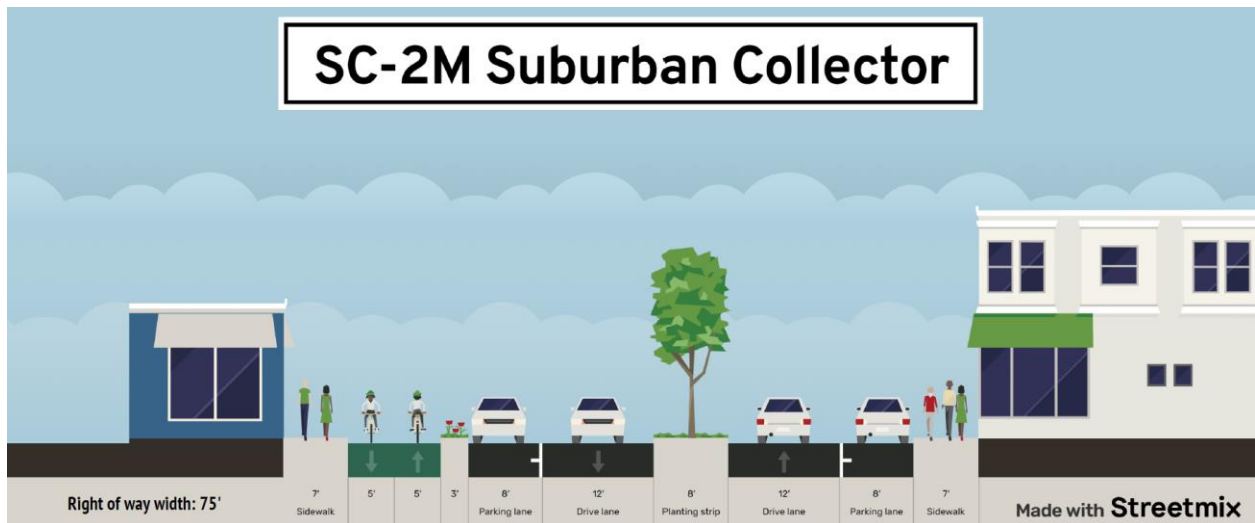
SC-4M: Suburban Collector (Collector) – Four Lanes with Raised Median



SC-4L: Suburban Collector (Collector) – Four Lanes with TWLTL



SC-2M: Suburban Collector (Collector) – Two Lanes with Raised Median



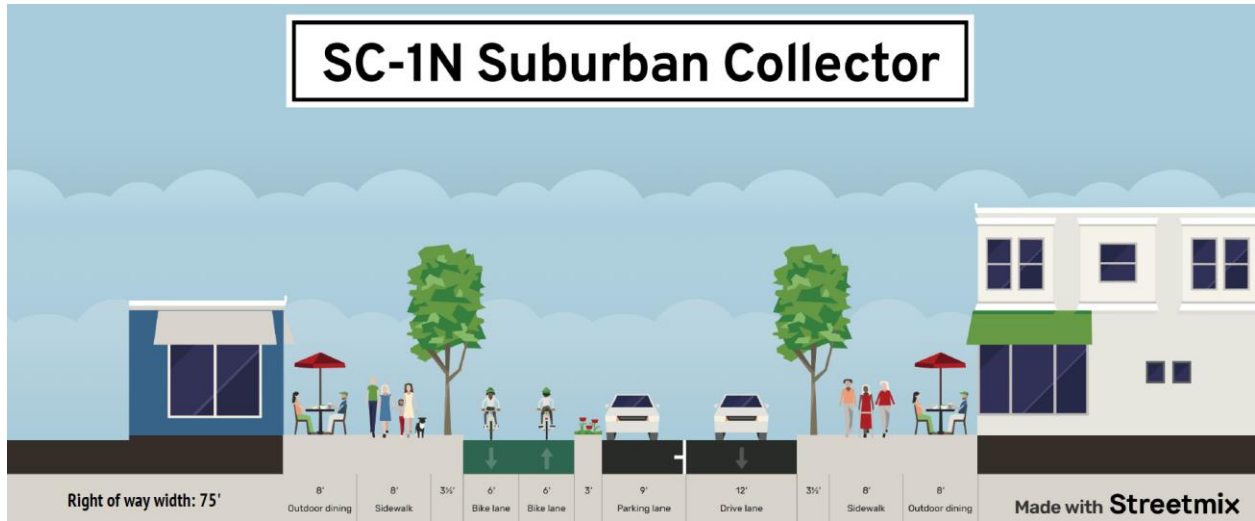
SC-2L: Suburban Collector (Collector) – Two Lanes with TWLTL



SC-2N: Suburban Collector (Collector) – Two Lanes with no Median or TWLTL



SC-1N: Suburban Collector (Collector) – One Lane with no Median or TWLTL



UVC-2M: Urban Village Collector – Two Lanes with Raised Median



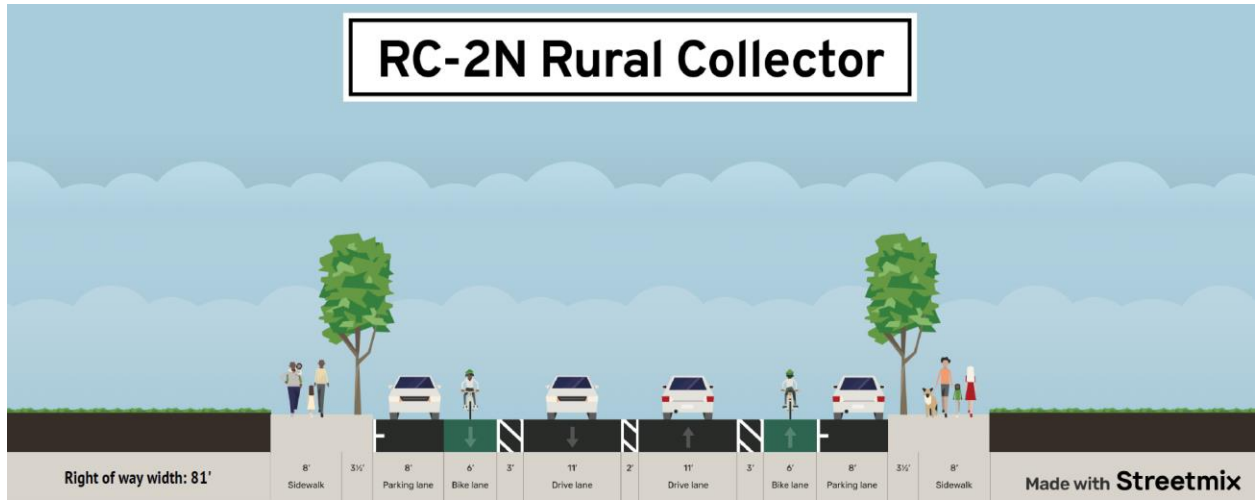
UVC-2L: Urban Village Collector – Two Lanes with TWLTL



UVC-2N: Urban Village Collector – Two Lanes with no Median or TWLTL



RC-2N: Rural Collector (Collector) – Two Lanes with no Median or TWLTL



RN-2M: Residential Neighborway (Local) – Two Lanes with Raised Median



RN-2L: Residential Neighborway (Local) – Two Lanes with TWLTL



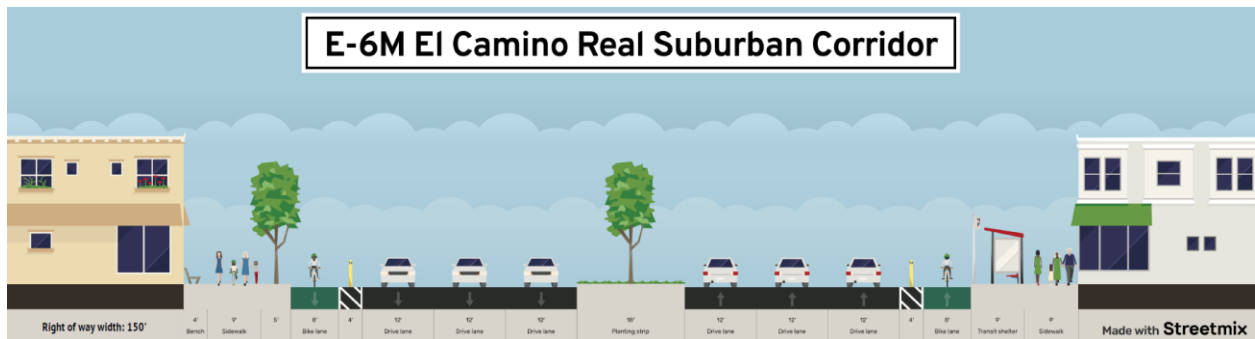
RN-2N: Residential Neighborway (Local) – Two Lanes with no Median or TWLTL



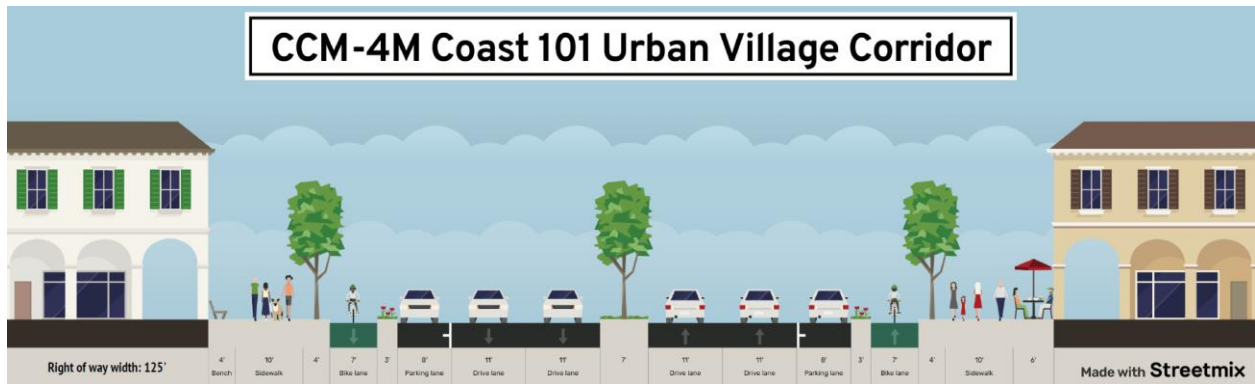
RN-1N: Residential Neighborway (Local) – One Lane with no Median or TWLTL



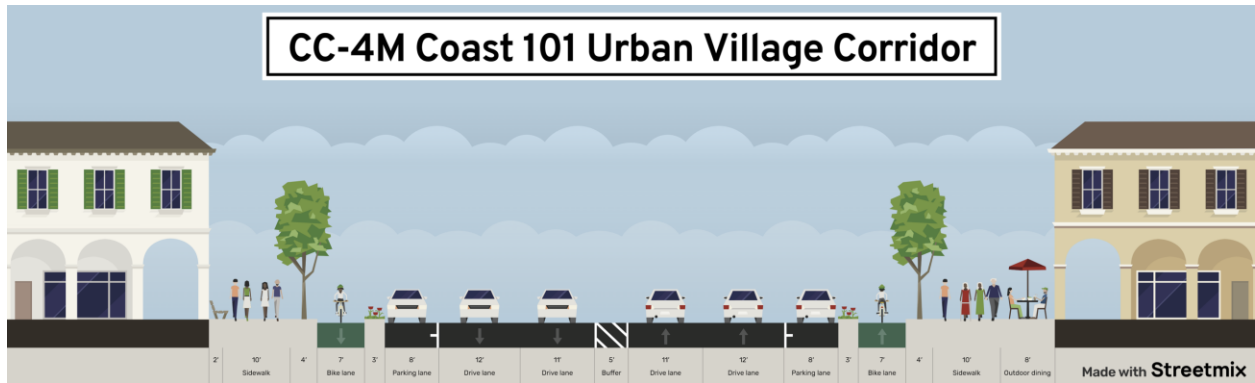
E-6M: El Camino Real Suburban Corridor (Prime Arterial) – Six Lanes with Raised Median



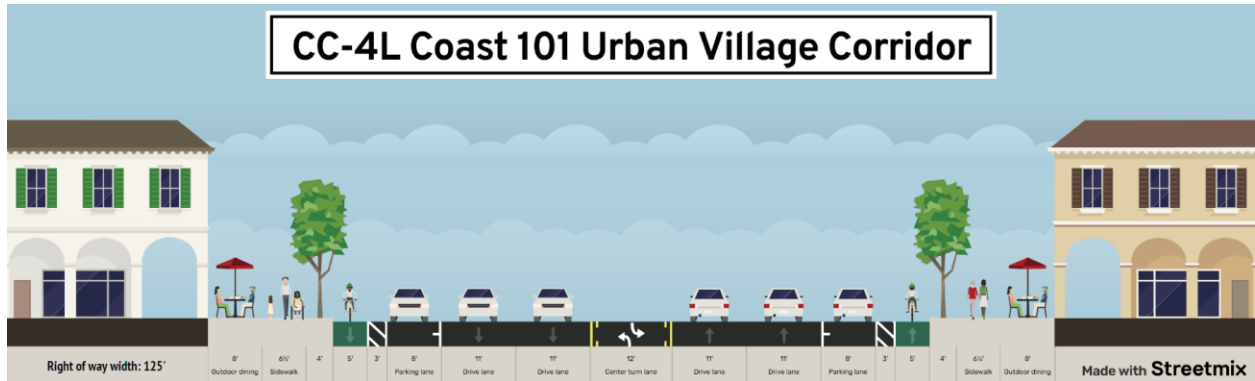
CCM-4M: Coast 101 Urban Village Corridor (Major Arterial) – Four Lanes with Raised Median



CC-4M: Coast 101 Urban Village Corridor (Collector) – Four Lanes with no Median or TWLTL



CC-4L: Coast 101 Urban Village Corridor (Collector) – Four Lanes with TWLTL



CC-3M: Coast 101 Urban Village Corridor (Collector) – Three Lanes with Raised Median

