
5.0 CIRCULATION PLAN

5.1 INTRODUCTION

The Circulation Plan provides directives intended to promote the efficient and safe movement of people and goods within the North 101 Corridor Specific Plan Area. In addition, it establishes policies and programs which will ensure that all components of the transportation system meet the future transportation needs of the City.

- Street improvements for various streets and alleyways located within the specific plan area are proposed. These improvements will be in addition to the improvement concepts outlined in the Streetscape Concepts of the Specific Plan (Chapter 4).
- Transit facilities, provided by the North County Transit District (NCTD), serve the specific plan area.
- Improvements to the bikeway system/network are identified in order to address deficiencies located throughout the specific plan area.
- Pedestrian circulation is addressed within the specific plan area with particular emphasis placed on traffic patterns related to the commercial districts.

5.2 VEHICULAR CIRCULATION SYSTEM

The circulation discussion below reviews existing circulation patterns, the level of service for intersections and proposed street improvements for the streets and alleyways located within the specific plan area.

5.2.1 CIRCULATION STUDY

The Encinitas Traffic Analysis Model (ETAM), originally developed to support the production of the Circulation Element of the City's General Plan, has been refined to focus on the specific plan area. The ETAM has analyzed the traffic circulation patterns and intersection levels of service within the specific plan area relative to the following:

- Previous land uses
- Projected land uses which result from complete buildout conditions associated with current zoning
- Land uses projected as a result of the adoption of the North 101 Corridor Specific Plans and associated street improvements

5.0 Circulation Plan

The circulation model measures the flow of traffic at several strategic intersections located throughout the specific plan area. The unit of measurement used to describe the quality of flow through the intersection is Level of Service (LOS). The LOS is the ratio of an intersection's traffic volumes (existing or forecasted) to its design capacity. For the various intersections, there are six levels of service: A, B, C, D, E, and F. The level of service for intersections is defined by criteria based on the average stop delay per vehicle. Level of Service A represents very little delay (stop delay per vehicle of less than approximately 5 seconds). Level of Service F indicates significant delay (stop-delay per vehicle exceeding 60 seconds).

The analysis of the existing circulation system based upon current land uses (1990) indicates that the Level of Service for various intersections located within the specific plan area is LOS A, B, or C in both the a.m. and p.m. peak hour flow conditions. These values are consistent with the goals for Level of Service criteria outlined in the City of Encinitas General Plan.

The circulation model indicates that two intersections within the North 101 Corridor Specific Plan area are deficient under both the previous zoning buildout conditions and the land uses projected by the specific plan (See Table 5-1). The lane configurations used to determine the levels of service are consistent with the geometrics outlined in the City of Encinitas General Plan.

Table 5-1
Level of Service - Within Specific Plan Boundary

Intersection	Level of Service			
	General Plan Land Uses		Specific Plan Land Uses	
	a.m.	p.m.	a.m.	p.m.
North Highway 101 and La Costa Avenue	C	E	D	E
North Vulcan Avenue and La Costa Avenue	A	D	A	D

Two additional intersections located outside of the specific plan area boundary experience a deficient level of service due to the circulation patterns resulting from the specific plan land uses (see Table 5-2). The lane configurations used are consistent with the geometrics outlined in the City of Encinitas General Plan.

Table 5-2
Level of Service - Outside Specific Plan Boundary

Intersection	Level of Service			
	General Plan Land Uses		Specific Plan Land Uses	
	a.m.	p.m.	a.m.	p.m.
SB I-5 Ramp/Leucadia Boulevard	E	E	D	E
Piraeus/NB I-5 Ramp/Leucadia Boulevard	D	D	D	D

5.2.1 Circulation Study

5.2.2 MITIGATION

The Circulation Element of the City of Encinitas General Plan identifies two policies regarding acceptable level of service standards:

Policy 1.2: Endeavor to maintain level of service C as a basic design guideline for the local system of roadways understanding that the guideline may not be attainable in all cases.

Policy 1.3: Prohibit development which results in level of service E or F at any intersection unless no alternatives exist and an overriding public need can be demonstrated.

Through the application of these policy statements, the following recommendations for intersection mitigation are offered.

A. North Highway 101/La Costa Avenue Intersection

The ETAM indicates that the northbound Highway 101 through movement and the southbound Highway 101 left-turns are critical. These traffic movements are conflicting and the resulting impact creates an anticipated level of service which is unacceptable under the land uses projected by the specific plan.

North Highway 101 is identified in the City of Encinitas General Plan as a four-lane major arterial and La Costa Avenue is designated a four-lane collector. The existing intersection lane configurations are inadequate to accommodate the amount of traffic anticipated at buildout under the specific plan. With the construction of the recommended lane configurations shown in Figure 5-A, the level of service for the North Highway 101/La Costa Avenue intersection improves from LOS D (a.m.) and LOS E (p.m.) to LOS A (a.m.) and LOS B (p.m.) at buildout under the specific plan.

B. North Vulcan Avenue/La Costa Avenue Intersection

The ETAM results show that eastbound and westbound Vulcan Avenue through volumes are critical. The level of service predicted is relative to the existing lane configurations, which are inadequate to accommodate the amount of traffic anticipated at buildout under the specific plan. La Costa Avenue is identified by the Circulation Element of the City of Encinitas General Plan as a four-lane collector. With the construction of the recommended lane configurations shown in Figure 5-B, the level of service for the North Vulcan Avenue/La Costa Avenue intersection improves from LOS A (a.m.) and LOS D (p.m.) to LOS A (a.m.) and LOS A (p.m.) at buildout under the specific plan.

C. SB I-5 Ramp/Leucadia Boulevard and Piraeus/NB I-5 Ramp/Leucadia Boulevard Intersections

The design of the improvements to these intersections is currently underway. Improvements include Leucadia Boulevard as a four-lane facility, with turn lanes within the area influenced by the I-5 freeway ramps. The improvements start approximately 300 to 400 feet east of the northbound I-5 ramps and continue westward to approximately 300 to 400 feet west of the southbound I-5 ramps. Construction of the improvements is expected to start in 1998, with completion scheduled for 1999. With the completion of these improvements the southbound I-5 Ramp/Leucadia Boulevard and the Piraeus/NB I-5 Ramp/Leucadia Boulevard intersections will operate at acceptable levels of service.

5.2.3 STREET IMPROVEMENTS

Standards for the improvement of streets and roadways located within the North 101 Corridor Specific Plan are provided below. On-street parking may be restricted, as deemed necessary by the City Engineer, to provide for safe travel on narrow roads, and sight distance and turning movements at intersections and driveways. These standards shall apply only to that portion of the below listed streets located within the boundaries of the North 101 Corridor Specific Plan.

Table 5-3

Streets and Roadways	ROW Width
"A" Street	80' (figure 5-F)
Andrew Avenue	50' (figure 5-H)
Ashbury Street	50' (figure 5-H)
Athena Street	40' (figure 5-J)
Avocado Street	40' (figure 5-J)
Basil Street	45' (figure 5-I)
Cadmus Street	40' (figure 5-J)
Daphne Street	40' (figure 5-J)
Diana Street	40' (figure 5-J)
El Portal Street	50' (figure 5-H)
Europa Street	40' (figure 5-J)
Glaucus Street	50' (figure 5-H)
East Glaucus Street	50' (figure 5-H)
Grandview Street	56' (figure 5-G)
Hillcrest Drive	50' (figure 5-H)
Jason Street	40' (figure 5-J)
East Jason Street	50' (figure 5-H)
Jasper Street	40' (figure 5-J)
Jupiter Street	50' (figure 5-H)
La Costa Avenue	84'
La Veta Avenue	50' (figure 5-H)
Leucadia Boulevard (West)	56' (figure 5-G)
Leucadia Boulevard (East)	92'-101'
Marcheta Street	50' (figure 5-H)
Melrose Avenue	40' (figure 5-J)
North Court	50' (figure 5-H)
North Highway 101	90' (figure 5-C)
Orpheus Avenue	56' (figure 5-G)
Phoebe Street	40' (figure 5-J)
Sanford Street	50' (figure 5-H)
Second Street	80' (figure 5-F)
Sunset Drive	40' (figure 5-J)
Union Street	50' (figure 5-H)
North Vulcan Avenue North of Union	55' (figure 5-D)
South of Union	50' (figure 5-E)

A. Alleyways

The existing alleyways located within the North 101 Corridor Specific Plan area are contained within 15-foot and 20-foot right-of-way widths.

The alleyway located north of El Portal Street and between La Mesa Avenue and La Veta Street is contained within a 15-foot right-of-way width. This alleyway should be improved as shown in Figure 5-K. The entire width of the right-of-way should be paved and a concrete valley gutter should be installed along the centerline to facilitate drainage.

The remaining alleyways located within the plan area are contained within a 20-foot right-of-way width. These alleyways should be improved as shown on Figure 5-K. The entire right-of-way width should be paved and a concrete valley gutter should be installed along the centerline to facilitate drainage.

B. Controlled Intersections

Signalized intersections within the plan area are at the following locations:

1. North Highway 101/La Costa Avenue
 - Recommended improvements are described in Section 5.2.2
2. North Highway 101/Leucadia Boulevard
 - No additional improvements are recommended
3. North Vulcan Avenue/Leucadia Boulevard
 - No additional improvements are recommended

No additional signals are warranted at this time.

Three-way stop sign control is currently installed at the intersection of North Highway 101 and Marcheta Street. No other controlled intersections are planned or appear warranted at this time. For pedestrian safety purposes any proposed marked pedestrian crosswalks should be installed only at controlled intersections. Note below that a marked pedestrian crosswalk is planned at Grandview and North Highway 101. The City Engineer may propose, and the Traffic Commission and the City Council may approve new, relocated or modified signalized or controlled intersections in the future.

5.3 TRANSIT FACILITIES

The Circulation Element of the City of Encinitas General Plan contains several policies regarding the utilization of alternative modes of transit. These policies are incorporated into various sections of the North 101 Corridor Specific Plan.

The planned transit facilities within the North 101 Corridor Specific Plan Area are primarily bus transit services. The plan area is currently served by the North County Transit District (NCTD).

Corridor Route 301 provides bus service northward on North Highway 101 to the Oceanside Transit Center and southward on North Highway 101 to University Towne Center. Local Route 361 is strictly an Encinitas route. This bus route traverses throughout the City and services the plan area on North Vulcan Avenue.

5.4 BICYCLE FACILITIES

The recommended bikeway system within the plan area consists of a combination of a Class I bike path and Class II bike lanes. The predominantly used bike route within the plan area is the North 101 Corridor.

Recommendations:

- Provide a multi-modal recreational path within the railroad right-of-way east of North Highway 101 (see Section 4.7 Streetscape Concepts). This facility will be designed as a Class I bicycle path. This bike path will replace the existing inadequately designed Class I facility generally located along North Highway 101 and El Portal Street.
- Provide a Class II bike lane along the northbound and southbound lanes of North Highway 101 (see Section 4.7 Streetscape Concepts). A bike lane will be provided along the southbound travel lanes and parallel parking will be permitted on the west side of North Highway 101. A bike lane will also be provided along the northbound travel lanes and no curbside on-street parking will be permitted along the east side of North Highway 101. Note that the parking alcoves along the east side of Highway 101, which are included in the streetscape concept, will be allowed and shall be designed to accommodate the Class I bike path within the railroad right-of-way and the Class II bike lane along North Highway 101.
- Provide a Class II bike lane along the northbound and southbound travel lanes of North Vulcan Avenue. On-street parking will be permitted on the east side of North Vulcan Avenue (see Section 4.7 Streetscape Concepts).

The recommended bikeway system within the plan area is consistent with facilities outlined in the Circulation Element of the City of Encinitas General Plan, and the Master Bikeway Plan and Engineering Feasibility Study for the City of Encinitas (MBP) prepared by Barton-Ashman Associates, Inc., November 1990.

5.5 PEDESTRIAN FACILITIES

5.5.1 RECOMMENDATIONS:

- Create a safe, convenient circulation network
- Ensure sensitivity to the needs of the handicapped
- Accommodate safe pedestrian facilities adjacent to and crossing the railroad
- Provide adequate spacing between pedestrian and vehicular facilities
- Promote pedestrian access to coastal areas

Along North Highway 101, the existing sidewalk along the western edge is to remain. At those locations where no sidewalk exists, a minimum eight-foot wide decorative sidewalk shall be installed. A multi-modal recreational path, designed as a Class I bicycle path will be provided along the east side of North Highway 101, within the railroad right-of-way. The linear park streetscape concept incorporates this facility, (see Section 4.7 Streetscape Concepts).

5.5.2 MARKED PEDESTRIAN CROSSWALKS ON NORTH HIGHWAY 101

Marked pedestrian crosswalks should be installed and/or continue in use at the following intersections:

- La Costa Avenue
- Grandview Street
- Leucadia Boulevard
- Marcheta Street

Additional marked pedestrian crosswalks may be installed in the future, as recommended by the City Engineer, and as approved by the Traffic Commission and City Council. Crosswalk warning signs should be provided in advance of all marked pedestrian crosswalks.

Parking alcoves as shown in the Streetscape Concepts of the specific plan (see Section 4.7 Streetscape Concepts) may be installed at Marcheta Street, Leucadia Boulevard, Grandview Street, and La Costa Avenue intersections. For pedestrian safety purposes any proposed parking alcoves and their associated pedestrian crossings should generally be installed only at controlled intersections.

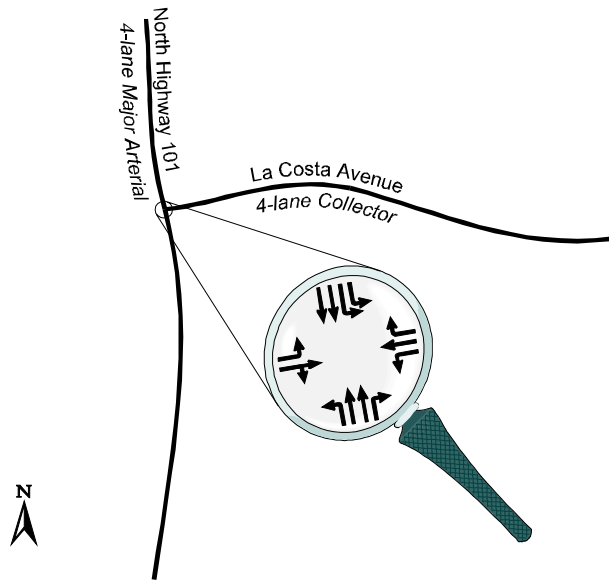


Figure 5-A
*North Highway 101 / La Costa Avenue Intersection
Recommended Lane Configuration*

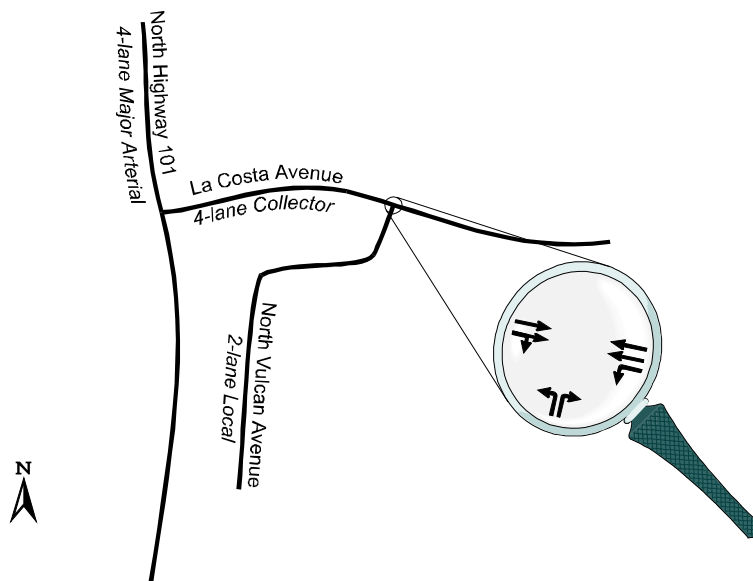


Figure 5-B
*North Vulcan Avenue / La Costa Avenue Intersection
Recommended Lane Configuration*

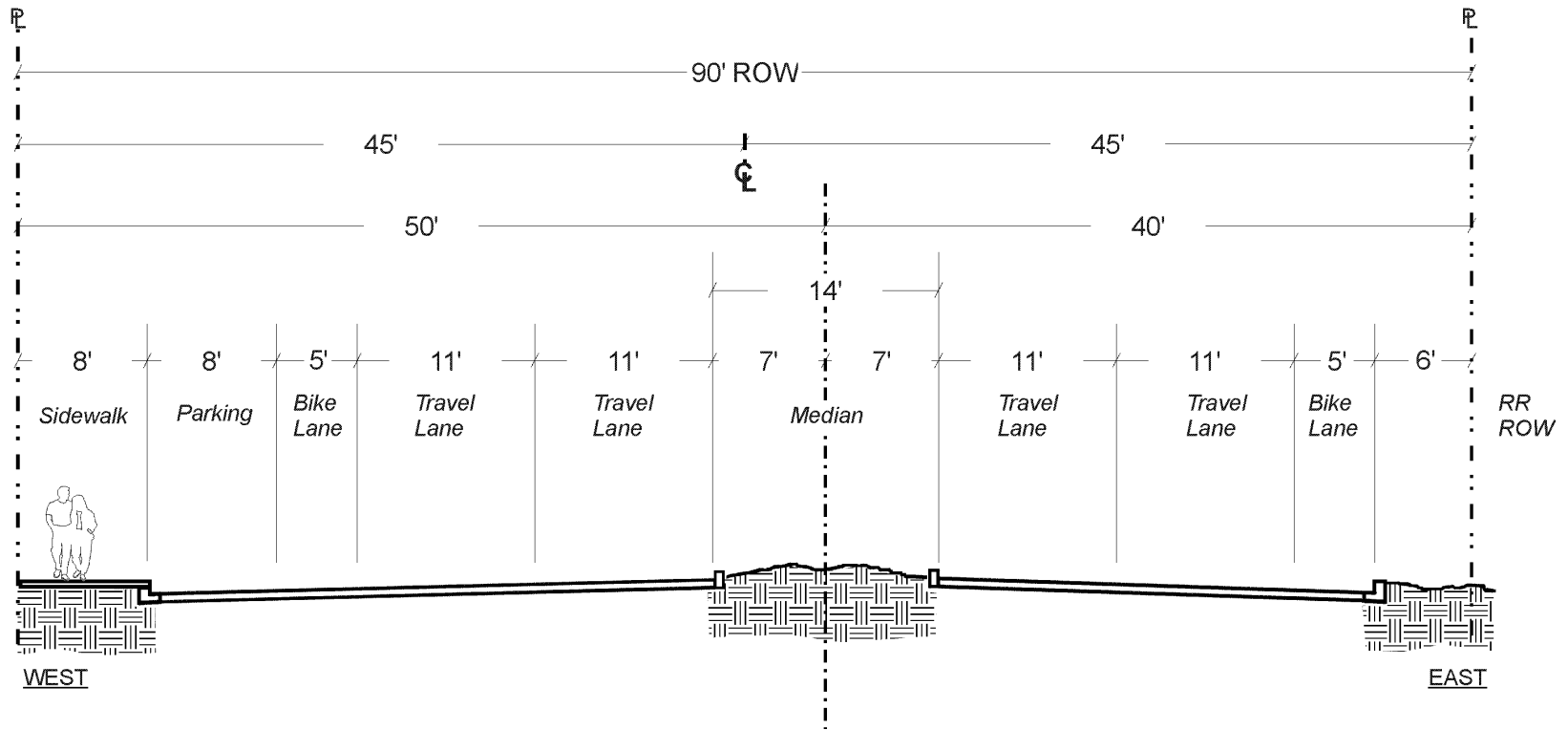


Figure 5-C
 North Highway 101 - 90-Foot Proposed Right-of-Way

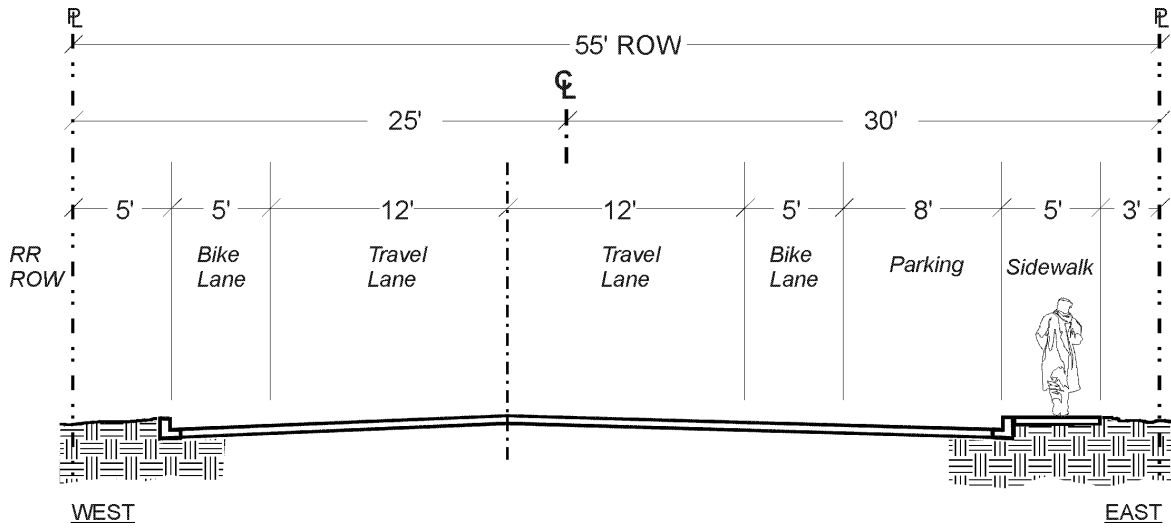


Figure 5-D
North Vulcan Avenue - North of Union Street
 55-Foot Proposed Right-of-Way

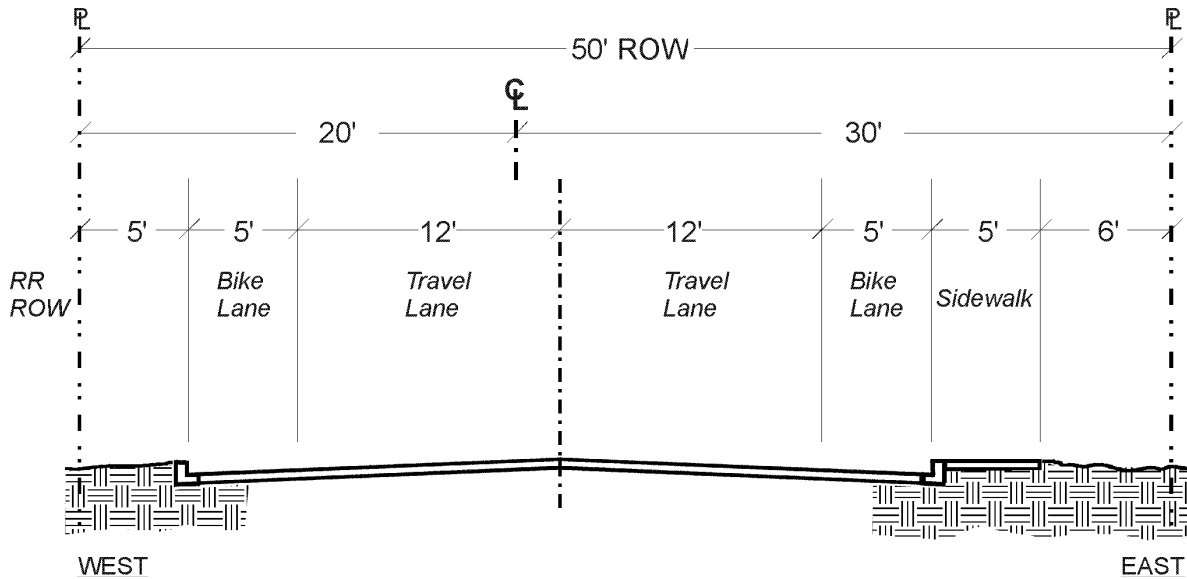


Figure 5-E
North Vulcan Avenue - South of Union Street
 50-Foot Proposed Right-of-Way

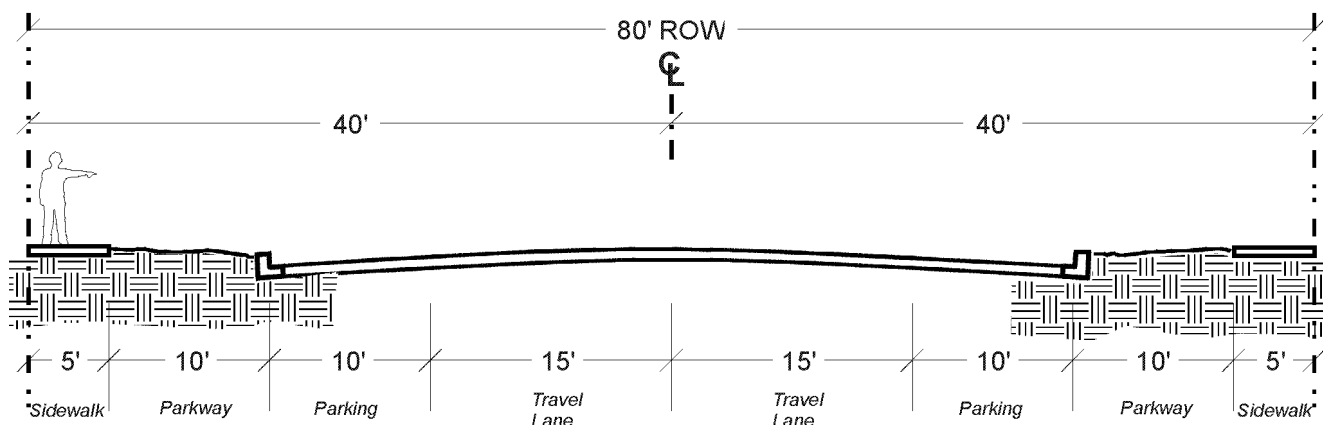


Figure 5-F
"A" Street/Second Street
 80-Foot Proposed Right-of-Way

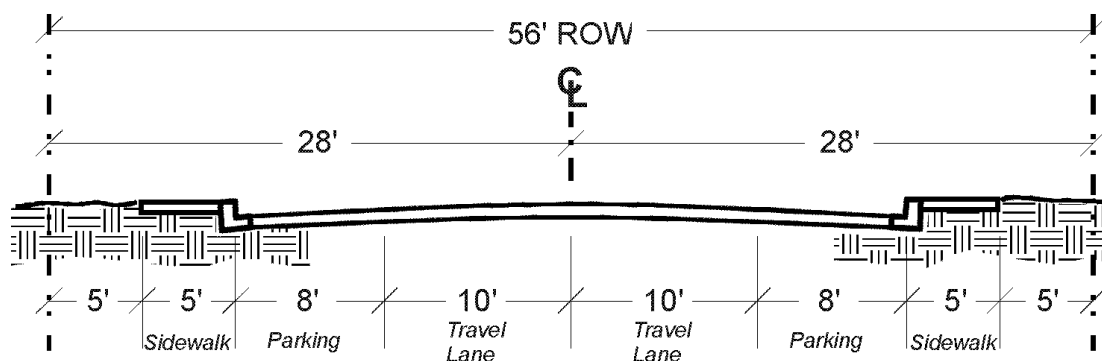


Figure 5-G
Grandview Avenue/Leucadia Boulevard (West)/Orpheus Avenue
 56-Foot Proposed Right-of-Way

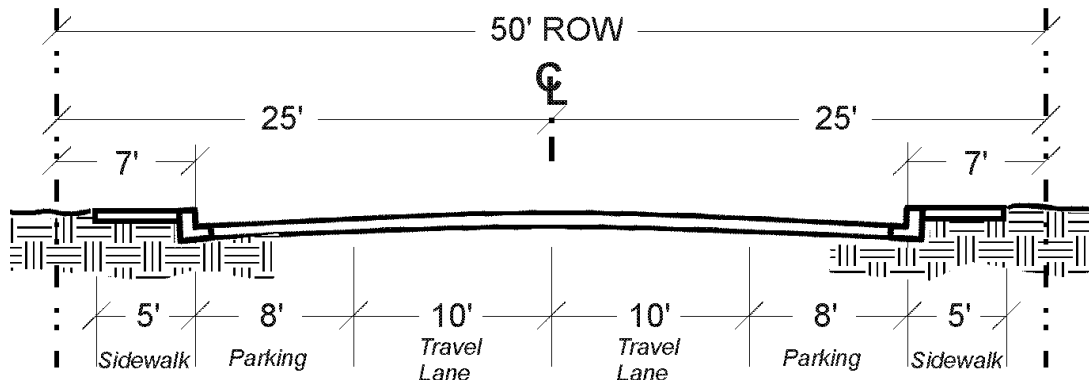


Figure 5-H
**Andrew Avenue/Ashbury Avenue/El Portal Street/East Glaucus Street/
 Glaucus Street/Hillcrest Drive/East Jason Street/Jupiter Street/
 La Veta Avenue/Marcheta Street/North Court/Sanford Street/Union Street**
 50-Foot Proposed Right-of-Way

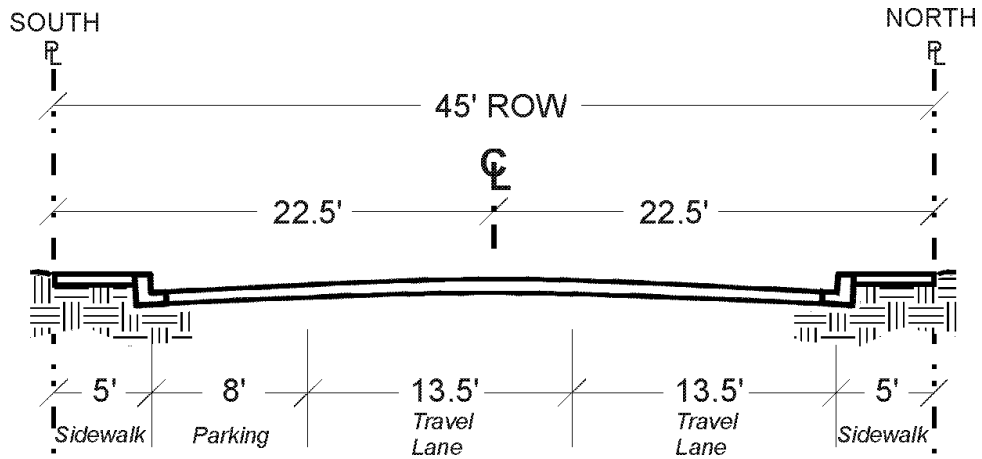


Figure 5-I
Basil Street
 45-Foot Proposed Right-of-Way

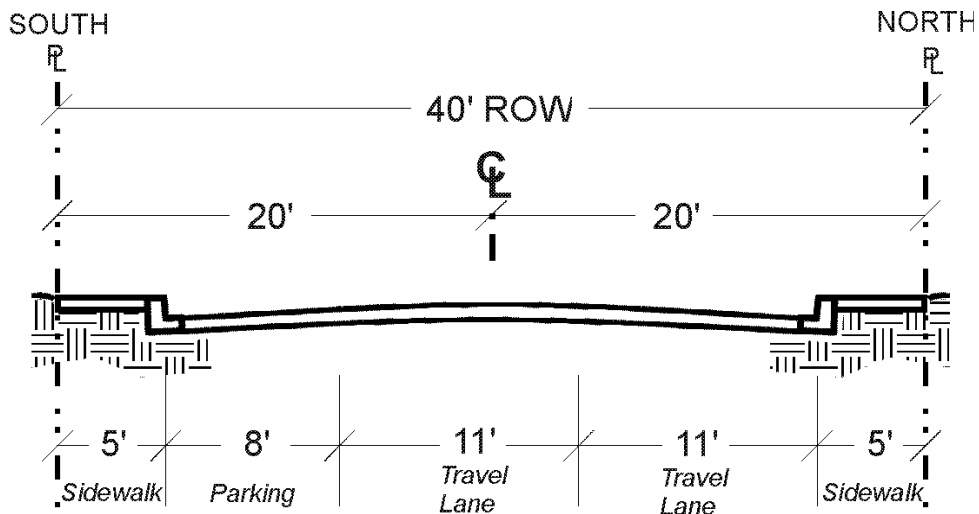


Figure 5-J
**Athena Street/Avocado Street/Cadmus Street/Daphne Street/
 Diana Street/Europa Street/Jason Street/Jasper Street/
 Melrose Avenue/Phoebe Street/Sunset Drive**
 40-Foot Proposed Right-of-Way

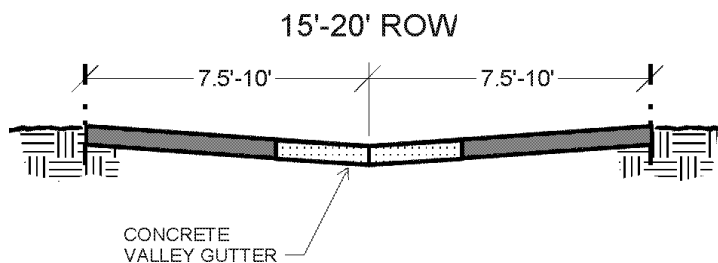


Figure 5-K
Alleyway
 15/20-Foot Proposed Right-of Way

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