5.2 TRAFFIC/CIRCULATION

The information contained in this section is summarized from the *City of Moreno Valley General Plan Traffic Study* (Traffic Study), prepared by Urban Crossroads, Inc. (June 30, 2004, revised). This study is contained in Volume II Appendix B of this EIR.

ENVIRONMENTAL SETTING

Methodology

The daily traffic volume forecasts in the Traffic Study have been prepared using the Moreno Valley Traffic Model (MVTM). The MVTM was developed in accordance with regional consistency requirements and has obtained the required finding of consistency from the Riverside County Transportation Commission. The MVTM is based on the traditional forecasting procedure that includes trips generation, trip distribution and traffic assignment. The model addresses traffic from surrounding communities as well as Moreno Valley.

Level of Service (LOS) Standards

The evaluation criteria used to evaluate traffic impacts is known as Level of Service (LOS). LOS is a qualitative measure that describes operational conditions within a traffic stream, generally in terms of such factors as speed, delay, travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS (Level of Service) conditions vary based on the type of roadway or intersection being evaluated.

The definitions of level of service for arterial traffic flow are depicted in **Table 5.2-1**, below:

TABLE 5.2-1
LEVEL OF SERVICE (LOS) DESCRIPTIONS

LOS	Traffic Flow Conditions
A	Free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

TABLE 5.2-1
LEVEL OF SERVICE (LOS) DESCRIPTIONS

LOS	Traffic Flow Conditions
C	Stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
D	High-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
E	Operating conditions at or near the capacity level. All speeds are reduced to a low but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
F	Level-of-Service F. Forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount, which can traverse the point. Queues form behind such locations. Arrival flow exceeds discharge flow.

Source: 2000 Highway Capacity Manual (HCM) (Transportation Research Board Special Report 209)

The existing Circulation Element recognizes that an LOS of C is optimal. However, it also allows peak hour levels of service in the LOS "D" range in certain locations. These locations include areas of high employment concentration, north/south roads in the vicinity of SR-60 or other locations in already developed areas of the City with geometric constraints that prevent LOS "C" from being achieved.

Existing Circulation Plan

The City's currently adopted General Plan Circulation Element contains the existing circulation plan for the City. It also establishes parameters for standard roadway cross-sections.

Figure 5.2-1 depicts the City's currently adopted circulation plan that identifies Moreno Valley's existing system of major roadways, including freeways and arterial streets. There are certain instances where the currently adopted circulation plan does not accurately represent the already constructed roadway system. For example, Day Street south of the SR-60 Freeway is designated as an Arterial roadway on the currently adopted Circulation Plan. The roadway cross-section for an Arterial roadway includes 4 through travel lanes (2 in each direction), with a center median capable of accommodating left turns at intersections with other roadways. Sections of Day Street south of SR-60 have been constructed with as many as 8 through lanes (4 in each

direction). **Figure 5.2-2** presents the Circulation Element roadway cross-sections, incorporating both currently adopted cross-sections and updates for the proposed Circulation Element[1].

Existing Roadway Characteristics

As depicted in **Figure 5.2-1**, the major regional east-west roadway is State Route 60 (SR-60), linking Moreno Valley to both neighboring and outlying communities. Additional regional east-west travel is provided by Box Springs/Ironwood, Sunnymead Boulevard and Alessandro Boulevard, both of which are maintained by the City. Sunnymead Boulevard serves as the traditional commercial corridor of Moreno Valley. Alessandro Boulevard serves as a commercial and industrial corridor at its westerly end. Other major east-west routes within the City are, from north to south, Eucalyptus Avenue, Cottonwood Avenue and Cactus Avenue.

Although immediately to the west of the City, Interstate 215 (I-215) is the primary regional route for north-south travel, linking Moreno Valley to both neighboring and outlying communities. Additional regional north-south routes include Perris Boulevard, Redlands Boulevard and Gilman Springs Road. Other north-south access is provided by Moreno Beach Drive and Pigeon Pass Road/Frederick Street.

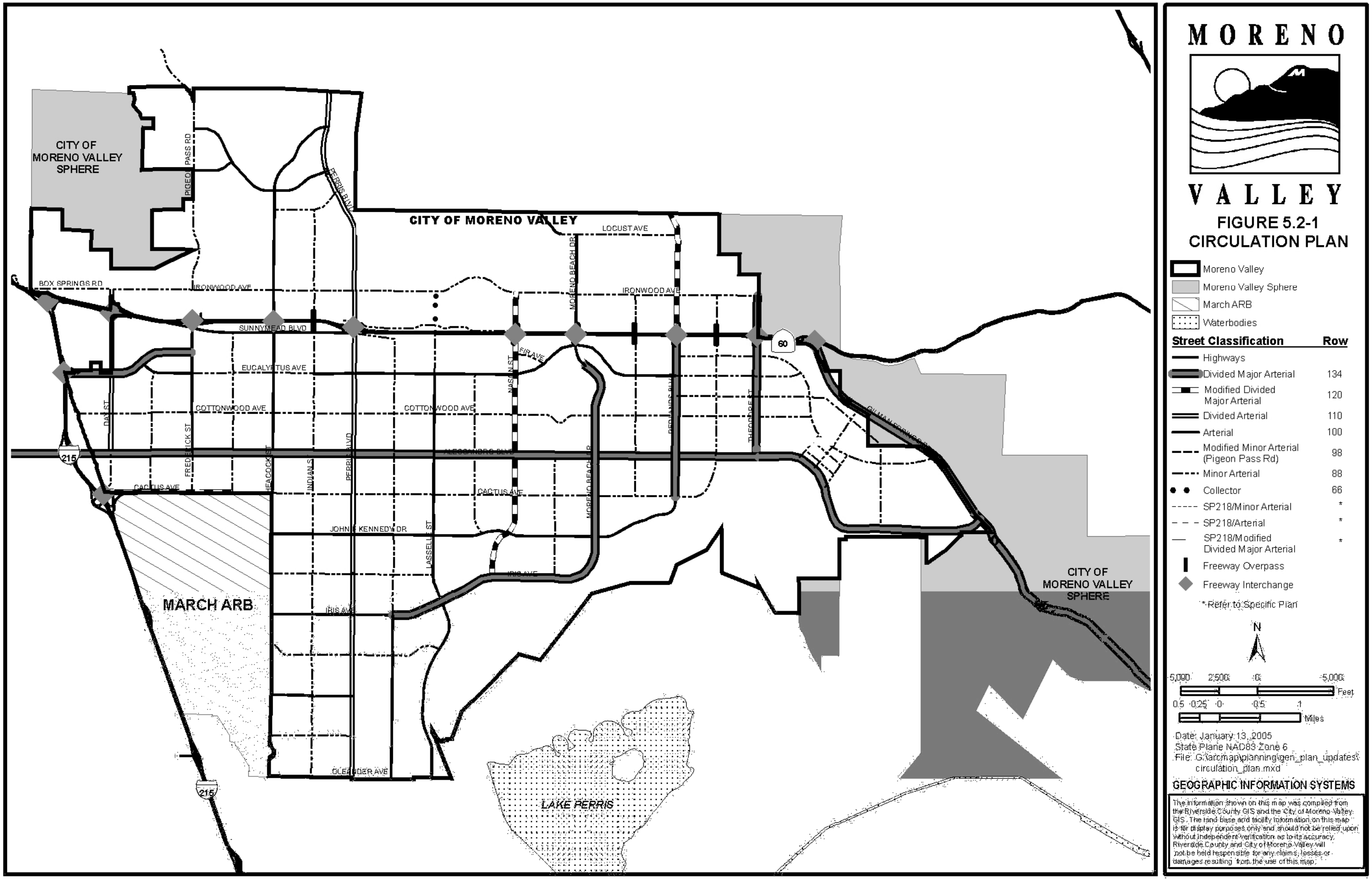
Figure 5.2-3, below, depicts the existing number of through lanes for selected roadways within the City. Existing roadways range from 2-lane undivided roadways to 8-lane divided facilities.

Existing Daily Volume to Capacity (V/C) Ratios

Figure 5.2-4 presents the year 2000 daily traffic volume to capacity (V/C) ratios based upon existing lanes in 2000; and **Figure 5.2-5** presents the year 2000 daily traffic volumes. As depicted in **Figure 5.2-5**, the daily traffic volumes on the City's arterial system range from very low volumes to volumes that exceed 30,000 vehicles per day (VPD). Frederick Street, Heacock Street, and Perris Boulevard are north-south arterials that carry daily traffic volumes approaching or exceeding 30,000 VPD in the vicinity of the SR-60 Freeway. Similarly, Alessandro Boulevard and Cactus Avenue are east-west arterials that carry daily traffic volumes ranging between 25,000 VPD and 30,000 VPD east of the I-215 Freeway.

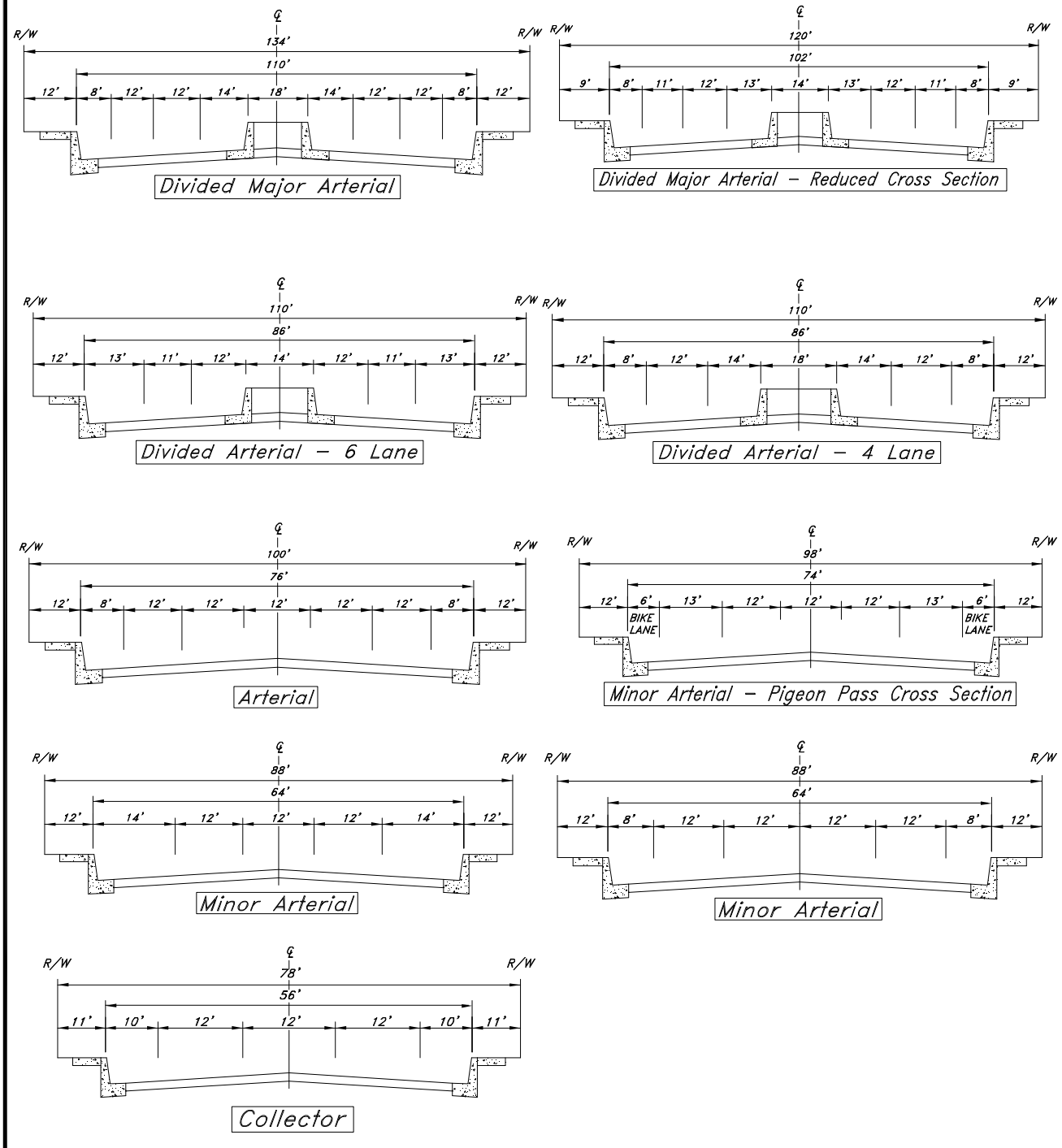
Table 5.2-2 summarizes the roadway segments where the year 2000 daily traffic volumes are near existing daily traffic capacities, while **Table 5.2-3** identifies those roadway segments where the year 2000 daily traffic volumes exceed existing capacities. A roadway segment where the V/C ratio exceeds 1.0 is considered deficient; such roadways have traffic volumes that exceed their acceptable LOS of "C" or "D" as established by the existing City Circulation Element. A roadway segment where the V/C ratio exceeds 0.80 is considered near existing design capacity, or nearing deficiency. A total of 14 roadway segments have V/C ratios indicating that they are near to their existing daily traffic capacities. A total of 13 roadway segments have V/C ratios that

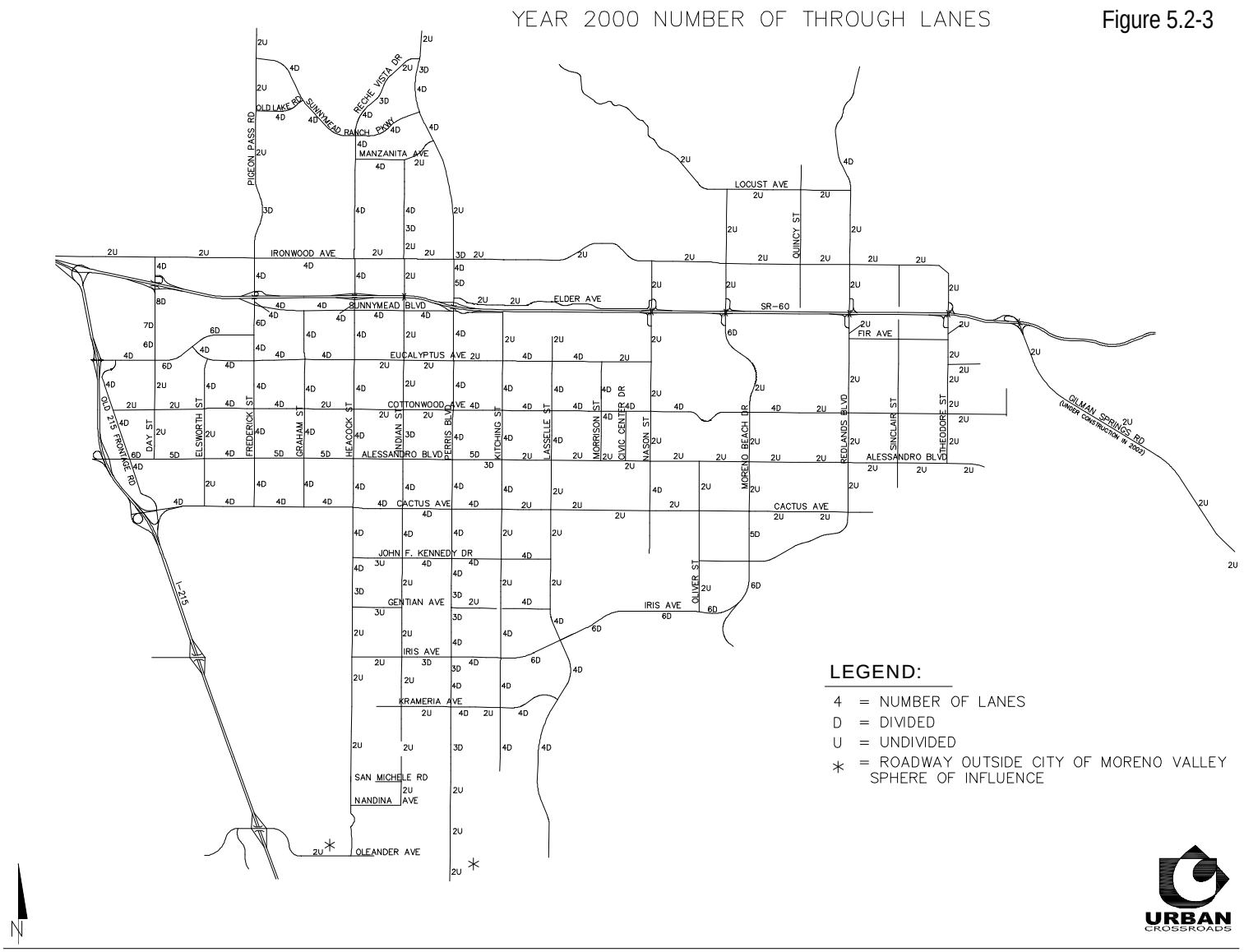
[1] The "Divided Major Arterial – Reduced Cross Section" and the "Divided Arterial – 4 Lane" are the two new roadway cross-sections included in the proposed Circulation Element; the remainder of the roadway cross-sections depicted in Figure 5.2-2 are unchanged from the existing Circulation Element.


MORENO
VALLEY
FIGURE 5.2-1
CIRCULATION PLAN
Moreno Valley
Moreno Valley Sphere
March ARB
Waterbodies
Street Classification
Row
Highways
Divided Major Arterial 134
Modified Divided Major Arterial 120
Divided Arterial 110
Arterial 100
Modified Minor Arterial (Pigeon Pass Rd) 98
Minor Arterial 88
Collector 66
SP218/Minor Arterial *
SP218/Arterial *
SP218/Modified Divided Major Arterial *
Freeway Overpass
Freeway Interchange
* Refer to Specific Plan
N
5,000 2,500 0 5,000 Feet
0.5 0.25 0 0.5 1 Miles
Date: January 13, 2005
State Plane NAD83 Zone 6
File: G:\arcmap\planning\gen_plan_updates\circulation_plan.mxd
GEOGRAPHIC INFORMATION SYSTEMS
The information shown on this map was compiled from the Riverside County GIS and the City of Moreno Valley GIS. The land base and facility information on this map is for display purposes only and should not be relied upon without independent verification as to its accuracy. Riverside County and City of Moreno Valley will not be held responsible for any claims, losses or damages resulting from the use of this map.
CITY OF MORENO VALLEY SPHERE
CITY OF MORENO VALLEY
CITY OF MORENO VALLEY SPHERE
MARCH ARB
LAKE PERRIS
BOX SPRINGS RD
IRONWOOD AVE
SUNNYMEAD BLVD
EUCALYPTUS AVE
COTTONWOOD AVE
ALESSANDRO BLVD
CACTUS AVE
JOHN F KENNEDY DR
IRIS AVE
OLEANDER AVE
LOCUST AVE
FIR AVE
PIGEON PASS RD
PERRIS BLVD
MORENO BEACH DR
NASON ST
REDLANDS BLVD
THEODORE ST
GILMAN SPRINGS RD
DAY ST
FREDERICK ST
HEACOCK ST
INDIAN ST
LASSELLE ST
60
215

PROPOSED CITY OF MORENO VALLEY GENERAL PLAN ROADWAY CROSS-SECTIONS

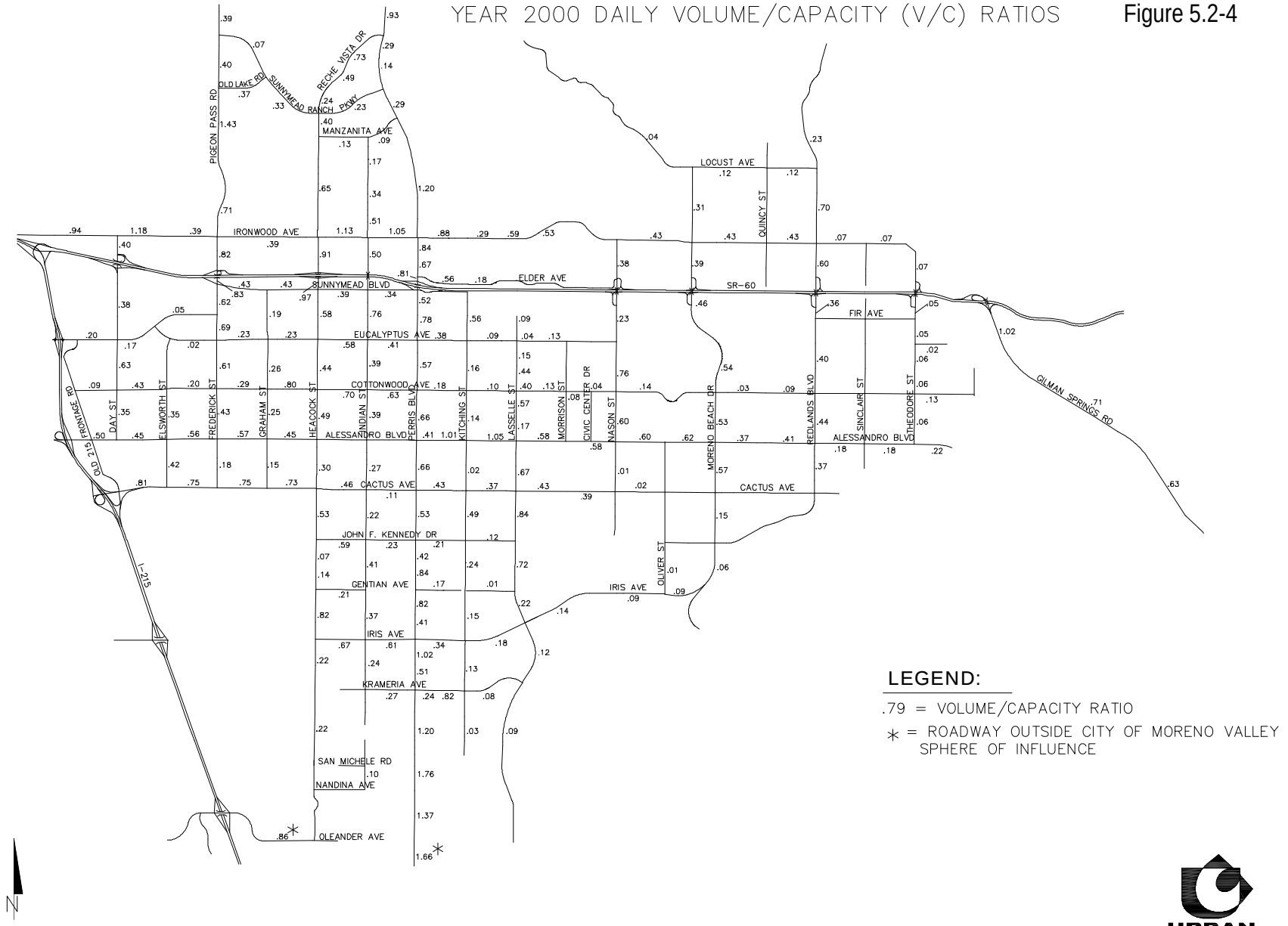
Figure 5.2-2




YEAR 2000 NUMBER OF THROUGH LANES
Figure 5.2-3
OLD LAKE RD
SUNNYMEAD RANCH PKWY
RICHE VISTA DR
PIGEON PASS RD
MANZANITA AVE
IRONWOOD AVE
SUNNYMEAD BLVD
ELDER AVE
LOCUST AVE
QUINCY ST
SR-60
FIR AVE
EUCALYPTUS AVE
COTTONWOOD AVE
ALESSANDRO BLVD
CACTUS AVE
JOHN F. KENNEDY DR
GENTIAN AVE
IRIS AVE
KRAMERIA AVE
SAN MICHELE RD
NANDINA AVE
OLEANDER AVE
OLD 215 FRONTAGE RD
I-215
DAY ST
ELSWORTH ST
FREDERICK ST
GRAHAM ST
HEACOCK ST
INDIAN ST
PERRIS BLVD
KITCHING ST
LASSELLE ST
MORRISON ST
CIVIC CENTER DR
NASON ST
MORENO BEACH DR
REDLANDS BLVD
SINCLAIR ST
THEODORE ST
OLIVER ST
GILMAN SPRINGS RD
(UNDER CONSTRUCTION IN 2007)
LEGEND:
4 = NUMBER OF LANES
D = DIVIDED
U = UNDIVIDED
* = ROADWAY OUTSIDE CITY OF MORENO VALLEY SPHERE OF INFLUENCE
N
URBAN CROSSROADS

YEAR 2000 DAILY VOLUME/CAPACITY (V/C) RATIOS

Figure 5.2-4



LEGEND:

.79 = VOLUME/CAPACITY RATIO

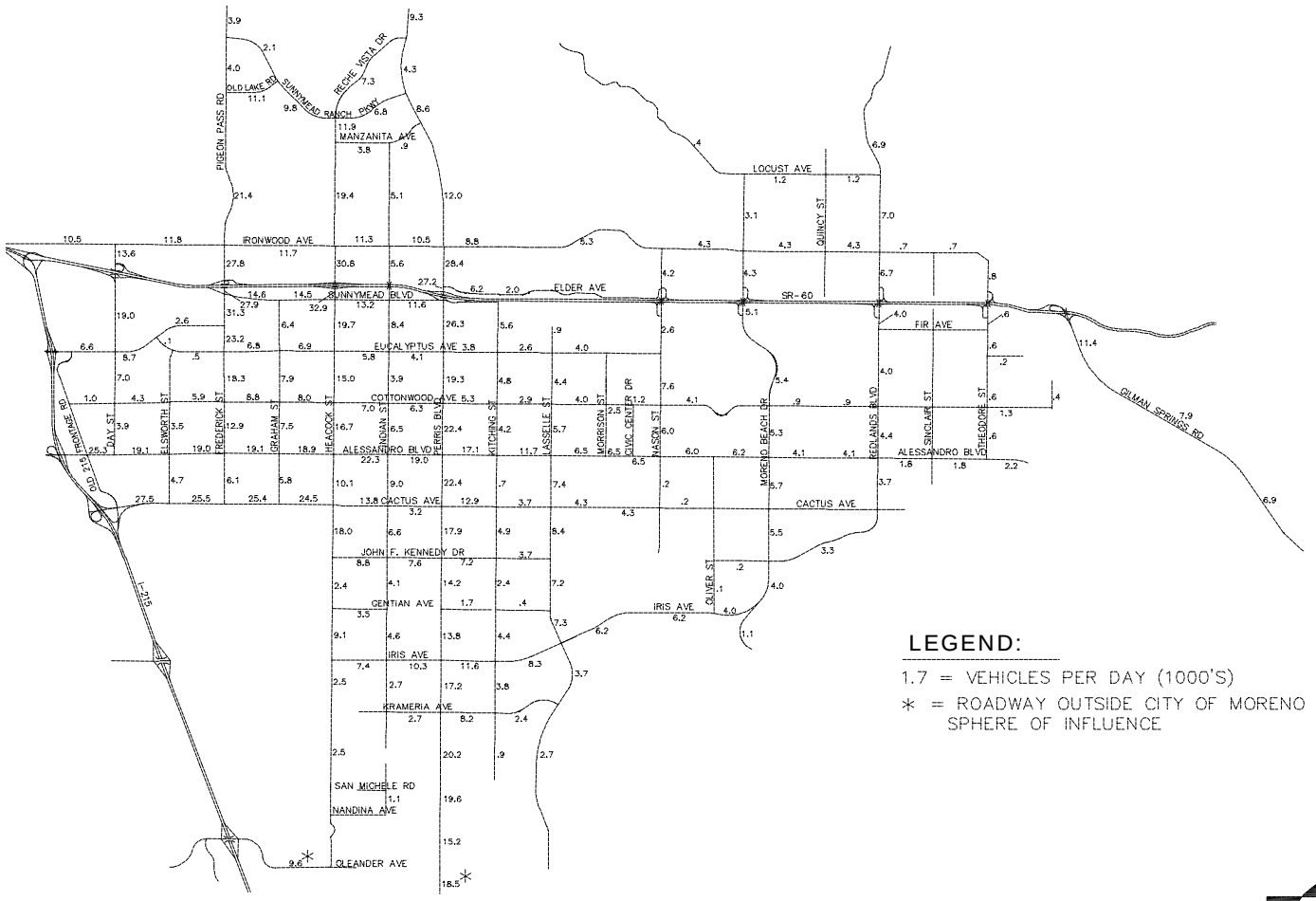
∗ = ROADWAY OUTSIDE CITY OF MORENO VALLEY SPHERE OF INFLUENCE

URBAN CROSSROADS

MORENO VALLEY GENERAL PLAN UPDATE TRAFFIC STUDY, Moreno Valley, California – 00024:05 rev. 04/14/04

YEAR 2000 AVERAGE DAILY TRAFFIC VOLUMES

Figure 5.2-5



URBAN CROSSROADS

MORENO VALLEY GENERAL PLAN UPDATE TRAFFIC STUDY, Moreno Valley, California -- 00024:04 rev. 07/30/02

exceed their existing daily traffic capacities. In many instances, these roadway segments have not been constructed to their planned dimensions and capacities. For example, as shown on **Table 5.2-3**. Perris Boulevard between Mariposa Avenue and Nandina Avenue, which has the highest existing V/C ratio, has not been constructed to its ultimate capacity.

TABLE 5.2-2
YEAR 2000 ROADWAY SEGMENTS
WITH VOLUME TO CAPACITY RATIOS NEAR EXISTING DAILY TRAFFIC CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION[1]	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C" [2]	LOS "D" [2]		
Heacock St.	SR-60 Fwy.	Sunnymead Blvd.	4D		33,750	32,900	0.97
Box Springs Rd.	I-215/SR-60 Fwy.	Day St.	2U		11,125	10,500	0.94
Perris Blvd.	n/o Heacock St.	Heacock St.	2U	10,000		9,300	0.93
Heacock St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	30,800	0.91
Ironwood Ave.	Perris Blvd.	Lasselle St.	2U	10,000		8,800	0.88
Perris Blvd.	JF Kennedy Dr.	Gentian Ave.	3D		16,875	14,200	0.84
Lasselle St.	Cactus Ave.	JF Kennedy Dr.	2U	10,000		8,400	0.84
Frederick St.	SR-60 Fwy.	Sunnymead Blvd.	4D		33,750	27,900	0.83
Pigeon Pass Rd.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	27,800	0.82
Krameria Ave.	Perris Blvd.	Kitching St.	2U	10,000		8,200	0.82
Heacock St.	Gentian Ave.	Iris Ave.	2U		11,125	9,100	0.82
Perris Blvd.	Gentian Ave.	Iris Ave.	3D		16,875	13,800	0.82
Cactus Ave.	I-215 Fwy.	Elsworth St.	4D		33,750	27,500	0.81
Oleander Ave.[3]	I-215 Fwy.	Heacock St.	2U		11,125	9,600	0.86

[1] Road section in terms of number of through lanes and design D= divided (with median) U=undivided (no median)

[2] Based upon existing lanes

[3] Location outside City Sphere of Influence

TABLE 5.2-3
YEAR 2000 ROADWAY SEGMENTS WITH VOLUME TO CAPACITY RATIOS THAT EXCEED EXISTING DAILY TRAFFIC CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C" [2]	LOS "D" [2]		
Perris Blvd.	Mariposa Ave.	Nandina Ave.	2U		11,125	19,600	1.76
Pigeon Pass Rd.	Old Lake Rd.	Ironwood Ave.	3U	15,000		21,400	1.43
Perris Blvd.	Nandina Ave.	Oleander Ave.	2U		11,125	15,200	1.37
Perris Blvd.	Krameria Ave.	Mariposa Ave.	3U		16,875	20,200	1.20
Perris Blvd.	Manzanita Ave.	Ironwood Ave.	2U	10,000		12,000	1.20
Ironwood Ave.	Day St.	Pigeon Pass Rd.	2U	10,000		11,800	1.18
Ironwood Ave.	Heacock St.	Indian Ave.	2U	10,000		11,300	1.13
Alessandro Blvd.	Kitching St.	Lasselle St.	2U		11,125	11,700	1.05
Ironwood Ave.	Indian Ave.	Perris Blvd.	2U	10,000		10,500	1.05
Gilman Springs Rd.	SR-60 Fwy.	Spine Rd.	2U		11,125	11,400	1.02
Perris Blvd.	Iris Ave.	Krameria Ave.	3D		16,875	17,200	1.02
Alessandro Blvd.	Perris Blvd.	Kitching St.	3D		16,875	17,100	1.01
Perris Blvd. [3]	Oleander Ave.	s/o Oleander Ave.	2U		11,125	18,500	1.66

[1] Road section in terms of number of through lanes and design D= divided (with median) U=undivided (no median)
[2] Based upon existing lanes

[3] Location outside City Sphere of Influence

Regional Planning

The transportation planning context for the City of Moreno Valley includes ongoing regional planning efforts, which consist of the Regional Transportation Plan, the Riverside County Integrated Project, Intelligent Transportation Systems, Transportation Demand Management, and the Congestion Management Program. Regional access is an important function of the transportation network, allowing safe and efficient travel between cities, counties and states. Efficient regional access supports the economic development and general welfare of the community and helps maintain acceptable levels of service on local streets.

To promote efficient regional access, the City currently maintains strong lines of communication with regional and state agencies, including: Western Riverside Council of Governments (WRCOG), Riverside County Transportation Commission (RCTC), the Southern California Association of Governments (SCAG) and Caltrans. In cooperation with these agencies, the City participates in the development of and adheres to the policies of the following regional plans:

Regional Transportation Plan

The Regional Transportation Plan (RTP) is a component of the Regional Comprehensive Plan and Guide prepared by the Southern California Association of Governments (SCAG) to address regional issues, goals, objectives, and policies for the Southern California region. The RTP, which SCAG periodically updates, sets broad goals for the region and provides strategies to reduce problems related to congestion and mobility. The RTP identifies transportation facilities that are of regional significance. In order to be eligible for federal funding assistance, transportation projects must be consistent with the RTP.

Riverside County Integrated Project

A primary objective of the Riverside County Integrated Project (RCIP) is to accommodate projected population growth within Riverside County by focusing development within areas that will be readily accessible, will provide a good quality of life for future residents, and will minimize environmental and community impacts, including impacts to sensitive habitats and endangered species. The RCIP consists of three concurrent planning efforts: (1) the Community and Environmental Transportation Acceptability Process (CETAP); (2) the Riverside County General Plan update; and (3) a Multi-Species Habitat Conservation Plan (MSHCP) for Western Riverside County. The CETAP is the planning effort that most directly affects projected traffic in Moreno Valley.

As part of the CETAP process, four transportation corridors in the general vicinity of the City of Moreno Valley are currently being analyzed. Two of these corridors are internal to Riverside County (Winchester to Temecula, and Hemet to Corona/Lake Elsinore); and two are inter-county corridors (from Moreno Valley County to San Bernardino County, and Riverside County to Orange County). The inter-county corridor from Moreno Valley to San Bernardino County, known as Bi-County Corridor, would directly affect Moreno Valley. Roadways that could serve as potential termini or connections for this corridor in the City of Moreno Valley include Pigeon Pass Road, Reche Canyon Road North, and a potential direct connection to the regional freeway system at the SR-60/I-215 interchange at the western edge of the City of Moreno Valley (the core alignment).

The core alignment would connect California Street in San Bernardino County with the I-215/SR-60 Freeway interchange, and require a four-lane tunnel underneath Box Springs Mountain. The Pigeon Pass Road connection would require that Pigeon Pass Road be widened and realigned to provide a 4-lane arterial section at the north end of the City of Moreno Valley. Pigeon Pass Road would connect to the new Bi-County Corridor at the west side of the Riverside County Landfill. The Reche Canyon Road North connection would also require widening to provide a 4-lane arterial facility. This alternative would be connected to Barton Road in Colton, where it would then be realigned along Hunts Lane and continue north to the I-10 Freeway.

The combined effect of the CETAP corridors would be to reduce traffic volumes on most freeway and major arterial facilities within the City of Moreno Valley. The SR-60 Freeway (particularly in the eastern part of the City), Redlands Boulevard north of SR-60 and Gilman

Springs Road all would experience reductions in daily traffic in excess of 10,000 vehicles per day, due to the combined effects of the proposed CETAP corridors. The combined section of the I-215/SR-60 Freeways is also expected to experience a 10% decrease in daily traffic volumes (approximately 35,000 vehicles per day).

A few Moreno Valley roadways would experience an increase in traffic as a result of the proposed CETAP corridor improvements. These roadways include I-215 north of Alessandro Boulevard, Pigeon Pass Road north of Sunnymead Ranch Parkway, and Reche Canyon Road north of Locust Avenue. The proposed Moreno Valley to San Bernardino Bi-County Corridor itself is projected to carry upwards of 60,000 vehicles per day between the I-10 Freeway and SR-60 Freeway. However, according to analysis conducted as part of the Traffic Study, the overall net effect of the CETAP corridors would be generally positive for the City of Moreno Valley.

Congestion Management Program

The Congestion Management Program (CMP) was established in 1990 under Proposition 111. The intent of the CMP is to more directly link land use, transportation and air quality thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality. RCTC is the designated Congestion Management Agency (CMA) for Riverside County, and holds responsibility for the development and implementation of the Riverside County CMP. The CMP identifies a network of roadways that serve as regional linkages between Riverside County cities and adjacent counties. Local agencies are required to monitor how new development projects will impact the CMP network. Should a new development project cause a location on the CMP network to fall below a Level of Service (LOS) F, the local agency must prepare a deficiency plan that would outline specific mitigation measures and a schedule for mitigating the deficiency.

Funding with Development Fees

New developments are responsible for participation in Transportation Uniform Mitigation Fee Program (TUMF) and the Development Impact Fee Program (DIF). The purpose of these fees is to facilitate build-out of the planned circulation systems. These fee programs establish a fair share contribution for new development. Adopted by the City in February 2003, the TUMF has been cooperatively adopted by a number of western Riverside County jurisdictions. It places a fee on new residential and non-residential development that will fund regional highway and arterial improvements consistent with the Western Riverside County of Governments (WRCOG) Regional TUMF Network. Fees are calculated on a per unit basis for residential uses, and on a per square foot basis for commercial and industrial uses. Major TUMF funded improvements are proposed for Cajalco Road, Alessandro Boulevard, Central Avenue and Van Buren Boulevard.

The City's Development Impact Fee Program (DIF) also levies fees on new residential and non-residential development to fund building of the City's General Plan circulation system and traffic signal system. In many cases, individual developments will be able to construct improvements that are part of the TUMF and DIF programs in lieu of paying fees.

Regional Deficiencies

The Box Springs segment of SR-60 / I-215 is one of the most congested segments of the Riverside County freeway system. It is also the primary access route for Moreno Valley commuters to employment and activity centers that are located in Orange County, Los Angeles County, and western portions of Riverside and San Bernardino Counties. Currently, the Box Springs segment carries about 160,000 vehicles per day, and generally operates at LOS F during peak travel periods. Besides high traffic volumes and limited lane capacity, other factors that contribute to severely congested conditions on this segment are a significant percentage of large trucks, a steep road grade, and the merging of two state highways. Congestion at the interchange with the 91 Freeway also contributes to congestion along this segment.

Although the Box Springs segment is outside of the City of Moreno Valley, mitigation of this bottleneck is of utmost importance because its congestion affects a vast number of City residents, and ultimately could impede fruition of the City's proposed General Plan. Currently, Caltrans has a plan to improve the Box Springs segment by adding auxiliary lanes, High Occupancy Vehicle (HOV) lanes, and construction of an eastbound grade separated truck by-pass lane at the SR-60 / I-215 interchange. The City of Moreno Valley advocates these improvements and additional improvements including at least two new general-purpose lanes and a grade separated HOV lane from westbound SR-60 to southbound I-215. In addition, the City advocates for alternatives that would divert traffic from the Box Springs segment. Examples include extension of the San Jacinto branch line for Metrolink, CETAP improvements proposed for the Moreno Valley to the San Bernardino Corridor, and TUMF improvements proposed for Cajalco Road, Alessandro Boulevard, Central Avenue and Van Buren Boulevard.

March Air Reserve Base/March Inland Port

March Air Reserve Base/March Inland Port is currently active as a center for military reserve activities and as a military communication center. Although its long-term future as a military facility is uncertain, it is not slated for expansion or closure at this time. Much of the original base has been transferred to the jurisdiction of the joint powers Authority (JPA), and is slated for commercial, industrial and warehousing development. From a transportation standpoint, all vehicular access to and from the Base must travel through Moreno Valley on Cactus Avenue or Heacock Street.

Alternative Transportation Systems

Bikeway System

The Moreno Valley Bikeway Plan consists of Class I, Class II and Class III routes. Class I bikeways are dedicated trails, separated from vehicular traffic. Class II are designated, striped bikeways generally located along the right shoulder of the roadway. Class III routes are identified with roadside signs, and do not have marked travel lanes. These bikeways provide bicycling opportunities for both recreational and commuting purposes.

Public Transit

Public transit in the City of Moreno Valley consists primarily of bus service. In the future, it is anticipated that Moreno Valley will also have access to commuter rail services. Major components of the public transit system include bus and rail systems.

Bus Service

RCTC is charged with coordinating the operation of all public transportation services in Riverside County with a goal towards promoting program efficiency and effectiveness between transit operators. Moreno Valley is primarily served by the Riverside Transportation Agency (RTA), which provides public bus service to most of western Riverside County, including Moreno Valley.

Transit Oasis

The Transit Oasis is a mobility concept that has been promoted as part of the RCIP. The concept of the Transit Oasis is to provide an integrated system of local, rubber-tired transit hubs that are linked with regional transit systems (either rail or bus). In Moreno Valley, a Transit Oasis would serve to transport commuters to the proposed Metrolink station near the I-215 and Alessandro Boulevard interchange. A Transit Center allows ease of transfer between transit lines. Its use should be considered wherever three or more lines converge (e.g. Moreno Valley Mall).

Commuter Rail

Currently, RCTC owns the San Jacinto Branch Line located west of Moreno Valley, parallel to I-215. This is a service line track that provides Burlington, Northern & Santa Fe (BNSF) freight service to the region. This rail line carries a low volume of freight trains to and from industrial, commercial, and agricultural areas, south of Moreno Valley. RCTC has plans to initiate commuter rail service on this line that would extend to San Jacinto. A commuter rail station is planned for the southwest quadrant of Alessandro at I-215 along the Metrolink Perris Valley Line (PVL) that would provide convenient access for Moreno Valley residents.

Moreno Valley General Plan

The proposed Circulation Element for the General Plan incorporates the recommendations of the traffic study into a series of goals, objectives, policies and programs. Goal 1 of the Circulation Element states:

> *Develop a safe, efficient, environmentally and financially sound, integrated vehicular circulation system consistent with the City General Plan Circulation Element Map, which provides access to development and supports mobility requirements of the system's users.*

To support this goal, the proposed Circulation Element includes objectives, policies and programs, including, but not limited to programs 5-1 through 5-9 which establish mechanisms

for addressing projected arterial deficiencies. These programs focus on the need for continued studies, close coordination with other local agencies, and identification of appropriate funding sources.

In addition, the proposed Circulation Element proposed a number of regional transportation programs intended to mitigate traffic impacts to the State freeway system. Participation in these programs is incorporated as part of the proposed Circulation Element programs 5-10 through 5-13. These programs focus on the need for continued studies, close coordination with regional and other local agencies, and identification of appropriate funding sources.

Proposed Circulation Element programs 5-14 and 5-15 implement programs in support of the efforts of Riverside Transit Agency toward the expansion of the existing bus system within the City and the provision of future public transportation consistent with the Riverside County Transit Plan. Proposed Circulation Element programs 5-16 and 5-17 implement programs to facilitate the development of bikeways in accordance with the Bikeway Plan.

THRESHOLD FOR DETERMINING SIGNIFICANCE

For the purposes of this EIR, a significant impact would occur if implementation of General Plan Alternatives 1, 2, or 3 would:

- *Cause an increase in traffic that results in a V/C ratio in excess of 1.0, exceeding the City's LOS standards;*
- *Exceed a level of service standard established by the County Congestion Management Agency*[2]*;*
- *Result in a change in air traffic patterns that results in substantial safety risks;*
- *Increase hazards due to a design feature or incompatible uses;*
- *Result in inadequate emergency access;*
- *Result in inadequate parking capacity; or*
- *Conflict with adopted policies, plans, or programs supporting alternative transportation.*

[2] City LOS standard is "C" or "D"; and is higher than the designated CMP standards for Riverside County. Therefore, the City LOS standards are applied as the primary threshold of significance.

ENVIRONMENTAL IMPACT

To determine potential impacts of the proposed City of Moreno Valley General Plan Update, the Traffic Study evaluated future traffic volumes that would be generated from the three land use alternatives, presented in the Project Description (**Table 3-1**). In addition to the three land use alternatives, the Traffic Study also evaluated three additional circulation alternatives. Based on these evaluations, the preferred circulation system was selected, assuming development in accordance with Land Use Alternative 2. This preferred circulation system is promulgated through the Circulation Element of the General Plan Update.

Proposed Circulation Plan

Roadways

The proposed Circulation Plan depicts the City planned arterial system and existing freeway segments that run within or adjacent to City boundaries. **Figure 5.2-6**, below, illustrates the proposed Circulation Plan. It includes roadway network improvements that reflect a balance between roadway capacity needs and physical constraints (i.e., existing development or environmental conditions that preclude roadway widening). For example, the proposed interchange at Lasselle Street is not included to avoid disruption of the neighborhood in and around the interchange.

Other major network changes include the addition of a freeway over-crossing at Graham Street and removal of freeway over-crossings at Sinclair Street and Quincy Street. The light traffic volumes on Sinclair Street and Quincy Street indicated by the traffic modeling, conducted as part of the Traffic Study, did not justify construction of the over-crossings for those streets. Relatively light traffic volumes at several sections of Redlands Boulevard and Nason Street resulted in the recommended downgrading of those sections from 6-lanes to 4-lanes.

Table 5.2.4, below, presents the major roadway changes to arterials and selected collectors[3] proposed for the Circulation Plan, and compares these changes to the existing circulation plan.

Figure 5.2-6 also contains the proposed Circulation Plan roadway classifications. Two new categories of roadway designations are added: Divided Major Arterial – Reduced Cross-Section, and Divided Arterial – 6-Lane. Both classifications provide 6 lanes of travel. The Circulation Plan also continues the City's existing practice of providing dedicated turn lanes as required; this practice results in higher levels of traffic capacity and safety.

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[3] Collectors identified in Table 5.2-4 and Figure 5.2-6 are those necessary to provide access to existing and future areas of low density, primarily located in the east side of the City.

TABLE 5.2-4
PROPOSED CIRCULATION PLAN CHANGES

ROADWAY	SEGMENT LIMITS		CURRENT CIRCULATION PLAN CLASSIFICATION	EXISTING CIRCULATION PLAN LANES	PROPOSED CIRCULATION PLAN CLASSIFICATION	PROPOSED CIRCULATION PLAN LANES
	FROM	TO				
Old 215 Frontage Rd.	Dracaea Av.	Alessandro Bl.	Arterial	4D	Minor Arterial - Pigeon Pass Cross-Section	4D
Old 215 Frontage Rd.	Alessandro Bl.	Day St.	N/A	N/A	Minor Arterial - Pigeon Pass Cross-Section	4D
Old 215 Frontage Rd.	Alessandro Bl.	Cactus Av.	Arterial	4D	N/A	N/A
Day St.	Box Springs Rd.	SR-60 EB Ramps	Divided Arterial	4D	Minor Arterial	4D
Day St.	SR-60 EB Ramps	Campus Pkwy.	Divided Arterial	4D	Divided Major Arterial	6D
Day St.	Campus Pkwy.	Gateway Dr.	Divided Arterial	4D	Divided Major Arterial	6D
Day St.	Gateway Dr.	Eucalyptus Av.	Divided Arterial	4D	Divided Major Arterial	6D
Day St.	Cottonwood Av.	Alessandro Bl.	Divided Arterial	4D	Minor Arterial	4D
Day St.	Alessandro Bl.	Cactus Av.	N/A	N/A	Minor Arterial	4D
Pigeon Pass Rd.	Old Lake Rd.	Ironwood Av.	Modified Minor Arterial	4D	Minor Arterial - Pigeon Pass Cross-Section	4D
Frederick St.	Ironwood Av.	SR-60 Fw.	Minor Arterial	4D	Divided Arterial	6D
Frederick St.	SR-60 Fw.	Towngate Bl.	Arterial	4D	Divided Major Arterial	6D
Graham St.	Ironwood Av.	Sunnymead Bl.	N/A	N/A	Minor Arterial	4D
Kitching St.	Iris Av.	Lurin Av.	Arterial	4D	Minor Arterial	4D
Lasselle St.	n/o Eucalyptus Av.	Eucalyptus Av.	Minor Arterial	4D	N/A	N/A
Morrison St.	John F. Kennedy Dr.	s/o John F. Kennedy Dr.	Minor Arterial	4D	N/A	N/A
Nason St.	Ironwood Av.	SR-60 EB Ramps	Modified Divided Major Arterial	6D	Minor Arterial	4D
Nason St.	SR-60 EB Ramps	Dracaea Av.	Modified Divided Major Arterial	6D	Divided Arterial	4D
Nason St.	Dracaea Av.	Alessandro Blvd.	Modified Divided Major Arterial	6D	Arterial	4D
Nason St.	Alessandro Blvd.	Delphinium Av.	Modified Divided Major	6D	Divided Major Arterial -	6D

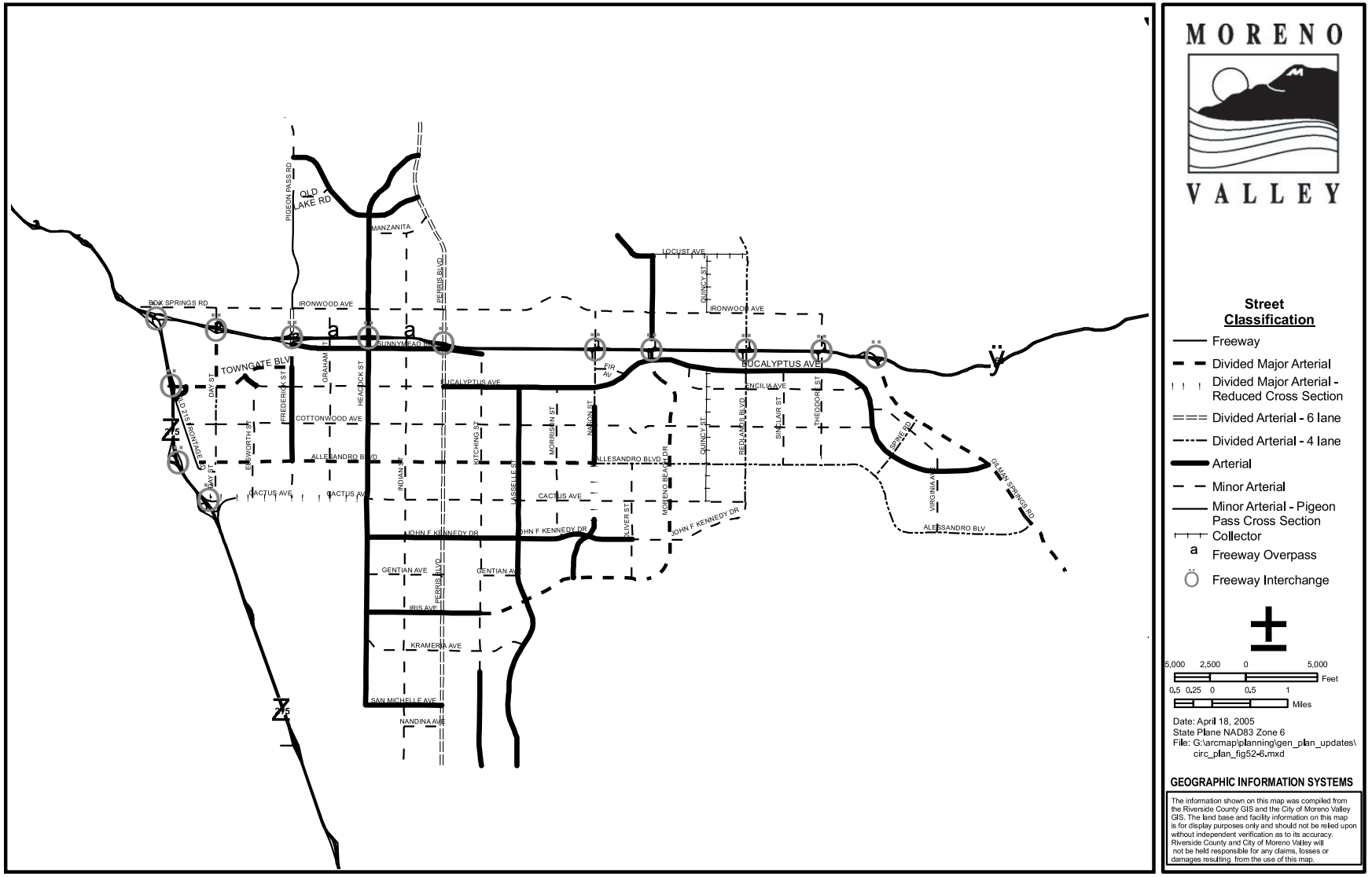
TABLE 5.2-4
PROPOSED CIRCULATION PLAN CHANGES

ROADWAY	SEGMENT LIMITS		CURRENT CIRCULATION PLAN CLASSIFICATION	EXISTING CIRCULATION PLAN LANES	PROPOSED CIRCULATION PLAN CLASSIFICATION	PROPOSED CIRCULATION PLAN LANES
	FROM	TO				
			Arterial		Reduced Cross-Section	
Nason St.	Delphinium Av.	Iris Ave.	Modified Divided Major Arterial	6D	Arterial	4D
Moreno Beach Dr.	SR-60 EB Ramps	SR-60 Fw.	Arterial	4D	Divided Major Arterial	6D
Quincy St.	n/o Locust Av.	Locust Av.	Minor Arterial	4D	N/A	N/A
Quincy St.	Locust Av.	Ironwood Av.	Minor Arterial	4D	Collector	2U
Quincy St.	Ironwood Av.	Eucalyptus Av.	Minor Arterial	4D	N/A	N/A
Redlands Bl.	n/o Manzanita Av.	Manzanita Av.	Minor Arterial	4D	N/A	N/A
Redlands Bl.	Manzanita Av.	SR-60 Fw.	Modified Divided Major Arterial	6D	Divided Arterial	4D
Redlands Bl.	SR-60 Fw.	Alessandro Bl.	Divided Major Arterial	6D	Divided Arterial	4D
Redlands Bl.	Alessandro Bl.	Cactus Av.	Arterial	4D	Divided Arterial	4D
Sinclair St.	Ironwood Av.	Eucalyptus Av.	Minor Arterial	4D	N/A	N/A
Sinclair St.	Alessandro Bl.	Cactus Av.	Minor Arterial	4D	N/A	N/A
Theodore St.	SR-60 EB Ramps	Alessandro Bl.	Divided Major Arterial	6D	Minor Arterial	4D
Spine Rd.	Gilman Springs Rd.	Eucalyptus Av.	Divided Major Arterial	6D	Divided Arterial	4D
E. Spine Rd.	Eucalyptus Av.	Alessandro Bl.	Minor Arterial	4D	N/A	N/A
W. Spine Rd.	Eucalyptus Av.	Alessandro Bl.	Minor Arterial	4D	N/A	N/A
Old Lake Rd.	Pigeon Pass Rd.	Sunnymead Ranch Pkwy.	Arterial	4D	Minor Arterial	4D
Locust Av.	Moreno Beach Dr.	Redlands Bl.	Minor Arterial	4D	Collector	2U
Elder Av.	Perris Bl.	Nason St.	Minor Arterial	4D	N/A	4D
Sunnymead Bl.	Perris Bl.	Kitching St.	Minor Arterial	4D	Arterial	4D
Eucalyptus Av.	Elsworth St.	Frederick St.	Arterial	4D	Minor Arterial	4D
Eucalyptus Av.	Indian St.	Perris Bl.	Arterial	4D	Minor Arterial	4D
Eucalyptus Av.	Moreno Beach Dr.	Redlands Bl.	Arterial	4D	Arterial	4D

TABLE 5.2-4
PROPOSED CIRCULATION PLAN CHANGES

ROADWAY	SEGMENT LIMITS		CURRENT CIRCULATION PLAN CLASSIFICATION	EXISTING CIRCULATION PLAN LANES	PROPOSED CIRCULATION PLAN CLASSIFICATION	PROPOSED CIRCULATION PLAN LANES
	FROM	TO				
Eucalyptus Av.	Redlands Bl.	Spine Rd.	Divided Major Arterial	6D	Arterial	4D
Eucalyptus Av.	Spine Rd.	Gilman Springs Rd.	Divided Arterial	4D	Arterial	4D
Encilia Av.	Eucalyptus Av. east of Moreno Beach Dr.	Eucalyptus Av. east of Theodore St.	NA	N/A	Minor Arterial	4D
N. Spine Rd.	W. Spine Rd.	E. Spine Rd.	Minor Arterial	4D	N/A	N/A
S. Spine Rd.	W. Spine Rd.	E. Spine Rd.	Minor Arterial	4D	N/A	N/A
Dracaea Av.	Redlands Bl.	Eucalyptus Av.	Minor Arterial	4D	N/A	N/A
Alessandro Bl.	Nason St.	Gilman Springs Rd.	Divided Major Arterial	6D	Divided Arterial	4D
Cactus Av.	I-215 Fw.	I-215 SB Ramps	Minor Arterial	4D	Divided Major Arterial - Reduced Cross-Section	6D
Cactus Av.	Graham St.	Heacock St.	Arterial	4D	Divided Major Arterial - Reduced Cross-Section	6D
John F. Kennedy Dr.	Oliver St.	Redlands Bl.	Arterial	4D	Minor Arterial	4D
Gentian Av.	Perris Bl.	Kitching St.	Minor Arterial	4D	N/A	N/A

NOTE: Selected collectors are those necessary to provide access to existing and future areas of low density, primarily located in the east side of the City.
N/A = either not included in Current General Plan Circulation Element or recommended for deletion.



Source: Urban Crossroads, June 2004

Figure 5.2-6
Proposed Circulation Plan

Level of Service

Similar to the existing City Circulation Element, the proposed Circulation Element recognizes that an LOS of C is optimal. However, it also recognizes that in the vicinity of SR-60 and high employment centers, an LOS of D is appropriate. Objective 5.3 of the proposed Circulation Element states:

Maintain Level of Service (LOS) "C" on roadway links, wherever possible, and LOS "D" in the vicinity of SR 60 and high employment centers.

Figure 5.2-7 depicts the LOS standards that are applicable to all segments of the proposed Circulation Plan.

Impacts on Roadway Levels of Service

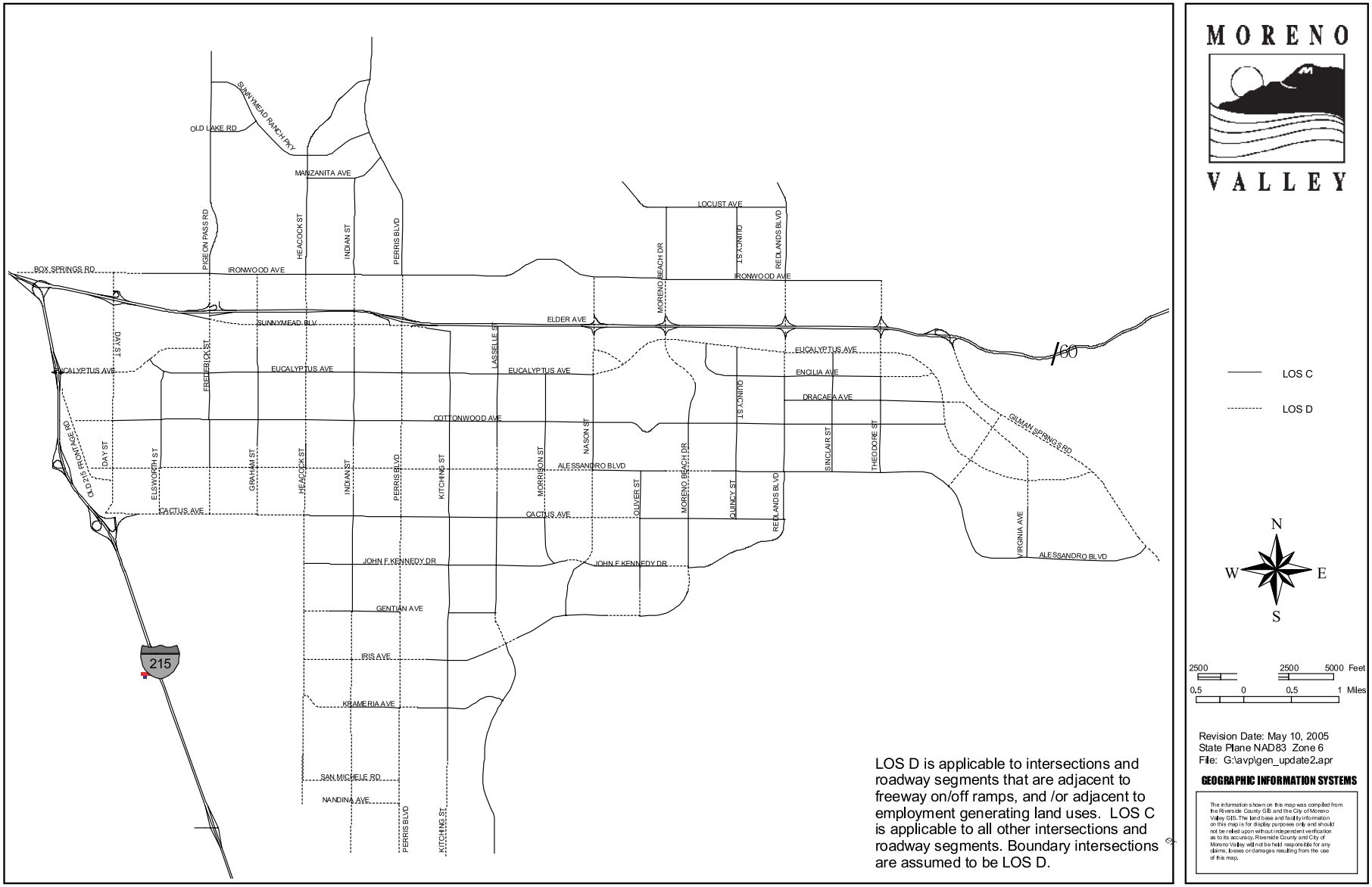
Projected traffic volumes on the proposed Circulation Plan network of streets were calculated as part of the Traffic Study for each of the three land use alternatives. For each alternative, the calculation of future traffic assumed: (1) the City of Moreno Valley will be built-out to the maximum square footages and dwelling units permitted in the alternative; (2) regional growth will occur in accordance with respective jurisdictional general plans and regional plans; and (3) build-out for the purposes of the Traffic Study calculation is expected to occur after year 2030.

In addition to the three land use alternatives, the Traffic Study also evaluated three additional circulation alternatives. Based on these evaluations, the preferred circulation system was selected, assuming development in accordance with Land Use Alternative 2. This preferred circulation system is promulgated through the City of Moreno Valley Circulation Element of the General Plan update.

Projected traffic impacts related to each land use alternative are summarized below. A roadway segment where the V/C ratio exceeds 1.0 is considered deficient; such roadways have traffic volumes that exceed their acceptable LOS of "C" or "D" as established by the proposed Circulation Element. A roadway segment where the V/C ratio exceeds 0.80 is considered near existing design capacity, or nearing deficiency.

Alternative I

Build-out of the City under Land Use Alternative 1 would result in an average of 2,960,087 daily trips. As shown in **Table 5.2.5**, a total of 41 roadway segments would have projected V/C ratios indicating they are near to their daily traffic capacities. **Table 5.2-6** identifies those roadway segments where the projected traffic volumes exceed roadway design capacities; 37 roadway segments have V/C ratios that are projected to exceed their daily traffic capacities.



Source: Urban Crossroads, June 2004.

Figure 5.2-7
LOS Standards

TABLE 5.2-5
ALTERNATIVE 1 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH DAILY VOLUMES NEAR OR AT CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Frederick St.	Towngate Blvd.	Eucalyptus Ave.	4D		33,750	33,582	1.00
Iris Ave.	Los Cabos Dr	Camino Flores	6D		50,625	49,559	0.98
Cactus Ave.	Lasselle St.	Morrison St.	4D	30,000		29,397	0.98
Cactus Ave.	Perris Blvd.	Kitching St.	4D	30,000		29,103	0.97
Alessandro Blvd.	Elsworth St.	Frederick St.	6D		50,625	49,067	0.97
Eucalyptus Ave.	Frederick St.	Graham St.	4D	30,000		28,487	0.95
Nason St.	Eucalyptus Ave.	Cottonwood Ave.	6D	45,000		42,425	0.94
John F. Kennedy Dr.	Moreno Beach Dr.	Redlands Blvd.	4D	30,000		28,235	0.94
Cottonwood Ave.	Day St.	Elsworth St.	4D	30,000		27,977	0.93
Graham St.	Sunnymead Blvd.	Fir Ave	4D	30,000		27,939	0.93
Ironwood Ave.	Nason St.	Moreno Beach Dr.	4D	30,000		27,805	0.93
Eucalyptus Ave.	Elsworth St.	Frederick St.	4D	30,000		27,769	0.93
Perris Blvd.	Sunnymead Blvd.	Eucalyptus Ave.	6D		50,625	46,583	0.92
Ironwood Ave.	Barclay Dr.	Pigeon Pass Rd.	4D	30,000		27,586	0.92
Heacock St.	John F. Kennedy Dr.	Gentian Ave.	4D		33,750	30,931	0.92
Heacock St.	Eucalyptus Ave.	Cottonwood Ave.	4D		33,750	30,703	0.91
Moreno Beach Dr.	Alessandro Blvd.	Cactus Ave.	6D	45,000		40,760	0.91
Cottonwood Ave.	Nason St.	Moreno Beach Dr.	4D	30,000		27,021	0.90
Nason St.	SR-60 Fwy.	Eucalyptus Ave.	6D		50,625	45,108	0.89
Alessandro Blvd.	Graham St.	Heacock St.	6D		50,625	44,625	0.88
Kitching St.	Cottonwood Ave.	Alessandro Blvd.	4D	30,000		26,352	0.88
Kitching St.	John F. Kennedy Dr.	Gentian Ave.	4D	30,000		26,197	0.87
Heacock St.	Gentian Ave.	Iris Ave.	4D		33,750	29,431	0.87
Heacock St.	Sunnymead Ranch Pkwy.	Manzanita Ave.	4D	30,000		25,796	0.86
Kitching St.	Eucalyptus Ave.	Cottonwood Ave.	4D	30,000		25,765	0.86
Pigeon Pass Rd.	Old Lake Rd.	Ironwood Ave.	4D	30,000		25,711	0.86
Graham St.	Cottonwood Ave.	Bay Ave.	4D	30,000		25,357	0.85
Old 215 Frontage Rd.	Eucalyptus Ave.	Cottonwood Ave.	4D		33,750	28,373	0.84
Kitching St.	Mariposa Ave.	Nandina Ave.	4D		33,750	28,357	0.84
Eucalyptus Ave.	Nason St.	Moreno Beach Dr.	4D		33,750	28,271	0.84
Lasselle St.	Cottonwood Ave.	Bay Ave.	4D	30,000		24,956	0.83
Gilman Springs Rd.	Alessandro Blvd.	s/o Alessandro Blvd.	6D		50,625	42,058	0.83
Graham St.	Fir Ave	Eucalyptus Ave.	4D		33,750	27,939	0.83
Kitching St.	Sunnymead Blvd.	Eucalyptus Ave.	4D	30,000		24,688	0.82

TABLE 5.2-5
ALTERNATIVE 1 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH DAILY VOLUMES NEAR OR AT CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Perris Blvd.	Mariposa Ave.	Nandina Ave.	6D		50,625	41,380	0.82
Ironwood Ave.	Day St.	Barclay Dr.	4D		33,750	27,586	0.82
Perris Blvd.	Iris Ave.	Krameria Ave.	6D		50,625	41,079	0.81
Lasselle St.	Krameria Ave.	Oleander Connector Rd.	4D	30,000		24,324	0.81
Perris Blvd.	Krameria Ave.	Mariposa Ave.	6D		50,625	41,014	0.81
Moreno Beach Dr.	Alessandro Blvd.	Brodiaea Av	6D		50,625	40,760	0.81
Oleander Ave. [1]	I-215 Fwy.	Heacock St.	6D		50,625	43,994	0.87

[1] Location outside City Sphere of Influence

TABLE 5.2-6
ALTERNATIVE 1 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH DAILY VOLUMES IN EXCESS OF CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Heacock St.	SR-60 Fwy.	Sunnymead Blvd.	4D		33,750	58,647	1.74
Eucalyptus Ave.	Old 215 Frontage Rd.	Day St.	6D		50,625	79,060	1.56
Day St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	45,070	1.34
Moreno Beach Dr.	SR-60 Fwy.	Eucalyptus Ave.	6D		50,625	64,666	1.28
Day St.	SR-60 Fwy.	Eucalyptus Ave.	7D		56,363	71,511	1.27
Moreno Beach Dr.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	40,932	1.21
Indian St.	Fir Ave.	Eucalyptus Ave.	4D	30,000		36,151	1.21
Alessandro Blvd.	Old 215 Frontage Rd.	Day St.	6D		50,625	60,721	1.20
Redlands Blvd.	n/o Locust Ave.	Locust Ave.	4D	30,000		35,805	1.19
Kitching St.	Iris Ave.	Krameria Ave.	4D	30,000		35,395	1.18
Pigeon Pass Rd.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	39,471	1.17
Kitching St.	Krameria Ave.	Mariposa Ave.	4D	30,000		34,590	1.15
Alessandro Blvd.	Day St.	Elsworth St.	6D		50,625	58,031	1.15
Heacock St.	Cactus Ave.	John F. Kennedy Dr.	4D		33,750	37,725	1.12
Heacock St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	37,435	1.11

TABLE 5.2-6
ALTERNATIVE 1 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH DAILY VOLUMES IN EXCESS OF CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Cactus Ave.	Old 215 Frontage Rd.	Elsworth St.	6D		50,625	55,997	1.11
Iris Ave.	Lasselle St.	Nason St.	6D	45,000		49,559	1.10
Gilman Springs Rd.	SR-60 Fwy.	Spine Rd.	6D		50,625	55,744	1.10
Frederick St.	Sunnymead Blvd.	Towngate Blvd.	6D		50,625	55,156	1.09
Cactus Ave.	Graham St.	Heacock St.	4D		33,750	36,378	1.08
Perris Blvd.	Elder Ave.	Sunnymead Blvd.	6D		50,625	54,400	1.07
Heacock St.	Cottonwood Ave.	Alessandro Blvd.	4D		33,750	36,224	1.07
Indian St.	Sunnymead Blvd.	Fir Ave	4D		33,750	36,151	1.07
Heacock St.	Sunnymead Blvd.	Eucalyptus Ave.	4D		33,750	36,012	1.07
Indian St.	Mariposa Ave.	Nandina Ave.	4D		33,750	35,574	1.05
Perris Blvd.	Nandina Ave.	Oleander Ave.	6D		50,625	52,641	1.04
Frederick St.	SR-60 Fwy.	Sunnymead Blvd.	7D		56,363	57,848	1.03
Lasselle St.	John F. Kennedy Dr.	Gentian Ave.	4D	30,000		30,777	1.03
Cactus Ave.	Heacock St.	Indian St.	4D	30,000		30,496	1.02
Indian St.	Nandina Ave.	Oleander Ave.	4D		33,750	34,304	1.02
Perris Blvd.	Ironwood Ave.	Elder Ave.	6D		50,625	51,356	1.01
Heacock St.	Alessandro Blvd.	Cactus Ave.	4D		33,750	34,183	1.01
Eucalyptus Ave.	Graham St.	Heacock St.	4D	30,000		30,358	1.01
Heacock St.	Manzanita Ave.	Ironwood Ave.	4D	30,000		30,228	1.01
Alessandro Blvd.	Frederick St.	Graham St.	6D		50,625	50,983	1.01
Perris Blvd. [1]	Oleander Ave.	s/o Oleander Ave.	6D		50,625	54,624	1.08
Oleander Ave. [1]	Heacock St.	Indian St.	6D		50,625	51,575	1.02

[1] Location outside City Sphere of Influence

Alternative 2

Build-out of the City under Land Use Alternative 2 would result in an average of 2,628,197 daily trips. As shown in **Table 5.2.7**, a total of 34 roadway segments would have projected V/C ratios indicating they are near to their daily traffic capacities. **Table 5.2-8** identifies those roadway segments where the projected traffic volume exceeds roadway design capacity; 26 roadway segments have V/C ratios that are projected to exceed their daily traffic capacity.

TABLE 5.2-7
ALTERNATIVE 2 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH VOLUME TO CAPACITY RATIOS NEAR OR AT CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Perris Blvd.	Ironwood Ave.	Elder Ave.	6D		50,625	50,571	1.00
Indian St.	Fir Ave.	Eucalyptus Ave.	4D		33,750	33,677	1.00
Indian St.	Nandina Ave.	Oleander Ave.	4D		33,750	33,469	0.99
Iris Ave.	Camino Flores	Nason St	6D	45,000		44,144	0.98
Lasselle St.	John F. Kennedy Dr.	Gentian Ave.	4D	30,000		29,261	0.98
Cactus Ave.	Heacock St.	Indian St.	4D	30,000		29,067	0.97
Frederick St.	Towngate Blvd.	Eucalyptus Ave.	4D		33,750	32,677	0.97
Alessandro Blvd.	Frederick St.	Graham St.	6D		50,625	48,888	0.97
Ironwood Ave.	Barclay Dr.	Pigeon Pass Rd.	4D	30,000		28,674	0.96
John F. Kennedy Dr.	Moreno Beach Dr.	Redlands Blvd.	4D	30,000		28,630	0.95
Alessandro Blvd.	Day St.	Elsworth St.	6D		50,625	48,008	0.95
Graham St.	Fir Ave.	Eucalyptus Ave.	4D	30,000		27,959	0.93
Heacock St.	John F. Kennedy Dr.	Gentian Ave.	4D		33,750	31,310	0.93
Alessandro Blvd.	Elsworth St.	Frederick St.	6D		50,625	46,911	0.93
Cactus Ave.	Lasselle St.	Morrison St.	4D	30,000		27,460	0.92
Heacock St.	Eucalyptus Ave.	Cottonwood Ave.	4D		33,750	30,597	0.91
Eucalyptus Ave.	Frederick St.	Graham St.	4D	30,000		26,922	0.90
Perris Blvd.	Sunnymead Blvd.	Eucalyptus Ave.	6D		50,625	45,160	0.89
Moreno Beach Dr.	SR-60 Fwy.	Eucalyptus Ave.	6D		50,625	44,930	0.89
Heacock St.	Gentian Ave.	Iris Ave.	4D		33,750	29,615	0.88
Iris Ave.	Los Cabos	Camino Flores	6D		50,625	44,144	0.87
Heacock St.	Sunnymead Ranch Pkwy.	Manzanita Ave.	4D	30,000		25,929	0.86
Pigeon Pass Rd.	Old Lake Rd.	Ironwood Ave.	4D	30,000		25,641	0.85
Ironwood Ave.	Day St.	Pigeon Pass Rd.	4D		33,750	28,674	0.85
Eucalyptus Ave.	Elsworth St.	Frederick St.	4D	30,000		25,148	0.84
Kitching St.	John F. Kennedy Dr.	Gentian Ave.	4D	30,000		25,022	0.83
Kitching St.	Cottonwood Ave.	Alessandro Blvd.	4D	30,000		24,983	0.83
Graham St.	Sunnymead Blvd.	Fir Ave.	4D		33,750	27,959	0.83
Cottonwood Ave.	Day St.	Elsworth St.	4D	30,000		24,785	0.83
Indian St.	Iris Ave.	Krameria Ave.	4D		33,750	27,443	0.81
Sunnymead Blvd.	Frederick St.	Graham St.	4D		33,750	27,280	0.81
Box Springs Rd.	I-215/SR-60 Fwy.	Day St.	4D		33,750	27,262	0.81
Oleander Ave. [1]	Heacock St.	Indian St.	6D		50,625	50,650	1.00
Oleander Ave. [1]	I-215 Fwy.	Heacock St.	6D		50,625	44,190	0.87

[1] Location outside City Sphere of Influence

TABLE 5.2-8
ALTERNATIVE 2 - PROPOSED CIRCULATION PLAN ARTERIAL ROADWAY SEGMENTS WITH VOLUME TO CAPACITY RATIOS THAT ARE OVER DAILY TRAFFIC CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Heacock St.	SR-60 Fwy.	Sunnymead Blvd.	4D		33,750	58,154	1.72
Day St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	45,917	1.36
Eucalyptus Ave.	Old 215 Frontage Rd.	Day St.	7D		56,363	73,580	1.31
Day St.	SR-60 Fwy.	Eucalyptus Ave.	7D		56,363	67,787	1.20
Gilman Springs Rd.	SR-60 Fwy.	Spine Rd.	6D		50,625	59,356	1.17
Pigeon Pass Rd.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	39,524	1.17
Kitching St.	Iris Ave.	Krameria Ave.	4D	30,000		34,010	1.13
Heacock St.	Cactus Ave.	John F. Kennedy Dr.	4D		33,750	37,961	1.12
Heacock St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	37,932	1.12
Indian St.	Sunnymead Blvd.	Fir Ave.	4D	30,000		33,677	1.12
Kitching St.	Krameria Ave.	Mariposa Ave.	4D	30,000		33,527	1.12
Perris Blvd.	Elder Ave.	Sunnymead Blvd.	6D		50,625	54,400	1.07
Frederick St.	Sunnymead Blvd.	Towngate Blvd.	6D		50,625	54,164	1.07
Heacock St.	Cottonwood Ave.	Alessandro Blvd.	4D		33,750	35,945	1.07
Cactus Ave.	Old 215 Frontage Rd.	Elsworth St.	6D		50,625	53,874	1.06
Heacock St.	Sunnymead Blvd.	Eucalyptus Ave.	4D		33,750	35,873	1.06
Redlands Blvd.	n/o Locust Ave.	Locust Ave.	4D	30,000		31,509	1.05
Alessandro Blvd.	Old 215 Frontage Rd.	Day St.	6D		50,625	52,764	1.04
Eucalyptus Ave.	Graham St.	Heacock St.	4D	30,000		31,247	1.04
Indian St.	Mariposa Ave.	Nandina Ave.	4D		33,750	35,061	1.04
Heacock St.	Alessandro Blvd.	Cactus Ave.	4D		33,750	35,018	1.04
Heacock St.	Manzanita Ave.	Ironwood Ave.	4D	30,000		30,610	1.02
Perris Blvd.	Nandina Ave.	Oleander Ave.	6D		50,625	51,479	1.02
Frederick St.	SR-60 Fwy.	Sunnymead Blvd.	7D		56,363	57,260	1.02
Cactus Ave.	Graham St.	Heacock St.	4D		33,750	34,108	1.01
Perris Blvd.[1]	Oleander Ave.	s/o Oleander Ave.	6D		50,625	52,146	1.03

[1] Location outside City Sphere of Influence

Alternative 3

Build-out of the City under Land Use Alternative 3 would result in an average of 2,549,919 daily trips. As shown in **Table 5.2.9**, a total of 32 roadway segments would have projected V/C ratios indicating they are near to their daily traffic capacities. **Table 5.2-10** identifies those roadway segments where the projected traffic volume exceeds roadway design capacity; 23 roadway segments have V/C ratios that are projected to exceed their daily traffic capacity.

TABLE 5.2-9
ALTERNATIVE 3 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH DAILY VOLUMES THAT ARE NEAR OR AT CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Indian St.	Sunnymead Blvd.	Fir Ave.	4D		33,750	33,763	1.00
Indian St.	Nandina Ave.	Oleander Ave.	4D		33,750	33,717	1.00
Perris Blvd.	Elder Ave.	Sunnymead Blvd.	6D		50,625	50,532	1.00
Perris Blvd.	Ironwood Ave.	Elder Ave.	6D		50,625	50,532	1.00
Lasselle St.	John F. Kennedy Dr.	Gentian Ave.	4D	30,000		29,559	0.99
Frederick St.	Towngate Blvd.	Eucalyptus Ave.	4D		33,750	33,230	0.98
Alessandro Blvd.	Frederick St.	Graham St.	6D		50,625	49,829	0.98
Cactus Ave.	Heacock St.	Indian St.	4D	30,000		29,498	0.98
Iris Ave.	Camino Flores	Nason St.	6D	45,000		43,927	0.98
Alessandro Blvd.	Day St.	Elsworth St.	6D		50,625	49,349	0.97
Graham St.	Fir Ave.	Eucalyptus Ave.	4D	30,000		28,280	0.94
Heacock St.	John F. Kennedy Dr.	Gentian Ave.	4D		33,750	31,526	0.93
Alessandro Blvd.	Elsworth St.	Frederick St.	6D		50,625	47,166	0.93
John F. Kennedy Dr.	Moreno Beach Dr.	Redlands Blvd.	4D	30,000		27,546	0.92
Cactus Ave.	Lasselle St.	Morrison St.	4D	30,000		27,492	0.92
Perris Blvd.	Sunnymead Blvd.	Eucalyptus Ave.	6D		50,625	45,916	0.91
Heacock St.	Eucalyptus Ave.	Cottonwood Ave.	4D		33,750	30,603	0.91
Cactus Ave.	Perris Blvd.	Kitching St.	4D	30,000		27,185	0.91
Heacock St.	Gentian Ave.	Iris Ave.	4D		33,750	30,027	0.89
Iris Ave.	Los Cabos Dr	Camino Flores	6D		50,625	43,927	0.87
Moreno Beach Dr.	SR-60 Fwy.	Eucalyptus Ave.	6D		50,625	43,555	0.86
Pigeon Pass Rd.	Old Lake Rd.	Ironwood Ave.	4D	30,000		25,672	0.86
Eucalyptus Ave.	Elsworth St.	Frederick St.	4D	30,000		25,532	0.85
Morrison St.	Cactus Ave.	John F. Kennedy Dr.	4D	30,000		25,375	0.85
Kitching St.	John F. Kennedy Dr.	Gentian Ave.	4D	30,000		25,352	0.85
Graham St.	Sunnymead Blvd.	Fir Ave.	4D		33,750	28,280	0.84
Kitching St.	Cottonwood Ave.	Alessandro Blvd.	4D	30,000		25,103	0.84
Cottonwood Ave.	Day St.	Elsworth St.	4D	30,000		24,867	0.83
Indian St.	Iris Ave.	Krameria Ave.	4D		33,750	27,653	0.82
Sunnymead Blvd.	Frederick St.	Graham St.	4D		33,750	27,621	0.82
Oleander Ave. [1]	Heacock St.	Indian Ave.	6D		50,625	50,585	1.00
Oleander Ave. [1]	I-215 Fwy.	Heacock St.	6D		50,625	44,067	0.87

[1] Location outside City Sphere of Influence

TABLE 5.2-10
ALTERNATIVE 3 - PROPOSED CIRCULATION PLAN ROADWAY SEGMENTS WITH DAILY VOLUMES OVER DAILY TRAFFIC CAPACITY

ROADWAY	FROM	TO	ROAD-WAY SECTION	DESIGN CAPACITY		DAILY VOLUME	V/C
				LOS "C"	LOS "D"		
Day St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	45,057	1.34
Eucalyptus Ave.	Old 215 Frontage Rd.	Day St.	7D		56,363	74,663	1.32
Day St.	SR-60 Fwy.	Eucalyptus Ave.	7D		56,363	67,151	1.19
Pigeon Pass Rd.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	39,408	1.17
Kitching St.	Iris Ave.	Krameria Ave.	4D	30,000		34,099	1.14
Heacock St.	Ironwood Ave.	SR-60 Fwy.	4D		33,750	38,232	1.13
Heacock St.	Cactus Ave.	John F. Kennedy Dr.	4D		33,750	38,196	1.13
Kitching St.	Krameria Ave.	Mariposa Ave.	4D	30,000		33,790	1.13
Indian St.	Fir Ave.	Eucalyptus Ave.	4D	30,000		33,763	1.13
Gilman Springs Rd.	SR-60 Fwy.	Spine Rd.	6D		50,625	56,590	1.12
Frederick St.	Sunnymead Blvd.	Towngate Blvd.	6D		50,625	54,509	1.08
Heacock St.	Cottonwood Ave.	Alessandro Blvd.	4D		33,750	36,057	1.07
Alessandro Blvd.	Old 215 Frontage Rd.	Day St.	6D		50,625	53,911	1.06
Heacock St.	Sunnymead Blvd.	Eucalyptus Ave.	4D		33,750	35,787	1.06
Cactus Ave.	Old 215 Frontage Rd.	Elsworth St.	6D		50,625	53,608	1.06
Eucalyptus Ave.	Graham St.	Heacock St.	4D	30,000		31,426	1.05
Indian St.	Mariposa Ave.	Nandina Ave.	4D		33,750	35,311	1.05
Heacock St.	Alessandro Blvd.	Cactus Ave.	4D		33,750	35,005	1.04
Heacock St.	Manzanita Ave.	Ironwood Ave.	4D	30,000		30,909	1.03
Cactus Ave.	Graham St.	Heacock St.	4D		33,750	34,519	1.02
Perris Blvd.	Nandina Ave.	Oleander Ave.	6D		50,625	51,488	1.02
Redlands Blvd. [1]	n/o Locust Ave.	Locust Ave.	4D	30,000		30,893	1.03
Perris Blvd. [1]	Oleander Ave.	s/o Oleander Ave.	6D		50,625	51,889	1.02

[1] Location outside City Sphere of Influence

Table 5.2-11 summarizes the number of segments that would exceed design capacity for each alternative. Alternative 1 would result in the greatest number of road segments that exceed design capacity and Alternative 3 would result in the fewest number of segments that exceed design capacity. However, regardless of the land use alternative and implementation of the proposed circulation plan changes presented in **Table 5.2-4**, above, traffic levels would exceed the City's LOS standards for numerous segments throughout the City.

TABLE 5.2-11
SUMMARY OF NUMBER OF SEGMENTS THAT WOULD EXCEED DESIGN CAPACITY

General Plan Alternative	Roadway Segments Exceeding Design Capacity
1	37
2	26
3	23

Impacts Related to Proposed Circulation Element

Implementation of Circulation Element programs 5-1 through 5-9, as well as associated objectives and policies, are expected to improve traffic flow on roadway segments that exceed City LOS standards. However, as noted in **Table 5.2-11**, above, regardless of implementation of the proposed Circulation Plan changes, certain roadway segments within the City may experience V/C ratios that exceed 1.0. These roadways would experience traffic volumes that exceed their acceptable LOS of "C" or "D." This is a significant impact. Implementation of Mitigation Measure TR-1 will reduce the impact; however the impact to local roadway segments would remain significant and unavoidable.

Impacts on Level of Service Standards Established by the County Congestion Management Agency

As shown in **Table 5.2-12**, Trip Generation Summary, below, General Plan Land Use Alternatives 2 and 3 improve the balance of trip productions to attractions over Alternative 1, which represents the existing Circulation Element. Improved trip balance is the result of improved jobs to housing balance, and will result in reduction of total vehicular miles of travel on the state freeway system. Also, Alternatives 2 and 3 will result in a reduction in total number of trips generated in the City, with consequent benefits to the State freeway system.

Implementation of Circulation Element programs 5-10 through 5-13, in concert with the expected reduction in freeway trips under Alternatives 2 and 3, are expected to reduce impacts associated with projected regional traffic and County established policies relative to LOS to less than significant levels.

March Air Reserve Base/March Inland Port – Safety Risks Due to Changes in Air Traffic Patterns

Implementation of the proposed General Plan is not expected to significantly increase the number of individuals using the airport facilities at March Air Reserve Base/March Inland Port, which is a joint civilian and military airport. Additionally, the proposed General Plan would not result in construction of incompatible development within the airport area of influence. Therefore, implementation of the General Plan is not expected to result in a change in air traffic

patterns, including either an increase in traffic levels or additional safety risks associated with new development in areas subject to airport operations. No significant impact associated with March Air Reserve Base or air traffic patterns has been identified.

TABLE 5.2-12
TRIP GENERATION SUMMARY OF NUMBER – LAND USE ALTERNATIVES 1, 2 AND 3

TRIP PURPOSE		ALT. 1	ALT. 2	ALT. 3
HOME-BASED WORK	PRODUCTIONS	173,878	186,715	185,725
	ATTRACTIONS	406,767	383,454	356,993
HOME-BASED NON-WORK	PRODUCTIONS	371,407	399,443	397,249
	ATTRACTIONS	979,021	772,045	762,990
NON-HOME BASED	PRODUCTIONS	514,507	436,978	423,481
	ATTRACTIONS	514,507	436,978	423,481
TOTAL	PRODUCTIONS	1,059,792	1,023,136	1,006,455
	ATTRACTIONS	1,900,295	1,592,477	1,543,464
TOTAL		2,960,087	2,615,613	2,549,919
TOTAL DIFFERENCE FROM ALTERNATIVE 1			(344,474)	(410,168)
PERCENT DIFFERENCE FROM ALTERNATIVE 1			-11.64%	-15.68%

Hazards due to Roadway Design, Incompatible Uses or Inadequate Emergency Access

The City will continue to implement its adopted road standards, the State of California Department of Transportation Highway Design Manual, Municipal Code, and Fire Code. As a result, new and improved roadways will be designed to avoid unsafe design and to provide adequate emergency access. No significant impact associated with these issues is anticipated.

Impacts on Parking Capacity

The City will continue to enforce its adopted parking standards described in Chapter 9 of the Municipal Code to ensure that adequate off-street parking is provided for all land uses. No significant impact relative to parking is anticipated.

Conflicts with Adopted Policies, Plans or Programs Supporting Alternative Transportation

Goal 2 of the proposed Circulation Element states:

> *Maintain safe and adequate pedestrian, bicycle, and public transportation systems to provide alternatives to single occupant vehicular travel and to support planned land uses.*

The proposed Circulation Element contains a Bikeway Plan that identifies all existing and planned bike routes within the City. The proposed Circulation Element also contains policies and programs that support convenient, safe and efficient bus and rail transportation systems. Implementation of the proposed Circulation Element policies and programs is expected to facilitate pedestrian, bicycle, bus and rail improvements. No significant impact relative to alternative transportation is anticipated.

MITIGATION MEASURES

To mitigate expected impacts to roadway levels of service, proposed Circulation Element Program 5-6 is added as Mitigation Measure TR-1 to the Project, as follows:

TR-1 Conduct studies of specified arterial segments to determine if any additional improvements will be needed to maintain an acceptable LOS at General Plan build-out. Generally, these segments will be studied as new developments are proposed in their vicinity. Measures will be identified that are consistent with the Circulation Element designation of these roadway segments, such as additional turn lanes at intersections, signal optimization by coordination and enhanced phasing, and travel demand management measures.

The study of specified arterial segments will be required to identify measures to maintain an acceptable LOS at General Plan build-out for at least one of the reasons discussed below:

(a) Segments will need improvement, but their ultimate volumes slightly exceed design capabilities.
(b) Segments will need improvements but require inter-jurisdictional coordination.
(c) Segments would require significant encroachment on existing adjacent development if built-out to their Circulation Element designations.

SIGNIFICANCE AFTER MITIGATION

Significant and Unavoidable. Implementation of the mitigation measure is expected to reduce impacts associated with projected vehicular traffic. However, because it is not known at this time if Mitigation Measure TR-1 would reduce all traffic capacity deficiencies to less than significant levels, impacts to local roadway segments are considered significant after mitigation. All impacts to the state circulation system will be less than significant.

NOTES AND REFERENCES

None