## Final Project Report

## For Project Approval

On Route $\qquad$ Mid County Parkway (Construct New Freeway)

Between I-215

And SR-79

I have reviewed the right of way information contained in this report and the R/W Data Sheet attached hereto, and find the data to be complete, current and accurate:


ROBERT SO, PE.
Deputy District Director, Right Of Way

## APPROVAL RECOMMENDED:



DAVID BRICKER
Deputy District Director, Environmental Planning


APPROVED:


## Vicinity Map



This Project Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.


MERIDETH C. CANN, P.E.
Registered Civil Engineer


Concurred by


## FINAL PROJECT REPORT TABLE OF CONTENTS

1. INTRODUCTION ..... 1
2. RECOMMENDATION ..... 4
3. BACKGROUND ..... 4
A. Project History ..... 4
B. Agency and Community Interaction .....  7
C. Existing Facilities ..... 16
4. PURPOSE AND NEED ..... 19
A. Problem, Deficiencies, Justification ..... 21
B. Regional and System Planning ..... 23
C. Traffic ..... 27
5. ALTERNATIVES ..... 36
A. Viable Alternatives (Build and No-Build Alternatives and Design Variations) ..... 36
i. Selection of Alternatives ..... 42
ii. Modifications of Preferred Alternative ..... 44
iii. Proposed Engineering Features ..... 44
iv. Nonstandard Design Features ..... 55
v. Interim Features ..... 70
vi. High Occupancy Vehicle (HOV) Lanes ..... 71
vii. Ramp Metering ..... 71
viii. CHP Enforcement Areas ..... 71
ix. Park and Ride and Maintenance Facilities. ..... 71
x. Utility and Other Owner Involvement ..... 72
xi. Intelligent Transportation Systems (ITS) ..... 75
xii. Railroad Involvement ..... 75
xiii. Highway Planting ..... 76
xiv. Erosion Control, Runoff Management, Water Quality Best Management Practices (BMPs) ..... 76
xv. Noise Barriers ..... 77
xvi. Non-Motorized and Pedestrian Features ..... 78
xvii. Needed Roadway Rehabilitation and Upgrading ..... 78
xviii. Needed Structure Rehabilitation and Upgrading ..... 78
xix. Cost Estimate ..... 78
xx. Right of Way Data ..... 79
xxi. Effect of Special Funded Proposal on State Highway ..... 79
B. Rejected Alternatives ..... 80
6. CONSIDERATIONS REQUIRING DISCUSSION ..... 82
A. Hazardous Waste ..... 82
B. Value Analysis and Original Build Alternatives Refinement Process ..... 84
C. Resource Conservation. ..... 88
D. Right of Way Issues ..... 88
E. Environmental Issues ..... 90
F. Air Quality Conformity ..... 97
G. Title VI Considerations ..... 98
7. OTHER CONSIDERATIONS AS APPROPRIATE ..... 99
A. Public Hearing Process ..... 99
B. Route Matters ..... 99
C. Permits ..... 100
D. Cooperative Agreements. ..... 102
E. Other Agreements ..... 102
F. Navigable Rivers ..... 103
G. Public Boat Ramps ..... 103
H. Transportation Management Plan for Use During Construction ..... 103
I. Stage Construction ..... 105
J. Potential Phasing ..... 110
K. Accommodation of Oversize Loads ..... 113
L. Graffiti Control. ..... 114
8. FUNDING/PROGRAMMING ..... 114
9. SCHEDULE ..... 115
10. RISKS ..... 116
11. FHWA COORDINATION ..... 116
12. PROJECT REVIEWS ..... 117
13. PROJECT PERSONNEL ..... 121
14. ATTACHMENTS ..... 123

## 1. INTRODUCTION

This Final Project Report was prepared for the modified 16-mile Mid County Parkway (MCP) project in support of the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS). This report is the final version of the Revised Draft Project Report signed in January 2013.

Engineering and environmental studies were initiated in 2004 for the Mid County Parkway project, a proposed 32-mile facility between Interstate 15 (I-15) and State Route 79 (SR-79). In October 2008, the California Department of Transportation (Caltrans) approved the Draft Project Report (DPR), and the Draft EIR/EIS for the Mid County Parkway project was circulated for a 90-day public review period. In June 2009, in response to the concerns expressed during public review of the Draft EIR/EIS, the Riverside County Transportation Commission (RCTC) took action to modify Alternatives 4,5 , and 9 focusing on a 16-mile MCP project from Interstate 215 (I-215) to SR-79. RCTC, the Federal Highway Administration (FHWA), and Caltrans developed an approach for completing the EIR/EIS process for the project. This approach included preparation of a Recirculated Draft EIR/Supplemental Draft EIS and Revised Draft Project Report that would refine the project purpose statement and modify the project alternatives to focus on the transportation needs from I-215 to SR-79.

RCTC, in cooperation with Caltrans District 8, the County of Riverside (County), the City of San Jacinto, and the City of Perris, proposes construction of a new west-east transportation corridor in western Riverside County. The purpose of the proposed Mid County Parkway is to serve as a transportation facility to effectively and efficiently accommodate regional west-east movement of people and goods between and through San Jacinto and Perris. The new corridor, named Mid County Parkway or MCP, is a transportation facility designed to meet current and projected travel demand for year 2040 for the 16 miles between I-215 to the west and SR-79 to the east (see Attachment A-1, Vicinity Map). RCTC proposes to recommend this freeway for adoption as a new State Route alignment on or near Ramona Expressway. The MCP is recognized by Caltrans as a possible future State Highway and will be considered for adoption as such. This proposal is a Category 1 project (see Attachment AA-2, Project Category Assignment Memorandum) as defined in the Project Development Procedures Manual ( $7^{\text {th }}$ Edition, Chapter 8, and Section 5) requiring access control, new alignment, new right of way, and adoption of a new route by the California Transportation Commission (CTC).

The estimated cost of this project is $\$ 1.73$ billion for the ultimate build, including right of way acquisition, construction, support, and environmental mitigation. The Project Approval/Environmental Document (PA/ED) phase of the project will be completed upon approval of this report.

The project is programmed in both the Regional Transportation Plan (RTP) and the Federal Transportation Improvement Program (FTIP).

The title of the new corridor is Mid County Parkway. For purposes of this report, a Mid County Parkway "facility" is defined as follows: a divided highway with full or partial access control and with grade separations at local interchanges with major local arterials; and designed to freeway/expressway standards as defined in Caltrans Highway Design Manual (HDM).

Two no-build alternatives, three build alternatives, and two design variations are considered in this report and are described below.

Alternatives 1 A and 1 B are the no-build alternatives: Alternative $1 \mathrm{~A}-\mathrm{No}$ Project/No Action-Existing Ground Conditions and Alternative 1B - No Project/No ActionGeneral Plan Circulation Element Conditions. Alternative 1B represents 2040 traffic levels on the planned street network, according to the Circulation Element of the Riverside County General Plan.

Alternative 4 Modified proposes to construct a six-lane controlled-access freeway with eight local interchanges with MCP 1) Perris Blvd, 2) Evans Ave, 3) Ramona Exp/Antelope Rd, 4) Bernasconi Rd, 5) Reservoir Ave, 6) Town Center Blvd, 7) Park Center Blvd, 8) Warren Ave, one new interchange at I-215 9) I-215 /Placentia Ave, one modified interchange at I-215 10) I-215/Cajalco Rd/Ramona Exp, one new interchange at SR-79 11) SR-79/Ramona Exp/Sanderson Ave and two freeway to freeway interchanges 12) MCP/I-215 and 13) MCP/SR-79. Additional lanes for I-215 are also proposed. Alternative 4 Modified follows a northern alignment through the City of Perris. The cost for Alternative 4 Modified ranges from $\$ 2.02$ to $\$ 2.10$ billion (in 2012), including $\$ 197$ million for right of way and utility relocation costs.

Alternative 5 Modified proposes to construct a six-lane controlled-access freeway with eight local interchanges with MCP 1) Perris Blvd, 2) Evans Ave, 3) Ramona Exp/Antelope Rd, 4) Bernasconi Rd, 5) Reservoir Ave, 6) Town Center Blvd, 7) Park Center Blvd, 8) Warren Ave, one new interchange at I-215 9) I-215 /Placentia Ave, one modified interchange at I-215 10) I-215/Cajalco Rd/Ramona Exp, one new interchange at SR-79 11) SR-79/Ramona Exp/Sanderson Ave and two freeway to freeway interchanges 12) MCP/I-215 and 13) MCP/SR-79. Additional lanes for I-215 are also proposed. Alternative 5 Modified follows a southern alignment through the City of Perris along Rider Street. The cost for Alternative 5 Modified ranges from $\$ 1.64$ to $\$ 1.72$ billion (in 2012), including \$209 million for R/W and utility relocation costs.

Alternative 9 Modified proposes to construct a six-lane controlled-access freeway with eight local interchanges with MCP 1) Redlands Ave, 2) Evans Ave, 3) Ramona Exp/Antelope Rd, 4) Bernasconi Rd, 5) Reservoir Ave, 6) Town Center Blvd, 7) Park Center Blvd, 8) Warren Ave, one new interchange at I-215 9) I-215 /Placentia Ave, one modified interchange at I-215 10) I-215/Cajalco Rd/Ramona Exp, one new interchange at SR-79 11) SR-79/Ramona Exp/Sanderson Ave and two freeway to freeway interchanges 12) MCP/I-215 and 13) MCP/SR-79. Additional lanes for I-215 are also
proposed. Alternative 9 Modified follows Placentia Avenue through the City of Perris. The cost for Alternative 9 Modified ranges from $\$ 1.53$ to $\$ 1.95$ billion (in 2012), including $\$ 188$ million for R/W and utility relocation costs.

The San Jacinto North Design Variation terminates MCP on the east end slightly different from the base case. The design variation extends MCP parallel in the north side of Ramona Expressway between Warren Rd and SR-79. Under the San Jacinto River Bridge Design Variation, the MCP would construct two bridges in the Lakeview Nuevo area, for a total of 2,472 feet of bridge. The base case proposes one 4,321-foot long bridge to span the floodplain and Martin Street.

Several alternatives were evaluated and eliminated from further study during the alternative refinement and EIR/EIS process. Alternatives 2 and 3 were considered but eliminated from further analysis prior to the release of the Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) for the 32-mile MCP facility. The No Project/No Action General Plan Circulation Element Conditions Alternative, originally identified as Alternative 8, was renumbered Alternative 1B.

To address the concerns in response to comments on the Draft EIR/EIS for a 32-mile MCP facility, RCTC, FHWA, and Caltrans developed an approach for completing the EIR/EIS process for the project that would refine the project purpose statement and modify project alternatives to focus on the transportation needs from I-215 to SR-79. Therefore, the Build Alternatives 4, 5, 6, 7, and 9 analyzed in the 32-mile Draft EIR/EIS for the MCP project were eliminated from further consideration and in June 2009, RCTC took action to modify Alternatives 4, 5 , and 9 , focusing on a 16 -mile MCP project from I215 to SR-79. These alternatives are now known as Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified. The preferred alternative described within this Final Project Report is Alternative 9 Modified with the San Jacinto River Bridge Design Variation, herein referred to as the MCP or the project. The table below includes some general information of the preferred alternative.

|  | $08-$ RIV - MCP - PM 0.0/16.3 |
| :--- | :--- |
| Project Limits | $08-$ RIV -215 - PM 28.0/34.3 |
| Current Capital Outlay Support Estimate $^{\mathbf{1}}$ | $\$ 382 \mathrm{M}$ |
| Current Capital Outlay Construction Estimate $^{\mathbf{1}}$ | $\$ 1,113 \mathrm{M}$ |
| Current Capital Outlay Right-of-Way Estimate $^{\boldsymbol{1}}$ | $\$ 237 \mathrm{M}$ |
| Funding Source | CAX66 |
| Funding Year | 2020 |
| Type of Facility | 6-lane controlled-access freeway |
| Number of Structures | 37 |
|  | 2 No-Builds |
|  | 3 Builds |
| Number of Alternatives | 2 Design Variations |
| Environmental Document | EIR/EIS |


| Legal Description | New MCP Freeway: I-215 to SR-79 |
| :--- | :--- |
| Project Development Category | Category 1 |

${ }^{1}$ Cost per 2014 cost estimate

## 2. RECOMMENDATION

It is recommended that this Project Report, supporting the Preferred Alternative, be approved and that authorization be granted to proceed to the final design phase, also known as the Plans, Specifications, and Estimates (PS\&E) phase. Local agencies have been consulted and their views considered with respect to the recommended plan. They are in accord with the plan as presented.

## 3. BACKGROUND

## A. Project History

The MCP, formerly known as the Cajalco-Ramona Corridor, was identified as a key west-east regional transportation corridor as a result of several years of comprehensive land use and transportation planning in Riverside County through the Riverside County Integrated Project (RCIP). Initiated in 1999, the RCIP was an unprecedented, multiyear planning effort to simultaneously prepare environmental, transportation, housing, and development guidelines for Riverside County for the first half of the 21st century. The RCIP included three components: (1) a new General Plan for Riverside County, adopted in October 2003; (2) a Multiple Species Habitat Conservation Plan (MSHCP) for western Riverside County (approved in June 2004); and (3) the Community and Environmental Transportation Acceptability Process (CETAP).

CETAP study efforts were jointly undertaken by the RCTC and the County of Riverside as part of the RCIP. CETAP included the study of two intercounty corridors (Riverside County to Orange County and Riverside County to San Bernardino County) and two intracounty transportation corridors (a north-south and a west-east corridor in western Riverside County). Tier 1 analyses and environmental documents were initiated for the two intracounty corridors in fall 2000: a north-south corridor referred to as Winchester to Temecula, and a west-east corridor referred to as the Hemet to Corona/Lake Elsinore (HCLE) Corridor. The purpose of the Tier 1 efforts was to select preferred alternatives in order to preserve needed right of way.

The agencies that participated in the HCLE Corridor study process developed the following purpose of the proposed action in the Hemet to Corona/Lake Elsinore Corridor: ". . . to provide multimodal transportation improvements that will help alleviate future traffic demands and congestion and improve the east-west movement of people and goods across western Riverside County." After a Draft Tier 1 Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was completed for the Hemet to Corona/Lake Elsinore Corridor and circulated for public review in 2002 with a suite of 14 "build" alternatives, the RCTC Board accepted a staff recommendation in June 2003 to proceed with the accelerated preparation of a project-level environmental document for a
west-east alternative that would follow the existing alignment of Cajalco Road and Ramona Expressway, known as the MCP project. Engineering and environmental studies were initiated in 2004 for the MCP project, a proposed 32-mi facility between I-15 and SR-79, and in September 2007 the RCTC Board selected a Locally Preferred Alternative (Alternative 9 Temescal Wash Design Variation) for the MCP project. In October 2008, the Draft EIR/EIS for the MCP project was circulated for a 90-day public review period. During this time, six public meetings/hearings were held and RCTC accepted public comments for the record at all of these meetings, along with comments via the MCP project website and email. Over 3,100 comments were received from 50 public agencies and organizations, 10 large property owners, 240 individuals, and a form letter (opposing the project because of the environmental effects of the project including loss of open space, wildlife habitat, streams and riparian resources; residential sprawl; and automobile air emissions) from over 1,100 individuals nationwide.

The following two key themes emerged in the public review comments:

1. Concern about the cost and timing of available funds for the project. Many comments noted that, given the current economy and difficulty in securing funding for the entire project, limited financial resources should be focused on areas of greatest need.
2. Although the public comments raised concerns about many aspects of the project throughout its entire length, many comments suggested that making improvements to existing facilities rather than building the MCP facility would be a better expenditure of public funding in the western portion of the project area between I-15 and I-215. In this area, improving existing facilities, such as Cajalco Road, instead of building the MCP facility would minimize impacts to the rural communities of Gavilan Hills and Lake Mathews Estates as well as existing habitat reserves. Impacts to rural communities and existing habitat reserves were two major concerns raised in the public comments.

To address the concerns, in spring 2009, RCTC as the lead agency under California Environmental Quality Act (CEQA), FHWA as the lead agency under National Environmental Policy Act (NEPA), in cooperation with Caltrans, developed an approach for completing the EIR/EIS process for the project. This approach also included preparation of a Recirculated Draft EIR/Supplemental Draft EIS that would revise the project purpose statement and modify the project alternatives. RCTC recognizes that while the need for transportation improvements still exists between I-15 and I-215, the Riverside County Transportation Department's proposed widening improvements to Cajalco Road will alleviate a portion of that need. The greatest near-term need for westeast transportation improvements is east of I 215, even with the planned improvements along existing Ramona Expressway. Therefore, the project purpose for the modified MCP project focuses on the need for transportation improvements between I-215 and SR-79. I-215 and SR-79 provide logical termini for the MCP project, and the project has independent utility even if no additional transportation improvements are made in the
area. This approach for completing the EIR/EIS process for the modified MCP project was reviewed with the federal and State resource and regulatory agencies involved in the project (United States Army Corps of Engineers [USACE], United States Environmental Protection Agency [EPA], United States Fish and Wildlife Service [USFWS], and California Department Fish and Wildlife [CDFW]).

Fundamental to the modification of the MCP project purpose statement and alternatives is the tenet that no improvements between I-15 and I-215 are planned, designed, or intended to be implemented as part of the MCP project. The distinct transportation needs between I-15 and I-215 will be addressed by the Riverside County Transportation Department's General Plan roadway improvements for Cajalco Road. The Cajalco Road improvement project is undergoing a separate environmental review process with the Riverside County Transportation Department acting as the lead agency. The Cajalco Road improvements are analyzed in the MCP cumulative impacts assessment using the most current information available from the County (see Section 3.25, Cumulative Impacts, of the Final EIR/EIS for additional detail). A CETAP corridor between I-15 and I215 (Project ID 3C01MA01) remains in the financially constrained part of the SCAG 2012 Regional Transportation Plan (RTP) so as to not preclude consideration of transportation improvements to address future needs beyond those being addressed by the Cajalco Road improvements.

On July 8, 2009, the RCTC Board formally took action to refocus the MCP project between I-215 and SR-79. As a result of the RCTC's Board action, a Recirculated Draft EIR/Supplemental Draft EIS was prepared and circulated for public review in January 2013. The public and agency comments previously submitted for the October 2008 Draft EIR/EIS will be included in the MCP Administrative Record, but no formal responses to those comments were prepared consistent with Section 15088.5(f)(2) of the CEQA Guidelines. However, any comments on the October 2008 Draft EIR/EIS applicable to the modified MCP project were considered in the preparation of the Recirculated Draft EIR/Supplemental Draft EIS.
RCTC and the MCP project team worked closely with FHWA and Caltrans to develop the modified alternatives that were evaluated in the Recirculated Draft EIR/Supplemental Draft EIS in response to RCTC's Board action in July 2009. The following summarizes the main changes from the Build Alternatives evaluated in the Draft EIR/EIS and the modified Build Alternatives evaluated in the Recirculated Draft EIR/Supplemental Draft EIS:

- The project limits for the Build Alternatives were changed to I-215 in the west and SR-79 in the east. The segment of the original Build Alternatives west of I-215 to I-15 is no longer under consideration as part of the MCP project.
- The horizontal alignment for Alternative 9 Modified between Perris Boulevard in the west and the Perris Valley Storm Drain in the east through the City of Perris was shifted approximately 1,000 feet north to avoid Paragon Park.
- Alternative 9 Modified includes a local interchange at Redlands Avenue to replace the local interchange previously proposed at Perris Boulevard.
- The following improvements to I-215 are included: (1) the addition of one auxiliary lane between the MCP/l-215 systems interchange and the adjacent service interchanges to the north and south to facilitate movement to/from the MCP and I215; (2) the addition of an operational/mixed-flow lane from the MCP to the Van Buren Boulevard interchange to accommodate additional traffic on I-215 as a result of the MCP; (3) the addition of an operational/mixed-flow lane from Nuevo Road to the Cajalco-Ramona Expressway to facilitate weaving on I-215 (the previous Build Alternatives included collector-distributor roads and realignment of I-215 to accommodate weaving movements in this segment of I-215); (4) the addition of a new interchange at Placentia Avenue; and (5) modification of the existing interchange at the Cajalco Road/Ramona Expressway.


## B. Agency and Community Interaction

Between 2004 and 2014, RCTC participated in significant outreach with agencies and the community in and around the MCP study area. In this period, 8 newsletters were sent with mailings going to thousands of recipients in each notification. When public meetings were held, notices were published in multiple newspapers, including one Spanish newspaper to reach Spanish-speaking people. Also in this time period, 11 public meetings and 3 hearings took place. All public meetings were held in public schools or community locations to facilitate ease of attendance by groups such as pedestrians, non-drivers, and transit-dependent persons. Bilingual staff was available at each meeting to assist attendees who were more comfortable communicating in Spanish. A summary of key Agency and Community interaction to date is provided below:

2003:

- Participating agencies (RCTC, Caltrans, FHWA, USFWS, USACE, EPA, the CDFW [formerly CDFG (California Department of Fish and Game)], and the County of Riverside) met and signed a Partnership Agreement committing to a streamlined completion of the MCP project environmental review process.
2004:
- A Statement of Purpose and Need was prepared and submitted to participating agencies for review. FHWA requested agency concurrence on the Purpose and Need statement. On January 29, 2004, and January 30, 2004, FHWA received concurrence from the USACE and EPA, respectively. The Native American Heritage Commission (NAHC) was contacted on August 9, 2004 and the NAHC responded on August 19, 2004, with a list of 29 Native American tribes and contacts representing the Luiseño, Gabrielino, Cahuilla, and Serrano Tribes. A second list was received from the NAHC in December of 2004 in response to the Notice of Preparation of an EIR/EIS. This list included 14 additional Native

American tribes and contacts. In total, the NAHC listed 43 Native American tribes and contacts. The NAHC Sacred Lands File was inspected for the MCP project; however, no Native American cultural resources were identified. As such, the NAHC recommended that the 43 Native American tribes and contacts be contacted and provided a list of these contacts.

- Preliminary meeting with the Pechanga Band of Luiseño Indians and RCTC to discuss the MCP alignment in relation to cultural resources.
- RCTC sent letters to the USFWS, USACE, and EPA requesting preliminary concurrence on Alternatives to be carried forward in the environmental scoping process.
- As agreed upon at the August 20, 2004, meeting, the Pechanga Band of Luiseño Indians met with the project consultant team to tour the project area and discuss impacts to cultural resources.
- FHWA received preliminary concurrence on alternatives from the USACE and EPA.
- RCTC distributed two newsletters to provide the public with information regarding the project purpose and need and identifying alternatives to be studied.
- Three pre-scoping public meetings were held. Approximately 180 people attended these meetings.
- RCTC received preliminary concurrence on alternatives from USACE and EPA.

RCTC distributed a newsletter to provide the public with information identifying alternatives to be studied.

- RCTC and project team initiated engineering and environmental studies in support of the Draft EIR/EIS.
- Three public scoping meetings were held. Approximately 230 people attended these meetings. Comments received in response to the Notice of Preparation (NOP), Notice of Intent (NOI), and scoping meetings primarily focused on community and environmental impacts and are discussed in further detail in the MCP Scoping Summary Report (February 2008).


## 2005/2006:

- Caltrans conducted four Value Analysis (VA) Studies compliant with the National Highway System (NHS) Act of 1995. The four Value Analysis studies executed were on the SR-79/MCP interchange, the I-215/MCP interchange, the I-15/MCP interchange, and the mainline MCP.
- Metropolitan Water District (Metropolitan) and the State Department of Water Resources (DWR) issued letters stating concerns with the close proximity of some of the MCP alignments to the Lake Mathews Dam, Lake Perris Dam, and adjoining facilities.
- FHWA sent a request for preliminary concurrence on the revised range of Alternatives to be carried forward in the environmental process that was submitted to participating agencies.
- FHWA received preliminary concurrence on Alternatives from the USACE and EPA and a response letter from USFWS indicating their informal role of providing technical assistance when requested.
- A field review was conducted with USACE, CDFW, and EPA staff to verify results of the jurisdictional delineation.
- RCTC distributed a newsletter to the public providing updates to the project and informing the public of an upcoming public meeting.
- An additional public meeting was held to seek public input. Approximately 320 people attended this meeting.
- RCTC received preliminary concurrence on a revised range of alternatives from USACE and EPA.
- RCTC distributed a newsletter to the public identifying updates to the suite of alternatives.


## 2007:

- The City of San Jacinto identified the base case southerly alignment connecting to SR-79, rather than the San Jacinto North Design Variation (SJN DV), as a locally preferred alternative. The City of Perris did not state a preference for any one alternative alignment through the City of Perris.
- RCTC received preliminary agreement to move forward in pursuing a locally preferred alternative from the participating agencies.
- RCTC met with staff from the Western Riverside County Regional Conservation Authority (RCA), USFWS, CDFG/CDFW, and USA Waste, the permittee for the El Sobrante Landfill Multiple Species Habitat Conservation Plan. As a result, refinements were made to suite of alternatives to minimize effects on El Sobrante Landfill.
- Public agency input was received in response to the Supplemental NOP that was issued to add Alternative 9 to the range of alternatives to be studied. Comments primarily focused on community and environmental impacts.
- RCTC identified Alternative 9 as the locally preferred alternative and distributed a newsletter summarizing the Commission's action.
- RCTC received final concurrence from participating agencies on the suite of alternatives to be discussed in the Draft EIR/EIS.


## 2008:

the Cahuilla Band of Indians, Morongo Band of Mission Indians, Pechanga Band of Luiseño Indians, and Ramona Band of Cahuilla and confirmed that the nine possible cupule boulders of concern to the Pechanga Band of Luiseño Indians were all outside of the MCP right of way.

- The Pechanga Band of Luiseño Indians sent FHWA and RCTC a letter to provide comments on the Preliminary Recommendations of Eligibility and Level of Effects memorandum.
RCTC and the project consultant team met with USA Waste, USFWS, CDFW, and the Riverside County Habitat Conservation Agency (RCHCA) to continue discussing the El Sobrante Habitat Conservation Plan.
- RCTC and the project consultant team participated in a teleconference with the transportation agencies (FHWA and Caltrans), the State Historic Preservation Officer, and the Advisory Council on Historic Preservation to clarify the purpose, process, and distribution of the Preliminary Recommendations of Eligibility and Level of Effects memorandum, as well as how the document would be incorporated into the Draft EIR/EIS.
- RCTC and the project consultant team met with the Bureau of Land Management (BLM) as a result of the letter submitted to RCTC by BLM in response to the Supplemental Notice of Preparation.
- USACE sent RCTC a letter stating approval of the jurisdictional delineation for the MCP project.
RCTC sent letters to BLM and RCHCA summarizing the meeting and confirming the agreements reached on April 2, 2008.

RCHCA sent a response letter as requested by RCTC providing concurrence to the agreements reached at the April 2 , 2008, meeting between RCTC, BLM, and RCHCA.

USA Waste (permittee of the El Sobrante Landfill) sent RCTC a letter regarding the El Sobrante Habitat Conservation Plan.

FHWA sent the State Historic Preservation Officer a letter requesting formal concurrence with the Phased Evaluation and Findings of Effect under Section 106 approach, as indicated by Mike McGuirt in the meeting held on May 23, 2007.

- BLM sent a response letter as requested by RCTC providing concurrence on the agreements reached at the April 2, 2008, meeting between RCTC, BLM, and RCHCA.

FHWA sent a letter to Caltrans stating acceptability (conditional approval) of the original New Connection Report.

- FHWA sent a letter to the Pechanga Band of Luiseño Indians in response to comments received from the tribe on January 25, 2008, for the Preliminary Recommendations of Eligibility and Levels of Effect memorandum.
- RCTC met with USA Waste to discuss the May 6, 2008, letter sent by USA Waste regarding impacts to the El Sobrante Landfill with implementation of the MCP project.
- The State Historic Preservation Officer (SHPO) sent a letter to FHWA stating concurrence on phased approach.
- RCTC sent a letter to USA Waste to summarize the discussion and understandings reached at the June 3, 2008, meeting.
- FHWA sent a letter to the State Historic Preservation Officer requesting a provisional concurrence on the preliminary determinations of eligibility regarding historic properties and provisional concurrence on a preliminary Finding of Adverse Effect.
- The State Historic Preservation Officer sent FHWA a letter stating concurrence on preliminary determination of eligibility regarding historic properties and finding of adverse effect.
- The Draft EIR/EIS was circulated for public review with the close of the public comment period on January 8, 2009, providing a 90-day comment period.
RCTC distributed a newsletter summarizing release of the Draft EIR/EIS for public review and dates for community workshops and public hearings. Approximately 4,500 newsletters and formal Notices of Availability under CEQA were mailed to all properties within a 300 -foot distance of the MCP Build Alternatives, interested public members, and the last known name and address of all organizations and individuals who had previously requested CEQA notices.
- Three public meetings were held in three different cities. A total of 185 people attended these meetings. Two public hearings were held during public circulation of the Draft EIR/EIS at the Perris City Council Chamber and RCTC Board Room. A public meeting was held by First District Supervisor Bob Buster in the City of Perris. Approximately 95 people attended this meeting.
- Comments were received from the public in response to the Draft EIR/EIS. Two key themes emerged in the public review comments: the cost and timing of available funds for the project and concerns about the impacts to rural communities and existing habitat reserves.


## 2009/2010:

- RCTC, FHWA, and Caltrans developed an approach in response to comments on the Draft EIR/EIS to modify the MCP project limits from 32 mi (I-15 to SR-79) to $16 \mathrm{mi}(l-215$ to SR-79) in order to focus transportation funding where the need is the greatest, between I-215 to SR-79, near existing facilities (i.e., Ramona

Expressway). This approach was reviewed with USACE, EPA, USFWS, and CDFW.

- Resolution No. 3235 of the City of San Jacinto, California, expressing a preference for the RCTC to construct the MCP starting at the eastern end and working westerly.
- RCTC formally took action to refine the project purpose statement and refine the project alternatives to focus on the transportation needs between I-215 to SR-79 at the July 8, 2009 Commission meeting. See Section 3A for the background on this decision.
- RCTC gave an update on the MCP project to the City of Perris City Council during a Work Session.
- RCTC distributed a newsletter summarizing refinements to the project.

Caltrans sent letters to USACE, EPA, and USFWS requesting a formal "Agree/Disagree" response for the modified MCP Purpose and Need. In July 2010, Caltrans received letters from USACE and EPA indicating their final agreement and a letter from USFWS indicating no further comments.

- Caltrans sent letters to USACE, EPA, and USFWS requesting a formal "Agree/Disagree" response for the modified MCP set of alternatives. In January 2011, Caltrans received letters from USACE, EPA, and USFWS indicating their final agreement on the modified set of alternatives to be evaluated in this Recirculated Draft EIR/Supplemental Draft EIS.
- The City of San Jacinto identified the base case San Jacinto South, as opposed to the design variation San Jacinto North, as a locally preferred alternative, resolution number 3235. The City did not state a preference for any one alternative alignment through the City of Perris.


## 2011:

- RCTC gave an update on the MCP project to the City of Perris City Council during a Work Session.
- The City of Perris identified Alternative 9 Modified as a locally preferred alternative, resolution number 4428.

RCTC presented project update to the City of San Jacinto at the Special Meeting - Joint Council and Transportation Workshop.

- RCTC and the project consultant team met with the Regional Water Quality Control Board (RWQCB) staff to review RCTC's action in July 2009 to modify the project limits and to update the agency on the modified build alternatives and project schedule.
RCTC, Caltrans, and FHWA met with the State Historic Preservation Officer and tribal representatives from the Cahuilla Band of Indians, Soboba Band of Luiseño

Indians, and Ramona Band of Cahuilla to provide a clear understanding of how the project has changed from its original alignment and to outline major milestones and review the schedule for completing the Section 106 documents.

- RCTC, Caltrans, and FHWA met with the tribal representatives from the Pechanga Band of Luiseño Indians and the Morongo Band of Mission Indians to provide a clear understanding of how the project has changed from its original alignment and to outline major milestones and review the schedule for completing the Section 106 documents.
- Caltrans sent the Soboba Band of Luiseno Indians Cultural Resource Director a letter regarding the Draft Historic Property Survey Report (HPSR) for the project.
- Caltrans sent the Pechanga Band of Luiseño Indians Cultural Resource Director a letter regarding the Draft HPSR for the project.
- Caltrans sent the Morongo Band of Mission Indians Cultural Resources Center a letter regarding the Draft HPSR for the project.
- Caltrans sent the Pechanga Band of Luiseño Indians Cultural Resources Center a letter regarding the Draft HPSR for the project.
- Caltrans sent the Cahuilla Band of Indians Environmental Protection Officer a letter regarding the Draft HPSR for the project.
- Caltrans sent the Cahuilla Band of Indians Chairperson a letter regarding the Draft HPSR for the project.
- Caltrans sent the Gabrielino Tongva Nation Secretary Cultural Resource Management Coordinator a letter regarding the Draft HPSR for the project.
- November 21, 2011: Caltrans sent the Gabrielino/Tongva San Gabriel Band of Mission Indians Cultural Resource Management Coordinator a letter regarding the Draft HPSR for the project.
- November 21, 2011: Caltrans sent the Ramona Band of Cahuilla Cultural Resources Coordinator a letter regarding the Draft HPSR for the project.
- November 21, 2011: Caltrans sent the Pechanga Band of Luiseño Indians Chairman a letter regarding the Draft HPSR for the project.
- November 21, 2011: Caltrans sent the Gabrielino/Tongva San Gabriel Band of Mission Indians Chairperson a letter regarding the Draft HPSR for the project.
- November 21, 2011: Caltrans sent the Ramona Band of Cahuilla Chairman a letter regarding the Draft HPSR for the project.

2012:

- Preparation of the Recirculated Draft EIR/Supplemental Draft EIS began for the modified range of alternatives from I-215 to SR-79.
- Coordination occurred between resource agencies and transportation agencies during preparation of updated technical reports.
- RCTC, Caltrans, and FHWA met with the tribal representatives from the Pechanga Band of Luiseño Indians. The Pechanga Band of Luiseño Indians gave a detailed presentation regarding the project area as part of its ethnographic and ancestral territory and stated that it has multiple issues with the MCP project and its potential to impact cultural resources.
- The Pechanga Band of Luiseño Indians sent FHWA a letter with comments on the Mid County Parkway Historic Property Survey Report.
- The Pechanga Band of Luiseño Indians sent FHWA a letter with comments on the Mid County Parkway Findings of Effect.
FHWA sent the Pechanga Band of Luiseño Indians a letter in response to their February 22, 2012, letter.

FHWA sent the State Historic Preservation Officer a letter requesting formal concurrence on the Historic Property Survey Report.

- FHWA sent the State Historic Preservation Officer a letter requesting formal concurrence on the Findings of Effect.
- FHWA sent the Pechanga Band of Luiseño Indians a letter in response to their April 23, 2012, letter.
- FHWA, Caltrans, and RCTC met with a representative from the Soboba Band of Luiseño Indians per their request to provide an update on the status of the project.
- The State Historic Preservation Officer sent FHWA a letter with comments on the determinations of eligibility and findings of effects for the Mid County Parkway on historic properties.
- FHWA submitted the Finding of Effect (FOE) to SHPO

2013:

- The Recirculated Draft EIR/Supplemental Draft EIS was circulated for public review between January 25, 2013 and April 10, 2013, for the modified project (I215 to SR-79)
- In January 2013, SHPO provided concurrence in the Finding of Effect.
- On February 20, 2013, a public hearing was held in the City of Perris during the public review period for the Recirculated Draft EIR/Supplemental Draft EIS. A total of 57 people attended this meeting.
- In June 2013, the FHWA, Caltrans, and RCTC initiated consultation with the Native American Tribes and the SHPO as part of the development of the Memorandum of Agreement (MOA) and Discovery and Monitoring Plan (DMP).
- Coordination was conducted between September 2013 and December 2013 with resource agencies and transportation agencies in preparation of the NEPA 404 Checkpoint 3 package to identify the preliminary Least Environmentally Damaging Practicable Alternative (LEDPA).
- In December 2013, the Project Development Team concurred on Alternative 9 Modified with the San Jacinto River Bridge Design Variation as the preferred alternative.
- In December 2013, the USACE sent RCTC a letter of approval of the Jurisdictional Delineation.


## 2014/2015:

- The "Recirculated Sections of Chapter 4.0 (III, Air Quality; VII, Greenhouse Gases; 4.5, Climate Change; and Table 4.10) of the Recirculated Draft EIR" was circulated for public review between January 31, 2014, and March 17, 2014.
- In February 2014, the United States Army Corps of Engineers (USACE), the United States Environmental Protection Agency (EPA), and the United States Fish and Wildlife Service (USFWS) concurred on Alternative 9 Modified with the San Jacinto River Bridge Design Variation as the preliminary LEDPA. In addition, the USFWS agreed with the preliminary LEDPA subject to the inclusion of mitigation that provides biologically equivalent or superior preservation of sensitive alkali plant species.
- In April 2014, Caltrans notified the USFWS, USACE, and the EPA that the transportation agencies (FHWA, RCTC, and Caltrans) made the decision to identify Alternative 9 Modified with the San Jacinto River Bridge Design Variation as the Preliminary LEDPA for the MCP project. This completed compliance with Checkpoint 3 in the NEPA/404 MOU.
- On April 29, 2014, FHWA transmitted the proposed Memorandum of Agreement (MOA) for the MCP project to SHPO.
- On October 6, 2014, A Joint Project Review (JPR) prepared by the Regional Conservation Authority determined that the project is consistent with both the Criteria and Other Western Riverside County MSHCP plan requirements.
- On October 20, 2014, The Wildlife Agencies (USFWS and CDFW) sent RCTC a letter to provide comments that relate to the project's consistency with the Western Riverside County MSHCP focusing on the Determination of Biologically Equivalent or Superior Preservation (DBESP).
- On October 24, 2014, RCTC sent a letter to the Wildlife Agencies responding to their comments on the DBESP and requesting the Wildlife Agencies concurrence.
- On October 28, 2014, The Metropolitan Water District of Southern California sent a letter to Jacobs Engineering, Inc. indicating that Metropolitan found the

Preliminary Geotechnical Evaluations Revision 3 (Kleinfelder 2014) regarding the MCP project crossing of the Colorado Aqueduct acceptable and requested that RCTC submit any additional evaluation as part of the final design and grading plans to Metropolitan for review.

- On October 30, 2014, SHPO concurred with the MOA for the MCP project.
- On November 14, 2014, The Wildlife Agencies (USFWS and CDFW) sent RCTC a letter indicating their concurrence with the October 24, 2014, "Addendum to MSHCP Consistency Determination and Determination of Biologically Equivalent or Superior Preservation Analysis (Mid County Parkway)."
- On December 9, 2014, FHWA requested Section 7 consultation with the USFWS.
- On February 11, 2015, the USFWS issued the Biological Opinion for Alternative 9 Modified with the San Jacinto River Bridge Design Variation.


## C. Existing Facilities

## Ramona Expressway (I-215 to SR-79):

The existing Ramona Expressway is a major west-east route in western Riverside County. Ramona Expressway connects with Cajalco Road at I-215 and continues east through the City of Perris, directly south of Lake Perris, across the San Jacinto River and connects to SR-79 in the City of San Jacinto. Portions of Ramona Expressway are in unincorporated Riverside County.

The segment of Ramona Expressway within the project limits has the following additional characteristics:

- Right of way: 128 to 210 feet
- Access Control: Partial
- Capacity / Adequacy: 2 to 6 Lanes / At some locations LOS D/F
- Geometrics:
- Median: No median in rural areas; up to 15 feet in the City of Perris
- Terrain: Flat
- Vertical alignment: varying from $0 \%$ to $1.1 \%$
- Lane widths: 12 feet
- Shoulders: 3 to 8 feet
- Superelevation: Varies, $1.5 \%$ to $9.9 \%$
- Structural Section Condition: Asphalt Concrete Pavement, good
- Drainage: Culverts, bridge over the Perris Valley Storm Drain (an open channel), bridge over the San Jacinto River with expected overtopping with the 100-year flow


## I-215 (Nuevo Road to Van Buren Boulevard):

Interstate 215 is a major north-south regional facility in Riverside County. The segment of I-215 within the project limits is a six-lane freeway following a north-south alignment.

The segment of l-215 within the project limits has the following additional characteristics:

- Right of way: 190 to 671 feet
- Access Control: Limited-Access
- Capacity / Adequacy: 6 Lanes / LOS C/F
- Geometrics:
- Median: 46 feet median
- Terrain: flat
- Vertical alignment: varying from $0.5 \%$ to $0.8 \%$
- Lane widths: 12 feet
- Outside Shoulders: 10 feet
- Inside Shoulders: 10 feet
- Superelevation: Varies, Crowned (-2.0\%) to $+2.0 \%$
- Structural Section Condition: Asphalt Concrete Pavement, good
- Drainage: Culverts and Reinforced Concrete Box (RCB) culverts

All of the existing overcrossing structures on the section of I-215 between Van Buren Boulevard and Nuevo Road meet minimum vertical clearance. There are no sight distance issues.

Beginning to the north, there are three existing local interchanges within the project limits. They are the Van Buren Boulevard interchange, the Harley Knox Boulevard interchange, and the Cajalco Road/Ramona Expressway interchange. The spacing between the Van Buren Boulevard interchange and the Harley Knox Boulevard local interchange is about 1.9 miles. The spacing between the Harley Knox Boulevard interchange and the Cajalco/Ramona local interchange is about 1.7 miles.

To the south, a grade separation overcrossing exists at Placentia Avenue. There are no ramps at Placentia Avenue currently, although the City of Perris General Plan Circulation Element calls for a future local interchange to I-215 at Placentia Avenue. At the request
of the City of Perris, RCTC has agreed to include a local interchange to $\mathrm{I}-215$ at Placentia Avenue as part of the MCP project.

Farther to the south, there is the existing Nuevo Road local interchange. The spacing between the Nuevo Road interchange and the existing interchange to the north (Cajalco Road/Ramona Expressway interchange) is about 3.1 miles. The existing Nuevo Road interchange has approved improvements to be constructed within the next five years, as verified with the City of Perris and RCTC. Improvements at Van Buren Boulevard and Cajalco Road/Ramona Expressway interchange were recently completed.

A railroad line parallels $\mathrm{I}-215$ on the west side of the freeway. This line is owned by RCTC with limited freight operations conducted by Burlington Northern Santa Fe (BNSF). RCTC has plans to extend Metrolink commuter rail passenger service on this line, this project is called the Perris Valley Line and is scheduled to be in operation by 2015. The alignment of I-215 is generally straight, but curves in the vicinity of the crossstreets (Nuevo, Placentia, Cajalco Road/Ramona Expressway, and Van Buren) to provide separation between the freeway and the railroad for ramps.

The portion of I-215 in the MCP study area is part of the Department of Defense Rural and Single Interstate Routes (Highway Design Manual 309.2), formerly known as the FHWA 26,000 mile Priority Network.

## SR-79:

The portion of SR-79 through the San Jacinto Mountains is called Lambs Canyon Road. This segment was widened to a four-lane highway in 1995 extending just south from I-10 to Gilman Springs Road. The portions of SR-79 that pass through the urbanized areas of Hemet and San Jacinto are generally a five-lane section with two lanes in each direction and a center left-turn lane. These segments are heavily urbanized, with numerous traffic signals and driveways. A realignment project on SR-79 EA 494000 (PN 0800000784), between Domenigoni Parkway and Gilman Springs Road, near the Cities of Hemet and San Jacinto is currently in the PA/ED phase, with expected construction prior to MCP construction. The SR-79 realignment configuration will connect with the MCP improvements near the intersection of existing Sanderson Avenue and Ramona Expressway.

At this location, the characteristics of the realigned SR-79 will be as follows:

- Right of way: 230 to 400 feet
- Access Control: Limited-Access
- Capacity / Adequacy: 4 to 6 Lanes / LOS C
- Geometrics:
- Median: 14.0 to 84.0 feet
- Terrain: flat
- Vertical alignment: varying from $0.65 \%$ to $2.14 \%$
- Lane widths: 12 feet
- Outside Shoulders: 10 feet
- Inside Shoulders: 5 feet
- Superelevation: Crowned -2.0\%
- Structural Section Condition: Portland Cement Concrete (Proposed)
- Drainage: Culverts

All of the overcrossing structures on this section of State Route 79 will meet minimum vertical clearance.

To the north of the proposed MCP/SR-79 interchange, within the project limits, there is one existing local interchange at Gilman Springs Road. The spacing between this existing local interchange and the proposed MCP/SR-79 interchange is approximately 1.8 miles.

To the south of the proposed MCP/SR-79 interchange, but outside the MCP project limits, a proposed local interchange at Sanderson Avenue is anticipated to be constructed as part of the SR-79 Realignment project EA 494000 (PN 0800000784). This project is projected to begin construction in the year 2018. The spacing between this proposed local interchange and the proposed MCP/SR-79 interchange is approximately 1.6 miles.

## 4. PURPOSE AND NEED

The Resource Agencies and Caltrans, as well as FHWA as the NEPA lead agency and RCTC as the CEQA lead agency, developed and agreed upon the original MCP Purpose and Need Statement and it was included in the DEIR/DEIS that was circulated to the public in fall of 2008.

In 2009, when the project limits were modified, the resource and transportation agencies agreed that the modified project was a continuation of the original PA/ED process. The resource and transportation agencies developed a modified Purpose and Need statement for the MCP project. Pursuant to the 2006 NEPA/CWA 404 MOU, Caltrans on behalf of RCTC and FHWA transmitted the modified MCP Purpose and Need Statement to the resource agencies for a checkpoint decision response in June 2010. All agencies agreed to the modified MCP Purpose and Need statement to be included in the RDEIR/SDEIS. For the full version of the Purpose and Need statement, refer to Chapter 1 of the FEIR/FEIS.

## Purpose:

The purpose of the proposed action is to provide a transportation facility that would effectively and efficiently accommodate regional west-east movement of people, goods, and services between and through the cities of Perris and San Jacinto.

More specifically, the selected alternative would:

- Provide increased capacity to support the forecast travel demand for the 2040 design year;
- Provide a limited access facility;
- Provide roadway geometrics to meet state highway design standards;
- Accommodate Surface Transportation Assistance Act National Network trucks ${ }^{1}$; and
- Provide a facility that is compatible with a future multimodal transportation system

The MCP project provides logical termini since it connects to two major north-south transportation facilities (I-215 and SR-79). It also has independent utility because the project is usable and a reasonable expenditure even if no additional transportation improvements in the area are made. The MCP project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The proposed Mid County Parkway provides a facility that efficiently serves future traffic demand, reduces traffic congestion on parallel roadways, and reduces overall travel time in the vicinity of the study area.

## Need:

The MCP is located in an area of western Riverside County that is currently undergoing substantial population and employment growth. According to the 2010 Census, the population in Riverside County is approximately 2.2 million people. Population in Riverside County overall is expected to increase to approximately 3.4 million by 2035 and employment is projected to increase to 1.2 million jobs by $2035 .{ }^{2}$ In addition, according to the Inland Empire Quarterly Economic Report (January 2012), the Inland Empire which includes the counties of Riverside and San Bernardino, experienced a 2 percent growth in employment from December 2010 to December 2011 indicating the region's recovery had begun following the 2008 recession.

Within western Riverside County, population is expected to increase by over 1.3 million people between 2010 and 2035, an increase of more than 60 percent. Growth in employment is expected to occur at an even higher rate, approximately 80 percent

[^0]between 2010 and 2035, with an overall doubling of the number of jobs between 2003 and $2035^{3}$.

In 2040, the existing major west-east facilities in western Riverside County, SR-60 and SR-91, as well as several segments of SR-74, are projected to operate at level of service (LOS) F, even with planned improvements. Ramona Expressway comprises the only major, west-east, continuous transportation corridor located between SR-74 to the south and SR-60 to the north that provides a connection between I-215 and SR-79. Ramona Expressway currently operates at an overall LOS C with a maximum average daily traffic (ADT) of 27,500 vehicles in 2010. By 2040, it is projected, that even with planned improvements in the Riverside County General Plan Circulation Element, ${ }^{4}$ Ramona Expressway will operate at an unacceptable LOS F, with an ADT of approximately 79,000 vehicles. The 2040 projections show a more than 100 percent increase in traffic demand through the corridor. Existing capacity is inadequate to meet the future traffic demand. The Travel Time Analysis concluded that the travel times between I-215 and SR-79 in 2040 under existing conditions and existing conditions with General Plan Circulation Element planned improvements would be 93 minutes and 44 minutes, respectively.

Although currently funded transportation improvements will address some of the projected future demand, additional transportation improvements are needed to provide for the efficient movement of people and goods in this part of western Riverside County in the future.

## A. Problem, Deficiencies, Justification

The existing major west-east facilities in western Riverside County consist of State Routes 60, 91, and 74 (SR-60, SR-91, and SR-74, respectively), and Interstate 10 (I-10) (see B-1 in Attachment B, Purpose and Need Exhibits - Circulation Element). These facilities provide linkages between the major north-south facilities of I-15, I-215, and SR79. In 2040, SR-60 and SR-91, as well as several segments of SR-74, are projected to operate at level of service F. The previous HCLE CETAP studies evaluated several parkway alternatives along Ramona Expressway, Cajalco Road, and El Sobrante Road, as well as other alternatives to the south along portions of SR-74, Domenigoni Parkway, Ethanac Road, and Newport Road (see B-2 in Attachment B, Purpose and Need Exhibits - HCLE Study Area). While the Riverside County General Plan identifies several major alternative west-east arterials south of SR-74, Ramona Expressway comprises the only major, west-east, continuous transportation corridor located between SR-74 to the south and SR-60 to the north (see B-3 in Attachment B, Purpose and Need Exhibits - Freeways and Other State Highways), that provides a connection between I-

[^1]215 and SR-79. Ramona Expressway is a two- to six-lane expressway with partial access control.

The City of Perris is currently served by I-215 in a north-south direction but is not served by a major west-east facility. Similarly, the community of San Jacinto is served by SR-79 in a north-south direction but is not served by a major west-east facility (see B-3 in Attachment B).

Ramona Expressway is expected to operate at unacceptable LOS D/F in 2040. In addition, future traffic projections indicate all existing freeways will be operating at LOS F even with implementation of planned improvements as identified in the Regional Transportation Improvement Program (RTIP), the Riverside County General Plan Circulation Element, the Measure A Expenditure Plan, and the implementation of transit "oases" ${ }^{5}$ as identified in the Riverside County General Plan.

Traffic demand forecasts and modeling indicate that approximately 37 percent of the trips in the MCP corridor would be traveling the entire length of the corridor from I-215 to the SR-79/Sanderson Avenue area, indicating regional trips; 63 percent would travel within the corridor, indicating an origin and destination between the Cities of Perris and San Jacinto. Based on this percentage of through trips, the MCP project would not only be serving as a major arterial within the communities through which it passes, but would also provide a vital regional transportation role by serving longer trip lengths. Based on traffic model results for the 2040 conditions (with no MCP), approximately 60 percent of the westbound peak hour traffic on Ramona Expressway south of Lake Perris is destined for Perris, unincorporated areas north of Perris, and Moreno Valley. The remaining 40 percent of westbound traffic has a directional split of approximately 16 percent northbound on I-215, 23 percent westbound on Cajalco Road, and 1 percent southbound on I-215.

The MCP connects major population and employment centers in western Riverside County as identified in the Land Use Element of the County of Riverside General Plan, specifically the communities of Perris and San Jacinto (see B-4 in Attachment B, Purpose and Need Exhibits - Jurisdictional Boundaries). The corridor is centrally located between the existing west-east corridors of SR-60/SR-91 to the north and SR-74 to the south and provides a continuous route that connects I-215 on the west to SR-79 on the east. The features of the corridor, including continuous connections between major communities for 16 miles and linkages with I-215 and SR-79, will result in a freeway that will efficiently serve future regional traffic demand, reduce traffic congestion on parallel roadways, and reduce overall travel time in the vicinity of the study area. The congestion relief that will result from the selected alternative is a benefit of the proposed project.

[^2]
## B. Regional and System Planning

## i. Systems

The MCP is currently not included in the following systems:

- Interstate System
- National Highway System
- Freeway and Expressway System
- Scenic Highway System
- Inter Regional Road System
- State Highway Extra Legal Load (SHELL) Route System

RCTC proposes to recommend the MCP for adoption as a new State Route alignment. Pending a decision on State Route adoption, RCTC will give consideration to submit the MCP for designation in the above systems where applicable. The MCP will connect to I215 and SR-79, which are part of the National Highway System (NHS) and the State Freeway and Expressway (F\&E) System, respectively.

## ii. State Planning

The MCP is recognized by Caltrans as a possible future State Highway and will be considered for adoption as such. Upon adoption of MCP as a state route, SR-74 from generally the same limits as MCP (from I-215 to SR-79) may be relinquished to the local agencies, subject to a future, formal agreement. The relinquishment would be an action of CTC resolution. SR-74 is an existing, west-east state highway located approximately 6 miles south of MCP.

## California Recreational Trails Plan

The California Recreational Trails Plan is considered in the planning of the MCP project and provisions are being made so that bike routes and trails can use the planned overcrossing bridges and undercrossings to cross the MCP freeway where existing and/ or planned features exist.

## State Implementation Plan for Air Quality

The MCP project is included in the 2012 Regional Transportation Plan (RTP) (Amendment No. 1), which was found to conform by FHWA on July 15, 2013. The project is also in the 2015 Federal Transportation Improvement Program (FTIP), which was determined to conform to the State Implementation Plan for air quality conformity on December 14, 2014. The Build Alternatives are consistent with the scope of design concept of the RTP/FTIP. Therefore, the proposed project is consistent with the federal regulations regarding air quality conformity.

Regional PM $_{10}$ State Implementation Plan (SIP) budget compliance was accounted for during the current approved 2012 RTP and 2015 FTIP conformity determination, approved by FHWA on December 14, 2014. Following circulation of the Recirculated Draft EIR/Supplemental Draft EIS for public review and identification of a preferred alternative, FHWA made a project-level conformity determination. The project-level air quality conformity determination is included in the Final Environmental Impact Statement prior to approval of the Record of Decision in 2015. Also refer to Section 6 F, Air Quality Conformity, for further discussion of considerations and compliance with the South Coast Air Quality Management District (SCAQMD) Rules and Regulations.

## Transportation and District System Management Plan

Corridor System Management Plans are now a requirement in California following the passage of the Proposition 1B Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act in the November 2006 election. If the MCP is adopted as a State Route, in the next phase of design, a system management plan, Performance Measurement Systems (PeMS) and other tools can be considered. The current design does not preclude adding these tools.

## Route Concept Fact Sheets

The MCP will connect to I-215 and SR-79. Caltrans has developed a new Route Concept Plan (Transportation Concept Report) for I-215 dated September 2012. The MCP project does not preclude future widening on I-215 for the new Route Concept. The Route Concept describes the ultimate transportation corridor as a ten-lane freeway consisting of eight mixed-flow lanes and two high-occupancy vehicle (HOV) lanes from SR-60 to Ramona Expressway, and an eight-lane freeway consisting of six mixed-flow lanes and two HOV lanes from Ramona Expressway to Nuevo Road. The SR 79 Realignment Project would be a divided limited-access expressway with four travel lanes (two lanes in each direction). The Project would begin at R25.4 post mile [PM] R15.78, which is 1.26 mi south of Domenigoni Parkway, and end approximately 18 mi north at the intersection of SR 79 and Gilman Springs Road (KP R54.4 [PM R33.80]). The SR-79 is planned to be realigned under EA 494000, RTP/FTIP Project ID Number RIV62024, prior to MCP construction.

## iii. Regional Planning

The project is currently included in the 2012 RTP (Amendment No. 1) and is listed as New Mid County Parkway (RIV031218). The following is the description for the project:
"IN WESTERN RIV CO - NEW MID CO PKWY: CONS 6 THRU LN (3 LNS IN EA DIR) APPROX 16-MI BTWN I-215 IN PERRIS EAST TO SR-79 IN SAN JACINTO, INC CONS/RECONS OF 13 ICS, ADD OF AUX LN REDLANDS - EVANS AND EB AUXILIARY LN EVANS - ANTELOPE. I-215 IMP: ADD 1 MF LN IN EA DIR NUEVO RD - VAN BUREN BLVD, \& ONE AUX LN IN EA DIR MID CO PKWY CAJALCO/RAMONA EXP AND FROM MID CO PKWY - NUEVO."

The PA/ED, Plans, Specifications, and Estimates (PS\&E), right of way and construction phases are programmed in the FTIP. The design concept and scope of the MCP project is consistent with the project description in the 2012 RTP and the 2015 FTIP, and the open to traffic assumptions of SCAG's regional emissions analysis.

The RTP, RTIP and Riverside County General Plan Circulation element include a transportation corridor between I-15 and I-215, designated as a Community and Environmental Transportation Acceptability Process (CETAP) Corridor, which could possibly tie-in to the l-215/MCP systems interchange as the west leg. To the east, the MCP connects to SR-79 just south of existing Ramona Expressway and just east of existing Sanderson Avenue.

## iv. Local Planning

The Riverside County General Plan Circulation Element, City of Perris General Plan Circulation Element, and City of San Jacinto General Plan Circulation Element currently identify Ramona Expressway as a future expressway of six to eight lanes. If the MCP project is built from Antelope Road to Warren Road, it would be built in place of Ramona Expressway, but Ramona Expressway remains from I-215 to Antelope Road and from Warren Road to SR-79.

The proposed Mid County Parkway will supersede the existing and planned expressway designations in the Circulation Element of the County of Riverside General Plan for portions of the Ramona Expressway and will constitute a minor amendment to the Circulation Element of the adopted County General Plan (October 2003). The minor amendment would take place after the MCP Record of Decision (ROD). The County is in the process of a major amendment to the General Plan with an expected date of 2015 for release to the public. If the timing for County's amendment is soon after MCP's ROD, then it would be included in the major amendment. The proposed MCP project executes the intent of the prior RCTC and County actions with regard to the Hemet to Corona/Lake Elsinore (HCLE) Corridor and is consistent with the intent of the County's Circulation Element, which recognizes that the decisions regarding the CETAP corridors will result in appropriate amendments to the General Plan.

RCTC is planning the SR-79 EA 494000 (PN 0800000784) Realignment project and is currently in the Project Report and Environmental Document phase. This project will realign SR-79 from Gilman Springs Road south to Domenigoni Parkway. This section of SR-79 is being planned as an expressway initially with the capability of being converted to a freeway in the future. The schedule for the SR-79 EA 494000 (PN 0800000784) Realignment project calls for a ROD at the end of 2016.

## v. Federal Planning

The project is also included in the financially constrained 2015 Federal Transportation Improvement Program (FTIP), Project \#RIV031218. The following is the programming description included in the 2015 FTIP:

> "IN WESTERN RIV CO - NEW MID CO PKWY: CONS 6 THRU LN (3 LNS IN EA DIR) APPROX 16-MI BTWN I-215 IN PERRIS EAST TO SR-79 IN SAN JACINTO, INC CONS/RECONS OF 13 ICS, ADD OF AUX LN REDLANDS - EVANS AND EB AUXILIARY LN EVANS - ANTELOPE. I-215 IMP: ADD 1 MF LN IN EA DIR NUEVO RD - VAN BUREN BLVD, \& ONE AUX LN IN EA DIR MID CO PKWY CAJALCO/RAMONA EXP AND FROM MID CO PKWY - NUEVO."

The MCP, as part of CETAP, is recognized as a Presidential Executive Order 13274 (signed September 18, 2002) for Environmental Stewardship and Transportation Infrastructure Project. As an Executive Order Project, the MCP meets the criteria for a High Profile Project under the FHWA and Caltrans Joint Stewardship and Oversight Agreement (signed September 4, 2007, and the subsequent update signed October 14, 2010) and therefore is not considered as an Assigned Project.

In October 2003, participating agencies signed a Partnership Agreement committing to a streamlined completion of the MCP project environmental review process. This partnership agreement was developed by RCTC and participating transportation and resource agencies as a commitment to complete their project pursuant to Executive Order 13274 on Environmental Stewardship and Streamlining. CETAP was one of the first seven in the nation to be covered under Executive Order 13274.

In 2007, FHWA and Caltrans clarified and defined their roles, responsibilities, authorities and accountability for the Federal-Aid Highway Program (FAHP) by issuing an agreement, the Joint Stewardship and Oversight Agreement. Under this agreement, FHWA will maintain project level approval for High Profile Projects. Based on an estimated total project cost of over $\$ 500$ million, the MCP is classified as a Major Project by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 1904; therefore, the MCP should follow FHWA Major Project guidance. MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012. MAP-21 did not change the designation of the MCP as a High Profile Project.

FHWA has been involved with the MCP project since it was identified as a key west-east regional transportation corridor in Riverside County's RCIP and more specifically CETAP planning efforts, which began in 1999. CETAP study efforts were jointly undertaken by RCTC and the County in coordination with Caltrans and FHWA. FHWA has participated in the planning process through RCIP, CETAP, and now the PA/ED of the MCP. The current FHWA staff that participates on a regular basis for oversight and/or environmental review of the project are as follows:

- Shawn Oliver: Team Leader State Programs (South)
- Brett Gainer: Legal Counsel
- Tay Dam: Senior Transportation Engineer
- Larry Vinzant: Senior Environmental Specialist

In addition, Senior Transportation Engineer Tay Dam and Design Traffic Operations Engineer Jeff Holm reviewed the Supplemental New Connection Report for the I-215 and related Exception to Mandatory Design Standards Fact Sheets. On May 14, 2008, FHWA sent a memo to Caltrans stating findings of conceptual acceptability for the original New Connection Report for the Placentia Alternative at I-215. On August 17, 2012, FHWA sent a memo to Caltrans stating findings of conceptual acceptability for the Supplemental New Connection Report for the I-215. This approval supersedes the original FHWA approval letter for the New Connection Report for the Placentia Alternative at the l-215 in May 2008.

The FHWA Major Project Designation triggers a number of deliverables for submittal to FHWA for approval including: (1) A Cost Estimate Review (CER) which was performed by FHWA and Caltrans in April 2014, 60 to 90 days prior to signature of the final environmental document. The CER will be updated prior to construction and 60 to 90 days prior to the Initial Financial Plan (IFP); (2) RCTC will submit a draft Project Management Plan (PMP) to FHWA 90 days prior to approval of final NEPA decision document. The final PMP will be finalized within 90 days after approval of ROD and is required prior to approval of the IFP. The PMP will be updated and approved throughout construction (3) RCTC will submit a Financial Plan to FHWA when all elements of the plan are fully completed, but no later than prior to requesting authorization of Federal-aid funds for construction. Finance plan updates will be submitted annually once the initial Finance Plan is approved until construction is substantially complete.

## vi. Transit

The location of the MCP through the City of Perris offers an opportunity to create a strong linkage between the proposed MCP and two major planned transit projects. The Perris Valley Line will provide commuter rail service from the City of Riverside to the City of Perris by extending existing service (Metrolink 91 line) that links the City of Riverside with Downtown Los Angeles via Fullerton. It is anticipated that the proposed Perris Valley Line will connect with a new Perris Multimodal Facility to be located in Downtown Perris and to provide for connecting bus (including the Riverside Transit Agency) and rail (including Metrolink) service. The Perris Multimodal Facility is in close proximity to the MCP. Four new stations have been identified for construction along the Perris Valley Line, and one additional station in the future, at the I-215/Cajalco Expressway/Ramona Expressway interchange. Construction for the first phase of Perris Valley Line began in October 2013 and is expected to be complete by late 2015.

## C. Traffic

The existing and forecasted traffic conditions for the MCP mainline and adjacent facilities within the project area for the project are summarized in this section.

## i. Existing Traffic Data

Table 4.A shows existing ADT conditions and the capacity analysis (volume-to-capacity [V/C] ratio and level of service [LOS]) for I-215. This facility intersects the MCP and is included in the traffic analysis study area for the project. Existing traffic conditions for the MCP itself and for SR-79 (the other state route that intersects the MCP) are not available. SR-79 does not yet exist in a freeway configuration and MCP does not yet exist at all.

Table 4.A:
Existing (2010) Segment ADT and Capacity Analysis on I-215

| Segments on I-215 | No. of lanes | 2010 ADT | LOS | V/C |
| :---: | :---: | :---: | :---: | :---: |
| Van Buren Boulevard-Harley Knox <br> Boulevard | 6 | 124,000 | F | 1.06 |
| Harley Knox Boulevard-Cajalco Road | 6 | 117,000 | E | 0.99 |
| Cajalco Road-Placentia Avenue | 6 | 103,000 | D | 0.88 |
| Placentia Avenue-Nuevo Road | 6 | 103,000 | D | 0.88 |

ADT - Average Daily Traffic
LOS - Level of Service
V/C - Volume to Capacity ratio
Existing (2010) ADT information was obtained from the Caltrans website titled "2009 Traffic Volumes on the California State Highway System" and was updated to reflect 2010 conditions. Capacity analysis was based on the level of service table from the Riverside County General Plan.

Existing segment traffic conditions along Ramona Expressway from I-215 to Sanderson Avenue range from LOS D to F. Individual intersection levels of service within this area range from LOS A to $F$.

## ii. Forecast Traffic Data

Traffic forecasts for the MCP project were based on the 2008 SCAG RTP. The 2008 RTP included the preparation of a travel forecasting model for the SCAG region and this model was refined and updated for use in Riverside County. The resulting refined and updated version of the SCAG model was prepared by the Riverside County and is known as the RivTAM model (Riverside Traffic Analysis Model). The RivTAM model was further refined for use on the MCP project to incorporate land use and network details that are specific to the MCP study area. The use of this modeling process was approved by FHWA, Caltrans, and SCAG prior to proceeding with the details of the traffic forecasts. Riverside County also participated in this process as the owner of the base RivTAM model from which the MCP project traffic forecasting model was prepared.

The MCP traffic forecast was developed using the year 2035 SCAG and RivTAM models. Since the horizon year for the MCP traffic analysis is 2040, the forecasts from the SCAG and RivTAM models were used to extrapolate to reflect 2040 conditions.

ADT forecasts for the entire study area are shown for the project in C-1 to C-4 in Attachment C, 2040 ADT Forecasts, Directional ADT and Peak Hour Horizon Year 2040 and Capacity and Level of Service Horizon Year 2040. For peak hour freeway mainline and ramp forecasts, see $\mathrm{C}-5$ to $\mathrm{C}-8$ in Attachment C. For freeway mainline and ramp capacities and levels of service, see C-9 to C-18 in Attachment C.

The interchange layouts for the MCP freeway to freeway interchanges at I-215 and at SR-79 are shown in F-3 to F-5 and F-21 to F-23, respectively, in Attachment F, Layout Plans. The peak hour forecasts for the MCP freeway to freeway interchanges at I-215 and at SR-79 are shown in D-1 and in D-2, respectively, in Attachment D, Peak Hour Traffic Forecasts 2040 - Systems Interchanges. Interchange layouts for the MCP local interchanges are shown in F- 6 and F-10 to F-20 in Attachment F. Local interchange peak hour traffic forecasts are shown in E-1 to E-11 in Attachment E, Peak Hour Traffic Forecasts 2040 - Service Interchanges.

Capacity analysis for the MCP for various scenarios of future conditions is shown in Tables 4.B through 4.D. Design designation data for various sections of the MCP project are shown in Table 4.E.

Traffic Index (TI) values were approved by Caltrans Traffic Forecasting Unit in April 2012. The Caltrans Traffic Index Memorandum is provided in G-10, Attachment G.

Table 4.B:
Future (2040) Segment ADT and Capacity Analysis on Ramona Expressway (Alternative 1A)

| Segments of MCP | No. of lanes | 2040 ADT | LOS | V/C |
| :---: | :---: | :---: | :---: | :---: |
| East of I-215 | 4 | 79,000 | F | 2.20 |
| San Jacinto River | 2 | 63,500 | F | 3.53 |
| West of SR-79 | 4 | 36,000 | F | 1.01 |

ADT - Average Daily Traffic
LOS - Level of Service
V/C - Volume to Capacity ratio

Table 4.C:
Future (2040) Segment ADT and Capacity Analysis on Ramona Expressway (Alternative 1B)

| Segments of MCP | No. of lanes | 2040 ADT | LOS | V/C |
| :---: | :---: | :---: | :---: | :---: |
| East of I-215 | 6 | 79,000 | F | 1.47 |
| San Jacinto River | 6 | 63,500 | F | 1.18 |
| West of SR-79 | 6 | 36,000 | C | 0.67 |

ADT - Average Daily Traffic
LOS - Level of Service
V/C - Volume to Capacity ratio

Table 4.D:
Future (2040) Segment ADT and Capacity Analysis on MCP (Alternative 9 Modified) with SJRB DV

| Segments of MCP | No. of lanes | 2040 ADT | LOS | V/C |
| :---: | :---: | :---: | :---: | :---: |
| East of I-215 | 6 | 76,200 | A | 0.65 |
| San Jacinto River | 6 | 93,800 | A | 0.79 |
| West of SR-79 | 6 | 55,000 | A | 0.47 |

ADT - Average Daily Traffic
LOS - Level of Service
V/C - Volume to Capacity ratio
Table 4.E:
Design Designation Data

| Segments of MCP | D | T | V | ADT <br> $(2020)$ | ADT <br> $(2040)$ | DHV |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| MCP (General) | $56 \%$ | $5 \%$ | 75 mph | 53,000 | 102,000 | 10,190 |
| MCP (Depressed): <br> Between Barrett <br> Avenue and Wilson <br> Avenue | $53 \%$ | $5 \%$ | 75 mph | 36,900 | 69,800 | 6,895 |
| I-215 | $57 \%$ | $5 \%$ | 75 mph | 134,900 | 210,800 | 20,097 |
| SR-79 | $50 \%$ | $5 \%$ | 75 mph | 24,120 | 56,100 | 5,648 |

ADT - Average Daily Traffic
DHV - The two way design hourly volume, vehicles
D - The percentage of DHV in the direction of heavier flow
T - Truck Traffic Volume expressed as a percent of the DHV
V - Design Speed in miles per hour
Prior to the final preparation of traffic forecasts for the MCP project, the socioeconomic (land use) data and roadway network were refined to reflect the latest available information. The socioeconomic data was compared to known land development plans within the MCP corridor and also discussed with the Planning Departments of the various agencies with jurisdiction in the area (Cities of Riverside, Corona, Moreno Valley, Perris, and San Jacinto, and Riverside County). Adjustments were made, as necessary, but the control totals for land use within SCAG's Regional Statistical Areas (RSA) were not changed.

The regional model produces traffic forecasts that provide reasonable accuracy on an ADT basis for freeways and other major roadways. Traffic forecasts for local roadways and peak hour forecasts for all roadways were prepared through a refinement process. This process generally followed the procedures of National Cooperative Research Program Report 255 (Highway Traffic Data for Urbanized Project Planning and Design, Transportation Research Board, 1982).

Following are additional procedures that were followed:

- ADT forecasts for major facilities (MCP, I-215, and SR-79) were taken directly from the model's traffic forecasts, with only minor refinements.
- Wherever the model provided reasonable ADT forecasts for local streets, they were used directly. In other cases, ADT forecasts were taken from local Circulation Elements of General Plans. Where sufficient detail was not provided in these documents, ADT values were assumed to correspond to LOS C conditions for the type of roadway specified in the Circulation Element of the General Plan.
- Peak hour forecasts for major facilities were determined through an assumption of $10 \%$ PM peak hour traffic and $9 \%$ AM peak hour traffic. Directional distribution of peak hour traffic was determined through peak period traffic model forecasts or existing travel patterns.


## iii. Accident Rates

Existing accident information for I-215 is shown in Table 4.F. Existing accident history on Ramona Expressway is shown in Table 4.G. Discussion of the results is included below for each of these facilities. Existing accident information for the MCP itself and for SR-79 (the other state route that intersects the MCP) are not available. SR-79 does not yet exist in a freeway configuration and MCP does not yet exist at all. SR-79 accidents are not reviewed as that two-lane highway will be replaced by a six-lane expressway or freeway at roughly the same time frame as the Mid County Parkway.

Table 4.F:
Existing Accident Data on I-215 Mainline and Ramps
(10/1/2009 to 9/30/2012)

| Facility | Location | PM | Actual <br> Accident Rates ${ }^{(1)}$ |  |  | Average Accident Rates ${ }^{(1)}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Fatal | Fatal + Injury | Total | Fatal | Fatal + Injury | Total |
| I-215 NB <br> Mainline | D St to Nuevo Rd | $\begin{gathered} 27.23- \\ 27.89 \\ \hline \end{gathered}$ | 0.000 | 0.10 | 0.27 | 0.005 | 0.28 | 0.87 |
|  | Nuevo Rd to Placentia Ave | $\begin{aligned} & 27.89 \\ & 29.40 \\ & \hline \end{aligned}$ | 0.012 | 0.18 | 0.39 | 0.004 | 0.24 | 0.77 |
|  | Placentia Ave to Cajalco/Ramona | $\begin{array}{r} 29.40- \\ 30.93 \\ \hline \end{array}$ | 0.000 | 0.08 | 0.29 | 0.005 | 0.23 | 0.71 |
|  | Cajalco/Ramona to Harley Knox | $\begin{aligned} & 30.93- \\ & 32.33 \\ & \hline \end{aligned}$ | 0.000 | 0.10 | 0.28 | 0.005 | 0.25 | 0.76 |
|  | Harley Knox to Van Buren Ave | $\begin{aligned} & \hline 32.33 \\ & 34.17 \end{aligned}$ | 0.008 | 0.11 | 0.41 | 0.006 | 0.27 | 0.80 |

Table 4.F:
Existing Accident Data on I-215 Mainline and Ramps
(10/1/2009 to 9/30/2012)

| Facility | Location | PM | Actual <br> Accident Rates ${ }^{(1)}$ |  |  | Average Accident Rates ${ }^{(1)}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Fatal | Fatal + Injury | Total | Fatal | Fatal + Injury | Total |
| I-215 SB <br> Mainline | Van Buren Ave to Harley Knox | $\begin{gathered} 32.33- \\ 34.17 \\ \hline \end{gathered}$ | 0.000 | 0.10 | 0.41 | 0.006 | 0.27 | 0.80 |
|  | Harley Knox to Cajalco/Ramona | $\begin{array}{r} 30.93- \\ 32.33 \\ \hline \end{array}$ | 0.000 | 0.11 | 0.44 | 0.005 | 0.25 | 0.76 |
|  | Cajalco/Ramona to Placentia | $\begin{array}{r} 29.40- \\ 30.93 \\ \hline \end{array}$ | 0.000 | 0.10 | 0.24 | 0.005 | 0.23 | 0.71 |
|  | Placentia to Nuevo Rd | $\begin{aligned} & 27.89- \\ & 29.40 \end{aligned}$ | 0.000 | 0.16 | 0.50 | 0.004 | 0.24 | 0.77 |
|  | Nuevo Rd to D St | $\begin{array}{r} 27.23- \\ 27.89 \\ \hline \end{array}$ | 0.000 | 0.22 | 0.71 | 0.005 | 0.28 | 0.87 |
| $\begin{array}{\|c\|} \hline \text { I-215/ } \\ \text { D St I/C } \end{array}$ | SB Off-Ramp | 27.30 | 0.000 | 0.00 | 0.20 | 0.004 | 0.24 | 0.75 |
|  | NB On-Ramp | 27.38 | 0.000 | 0.21 | 0.42 | 0.003 | 0.14 | 0.41 |
| I-215/ <br> Nuevo <br> Rd I/C | NB Off-Ramp | 27.68 | 0.000 | 0.14 | 0.14 | 0.003 | 0.35 | 1.01 |
|  | NB On-Ramp | 28.03 | 0.000 | 0.23 | 0.56 | 0.002 | 0.22 | 0.63 |
|  | SB Off-Ramp | 28.08 | 0.000 | 0.22 | 0.66 | 0.003 | 0.35 | 1.01 |
|  | SB On-Ramp | 27.70 | 0.000 | 0.28 | 0.42 | 0.002 | 0.22 | 0.63 |
|  |  |  |  |  |  |  |  |  |
| I-215/ CajalcoRamona I/C | NB Off-Ramp | 30.77 | 0.000 | 0.24 | 0.95 | 0.003 | 0.35 | 1.01 |
|  | NB On-Ramp | 31.08 | 0.000 | 0.06 | 0.93 | 0.002 | 0.22 | 0.63 |
|  | SB Off-Ramp | 31.11 | 0.000 | 0.31 | 1.68 | 0.003 | 0.35 | 1.01 |
|  | SB On-Ramp | 30.76 | 0.000 | 0.00 | 0.63 | 0.002 | 0.22 | 0.63 |
|  |  |  |  |  |  |  |  |  |
| I-215/ <br> Harley <br> Knox <br> Blvd I/C | NB Off-Ramp | 32.14 | 0.000 | 0.48 | 1.92 | 0.003 | 0.35 | 1.01 |
|  | NB On-Ramp | 32.49 | 0.000 | 0.00 | 0.19 | 0.002 | 0.22 | 0.63 |
|  | SB Off-Ramp | 32.55 | 0.000 | 0.00 | 0.17 | 0.003 | 0.35 | 1.01 |
|  | SB On-Ramp | 32.20 | 0.000 | 0.61 | 1.22 | 0.002 | 0.22 | 0.63 |

Table 4.F:
Existing Accident Data on I-215 Mainline and Ramps
(10/1/2009 to 9/30/2012)

| Facility | Location | PM | Actual <br> Accident Rates ${ }^{(1)}$ |  |  | Average Accident Rates ${ }^{(1)}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Fatal | Fatal + Injury | Total | Fatal | Fatal + Injury | Total |
| I-215/ <br> Buren <br> I/C | NB Off-Ramp | 33.97 | 0.000 | 0.00 | 0.00 | 0.003 | 0.35 | 1.01 |
|  | NB On-Ramp | 34.34 | 0.000 | 0.00 | 0.12 | 0.002 | 0.22 | 0.63 |
|  | SB Off-Ramp | 34.37 | 0.000 | 0.59 | 1.40 | 0.003 | 0.35 | 1.01 |
|  | SB On-Ramp | 33.99 | 0.000 | 0.20 | 0.39 | 0.002 | 0.22 | 0.63 |

(1) Accident rates based on total number of fatal and injury accidents, as reported in Caltrans accident reports. Accident rates for mainline segments are expressed in accidents per million vehicle miles. Accident rates for ramps are expressed in accidents per million vehicles.

Table 4.G:
Summary of Accident History on Ramona Expressway

| Jurisdiction and <br> Time Period | Accident <br> Category | Location | Fatality | Injury | Property <br> Damage <br> Only | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| City of Perris, <br> $2003-2005$ | Roadway <br> Segment | I-215 to <br> Rider Street | 4 | 40 | 78 | 122 |
| Riverside County, <br> $2006-2008$ | Roadway <br> Segment | Rider Street to <br> Sanderson <br> Avenue | 6 | 60 | 62 | 128 |

Source: Riverside County, 2009; City of Perris, 2009.
I-215 = Interstate 215

Of the locations shown in Table 4.F, ten locations indicate higher-than-average accident rates and they are highlighted in Table 4.F. The analysis of accidents for these ten locations is as follows:

- On I-215 northbound between Nuevo Road and Placentia Avenue, the actual accident rate of 0.12 for fatal accidents is higher than the average accident rate of 0.004 .

On I-215 northbound between Harley Knox Boulevard and Van Buren Avenue, the actual accident rate of 0.008 for fatal accidents is higher than the average accident rate of 0.006 .

For the above two locations, while the actual rate was higher than the average rate, there was only one fatal accident over a three-year period. It is difficult to identify patterns of accident occurrence with a relatively low number of accidents and the average accident rate of less than two accidents per year indicates that a
meaningful analysis of accident patterns is not feasible. In addition, the actual accident rates for the other accident categories considered in this analysis (fatal plus injury and total) were less than statewide averages.

- At the I-215/D Street northbound on-ramp, the actual accident rate of 0.21 for fatal plus injury accidents is higher than the average accident rate of 0.14 . This ramp and the adjacent freeway mainline have been under construction through a separate project to widen I-215 from Scott Road to Nuevo Road, EA 08-0F162 (Project Number 0800000116). Since a new ramp and mainline configuration are being built, the accident history for the previous ramp and freeway configuration are no longer relevant.
- At the I-215/Nuevo Road northbound on-ramp, the actual accident rate of 0.23 for fatal plus injury accidents is slightly higher than the average accident rate of 0.22. While the actual rate was higher than the average rate, the total number of accidents was only four over a three-year period. It is difficult to identify patterns of accident occurrence with a relatively low number of accidents and the average accident rate of less than two accidents per year indicates that a meaningful analysis of accident patterns is not feasible. The freeway segment south of this ramp has been under construction through a separate project to widen l-215 from Scott Road to Nuevo Road, EA 08-0F162 (Project Number 0800000116). No action is recommended at this time, but if this location experiences accident rates above averages in the future, an evaluation could be conducted following completion of the construction.
- At the I-215/Nuevo Road southbound on-ramp, the actual accident rate of 0.28 for fatal plus injury accidents is higher than the average accident rate of 0.22 . While the actual rate was higher than the average rate, the total number of accidents was only four over a three-year period. It is difficult to identify patterns of accident occurrence with a relatively low number of accidents and the average accident rate of less than two accidents per year indicates that a meaningful analysis of accident patterns is not feasible. The freeway segment south of this ramp has been under construction through a separate project to widen I-215 from Scott Road to Nuevo Road, EA 08-0F162 (Project Number 0800000116). No action is recommended at this time, but if this location experiences accident rates above averages in the future, an evaluation could be conducted following completion of the construction.
- At the l-215/Cajalco-Ramona Expressway northbound on-ramp, the actual accident rate of 0.93 for total accidents exceeds the average accident rate of 0.63 . There were a total of 15 accidents reported at this location over a threeyear period of which none were fatal and one involved injuries. This interchange had improvements installed recently by Riverside County in a project that added lanes to the ramp terminal intersections to relieve traffic congestions. The recent improvements are expected to reduce the level of accidents and no additional action is recommended at this time.
- At the I-215/Cajalco-Ramona Expressway southbound off-ramp, the actual accident rate of 1.68 for total accidents exceeds the average accident rate of 1.01. There were a total of 27 accidents reported at this location over a threeyear period of which none were fatal and five involved injuries. This interchange had improvements installed recently by Riverside County in a project that added lanes to the ramp terminal intersections to relieve traffic congestions. The recent improvements are expected to reduce the level of accidents and no additional action is recommended at this time.
- At the I-215/Harley Knox Boulevard northbound off-ramp, the actual accident rate of 0.48 for fatal plus injury accidents is higher than the average accident rate of 0.35. In addition, the actual accident rate of 1.92 for fatal total accidents is higher than the average accident rate of 1.01 . While the actual rate was higher than the average rate for both fatal plus injury accidents and total accidents, the total number of accidents was only four over a three-year period. It is difficult to identify patterns of accident occurrence with a relatively low number of accidents and the average accident rate of less than two accidents per year indicates that a meaningful analysis of accident patterns is not feasible. Therefore, the relatively high accident rates are due to a few accidents occurring at a location with relatively low traffic levels that caused rates to exceed averages. No action is recommended at this time.
- At the I-215/Harley Knox Boulevard southbound on-ramp, the actual accident rate of 0.61 for fatal plus injury accidents is higher than the average accident rate of 0.22 . In addition, the actual accident rate of 1.22 for fatal total accidents is higher than the average accident rate of 0.63 . While the actual rate was higher than the average rate for both fatal plus injury accidents and total accidents, the total number of accidents was only two over a three-year period. It is difficult to identify patterns of accident occurrence with a relatively low number of accidents and the average accident rate of less than one accident per year indicates that a meaningful analysis of accident patterns is not feasible. Therefore, the relatively high accident rates are due to a few accidents occurring at a location with relatively low traffic levels that caused rates to exceed averages. No action is recommended at this time.
- At the I-215/Van Buren Boulevard southbound off-ramp, the actual accident rate of 0.59 for fatal plus injury accidents is higher than the average accident rate of 0.35. In addition, the actual accident rate of 1.40 for total accidents is higher than the average accident rate of 1.01 . There were a total of 12 accidents reported at this location over a three-year period of which none were fatal and five involved injuries. This interchange had improvements installed recently by Riverside County in a project that added lanes to the ramp terminal intersections to relieve traffic congestions. The recent improvements are expected to reduce the level of accidents and no additional action is recommended at this time.


## 5. ALTERNATIVES

## A. Viable Alternatives (Build and No-Build Alternatives and Design Variations)

This Final Project Report is being prepared for the modified 16-mile Mid County Parkway project in support of the Final EIR/Final EIS. This report is a final version of the Revised Draft Project Report that was prepared for the modified 16-mile Mid County Parkway project in support of the RDEIR/SDEIS that was released in 2013.

Two no-build alternatives and three build alternatives were considered in the RDEIR/SDEIS. Descriptions of the two No Project/No Action Alternatives (Alternatives 1 A and 1B), the three Build Alternatives (Alternatives 4 Modified, 5 Modified, and 9 Modified) and two Design Variations (San Jacinto River Bridge [SJRB DV] and San Jacinto North [SJN DV]) that were evaluated in the RDEIR/SDEIS and considered in this report are provided below.

Alternatives 2 and 3 (North Lake Mathews/North Perris Alternative and North Lake Mathews/South Perris Alternative) were considered but eliminated from further analysis in the Draft EIR/EIS in 2008. Alternative 4 (South of Lake Mathews/North Perris (Drain)), Alternative 5 (South of Lake Mathews/South Perris (at Rider Street)), Alternative 6 (General Plan North and South of Lake Mathews/North Perris (Drain)), Alternative 7 (General Plan North and South of Lake Mathews/South Perris (at Rider Street)), and Alternative 9 (Far South/Placentia Avenue) were considered in the DEIR/DEIS in 2008, but eliminated from further analysis in the RDEIR/SDEIS, based on RCTC action taken in June 2009 (see Section 5B, Rejected Alternatives for more information). The No Project/No Action General Plan Circulation Element Conditions Alternative, originally identified as Alternative 8, was renumbered Alternative 1B.

## Alternative 1A: No Project/No Action—Existing Ground Conditions

Alternative 1A represents 2040 traffic on the planned street network except for future improvements to Ramona Expressway, which would remain as it exists today. Construction of the MCP project would not be implemented with the No Project/No Action Alternative 1A. The future west-east traffic described in the study area would be served by the existing Ramona Expressway between I-215 and SR-79. This alternative assumes 2040 land use conditions and implementation of planned improvements to the regional and local circulation system, as accounted for in the adopted Riverside County General Plan (2003), RCTC's Measure A program, and other adopted plans and policies.

## Alternative 1B: No Project/No Action-General Plan Circulation Element Conditions

Alternative 1B represents 2040 traffic levels on the planned street network, according to the Circulation Element of the Riverside County General Plan. Construction of the MCP project would not be implemented with No Project/No Action Alternative 1B. This
alternative is the same as Alternative 1A but includes implementation of Ramona Expressway consistent with the Riverside County General Plan Circulation Element.

## Alternative 4 Modified: North Perris (Drain)

Alternative 4 Modified proposes to construct a six-lane controlled access freeway with six mixed-flow lanes for most of its length. Alternative 4 Modified proposes eight local interchanges with MCP, one new interchange on I-215, one modified interchange on I215, one new interchange on SR-79 and two freeway to freeway interchanges. Alternative 4 Modified begins in the city of Perris and County of Riverside, at the I-215 at Ramona Expressway, follows a northern alignment through the city of Perris along the Perris Drain, and continues along the Ramona Expressway to Warren Road. The alignment continues east, proceeding south of Ramona Expressway from Warren Road to SR-79 in the city of San Jacinto.

Freeway to freeway interchanges are proposed for all Build Alternatives at I-215 and SR79.

## I-215

The I-215 freeway to freeway interchange is proposed as a three-level interchange that will not preclude possible future connectors to the west. At its highest point, the interchange would be approximately 75 to 100 ft above ground level. The existing railroad tracks west of I-215 are proposed to remain in place. All of the modified Build Alternatives, including Alternative 4 Modified, include improvements to I-215. These improvements are as follows:
(1) The addition of one auxiliary lane between the MCP/I-215 systems interchange and the adjacent service interchange to the north and south to facilitate movement between the MCP and I-215.
(2) The addition of an operational/mixed-flow lane from MCP to the Van Buren Boulevard Interchange to accommodate additional traffic on I-215 as a result of the MCP.
(3) The addition of an operational/mixed-flow lane from Nuevo Road to Harley Knox Boulevard to facilitate weaving on $1-215$.
(4) The addition of a new interchange on I-215 at Placentia Avenue.
(5) Modification of the existing interchange at I-215/Cajalco Road/Ramona Expressway and restriping at the existing $1-215 /$ Nuevo Road interchange.
(6) Alternatives 4 Modified includes realignment of I-215 to the east, due to limited right of way on the west side, from Ramona Expressway to Harley Knox Boulevard.
(7) Alternative 4 Modified also includes ramp modification to the existing Harley Knox Boulevard interchange.
(8) Access to Cajalco Road/Ramona Expressway is precluded from I-215/MCP direct connectors and is via the Perris Boulevard/MCP interchange.

## SR-79

A three-level interchange is proposed at SR-79 at an approximate height of 75 ft . There is a base case and a design variation. For the base case, the MCP connection to SR-79 will be made at the proposed realignment of SR-79, south of Ramona Expressway. ${ }^{6}$ The MCP provides direct connectors to northbound and southbound SR-79 MCP then continues as a six-lane easterly extension that terminates at a proposed signalized intersection on the east side of SR-79 at Ramona Expressway. The extension has at grade intersections with Sanderson Ave, Bridge St and Ramona Expressway. Both Ramona Expressway and Sanderson Avenue have access to and from MCP via ramps from the at grade extension to MCP. Both Ramona Expressway and Sanderson Avenue have access to and from SR-79 via a single point interchange at SR-79, located between Sanderson Ave and Ramona Expressway.

Interchanges for Alternative 4 Modified are proposed at eight local interchanges with MCP 1) Perris Blvd, 2) Evans Ave, 3) Ramona Exp/Antelope Rd, 4) Bernasconi Rd, 5) Reservoir Ave, 6) Town Center Blvd, 7) Park Center Blvd, 8) Warren Ave, one new interchange at I-215 9) I-215 /Placentia Ave, one modified interchange at I-215 10) I215/Cajalco Rd/Ramona Exp, one new interchange at SR-79 11) SR-79/Ramona Exp/Sanderson Ave and two freeway to freeway interchanges 12) MCP/l-215 and 13) MCP/SR-79.

Alternative 4 Modified includes two design variations at the eastern terminus of the alternative and at San Jacinto River, Lakeview Nuevo Area:

1) San Jacinto North Design Variation is an alignment north of Ramona Expressway from Warren Road to SR-79.
2) San Jacinto River Bridge Design Variation is a proposal to construct two shorter bridges instead of one longer bridge in the Lakeview Nuevo area (see F14, Attachment F, Layout Plans).
These two design variations are described in more detail at the end of this section.

## Alternative 5 Modified: South Perris (at Rider Street)

Alternative 5 Modified proposes to construct a six- lane controlled access freeway with six mixed-flow lanes for most of its length. Alternative 5 Modified proposes eight local interchanges with MCP, one new interchange on I-215, one modified interchange on I215, one new interchange on SR-79 and two freeway to freeway interchanges. Alternative 5 Modified begins at I-215 at Rider Street, follows a southern alignment through the city of Perris along Rider Street, and continues along the Ramona

[^3]Expressway to Warren Road. The alignment continues east, proceeding south of Ramona Expressway from Warren Road to SR-79 in the city of San Jacinto.

Freeway to freeway interchanges proposed for Alternative 5 Modified are the same as Alternative 4 Modified, with connections at I-215 and SR-79. The I-215 freeway to freeway interchange differs from Alternative 4 Modified as it connects the MCP to I-215 near Rider Street. As with Alternative 4 Modified, it is proposed as a three-level interchange, and the proposed design will not preclude possible future connectors to the west. The interchange will be approximately 75 to 100 ft above ground level. The existing railroad tracks west of I-215 are proposed to remain in place. Alternative 5 Modified, includes improvements to I-215 and are the same as Alternative 4 Modified including access to Cajalco Road/Ramona Expressway, which is precluded from I-215/ MCP direct connectors and is via the Perris Boulevard/MCP interchange. The limits of the addition of an operational/mixed-flow lane from Nuevo Road to Harley Knox Boulevard differs for Alternative 5 Modified and is located from Nuevo Road to Cajalco Road/Ramona Expressway to facilitate weaving on I-215. Alternative 5 Modified also includes realignment of $1-215$ to the east, due to limited R/W on the west side from Ramona Expressway to Harley Knox Boulevard and ramp modifications to the existing Harley Knox Boulevard interchange.

Alternative 5 Modified, the same as Alternative 4 Modified, ends with an at grade extension to intersections at Sanderson Ave, Bridge Street and Ramona Expressway with access to and from MCP via ramps. Alternative 5 Modified also includes a single point interchange at SR-79/Ramona Exp/Sanderson Ave on at grade MCP between Sanderson Ave and Ramona Exp.

Interchanges for Alternative 5 Modified are proposed at eight local interchanges with MCP 1) Perris Blvd, 2) Evans Ave, 3) Ramona Exp/Antelope Rd, 4) Bernasconi Rd, 5) Reservoir Ave, 6) Town Center Blvd, 7) Park Center Blvd, 8) Warren Ave, one new interchange at I-215 9) I-215 /Placentia Ave, one modified interchange at I-215 10) I215/Cajalco Rd/Ramona Exp, one new interchange at SR-79 11) SR-79/Ramona Exp/Sanderson Ave and two freeway to freeway interchanges 12) MCP/I-215 and 13) MCP/SR-79.

Alternative 5 Modified includes two design variations at the eastern terminus of the alternative and at San Jacinto River, Lakeview Nuevo Area:

1) San Jacinto North Design Variation is an alignment north of Ramona Expressway from Warren Road to SR-79.
2) San Jacinto River Bridge Design Variation is a proposal to construct two shorter bridges instead of one longer bridge in the Lakeview Nuevo area (see F14, Attachment F, Layout Plans).
These two design variations are described in more detail at the end of this section.

## Alternative 9 Modified: (at Placentia Avenue)

Alternative 9 Modified proposes to construct a six-lane controlled access freeway with six mixed-flow lanes between I-215 and SR-79. Alternative 9 Modified proposes eight local interchanges with MCP, one new interchange on I-215, one modified interchange on I-215, one new interchange on SR-79, and two new freeway to freeway interchanges. Alternative 9 Modified begins in the city of Perris and County of Riverside, at the I-215 at Placentia Avenue, follows Placentia Avenue through the city of Perris, and continues along the Ramona Expressway to Warren Road. The alignment continues east, proceeding south of Ramona Expressway from Warren Road to SR-79 in the city of San Jacinto (see F-1 to F-23, Attachment F, Layout Plans).

Freeway to freeway interchanges proposed for Alternative 9 Modified are the same as Alternative 4 Modified, with connections at I-215 and SR-79 (see F-3 to F-5 and F-21 to F-23, Attachment F,Layout Plans). The I-215/MCP interchange differs from Alternative 4 Modified as it connects approximately 150 ft south of Placentia Avenue. The freeway to freeway interchange is proposed as a three-level interchange, and the proposed design will not preclude possible future connectors to the west. At its highest point, the interchange would be approximately 75 to 100 ft above ground level. The existing railroad tracks west of I-215 are proposed to remain in place. Alternative 9 Modified includes improvements to I-215 and are the same as Alternative 4 Modified I-215 improvements, except Alternative 9 Modified does not require a mainline shift to the east between Ramona Expressway and Harley Knox Boulevard and the limits of the addition of an operational/mixed-flow lane from Nuevo Road to Harley Knox Boulevard differs for Alternative 9 Modified and is located from Nuevo Road to Cajalco Road/Ramona Expressway to facilitate weaving on I-215. Alternative 9 Modified also differs from Alternative 4 Modified in that Alternative 9 Modified has access to Cajalco Road/Ramona Expressway via the I-215/MCP direct connectors. Alternative 9 Modified, the same as Alternative 4 Modified, ends with an at grade extension to intersections at Sanderson Ave, Bridge Street and Ramona Expressway with access to and from MCP via ramps. Alternative 9 Modified also includes a single point interchange at SR-79 and the MCP roadway extension between Sanderson Ave and Ramona Expressway. This alternative includes MCP as a depressed grade facility from Barrett Avenue to Wilson Avenue.

Alternative 9 Modified proposes eight new local interchanges on MCP, one new local interchange on SR-79, one new local interchange on I-215, one modified local interchange on I-215, and two new freeway to freeway interchanges, and are as follows:

- Eight new local interchanges on MCP at:
- Redlands Ave (see F-10, Attachment F, Layout Plans)
- Evans Ave (see F-11)
- Ramona Exp/Antelope Rd (see F-12)
- Bernasconi Rd (see F-13)
- Reservoir Ave (see F-15)
- Town Center Blvd (see F-16)
- Park Center Blvd (see F-17)
- Warren Ave (see F-20)
- One new local interchange on SR-79 at:
- MCP Roadway Extension between Sanderson Ave and Ramona Expressway (see F-21 and F-22)
- One new local interchange on I-215 at:
- Placentia Ave (see F-4)
- One modified local interchange on I-215 at:
- Cajalco Rd/Ramona Exp (see F-6 and F-7)
- Two new freeway to freeway interchanges at:
- MCP/I-215 (see F-3 to F-5)
- MCP/SR-79 (see F-21 to F-23)

Alternative 9 Modified includes the following two design variations at the eastern terminus of the alternative and at San Jacinto River, Lakeview Nuevo Area:

1) San Jacinto North Design Variation is an alignment north of Ramona Expressway from Warren Road to SR-79.
2) San Jacinto River Bridge Design Variation is a proposal to construct two shorter bridges instead of one longer bridge in the Lakeview Nuevo area (see F14, Attachment F, Layout Plans).

These design variations are described in more detail at the end of this section.

## Design Variations

Descriptions of the design variations are provided below.

## San Jacinto North Design Variation

The San Jacinto North Design Variation terminates MCP on the east end slightly different from the base case described in Alternative 4 Modified. This alignment proceeds north of Ramona Expressway from Warren Road to SR-79. Similar to the base case, there are direct connectors to north and southbound SR-79. MCP has an at-grade intersection with Sanderson Avenue just west of SR-79. Both Ramona Expressway and Sanderson Avenue have access to and from SR-79 via ramps joining MCP and/or Ramona Expressway. A connection to Ramona Expressway is also provided at the Warren Road interchange. Different from the base case, MCP becomes Ramona Expressway east of SR-79. The San Jacinto North Design Variation is a design variation in this area for all of the MCP Build Alternatives.

## San Jacinto River Bridge Design Variation

Under the San Jacinto River Bridge Design Variation, the MCP project would construct two bridges in the Lakeview Nuevo area: a 508-foot long bridge spanning Martin Street and a 1,953 -foot long bridge spanning the San Jacinto River, for a total of 2,461 feet of bridge (see

F-14, Attachment F, Layouts Plans, and H-B-34 and H-B-35, Attachment H, Cost Estimates). The base case proposes one 4,321-foot long bridge to span the floodplain and Martin Street. The San Jacinto River Bridge Design Variation applies to all three build alternatives (Alternative 4 Modified, 5 Modified, and 9 Modified). The San Jacinto River Bridge Design Variation would also include a section of 1,849 linear feet of fill on either end of the bridges within the same limits as the base case bridge. Similar to the base case, the bridges under this design variation would be located to the south of the existing Ramona Expressway Bridge, which is 255 feet in length and would remain in place.

## i. Selection of Alternatives

Alternative 9 Modified with the San Jacinto River Bridge Design Variation was selected as the preferred alternative.

## Identification of the Preferred Alternative

As the CEQA and NEPA lead agencies, respectively, RCTC and FHWA identified a Preferred Alternative after comments were received from the public during the public review period of the Recirculated Draft EIR/Supplemental Draft EIS in a process consistent with the NEPA/404 Integration MOU (2006). This Least Environmentally Damaging Practicable Alternative (LEDPA) analysis process is summarized below and discussed in detail in the FEIR/FEIS. Based on the LEDPA analyses discussed below, Alternative 9 Modified, with the SJRB DV and the San Jacinto Base Case alignment through the City of San Jacinto, has been identified as the preferred alternative. The Mid County Parkway Project Development Team (PDT), consisting of representatives from RCTC, Caltrans, FHWA, the County of Riverside, the City of Perris, the City of San Jacinto, the City of Corona, and the City of Riverside, concurred with Alternative 9 Modified with the San Jacinto Base Case with the SJRB DV their meeting of November 20, 2013.

## Comparison and Evaluation of Alternatives

The comparison of Alternatives includes the comparison of costs, key features and potential environmental effects on the evaluation criteria. In 2011, the evaluation criteria was agreed upon by the Resource Agency Coordination group for the Recirculated Draft EIR/Supplemental Draft EIS.

In general, the environmental impacts of Alternative 4 Modified are consistently greater than the impacts of Alternatives 5 Modified and 9 Modified.

Based on the key evaluation criteria for the Build Alternatives, the impacts to natural resources are not substantially different among the Build Alternatives, particularly east of City of Perris due to the common alignment in that area.

Alternative 9 Modified has slightly more total impacts to federal jurisdictional waters and is ranked slightly higher than Alternative 5 Modified in hydrology impacts but has lower water quality impacts.

Alternative 9 Modified has lower impacts to Riversidean upland scrub communities than Alternative 5 Modified and less impacts to PQP lands.

Alternative 9 Modified has substantially fewer business and employee displacements, has the least impacts to designated farmland overall and Prime Farmland, and is the only alternative with no impacts to schools. Both Alternatives 4 Modified and 5 Modified have impacts to school areas.

Alternative 4 Modified is the longest route, takes a circuitous route through the City of Perris and has a lengthy bridge structure paralleling the Perris Valley Storm Drain, all resulting in higher costs and more visibility to the public. Alternative 5 Modified has higher impacts to areas of existing and future businesses and employment in the community.

Both Alternatives 4 Modified and 5 Modified require realignment of the I-215 freeway for several miles. Alternative 9 Modified is the most direct and shortest route of the three build alternatives.

Finally, Alternative 9 Modified is the most cost-effective Build Alternative, costing $\$ 110$ million (over 7 percent) less than Alternative 5 Modified and $\$ 490$ million (30 percent) less than Alternative 4 Modified.

For a complete analysis of the criteria and more detail on the above summary refer to the FEIR/FEIS.

## Preliminary LEDPA Determination

Based on the analyses described above, Alternative 9 Modified, with the San Jacinto River Bridge (SJRB DV) and the Base Case southerly alignment through the City of San Jacinto, was recommended as the Preliminary LEDPA. Several coordination meetings with the USFWS, the USACE, and EPA were held in late 2013 and early 2014. FHWA formally requested each agency's Agreement/Disagreement on the Preliminary LEDPA in letters to those three agencies. In letters dated February 2014, USACE concurred, EPA and USFWS agreed with the selection of Alternative 9 Modified with the bridge design variation as the preliminary LEDPA. In letters dated April 16, 2014, Caltrans notified the USFWS, the USACE, and the EPA that the transportation agencies (FHWA, RCTC, and Caltrans) made the decision to identify Alternative 9 Modified with the San Jacinto River Bridge Design Variation as the Preliminary LEDPA for the MCP project. The correspondence cited above is provided in Appendix J, Supplemental Chapter 5 Attachments, in the Final EIR/EIS.

From here forward in this document, Alternative 9 Modified with the San Jacinto Base case and the SJRB DV is referred to as "the project" or MCP.

## ii. Modifications of Preferred Alternative

After the circulation of the RDEIR/SDEIS and identification of the preferred alternative as Alternative 9 Modified with SJRB DV, RCTC evaluated two refinements to the alignment of the preferred Alternative, which either minimized or avoided resources.

Preferred Alternative Modification in the Vicinity of the San Jacinto Wildlife Area Modifications of the Preferred Alternative include MCP mainline realignment between approximately Antelope Road to the west and Bernasconi Road to the east to avoid the permanent incorporation of land from the San Jacinto Wildlife Area. Because the San Jacinto Wildlife Area is subject to the requirements for protection under Section $4(\mathrm{f})$, RCTC evaluated shifting an approximately $1.5-\mathrm{mi}$ long segment of the MCP facility about 200 feet to the south between Antelope Road and Bernasconi Road, away from the San Jacinto Wildlife Area. The realignment is shown in $\mathrm{F}-12$ and F -13, Attachment F, Layout Plans and in the figures, text, and analyses in the Final EIR/EIS. Without the realignment, the permanent use of 3.4 acres of land from the San Jacinto Wildlife Area would have been required for the MCP project. The shift in alignment was done within the original project study area.

In addition to the avoidance of direct impacts to 3.4 acres of land from the San Jacinto Wildlife Area, the realignment of 1.5 miles of the MCP facility would result in minor changes to right of way impact and environmental impact, including a reduction in impacts to the Los Angeles pocket mouse habitat.

## Preferred Alternative Modification to Reduce Impacts to the Los Angeles Pocket Mouse and other Species

While the realignment of 1.5 miles of MCP facility would already reduce permanent impacts to the Los Angeles pocket mouse habitat, RCTC also investigated additional design options that could further reduce impacts to the habitat, including the use of retaining walls. RCTC identified three retaining walls that would reduce the impacts on the Los Angeles pocket mouse habitat, which total 5,203 linear feet along the north side of the MCP. The use of those retaining walls would result in a reduction of 23.20 acres of Los Angeles pocket mouse habitat impacted by the project. The three retaining walls are shown in F-12 and F-13, Attachment F, Layout Plans and in the figures, text, and analyses in the Final EIR/EIS.

## iii. Proposed Engineering Features

a. Typical Sections, Horizontal and Vertical Alignment Summaries, Right of Way Widths, Access Control Requirements
The three build alternatives for the MCP generally follow a west-east alignment and consist of six lanes of access-controlled freeway. The alternatives provide a minimum
standard 62 ft wide median for freeways and expressways in rural areas. This median width is also sufficiently wide to accommodate future planning of multimodal transportation facilities that includes both managed lanes or a future transit facility. The Final EIR/Final EIS for this project only addresses the proposed MCP freeway; any future multimodal facility would be subject to separate environmental documentations.

The following elements are included in the design concept for the ultimate facility:

- Three mixed-flow lanes in each direction for the facility alternatives.
- Shoulders designed to Caltrans standards for freeways.
- Median designed to Caltrans standards for freeways.

Land uses adjacent to the three build alternatives vary from urbanized area that consists of residential, commercial, and industrial uses to rural/agricultural uses and environmental reserve areas.

The three build alternatives generally have the following characteristics:

- Median: 62 feet
- Terrain: $20 \%$ Mountainous and Rolling and $80 \%$ Flat
- Vertical Alignment: varying from $0.3 \%$ to $4 \%$ for facility
- Lane Widths: 12 feet
- Outside Shoulders: 10 feet
- Inside Shoulders: 10 feet
- Right of Way Widths: 224 feet in flat terrain and up to 770 feet in rolling and mountainous terrain, typically 400 feet maximum in rolling terrain. At interchanges, typically 1000 feet but up to 1376 at Redlands Ave interchange.

The alternative will require R/W that varies in width as a result of topography, features of the natural and built environment, potential constraints that may limit the width of the facility, and design requirements. Therefore, variations in these cross sections are needed in certain constrained areas. The R/W widths defined for preservation for each alternative may be larger than indicated in the cross section diagrams. Generally, the needed R/W varies from 220 to 400 feet wide. Typical sections for the project are shown in G-1 to G-6, Attachment G, Typical Sections.

The anticipated hourly and daily capacity are shown on the typical sections in the list of design designations. The projected level of service for the design year of 2040 is A. Assuming a typical growth rate in traffic of $1 \%$ per year for the years beyond 2040, all MCP segments would be expected to operate at LOS D or better through the year 2065.
b. Design Units - U.S. Customary (English) Units

The preliminary design was originally performed in accordance with Caltrans 2006 Highway Design Manual (HDM), Sixth Edition Change \#6 (English). The design as shown in the approved Geometric Approval Drawings (GAD) was later updated wherever possible to 2012 HDM design standards. During the final design phase (PS\&E), the project will be designed further to meet the latest HDM design standards, and a note indicating as such is included on the GAD sheets.

## c. Truck Climbing Lanes

In accordance with Caltrans HDM Section 204.5 regarding sustained grades, climbing lanes are needed where the grade exceeds 2 percent and the total change in elevation is greater than 250 ft . No truck climbing lanes are required for any of the build alternatives. However, in accordance with Caltrans Highway Design Manual Section 504.2, Freeway Entrances and Exits, for trucks on ascending entrance ramps to freeways with sustained upgrades exceeding 2 percent, an auxiliary lane should be provided. Therefore, an auxiliary lane is provided for the Evans Road eastbound onramp to the Ramona Expressway/Antelope Road eastbound off-ramp.

## d. Geometrics of interchanges

The proposed local interchanges for the build alternatives consist of the following interchange types: Type L-1, L-2, L-7, L-9, L-13, and their combinations. For detailed exhibits of all the local interchanges for the project, see F-1 to F-23 Attachment F, Layout Plans.

## e. Structural Section Requirements

The structural section requirements are based on the Preliminary Materials Report by Kleinfelder, dated May 2013 and updated in October 2014. The preliminary recommended flexible and rigid pavement sections included in the Preliminary Materials Report (PMR) were developed in general accordance with Chapters 600 through 630 of the July 2009 edition of the Caltrans HDM. The flexible pavement sections were developed using the CalFP computer program by Caltrans (version 1.1).

Preliminary pavement section recommendations for the project were developed for the following locations:

- MCP mainline from I-215 to SR-79
- MCP ramps
- I-215 widening from Nuevo Road to Van Buren Boulevard.
- I-215 ramps
- SR-79 mainline

According to the Life-Cycle Cost Analysis (LCCA) Procedures Manual, a life-cycle cost analysis need not be performed for every interchange ramp but rather it should be performed for an individual ramp or for a select few ramps that are representative of all the ramps. The ramps on both MCP and I-215 have been categorized into two types of ramps that are considered to be representative of all the ramps: (1) Ramp A with general load truck traffic - a ramp with truck traffic volumes that is approximately equal to the average truck traffic volumes for all the ramps; and (2) Ramp B with high truck traffic - a ramp with truck traffic volumes that is on the higher range of truck traffic volumes for all the ramps.

Traffic Index (TI) values were evaluated for the MCP mainline, I-215 mainline widening improvements, MCP ramps, and I-215 ramps. TI values on the ramps were further broken down to Ramp A on MCP, Ramp B on MCP, Ramp A on I-215 and Ramp B on I-215. The TI values were calculated based on the procedures presented in the Caltrans HDM Section 613.3(3) using traffic data provided in the Air Quality and Noise Studies, assuming 5 percent trucks and are shown in the table below. The MCP TI values were approved by Caltrans Traffic Forecasting Unit in April 2012 (the Caltrans Memorandum is provided in G-10, Attachment G, Traffic Index Memorandum):

Table 5.A:
Traffic Index (TI)

| Location | Design Life <br> (Years) | TI |
| :--- | :---: | :---: |
|  | 20 | 11.5 |
| MCP Ramp A | 40 | 13.0 |
|  | 20 | 10.0 |
|  | 40 | 11.5 |
| I-215 Ramp A | 20 | 10.0 |
|  | 40 | 11.5 |
|  | 20 | 12.0 |
|  | 40 | 13.0 |
|  | 20 | 10.0 |

The R-value tests were performed in accordance with California Test 301. Eleven untreated resistance value ( R -value) tests were performed on samples collected from borings along the proposed roadway alignments, and an R-Value of 25 was determined to be applicable for the project. The R-Value of 25 was used in the determination of the recommended pavement structural sections for MCP and I-215.

The Preliminary Materials Report (PMR) structural section recommendations include flexible pavement sections for Hot-Mix Asphalt (HMA) and Rubberized Hot-Mix Asphalt (RHMA) as well as rigid pavement sections for Jointed Plain Concrete Pavement (JPCP). The flexible pavement recommendations are for design lives of 20 years and 40 years while the rigid pavement recommendations are for a 40-year design life.

The life-cycle cost analysis was submitted in November 2011 and again in October 2014 to evaluate the PMR recommendations for the MCP mainline and ramps. For each pavement alternative, LCCA compares the agency costs (initial construction and future maintenance and rehabilitation), user costs (motorist delay during construction activities), and total life-cycle cost (combined agency and user costs). The alternative with the lowest life-cycle cost is viewed as having the lowest impact to the State; however, according to the LCCA Procedures Manual, "in some instances, the lowest life-cycle cost option may not ultimately be selected after such considerations as available budget, constructability and maintainability issues, and environmental concerns are taken into account."

The LCCA was performed for three types of locations: the MCP mainline, MCP Ramp A, and MCP Ramp B. Table 5.B provides a summary of the LCCA alternatives that were evaluated.

Table 5.B:
LCCA Alternatives

| Pavement Surface <br> (Design Life) | MCP <br> Mainline | MCP Ramp A: <br> Typical Ramp | MCP Ramp B: High <br> Truck Traffic Ramp |
| :--- | :---: | :---: | :---: |
| HMA (20 Year) | $\mathbf{X}$ | $\mathbf{X}$ | $\mathbf{X}$ |
| HMA w/ RHMA (20 <br> Year) | $\mathbf{X}$ | $\mathbf{X}$ | $\mathbf{X}$ |
| HMA w/ RHMA (40 <br> Year) | $\mathbf{X}$ | $\mathbf{X}$ | $\mathbf{X}$ |
| JPCP(40 Year) | $\mathbf{X}$ | $\mathbf{X}$ | $\mathbf{X}$ |

LCCA results were evaluated in accordance with Section 4.4.2 of the LCCA Procedures Manual. The 40-year JPCP was determined to have the lowest life-cycle cost for the MCP mainline and ramps while the 20-year HMA with RHMA was determined to have the second lowest life-cycle cost. The recommended pavement sections for the 40-year JPCP and 20-year HMA/RHMA for both the MCP mainline and ramps are detailed in the Table 5.C MCP Structural Sections below. Note, the structural sections for Ramp A and Ramp B were determined to be identical in both the 20-year and 40-year design lives and are therefore combined together in the table. Further details of the results are included on the LCCA forms provided in G-7 to G-9 in Attachment G, Life Cycle Cost Analyses.

Table 5.C:
MCP Structural Sections (Feet)

| Pavement <br> Section Material | MCP Mainline |  | MCP Ramps A and B |  |
| :--- | :---: | :---: | :---: | :---: |
|  | 20-Year <br> Design Life <br> (TI 11.5) | 40-Year <br> Design Life <br> (TI 13.0) | 20-Year <br> Design Life <br> (TI 10.0) | 40-Year <br> Design Life <br> (TI 11.5) |
| JPCP | 0.20 | 0.85 |  | 0.85 |
| RHMA - G |  | 0.10 | 0.20 |  |
| HMA - BB | 0.50 |  | 0.50 | 0.10 |
| HMA |  | 0.50 |  | 0.50 |
| LCB | 1.35 |  | 1.00 |  |
| AB |  | 0.70 |  | 0.60 |
| AS | 2.05 | 2.15 | 1.70 | 2.05 |
| Total Structural <br> Section Thickness <br> (Feet) |  |  |  |  |

The LCCA usually plays an important role in pavement type selection. However, on the MCP project, pavement type selection will depend primarily on whether MCP is adopted as a State Route and less on the findings in the LCCA. If MCP is adopted as a State Route, Caltrans has asserted it will want the 40-year JPCP rigid pavement section for MCP. If MCP is not adopted as a State Route, MCP will become a Riverside County facility and is expected to be constructed with the 20-year HMA/RHMA flexible pavement section, as Riverside County is not equipped to provide maintenance for concrete pavement. The determination of whether or not MCP will be a State Route is expected to be made after the completion of the PA/ED with final selection of pavement type on MCP made during the Plans, Specifications, and Estimates (PS\&E) phase.

Two submissions of the LCCA were made to Caltrans, one in November 2011 and the other in October 2014; however, in January 2015, after recognizing pavement type selection on MCP will depend primarily on whether MCP is adopted as a State Route and not on results of the LCCA, Caltrans recommended not to make any further progress on the LCCA and indicated LCCA approval will not be required as it would not influence the selection of the pavement type. For the purposes of project cost estimating, the 20 -year flexible pavement was assumed for the pavement section. If MCP is ultimately adopted as a State Route requiring rigid pavement, the cost estimate for the MCP project is expected to increase by approximately $\$ 15 \mathrm{M}$ for the six-lane, 16-mile facility, based on an estimated incremental cost of $\$ 150 \mathrm{~K}$ per lane mile for the 40-year rigid pavement compared to the 20-year flexible pavement.

For the I-215 widening improvements between Nuevo Road and Van Buren Boulevard, both flexible and rigid pavement types were evaluated for consideration. Caltrans
generally prefers rigid pavement for its freeways, and the 40-year JPCP rigid pavement section, as detailed in Table 5.D I-215 Structural Sections below, was recommended by the PMR as the rigid pavement section for the widening improvements on the I-215 mainline. Because the pavement section on other RCTC I215 corridor widening projects, such as the I-215 Central project that is currently in construction and the I-215 South project that completed construction in 2013, is very similar to the PMR-recommended HMA/RHMA flexible pavement section for 20-year design life, as presented in Table 5.D I-215 Structural Sections below, consideration will be given for constructing the $\mathrm{I}-215$ widening improvements with 20 -year HMA/RHMA. Ultimately, final selection of pavement type for l-215 widening will be made during the PS\&E phase.

## Table 5.D: <br> I-215 Structural Sections (Feet)

| Pavement <br> Section Material | I-215 Mainline Widening |  | I-215 Ramps <br> A and B |
| :--- | :---: | :---: | :---: |
|  | 20-Year <br> Design Life <br> (TI 12.0) | 40-Year <br> Design Life <br> (TI 13.0) | 20-Year <br> Design Life <br> (TI 10.0) |
| JPCP | 0.20 | 1.00 |  |
| RHMA - G | 0.40 | 0.10 | 0.20 |
| HMA - BB | 1.70 | 0.50 | 0.50 |
| HMA |  | 0.70 |  |
| LCB | 2.30 | 2.30 | 1.00 |
| AB |  |  |  |
| AS |  |  |  |
| Total Structural <br> Section Thickness <br> (Feet) |  |  |  |

If the 20-year HMA/RHMA is ultimately selected, the project is expected to also cold plane and overlay the existing I-215 mainline pavement with 0.1 ' rubberized hot mixed asphalt. Recent Caltrans pavement condition report on the I-215 freeway between Nuevo Road and Van Buren Boulevard indicates existing I-215 mainline pavement is in satisfactory condition and does not warrant pavement rehabilitation under the MCP project.

For the purposes of project cost estimating, the 40-year rigid pavement was assumed as the pavement section for I-215 widening improvements. If the 20 -year flexible pavement is ultimately selected instead of rigid pavement, the project cost estimate will decrease by approximately $\$ 2.2 \mathrm{M}$ at an estimated cost savings of $\$ 150 \mathrm{~K}$ per lane mile. Because the existing l-215 ramps are paved with flexible pavement, the 20-year flexible pavement section is recommended for the I-215 ramps, as shown in Table 5.D l-215 Structural Sections above. Ramp A and Ramp B have identical pavement sections and are combined together in the table.

The recommended pavement section for SR-79 is intended to match the proposed pavement section of the future SR-79 4-lane expressway project (EA 494000; PN 0800000784). The structural section for the future SR-79 expressway project is shown in the Table 5.E SR-79 Structural Section below. Final selection of pavement type on SR-79 will be made during the PS\&E phase.

Table 5.E:
SR-79 Structural Section (Feet)

| Pavement <br> Section Material | SR-79 Mainline |
| :--- | :---: |
| JPCP | 1.00 |
| HMA - BB | 0.10 |
| LCB | 0.33 |
| AB | 1.00 |
| Total Structural Section <br> Thickness (Feet) | 2.43 |

For the purposes of project cost estimating, the local roads were assumed to be 0.50 ' HMA over 2.00' AB (Class 2). This is a preliminary assumption for cost estimating purposes only. Final selection of pavement type on local roads will be made during the PS\&E phase.

## f. Drainage Structures

The MCP project is entirely located within the San Jacinto Watershed in Riverside County within the cities of Perris, Lakeview and San Jacinto. Within the watershed, the San Jacinto River is the major water course.

The project site is located within Riverside County Flood Control and Water Conservation District's - Perris Valley, San Jacinto River, Lakeview, Nuevo and San Jacinto Valley Master Drainage Plans (MDP) boundaries.

The offsite and onsite drainage study was done for the project only within the San Jacinto River Watershed. Drainage design is limited to drainage facilities located within the project right-of-way and it examines all of the offsite drainage systems that may be affected by the project and any proposed offsite and onsite systems. MDP facilities
crossing MCP R/W, existing or planned at the time of final design, will be sized to convey the MDP storm water flows through the MCP R/W.

Existing drainage systems were identified in four distinct areas within the San Jacinto Watershed: I-215, City of Perris, City of Lakeview and City of San Jacinto areas. The existing drainage facilities are as follows:

- I-215 - Several reinforced concrete box culverts (RCBs), alternative pipe culverts (APCs) and corrugated steel pipes (CSPs) convey the majority of offsite flows under I-215.
- City of Perris - Perris Valley Storm Drain (PVSD) is the main drainage facility,
- City of Lakeview - the San Jacinto River is the major drainage facility, which is crossed by the $255-\mathrm{ft}$ long San Jacinto River Bridge. Other facilities are concrete pipes (RCPs), APCs and CSPs.
- City of San Jacinto's major drainage facility is the San Jacinto River, which is crossed by the 1226-ft long San Jacinto River Bridge at Sanderson Ave, along SR-79.

The project will add paved areas and realign the freeway ramps, therefore, existing drainage systems maybe inadequate. The impacts on existing drainage systems may be minimized or avoided by relocation, extension and adjustment of the existing system, by additional inlets of drainage systems or by abandonment of the existing systems.

Proposed drainage systems were sized no less than the sizes in the drainage master plan. Along the new highway, many existing culverts would be extended to daylight lines, removed or protected in place, new culverts would be placed and retaining walls would be installed to ensure the cut/fill slopes have minimal impact to the proposed site and surroundings. Several new bridges and viaducts would also be built and existing bridges would be widened. Reinforced concrete boxes and a large steel ellipse animal crossing have been proposed for the project.

The design considered culvert versus bridge placement and/or channel improvements to convey the existing watercourse. Traditional concrete channel lining was not considered as an alternative due to environmental concerns. Three types of cross culverts are used to convey the tributary flow across the MCP project.

- Reinforced concrete pipe (RCP) culverts are proposed at locations with adequate cover between the top of the pipe and the roadway surface.
- Single-cell RCB culverts are shown where the conveyance requirements exceed the available RCP diameter or insufficient cover is available.
- Multiple-cell RCB culverts are specified at locations where a single-cell RCB or RCP do not have sufficient conveyance.

The project is broken down into three segments for discussion purposes. Drainage system descriptions summaries for each segment are as follows:

1. Segment 1: I-215 Area and the Placentia Avenue to Lake Perris Area.

- I-215/Placentia Area: This area includes affected areas on I-215 between Van Buren Boulevard to the north and Nuevo Road to the south. For this alternative along $\mathrm{I}-215,14$ existing culverts will be extended to daylight lines of the proposed grading and incorporated into the existing flow patterns. Seven existing culverts will be removed, 12 existing culverts will be protected in place and 10 new crossing culverts will be proposed. The proposed new culverts are 24 inches in diameter. In this area, the largest proposed drainage facility is a 168 -inch wide $\times 54$-inch high RCB proposed south of the I-215/Cajalco Road interchange and is an extension of an existing culvert.
- Placentia Avenue to Lake Perris Area: This area includes from the east side of I-215 at Placentia Avenue, along Placentia Avenue, crossing over the area main drainage facility, the Perris Valley Storm Drain (PVSD), and east to the south end of Lake Perris. The PVSD collects runoff from the city of Moreno Valley, the city of Perris, and unincorporated areas of Riverside County. The Master Drainage Plan (1989) addresses future drainage needs along the existing PVSD. Due to rapidly increasing development, the Cities of Moreno Valley and Perris undertook a study in 2003 for an alternative design for the PVSD. The portion of the alignment that crosses over the PVSD crosses with an 853-foot long bridge. The crossing of the PVSD spans such that the impact from the 100year flood event would not increase the river's water surface elevation by more than 1.0 foot. The bridge crossing of the PVSD accommodates all previously proposed alternative improvements to the PVSD with no adverse impacts to hydraulics. The proposed bridge minimizes floodplain encroachment. The major drainage facility in this section is a detention basin designed to hold the runoff from a 100-year 24 -hour storm event, equaling 928,069 cubic feet. The storm water in the detention basin will be pumped out at the end of the storm into a 264 -inch wide $\times 90$-inch high concrete channel that drains into PVSD. The concrete channel is part of the drainage master plan.
- All existing culverts within the section will be extended to maintain the existing flow paths. Proposed new culverts will be 36 inches in diameter and the second largest drainage facility (besides the detention basin and regional storm drain channel) is a 144 -inch wide $\times 72$-inch high RCB at Placentia Avenue and Indian Avenue.

2. Segment 2: San Jacinto "River" Area or "Lakeview Nuevo Area".

- This area includes from the south end of Lake Perris, along Ramona Expressway to the east of Warren Road. The San Jacinto River Floodplain is in this area. It is a natural curving watercourse that is relatively wide, approximately $3,936 \mathrm{ft}$. The typical river slope is less than 0.001 . In the planning
of the MCP project, RCTC decided to develop its project without waiting for the Master Plan to be implemented. As part of the project, two 1953-foot long threelane bridges would be constructed across San Jacinto River downstream of the existing Ramona Expressway crossing. The existing two lane bridge is expected to overtop with the 100-year flow. The proposed new bridges would be separated by a gap approximately 38 ft wide. The total width of the two bridges would be 159 ft . The existing bridge would become a frontage road. This layout is preferable because it would minimize the floodplain encroachment and potential hydraulic impacts. The majority of existing culverts in the section will be extended to the daylight line of the proposed grading. A few of the existing culverts will either be removed or abandoned. All proposed new culverts in the section are between 24 and 72 inches in diameter and the largest proposed drainage facilities are 168 -inch wide $\times 84$-inch high RCB proposed along MCP east of Town Center Boulevard and west of Park Center Boulevard. There is one drainage culvert / animal crossing in this area.

3. Segment 3: San Jacinto City area between Warren Road and Ramona Expressway east of SR-79. This segment of MCP connects to the proposed realignment of SR-79 south of Ramona Expressway and then continues as a sixlane easterly extension that terminates at a proposed signalized intersection at Ramona Expressway. In this segment both Ramona Expressway and Sanderson Avenue have access to and from SR-79 via ramps joining MCP and/or Ramona Expressway.

- San Jacinto Area: This area includes from the Ramona Expressway at Warren Road along Ramona Expressway to realigned SR-79 and portions of SR-79 north up to Gilman Springs and portions of realigned SR-79 approximately 6,820 ft south of Ramona Expressway. In the planning of the MCP project, RCTC decided to develop its project without relying on the San Jacinto River levee improvements near SR-79. As part of the project, the 15,748-foot long roadway of the proposed section would be constructed on elevated ground ranging from 10 to 26 ft in order to elevate the road above the 100-year floodplain. This would help minimize the 100-year flooding on the land south of the MCP. After passing through the proposed SR-79 Bridge and the Sanderson Avenue Bridge, flow would be held to the north of the MCP. Also, four connector bridges are to be built for the MCP/SR-79 interchange. For the San Jacinto alignment, these connector bridges include an approximate 2,540-foot long SR-79 southbound/MCP westbound bridge, a 3,380 foot long SR-79 northbound/MCP westbound bridge, a 2,160-foot long MCP eastbound/SR-79 southbound bridge, and a 3,490-foot long MCP eastbound/SR-79 northbound bridge. All of the existing culverts in these sections will be removed and replaced with new ones, and the sizes range between 24 and 36 inches in diameter.


## iv. Nonstandard Design Features

The project was originally designed according to the design standards set forth in Caltrans 2006 Highway Design Manual (HDM), Sixth Edition Change \#6 (English) and then later updated per the 2012 HDM. The nonstandard features in the Fact Sheets are based on the 2012 HDM. Fact Sheet Exceptions to Mandatory Design Standards for the original I-215/MCP systems interchange and SR-79/MCP systems interchange were both approved in August 2007. As discussed earlier, in 2009, the original project limits were modified to focus on the transportation needs between I-215 and SR-79. The project modifications triggered supplemental exceptions to mandatory design standards on I-215 for MCP Alternative 9 Modified, which was approved by Caltrans in September 2011 and later approved by FHWA in August 2012. All other Design Exception Fact Sheets have also obtained Caltrans' approval. The l-215 Advisory Fact Sheet was approved in February 2014, the MCP Mainline Mandatory Fact Sheet was approved in April 2014, and the MCP Mainline Advisory Fact Sheet was approved in March 2015.

The design exception items for the preferred Alternative 9 modified are listed below. For additional explanation on justifications, see the project Fact Sheets Exceptions to Design Standards.

## Advisory

a. Side Slope Standards: The Advisory Standard in HDM Index 304.1 cannot be met. The locations of the proposed nonstandard side slopes are as follows:

| Location <br> No. | Location of 2:1 Side Slopes | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | I-215/MCP NB-EB Connector | $4: 1$ | $2: 1$ Beyond <br> Clear <br> Recovery <br> Zone (CRZ) | Yes |
| 2 | I-215/MCP SB-EB Connector | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |
| 3 | I-215/MCP WB-NB Connector | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |
| 4 | I-215/MCP WB-SB Connector | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |
| 5 | EB off-ramp to Antelope Road <br> MCP Sta 345+00 to 358+50 | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |
| 6 | EB on-ramp from Antelope Road <br> MCP Sta 363+00 to 380+00 | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |
| 7 | WB off-ramp to Bernasconi Road <br> MCP Sta 416+00 to 422+50 | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |
| 8 | MCP EB mainline east of Bernasconi Rd <br> MCP Sta 445+00 to 462+00 | $4: 1$ | $2: 1$ Beyond <br> CRZ | Yes |


| Location No. | Location of 2:1 Side Slopes | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 9 | MCP EB mainline west of Reservoir Ave to EB off-ramp to Reservoir Ave MCP Sta 490+00 to 516+50 | 4:1 | 2:1 Beyond CRZ | Yes |
| 10 | WB off-ramp to Reservoir Ave MCP Sta 518+50 to 523+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 11 | EB off-ramp to Town Center Blvd MCP Sta $575+00$ to $580+50$ | 4:1 | 2:1 Beyond CRZ | Yes |
| 12 | WB off-ramp to Town Center Blvd MCP Sta 581+50 to 587+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 13 | EB on-ramp from Town Center Blvd MCP Sta 582+50 to 587+50 | 4:1 | 2:1 Beyond CRZ | Yes |
| 14 | WB on-ramp from Park Center Blvd MCP Sta 637+50 to 643+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 15 | EB off-ramp to Park Center Blvd MCP Sta 633+00 to 643+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 16 | WB off-ramp to Park Center Blvd and MCP WB mainline east of Park Center Blvd MCP Sta 643+00 to 716+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 17 | EB on-ramp from Park Center Blvd MCP Sta 643+00 to 648+50 | 4:1 | 2:1 Beyond CRZ | Yes |
| 18 | MCP EB mainline east of Park Center Blvd <br> MCP Sta 669+00 to $688+50$ | 4:1 | 2:1 Beyond CRZ | Yes |
| 19 | WB on-ramp from Warren Road MCP Sta 812+50 to 822+50 | 4:1 | 2:1 Beyond CRZ | Yes |
| 20 | WB off-ramp to Warren Road MCP Sta $824+50$ to $838+50$ | 4:1 | 2:1 Beyond CRZ | Yes |
| 21 | EB on-ramp from Warren Road MCP Sta $824+50$ to $838+50$ | 4:1 | 2:1 Beyond CRZ | Yes |
| 22 | SR-79/MCP SB-WB Connector SR-79 Sta 906+00 to 920+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 23 | SR-79/MCP EB-NB Connector SR-79 Sta 886+00 to 913+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 24 | SR-79 SB mainline south of Gilman Springs Road SR-79 Sta $932+00$ to $963+00$ | 4:1 | 2:1 Beyond CRZ | Yes |
| 25 | SR-79/MCP EB-SB Connector SR-79 Sta 850+00 to 867+00 | 4:1 | 2:1 Beyond CRZ | Yes |
| 26 | SR-79/MCP NB-WB Connector SR-79 Sta 850+00 to 867+00 | 4:1 | 2:1 Beyond CRZ | Yes |

CRZ = Clear Recovery Zone

The proposed I-215/MCP freeway-to-freeway interchange is located adjacent to an existing railroad west of I-215, a frontage road east of I-215, and near established businesses and residential homes. In order to avoid or minimize right-of-way impacts to these areas, the project proposes to provide nonstandard embankment side slopes.

A large portion of the MCP corridor alignment runs through environmental resource areas of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and the Los Angeles Pocket Mouse (LAPM) habitat, cultural resource sites, planned commercial, residential, and business developments, wetlands, floodplains, and the Colorado River Aqueduct (CRA). In order to avoid or minimize impacts to these sensitive land areas, instead of the standard $4: 1$ side slope for the entire embankment area, the project proposes to provide the following nonstandard fill side slopes in those areas:

- In the area of the I-215/MCP systems interchange and along the MCP mainline - 4:1 fill slope within a 30-foot Clear Recovery Zone (CRZ) followed by a 2:1 fill slope beyond the CRZ to the toe of slope.
- Along the ramps - 4:1 fill slope within a 20-foot CRZ followed by a $2: 1$ fill slope beyond the CRZ to the toe of slope.
b. Distance between Ramp Intersection and Local Road Intersection: The Advisory Standard in HDM Index 504.3(3) cannot be met. The locations of the proposed nonstandard distances between intersections are as follows:

| Location <br> No. | Distance between Ramp Intersection and <br> Local Road Intersection Location | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Proposed Placentia Ave NB ramp intersection <br> and Placentia Ave/realigned East Frontage <br> Road intersection | $500^{\prime}$ | $427^{\prime}$ | Yes |
| 2 | Proposed MCP/Redlands Ave EB ramp <br> intersection and Redlands Ave/Placentia <br> Avenue intersection | $500^{\prime}$ | $470^{\prime}$ | Yes |
| 3 | Proposed MCP/Evans EB ramp intersection <br> and Evans Rd/Toliver Rd intersection | $500^{\prime}$ | $450^{\prime}$ | Yes |

At location 1, to provide the standard 500 ' intersection spacing would require either realignment of the East Frontage Road at least 73 feet to the east or realignment of the Placentia Avenue northbound on-ramp and off-ramp at least 73 feet to the west. Realigning East Frontage Road approximately 150 feet to the east to connect to existing Susan Lane would result in relocation of the Susan Lane cul-de-sac and additional right of way impacts. Another option to meet the intersection spacing would be to remove the existing East Frontage Rd between Placentia Avenue and Walnut Street and to connect East Frontage Road directly to Walnut Street. However, the City of Perris opposed this option because access to East Frontage

Road from Placentia Avenue would be too circuitous (i.e., Placentia Avenue to Indian Street to Walnut Street to East Frontage Road)

At location 2, to provide the standard 500' intersection spacing would require realigning existing Placentia Avenue to the south, resulting in five full and four partial residential acquisitions, utility relocations on the south side of Placentia Avenue, and impacts to the existing Paragon Park and North Perris Fire Station \#90. Another consideration would be to move the Redlands Avenue EB on- and off-ramps farther to the north. However, this is not a viable option as it would result in nonstandard superelevation on the EB on-ramp and nonstandard corner sight distance at the intersection of the eastbound off-ramp.

At location 3, to provide the standard 500 intersection spacing would require realigning Toliver Road to the south, but this would necessitate three full and four partial residential acquisitions, as well as utility relocations. Another consideration is to move the ramp intersection 50 ' to the north by either designing the eastbound loop on-ramp with a smaller radius curve or moving the MCP mainline alignment to the north. The proposed curve radius on the eastbound loop on-ramp is at minimum standard. Reducing its curve radius would result in a nonstandard radius for the loop ramp. Relocating the MCP alignment 50 feet to the north would not be practical because it would impact Sparrow Way which provides access to 32 existing residential homes.
c. Two Curb Ramps: The Advisory Standard in HDM Index 105.5(2) cannot be met. The locations of the proposed nonstandard curb ramps are as follows:

| Location No. | Location | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Proposed I-215/Ramona Expwy SB Ramps and Ramona Expwy Intersection | Two curb ramps | One curb ramp is proposed at each corner along Ramona Expwy westbound. No curb ramps are proposed at each corner along Ramona Expwy eastbound. | Yes |
| 2 | Proposed I-215/Ramona Expwy NB Ramps and Ramona Expwy Intersection | Two curb ramps | One curb ramp is proposed at each corner along Ramona Expwy westbound. No curb ramps are proposed at each corner along Ramona Expwy eastbound. | Yes |
| 3 | Proposed I-215/Placentia Ave SB Ramps and Placentia Ave Intersection | Two curb ramps | One curb ramp is proposed at each corner along Placentia Ave westbound. <br> No curb ramps are proposed at each corner along Placentia Ave eastbound. | Yes |


| Location No. | Location | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 4 | Proposed I-215/Placentia Ave NB Ramps and Placentia Ave Intersection. | Two curb ramps | Two curb ramps are proposed at NE corner, one curb ramp is proposed at NW and SE corners, no curb ramp is proposed at SW corner. | Yes |
| 5 | Proposed MCP/Redlands Ave WB Ramps and Redlands Ave Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 6 | Proposed MCP/Redlands Ave EB Ramps and Redlands Ave Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 7 | Proposed MCP/Evans Rd WB Ramps and Evans Rd Intersection | Two curb ramps | One curb ramp is proposed at the SW corner and one at the SE corner. | Yes |
| 8 | Proposed MCP/Evans Rd EB Ramps and Evans Rd Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 9 | Proposed MCP/Ramona Expwy WB Ramps and Ramona Expwy Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 10 | Proposed MCP/Antelope Rd EB Ramps and Antelope Rd Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 11 | Proposed MCP/Bernasconi Rd WB Ramps and Bernasconi Rd Intersection | Two curb ramps | One curb ramp is proposed at each of the two corners. | Yes |
| 12 | Proposed MCP/Reservoir Ave WB Ramps and Reservoir Ave Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 13 | Proposed MCP/Reservoir Ave EB Ramps and Reservoir Ave Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 14 | Proposed MCP/Town Center Blvd WB Ramps and Town Center Blvd Intersection | Two curb ramps | One curb ramp is proposed at each of the two corners. | Yes |
| 15 | Proposed MCP/Town Center Blvd EB Ramps and Town Center Blvd Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 16 | Proposed MCP/Park Center Blvd WB Ramps and Park Center Blvd Intersection | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |
| 17 | Proposed MCP/Park Center Blvd EB Ramps | Two curb ramps | One curb ramp is proposed at each of the four corners. | Yes |


| Location <br> No. | Location | Standard | Proposed | Approved |
| :---: | :--- | :---: | :--- | :---: |
|  | and Park Center Blvd <br> Intersection |  |  | Yes |
| 18 | Proposed MCP/Warren <br> Rd WB Ramps and <br> Warren Rd Intersection | Two curb <br> ramps | One curb ramp is proposed at <br> each of the four corners. | Yes |
| 19 | Proposed MCP/Warren <br> Rd EB Ramps and <br> Warren Rd Intersection | Two curb <br> ramps | One curb ramp is proposed at <br> each of the four corners. | Yes |
| 20 | Proposed MCP/SR-79 <br> Single Point Interchange <br> all ramp intersections | Two curb <br> ramps | One curb ramp is proposed at <br> each of the eight corners. | Ye |

At locations 1 (SB Ramps and Ramona Exp Intersection) and 2 (NB Ramps and Ramona Exp Intersection), the project proposes to provide sidewalk on Ramona Expressway only in the westbound direction to match the existing condition between Harvill Avenue and Nevada Avenue. Because there would be no sidewalk in the eastbound direction, no crosswalk across Ramona Expressway is being proposed, and therefore, the standard two curb ramps are not proposed on the westbound side. No curb ramps are proposed along the eastbound side because no sidewalks are proposed on that side. The I-215/Ramona Expressway overcrossing bridge was recently widened, as part of a separate project. The bridge widening did not include a new sidewalk in the eastbound direction.

At location 3 (SB Ramps and Placentia Ave Intersection), the project proposes to provide sidewalk on Placentia Avenue only in the westbound direction to match the existing condition. Sidewalk is not proposed in the eastbound direction due to the presence of an existing equestrian pathway. Because of the equestrian community in the area, Caltrans, the County of Riverside and City of Perris agreed not to remove the existing equestrian pathway and replace it with a sidewalk. Because there would be no sidewalk in the eastbound direction, no crosswalk across Placentia Avenue is being proposed, and therefore, the standard two curb ramps are not proposed on the westbound side. No curb ramps are proposed along the eastbound side because no sidewalks are proposed on that side.

At location 4 (NB Ramps and Placentia Ave Intersection), the project proposes a sidewalk along both sides of Placentia Avenue east of the northbound ramp intersection. A sidewalk is provided only on the westbound side west of the northbound ramp intersection due to the presence of an existing equestrian pathway along the eastbound side. Because of the equestrian community in the area, Caltrans, the County of Riverside and City of Perris agreed not to remove the existing equestrian pathway and replace it with a sidewalk. The standard two curb ramps are not provided at the northwest corner because there is no crosswalk across Placentia Ave. Similarly, the standard two curb ramps are not provided at the southeast corner because there is no crosswalk across the northbound off-ramp. No
curb ramps are proposed at the southwest corner because there is no pedestrian access at this location.

At locations 5 through 20, the project proposes to provide a sidewalk along each side of the cross streets (Redlands Avenue, Evans Road, Ramona Expressway, Antelope Road, Reservoir Avenue, Town Center Boulevard, Park Center Boulevard, Warren Road, and along MCP Extension at the SR-79 Single Point Interchange) except at Bernasconi Road where sidewalks are proposed only on the east side of the road. At each of these ramp intersections, except at location 7, crosswalks are proposed across the ramps but not across the local streets because the lack of development in the area is expected to result in low pedestrian traffic, and crossing the local streets can be achieved at nearby local street intersections. Because crosswalks across the local street are not proposed, single curb ramps rather than the two curb ramps are being proposed.
d. Superelevation Transition/Runoff Length Standard: The Advisory Standard in HDM Index 202.5(1) cannot be met. The locations of the proposed nonstandard superelevation runoff lengths are as follows:

| Location <br> No. | Location | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | MCP/Evans Rd WB Loop on-ramp | 300 ft | 200 ft | Yes |
| 2 | MCP/Bernasconi Rd EB Loop on-ramp | 300 ft | 204 ft | Yes |
| 3 | MCP/Reservoir Ave EB Loop on-ramp | 300 ft | 207 ft | Yes |
| 4 | MCP/Town Center Blvd WB Loop on-ramp | 300 ft | 201 ft | Yes |
| 5 | MCP/Park Center Blvd WB Loop on-ramp | 300 ft | 217 ft | Yes |
| 6 | MCP/Warren Rd WB Loop on-ramp | 300 ft | 241 ft | Yes |
| 7 | MCP/Ramona Expressway-Antelope Rd WB <br> on-ramp | 300 ft | 200 ft | Yes |

At locations 1 through 6, new loop on-ramps are proposed at local street interchanges along the proposed MCP alignment. A design exception is requested for a nonstandard superelevation transition/runoff length for the $12 \%$ superelevation rate on the curve of the loop on-ramps. To meet the general condition for superelevation transition lengths and to comply with the Advisory Standards in the HDM, a runoff length of 300 feet and minimum 200 feet tangent on both sides of the horizontal curve would be required in correspondence with a $12 \%$ superelevation rate. However, a long tangent preceding the loop curve is considered undesirable as it may allow the driver an opportunity to accelerate into the small radius and low design speed curve. Per the HDM 504.3(8), loop ramps should have a radius in the range of 150 feet to 200 feet which corresponds to a low design speed less than 25
mph. Although the proposed short tangent preceding the curve on the loop ramps prohibits meeting the standard superelevation runoff lengths, the short tangent limits the opportunity to accelerate into the loop curve, thereby providing a safety benefit.

Although the superelevation transition standard is not met per HDM Figure 202.5A, it is met per the "Restrictive Situations" condition in HDM 202.5(3) which states, "In restrictive situations, such as on...interchange ramps...where curve radius and length and tangents between curves are short, standard superelevation rates and/or transitions may not be attainable. In such situations, ...the rate of change of cross slope should not exceed 6 percent per 100 feet." The loop on-ramps fall under "restrictive situations" as they are interchange ramps with short curve radii and tangents. The proposed superelevation runoff lengths (between 200' and 241'), as shown in above table, all meet the advisory standard of $6 \%$ per 100 feet superelevation transition rate for the tangent preceding the loop curve for each of the loop on-ramps.

Eliminating the loop on-ramp and replacing it with a direct on-ramp to change the interchange configuration to a diamond interchange at locations 2 and 4 was investigated in an attempt to avoid this nonstandard feature; however, due to the impacts of the diamond configuration to the MSHCP area at location 2 and impacts to right of way at location 4, it was not feasible at either location.

At location 7, to provide the standard 300 ' runoff length, instead of the proposed 200', on the Ramona Expressway/Antelope Road WB on-ramp would require lengthening the tangent near the ramp intersection. This would require moving the westbound ramp intersection and the alignments of all three westbound ramps to the northwest to further encroach by an additional 0.81 acres into the Los Angeles Pocket Mouse (LAPM) habitat area. The LAPM habitat is protected habitat lands for the conservation of the Los Angeles pocket mouse (Perognathus longimembris brevinasus), a California species threatened by agricultural and urban development, under the MSHCP. Although the superelevation transition standard is not met per HDM Figure 202.5A, the $6 \%$ per 100 feet superelevation transition rate per HDM 202.5 (3) "restrictive situations" is met.
e. Mainline Lane Reduction at Interchanges Standard: The Advisory Standard in HDM Index 504.6 cannot be met. The locations of the proposed nonstandard mainline lane reduction are as follows:

| Location <br> No. | Location | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | I-215 Northbound at the I-215/Van <br> Buren Interchange | No Lane <br> Reduction | 1 Lane <br> Reduction | Yes |
| 2 | I-215 Southbound at the I-215/Nuevo <br> Road Interchange | No Lane <br> Reduction | 1 Lane <br> Reduction | Yes |


| Location <br> No. | Location | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 3 | MCP Eastbound at the <br> MCP/Redlands Ave Interchange | No Lane <br> Reduction | 1 Lane <br> Reduction | Yes |

At location 1 (I-215 at Van Buren Blvd Interchange), the proposed I-215 within the project limits is a four-lane facility in each direction. To match the existing three-lane condition north of the project limits, the project proposes to reduce one northbound mixed-flow lane at the Van Buren Boulevard interchange area. In order to comply with the HDM 504.6 standard and avoid dropping a mainline lane through the Van Buren interchange, consideration was given to dropping a lane between the Van Buren Boulevard northbound slip on-ramp and the Cactus Avenue northbound offramp, to the north. However, this location is not desirable for a lane reduction because it is the weaving area with an auxiliary lane between those ramps. The project, therefore, is proposing the mainline lane drop between the northbound offramp and the northbound hook on-ramp of the Van Buren interchange.

At location 2 (I-215 at Nuevo Rd Interchange), the proposed I-215 within the project limits is a four-lane facility in each direction. To match the existing three-lane condition south of the project limits, the project proposes to reduce one southbound mixed-flow lane at the Nuevo Road interchange area. In order to comply with the HDM 504.6 standard and avoid dropping a mainline lane through the Nuevo Road interchange, consideration was given to dropping a lane between the Nuevo Road southbound on-ramp and the D Street southbound off-ramp, to the south. However, this location is not desirable for a lane reduction because this segment of the freeway is a weaving area with a nonstandard weaving distance less than 2,000 feet. Also, an auxiliary lane is being constructed at this location to mitigate the nonstandard weaving, making this location even more undesirable for a mainline lane drop. The project, therefore, is proposing the lane drop between the southbound off-ramp and the southbound on-ramp of the Nuevo Road interchange.

At location 3 (MCP at Redlands Ave Interchange), the proposed design for the eastbound lanes of the Mid County Parkway is three mixed flow lanes with an additional two lanes from the I-215 connectors such that MCP has five eastbound lanes between I-215 and the Redlands Avenue interchange. Because the MCP is a six-lane facility East of Redlands Avenue interchange, two lanes need to be dropped. The two lanes from the l-215 connectors serve as weaving lanes for the merging of the connectors' traffic onto MCP. One of the two additional lanes from the connectors will be a must-exit lane to the two-lane eastbound exit ramp to Redlands Avenue while the second lane is proposed to be dropped through the MCP/Redlands Avenue interchange, resulting in this nonstandard. To meet the HDM 504.6 standard, consideration was given to dropping a lane between the Redlands Ave eastbound on-ramp and the Evans Road interchange eastbound off-ramp, to the east. However, this location is not desirable for a lane reduction because it is the weaving area with
an auxiliary lane between those ramps. The project, therefore, is proposing the lane drop between the eastbound off-ramp and on-ramp at the MCP/Redlands Ave interchange.
f. Median Width Standard: The Advisory Standard in HDM Index 305.1(1)(a) cannot be met. The location of the proposed nonstandard median width is as follows:

| Location <br> No. | Location | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | SR-79 median from Ramona <br> Expressway to Gilman Springs Road <br> (STA 900+14 to 966+88.32) | 36 ft | Varies 14.4 <br> to 36 ft | Yes |

A design exception is requested for the proposed SR-79 median width between Ramona Expressway and the SR-79 northern project terminus at Gilman Springs Road. The proposed SR-79 median is 62' wide south of the MCP Extension road. At the northern project limits on SR-79 just south of Gilman Springs Road, SR-79 has an existing median width of 14.4'. In order for the project to join the existing median, the proposed median width needs to transition from 62' to 14.4' where it will be nonstandard in the transition from 36 ' to 14.4 . As a safety measure to reduce the risk of errant vehicles crossing the nonstandard-width median and colliding with opposing traffic, a Type 60 concrete median barrier is proposed where the median width is nonstandard (between $14.4^{\prime}$ and $36^{\prime}$ ), in compliance with Caltrans median barrier design standard.

In order to meet the standard 36 ' wide median, not only would the SR-79 median need to be widened to 36 ' from Ramona Expressway to Gilman Springs Road, it would also need to be widened from 14.4 ' to 36 ' for an additional $6.5^{\prime}$ miles from Gilman Springs Road to the SR-79 northern terminus at the I-10 freeway in the City of Beaumont, as that segment of SR-79 falls under the California freeway and expressway system. However, the terrain through this area of Lamb Canyon is mountainous, and the SR-79 widening costs, including additional pavement, bridge widening, and earthwork for such an extensive distance through mountainous terrain would be cost prohibitive.

## Mandatory

g. Horizontal Stopping Sight Distance: The Mandatory Standard in HDM Index 201.6 cannot be met. The locations of the proposed nonstandard stopping sight distances are as follows:

| Location <br> No. | Location | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 1 | WB MCP to SB I-215 Connector | S = 430' for Design <br> Speed of 50 mph | $335^{\prime} / 43 \mathrm{mph}$ <br> $\left(R=870^{\prime}\right)$ | Yes |
| 2 | I-215 SB 1459+92 to 1471+10 | S = 840' for Design <br> Speed of 75 mph | $800^{\prime} / 73 \mathrm{mph}$ <br> $\left(R=5000^{\prime}\right)$ | Yes |


| Location No. | Location | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 3 | I-215 NB 1475+90 to 1493+09 | S = 840' for Design Speed of 75 mph | $800^{\prime} / 73 \mathrm{mph}$ $(\mathrm{R}=5000 \text { ') }$ | Yes |
| 4 | I-215 SB 1531+38 to 1540+74 | S = 840' for Design Speed of 75 mph | 800' 73 mph (R=5000') | Yes |
| 5 | I-215 NB 1549+16 to 1568+58 | S = 840' for Design Speed of 75 mph | $\begin{aligned} & 800^{\prime} / 73 \mathrm{mph} \\ & \left(\mathrm{R}=5000^{\prime}\right) \end{aligned}$ | Yes |
| 6 | I-215 SB 1576+43 to 1586+49 | S = 840' for Design Speed of 75 mph | 800' 73 mph (R=5000') | Yes |
| 7 | I-215 SB 1620+09 to 1628+18 | S = 840' for Design Speed of 75 mph | $824^{\prime} / 74 \mathrm{mph}$ $\left(\mathrm{R}=5300^{\prime}\right)$ | Yes |
| 8 | I-215 NB 1631+95 to 1645+75 | S = 840' for Design Speed of 75 mph | 800' / 73 mph (R=5000') | Yes |
| 9 | I-215 SB 1652+40 to 1660+58 | S = 840' for Design Speed of 75 mph | $\begin{aligned} & 800^{\prime} / 73 \mathrm{mph} \\ & \left(\mathrm{R}=5000^{\prime}\right) \end{aligned}$ | Yes |

The reason for the nonstandard feature at location 1 is to avoid substantial right of way impact and avoid the realignment of the I-215 mainline which would negatively impact the geometries of the other connector ramps resulting in additional nonstandard features. The west side of $\mathrm{I}-215$ is also constrained by railroad right of way. To mitigate the nonstandard stopping sight distance, a 10' wide inside shoulder is proposed in place of the 5 ' wide minimum width. For locations 2 to 9 , the nonstandard stopping sight distances result from the inside widening of l-215; to provide standard stopping sight distances would require realignment of the existing I-215 to increase the centerline radii, which would in turn necessitate reconstruction of existing overcrossing structures.
h. Standards for Superelevation: The Mandatory Standard in HDM Index 202.2(1) cannot be met. The locations of the proposed nonstandard superelevation rates are as follows:

| Location <br> No. | Location of MCP Nonstandard <br> Superelevation | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | MCP/Ramona Expressway/Antelope <br> Road WB off-ramp | $12 \%$ | $4 \%$ | Yes |
| 2 | MCP/Reservoir Avenue EB on-ramp | $12 \%$ | $6 \%$ | Yes |
| 3 | MCP/SR-79 SB off-ramp | $12 \%$ | $3 \%$ | Yes |
| 4 | MCP/SR-79 SB on-ramp | $12 \%$ | $3 \%$ | Yes |
| 5 | MCP/SR-79 NB off-ramp | $12 \%$ | $3 \%$ | Yes |
| 6 | MCP/SR-79 NB on-ramp | $12 \%$ | $3 \%$ | Yes |

At location 1, to provide the standard $12 \%$ superelevation rate and associated superelevation transition for the proposed 450' radius curve on the Ramona Expressway/Antelope Road WB off-ramp would require lengthening the tangent at the ramp terminus. This would result in extending the ramp alignment farther north to further encroach by an additional 0.63 acres into the Los Angeles Pocket Mouse (LAPM) habitat area. The LAPM habitat is protected habitat lands for the conservation of the Los Angeles pocket mouse (Perognathus longimembris brevinasus), a California species threatened by agricultural and urban development, under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The curve with the proposed nonstandard $4 \%$ superelevation rate is located near the off-ramp terminus where vehicles are slowing down to a design speed between 30 and 35 mph . The proposed $4 \%$ superelevation rate exceeds the $3 \%$ superelevation rate for maximum comfortable speed for a 450' radius curve at 35 mph . The proposed $4 \%$ superelevation rate also allows for a transition to tie into the cross street and meets the Americans with Disabilities Act (ADA) requirements.

At location 2, on the EB on-ramp of the Reservoir Avenue interchange, lengthening the tangent at the ramp terminus would be required to provide the standard $12 \%$ superelevation rate and associated superelevation transition for the 500' radius curve. Increasing the tangent length would extend the on-ramp farther east, requiring relocation of existing Reservoir Avenue and all the existing utilities running along Reservoir Avenue. These utilities include aerial electric and telecom lines along with underground water and natural gas lines, including a 36 " gas line. Existing Reservoir Avenue parallels the on-ramp and will serve as a frontage road after MCP is constructed. The 500' radius curve is located near the ramp intersection where the design speed is 30 to 35 mph . Although the proposed $6 \%$ superelevation rate does not meet the standard $12 \%$, it does considerably exceed the $1 \%$ superelevation rate corresponding to a maximum comfortable speed of 35 mph for a 500' radius curve. The proposed superelevation rate also allows for a transition to tie into the cross street and meets the Americans with Disabilities Act (ADA) requirements.

At locations 3, 4, 5, and 6, all four ramps of the Single Point Interchange (SPI) at MCP Extension and SR-79 have a 330' radius horizontal curve near the ramp terminus. The standard superelevation rate for a 330 ' radius curve is $12 \%$. The proposed nonstandard $3 \%$ superelevation rate on all four ramps allows for smooth transitions into the $2 \%$ crowned cross slope of the MCP Extension alignment. If the standard $12 \%$ superelevation rate were applied, it would cause an undesirable and nonstandard algebraic grade break at the join between the MCP alignment and all four ramps. Additionally, because the 330 ' radius curves are located at the ramp termini, applying the standard $12 \%$ superelevation rate on these curves would potentially cause truck overturning near the ramp intersection. Although the proposed 3\% superelevation rate at all four ramp locations does not meet the standard $12 \%$, it does exceed the $2.3 \%$ superelevation rate corresponding to a 330' radius curve for a maximum comfortable speed of 30 mph . The design speed at the ramp terminus is 25 to 30 mph .
i. Interchange Spacing: The Mandatory Standard in HDM Index 501.3 cannot be met. The locations of the proposed nonstandard interchange spacing are as follows:

| Location <br> No. | Location <br> Local Street Interchange Spacing | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | Proposed MCP/I-215 Interchange and <br> existing Cajalco Road/Ramona <br> Expressway Interchange | 2 miles | 1.60 miles | Yes |
| 2 | Proposed MCP/I-215 Interchange and <br> proposed Placentia Avenue Interchange | 2 miles | 0.07 mile | Yes |
| 3 | Proposed MCP/I-215 Interchange and <br> MCP/Redlands Avenue Interchange | 2 miles | 1.40 miles | Yes $^{1}$ |
| 4 | Proposed MCP/I-215 Interchange and <br> existing Nuevo Road Interchange | 2 miles | 1.45 miles | Yes |

${ }^{1}$ The previously approved location was at Perris Boulevard with a spacing of 0.85 miles. The modified location at Redlands Avenue provides a greater spacing of 1.40 miles, which is closer to standard; therefore, a new design exception approval is not being requested.

The reason for the design exceptions at locations 1 through 4 is to avoid the closure of the existing local street interchanges at Harley Knox Boulevard and/or Nuevo Road and/or Cajalco Road/Ramona Expressway, as well as eliminating the proposed interchange at Placentia Avenue from local and regional plans. To provide standard spacing along MCP would require deleting a proposed interchange at Redlands Avenue. The closure or deletion of any of these interchanges would cause traffic congestion on the existing local streets and adjacent interchanges. Relocation of any of these existing or proposed interchanges on I-215 or MCP would result in conflict with the flight approach clearance zones around March Air Reserve Base, adverse impacts to commercial and industrial properties and the movement of goods, and/or introduce another nonstandard interchange spacing and weaving for a different location.

| Location <br> No. | Location <br> SR-79 Freeway to Freeway and <br> Local Street Interchange Spacing | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | MCP/SR-79 Interchange and MCP/Warren <br> Road Interchange | 2 miles | 1.68 miles | Yes |
| 2 | MCP/SR-79 Interchange and SR- <br> $79 / R a m o n a ~ E x p r e s s w a y ~ I n t e r c h a n g e ~$ | 2 miles | 0.00 mile | Yes |
| 3 | MCP/SR-79 Interchange and SR- <br> $79 / S a n d e r s o n ~ A v e n u e ~ I n t e r c h a n g e ~$ | 2 miles | 1.62 miles | Yes |
| 4 | MCP/SR-79 Interchange and existing SR- <br> $79 / G i l m a n ~ S p r i n g s ~ R o a d ~ I n t e r c h a n g e ~$ | 2 miles | 1.78 miles | Yes |

The reason for the approved design exceptions at locations 1 through 4 is that to provide current standard spacing along MCP or SR-79 would require deleting or moving a proposed interchange at Warren Road, an existing interchange at SR-79/Gilman Springs Road, and a proposed interchange at Ramona Expressway. The closure or deletion of these interchanges would result in traffic congestion on local roads and at adjacent interchanges. Traffic analysis conducted to investigate the situation concluded that there were no feasible improvements that would relieve the traffic congestion caused by the closure or deletion of these interchanges. Justifications against deleting or moving the proposed MCP/Warren Road interchange include: Warren Road is the only major northsouth arterial in this area, would require extensive realignment that results in odd angles and not consistent or compatible with land use plans, and impacts to existing dairy operations. Justifications against deleting or relocating the existing SR-79/Gilman Springs Road Interchange include: impacts to MSHCP area and existing environmental areas, results in removal of the only access point before Lamb Canyon area, loss of access to numerous properties along Gilman Springs Road, and loss of connection from SR-79 to SR-60.
j. Interchange Weaving Length: The Mandatory Standard in HDM Index 504.7 cannot be met. The locations of the proposed nonstandard weaving lengths are as follows:

| Location No. | Location I-215 Nonstandard Weaving | Standard | Proposed | Approved |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Between proposed I-215/MCP WB-NB connector and existing (realigned) I-215/Cajalco-Ramona Expressway NB offramp | 5,000' | 3,960' | Yes |
| 2 | Between existing (realigned) I-215/ CajalcoRamona Expressway SB on-ramp and proposed I-215/MCP SB-EB connector | 5,000' | 4,540' | Yes |
| 3 | Between proposed I-215/MCP WB-SB connector and existing l-215/ Nuevo Rd SB off-ramp | 5,000' | 3,850' | Yes |
| 4 | Between existing l-215/Nuevo Rd NB onramp and proposed I-215/MCP NB-EB connector | 5,000' | 3,690' | Yes |
| 5 | Between proposed MCP/Redlands Ave WB on-ramp and proposed l-215/MCP WB-NB connector ramp | 5,000' | 2,600' | Yes |
| 6 | Between proposed I-215/MCP SB-EB connector and proposed MCP/Redlands Ave EB off-ramp | 5,000' | 3,000' | Yes |

At locations 1, 2, 3, and 4, in order to provide the current standard weaving length of 5,000 ', removal of either the proposed I-215/MCP systems interchange or the existing I215/Cajalco/Ramona Expressway and I-215/Nuevo Road local street interchanges
would be required. However, removal of either local street interchange is not a viable option. The closure or deletion of these interchanges would cause immitigable traffic congestion at the existing adjacent interchanges at Harley Knox Blvd and D St along I215.

Another option to achieve current standard interchange spacing and weaving section lengths would be to relocate the Cajalco/Ramona Expressway interchange to the north and the Nuevo Road interchange to the south. Moving the Cajalco/Ramona Expressway interchange to the north is not feasible because the relocation would result in significant economic impacts to properties surrounding the existing interchange, including the Majestic Development. Moving the Nuevo Road interchange to the south is not feasible because the relocation would result in nonstandard interchange spacing and weaving lengths between Nuevo Road and the next interchange to the south at D Street.

At locations 5 and 6, in order to provide the current standard weaving length of 5,000, removal of either the proposed I-215/MCP systems interchange or the proposed MCP/Redlands Ave local street interchange would be required. Removal of the MCP/Redlands Ave interchange would result in standard weaving lengths between the I215/MCP interchange and the proposed MCP/Evans Rd interchange located 1 mile east of the MCP/Redlands Ave interchange. However, removal of either interchange is not a viable option.

Redlands Avenue is a designated truck route in the City of Perris' General Plan. Without the proposed MCP/Redlands Ave interchange, truck traffic will be accessing MCP via Evans Rd or accessing I-215 via Placentia Ave. Neither of these routes is optimal because both locations are in predominately residential areas, and improving the local streets to be used as truck routes is not consistent with the city's general plan. Proposing an interchange with MCP at Redlands Ave provides the most direct access for trucks to MCP, therefore avoiding routing trucks through residential areas. This is important to traffic circulation, therefore it is crucial to have an interchange with MCP at Redlands Avenue. The MCP/Redlands Ave interchange offers an optimum location among the potential adjacent local street options. It provides better spacing to the I215/MCP interchange ramps with standard auxiliary lane lengths than proposing an interchange at MCP/Perris Blvd. It also provides a standard spacing of one mile to the MCP/Evans Rd interchange that neither the neighboring Wilson Ave nor Murrieta Rd interchange would provide. In addition, Wilson Ave and Murrieta Rd are both collector roads in the City of Perris' General Plan, while Redlands Ave is a designated truck route and secondary arterial. Thus, the relocation of the proposed MCP/Redlands Ave interchange is not a viable consideration.

Removal of the I-215/MCP systems interchange would eliminate the weaving altogether at all the locations. However, removal of the systems interchange is not a viable option. The l-215/MCP systems interchange is critical to meeting the project's Need and Purpose, which states that the MCP project is proposed for the purpose of transporting
people, goods, and services regionally west-east between Perris and San Jacinto. With the I-215 freeway in the City of Perris serving as the MCP logical west terminus and 76,200 ADT vehicles at the MCP mainline west terminus, the l-215/MCP systems interchange is a necessary connection to effectively provide access and maintain mobility for MCP traffic in order to meet the project's Need and Purpose.

The aforementioned justifications listed in section i. Interchange Spacing for nonstandard interchange spacing on SR-79 also apply to nonstandard weaving lengths for the two locations on SR-79 shown below.

| Location <br> No. | Location <br> SR-79 Nonstandard Weaving | Standard | Proposed | Approved |
| :---: | :--- | :---: | :---: | :---: |
| 1 | Between SR-79/Gilman Spring Road SB <br> on-ramp and MCP/SR-79 SB-WB <br> connector | $5,000^{\prime}$ | $3,930^{\prime}$ | Yes |
| 2 | Between MCP/SR-79 EB-SB Connector <br> and SR-79/Sanderson Ave SB off-ramp | $5,000^{\prime}$ | $3,700^{\prime}$ | Yes |

## v. Interim Features

The County of Riverside approved a project along Ramona Expressway from the curve south of Lake Perris to Warren Road. This project is currently known as Specific Plan 342, The Villages of Lakeview. The EIR for The Villages of Lakeview Specific Plan was certified by the Riverside County in March 2010. On May 23, 2012, the approval of the Final EIR for The Villages of Lakeview Specific Plan was set aside by Riverside County Superior Court, who found the EIR did not adequately address some impacts. The EIR and project are currently being revised to address those impacts. When the project moves forward, it would add two additional lanes to the existing Ramona Expressway and three grade separated interchanges. This project is part of the County of Riverside development conditions for development currently being planned in the Lakeview Nuevo area referred to as the above-mentioned "The Villages of Lakeview." The County project would construct two new lanes to the south of the existing two-lane facility. The two existing lanes would become the westbound lanes and the two new lanes would be the eastbound lanes of Ramona Expressway. The new lanes would be constructed in accordance with the design for the two outside eastbound lanes of MCP. The project would include interchanges at Reservoir Avenue, Town Center Boulevard, and Park Center Boulevard. Some of this construction could take place as part of the potential phasing of the project as described in the Build Alternatives section. The majority of the project would be funded by Riverside County Transportation Uniform Mitigation Fees (TUMF).

## vi. High Occupancy Vehicle (HOV) Lanes

On-ramps proposed by the project accommodate the option for HOV preferential lanes if it is determined necessary in the future. The provision for future freeway to freeway HOV direct connectors at $\mathrm{I}-215 / \mathrm{MCP}$ is not provided in this project due to right of way and railroad constraints. Additionally, I-215 configuration does not provide provisions for direct HOV connection from I-215 to I-215/SR-60; therefore, a through HOV lane is not provided within Riverside County. There is no HOV lane construction as part of the MCP, but design does not preclude future HOV lanes.

## vii. Ramp Metering

The MCP project provides provisions for ramp metering facilities, including provisions for loop detectors, enforcement areas, and connectors to l-215. Final locations to be provided will be determined during the final design phase.

## viii. CHP Enforcement Areas

Areas for CHP enforcement are provided for at the local interchange on-ramps.

## ix. Park and Ride and Maintenance Facilities

Park and Ride lots are not proposed as part of the MCP project. The use of Park and Ride lots to support ridesharing and future HOV lanes is being coordinated. Park and Ride lots adjacent to MCP are part of the District's Long Range Operations Plan. This project will not include the construction of a Park and Ride lot because there are existing and planned Park and Ride facilities in the MCP project area. These include the existing Perris Multimodal Facility (PMF), the existing Mt San Jacinto College Park and Ride lot, and the planned Perris Valley Line with stations in close proximity to MCP. The PMF currently includes a park-and-ride facility, with 141 Park and Ride stalls, and serves as a transit center for the Riverside Transit Agency, connecting seven transit lines. The Mt San Jacinto College serves as a Park and Ride lot, with 26 Park and Ride stalls, and as a transit transfer point, connecting four transit lines. Existing bus routes travel northsouth on the I-215, Perris Boulevard, Evans Road, and SR-79 within the MCP area. In the future, the MCP could be considered for an east-west bus route. The planned PVL station at Cajalco Road and Harvill Avenue plans to include a Park and Ride lot. Based on research of other Park and Ride lots, church sites appear to be amenable to allow use of parking for Park and Ride. There are some potential locations for new Park and Ride facilities in the area of the MCP project. In the Lakeview Nuevo area, 12,000 new residential units are planned as part of a development project; it is reasonable to assume a new church may be built in this area that could serve as a Park and Ride lot. Two other potential Park and Ride locations are the Calvary Chapel Perris Valley on Barrett Avenue and Nuevo Community Church on Nuevo Road both in the City of Perris. For a map showing existing, planned and potential Park and Ride lots see G-11, Appendix G, Park and Ride Locations.

Maintenance facilities are not proposed as part of the MCP project but are being coordinated. Two possible locations for maintenance facilities are near the I-215/MCP systems interchange and the SR-79/MCP systems interchange as discussed below. Depending on the type and size of the maintenance facility, there are full parcel takes that will have excess land and partial parcel takes that have additional land for purchase that could become a maintenance facility. For a map showing potential Maintenance Facility locations see G-11, Appendix G.

## I-215 Area:

The project has three potential maintenance facility locations: (1) between Cajalco Road Interchange northbound off-ramp and realigned frontage road, adjacent to Ramona Expressway, with access from the frontage road. At this location, there are parcels that are partial takes that have additional land that could be acquired for a maintenance facility. (2) at the northeast side of the Placentia Avenue interchange, between the northbound on-ramp and the realigned frontage road, with access from the frontage road. At this location, there are parcels that are partial takes that have additional land that could be acquired for a maintenance facility. (3) along Placentia Avenue, between Barrett Avenue and Perris Boulevard, with access from either street. At this location, there are full takes with approximately 7 acres excess land.

None of these areas have proposed developments.

## SR-79 Area:

The project near the SR-79 could have a potential maintenance facility location within the SR-79/MCP systems interchange in the northwest quadrant. At this location, there are parcels that are partial takes for the MCP direct connectors, and a maintenance facility could be located on approximately 6 acres of land in between the direct connector structures or on additional acquired lands to the northwest. In addition, where RCTC owns land south of the existing Sanderson Avenue and Ramona Expressway intersection, there would be excess land of approximately 10 acres that could be utilized for a maintenance facility.

## x. Utility and Other Owner Involvement

## Existing Utilities:

Existing utilities are located all along the project, primarily concentrated in the developed areas along Ramona Expressway and Placentia Avenue. The utility types and their owners are described in the Utility Information Sheets shown in Attachment I, Right of Way Data Sheets. Ownership of the various utilities was determined by contacting each known utility company operating within the project limits and requesting as-built records of their facilities. An investigation into determining prior rights has not been performed for this preliminary engineering phase. Affected utilities are located in the street R/W of local county-owned and city-owned streets and have been assumed to have prior rights for the preliminary engineering phase utility relocation cost estimates. Anticipated permit
obligations consist of the State granting Joint Use or Consent to Common Use Agreements with the existing utilities that cross the future State right of way.

## Utility Impacts:

Construction of the project affects existing utilities as a result of R/W requirements, conflicts between facilities, and structural impacts such as additional soil loads on pipelines due to roadway embankments. Utilities located longitudinally in the proposed MCP R/W will be relocated outside of the R/W. Subsurface utilities crossing the MCP R/W will be relocated into steel casings across the R/W. Aerial lines will need to be evaluated for vertical clearance requirements from the roadway, and their supporting poles will be relocated to locations outside of the R/W. "Determination of Liability" will be prepared during the final design phase and a more detailed engineering study will be performed to identify the exact utility impacts.

There are also potentially a small number of permanent utility easements required in the Perris Valley area and potentially a "utility corridor" in the San Jacinto Valley. These locations are accounted for in the relocation estimate and Right of Way Data Sheets. Otherwise, all utilities are relocated into public R/W. Final locations are to be determined with each utility provider.

Table 5.F provides a summary of some of the more costly utilities and their potential impacts.

Table 5.F: Utility Impacts

| Utility <br> Provider | Type of <br> Utility | Potential Impacts |
| :--- | :--- | :--- |$|$| Verizon | Telephone |
| :--- | :--- |

## Table 5.F: <br> Utility Impacts

| Utility Provider | Type of Utility | Potential Impacts |
| :---: | :---: | :---: |
| Edison | underground electric lines | MCP R/W may require relocating poles outside the R/W or installation of taller poles to meet vertical clearance requirements. Opportunities for converting aerial lines to underground conduits and/or placing conduits into new bridge structure cells may be available. Protection in place may be required in areas where new construction will occur. <br> - From Orange Street east, the power lines are within MCP R/W. <br> - A number of poles on N. Sanderson Avenue at the MCP/SR-79 interchange will need to be relocated. |
| The Gas Company | Natural gas lines, pressure reducing station | Impacts consist of relocating pipelines outside of the MCP R/W to avoid longitudinal encroachments and relocating pipelines into jacked steel casings across the MCP R/W at perpendicular crossings. Protection in place may be required in areas where excavation will occur. <br> - Relocate 24" High Pressure line into jacked steel casing across the proposed MCP R/W. Located east of Martin Street crossing Ramona Expressway in San Jacinto. <br> - Relocate 16" High Pressure line into jacked steel casing across the proposed MCP R/W. Located east of Martin Street crossing Ramona Expressway in San Jacinto. <br> - Relocate 8" High Pressure line longitudinally outside of the MCP R/W from Martin Street east to west of Warren Road in San Jacinto. <br> - Relocate 4"-6" gas line within MCP R/W from the San Jacinto River to Orange Street. <br> - Relocate 36 " line outside of the MCP R/W at the Reservoir Avenue interchange from Lakeview Avenue to Davis Road in San Jacinto. <br> - Relocate 36 " line into jacked steel casing across the proposed MCP R/W at Davis Road/Hansen Avenue in San Jacinto. <br> - Relocate 8" line outside of the MCP R/W from west of Warren Road through the Warren Road interchange. |
| Eastern <br> Municipal <br> Water <br> District | Potable water, sanitary sewer | Impacts consist of relocating pipelines outside of the MCP R/W to avoid longitudinal encroachments and relocating pipelines into jacked steel casings across the MCP R/W at perpendicular crossings. Protection in place may be required in areas where excavation will occur. <br> - Major relocations would include: I-215 widening causes a 38" water pipe extension and casing, along with a pump station relocation at Morgan Street and Nevada Avenue intersection. <br> - Relocate well and pump station from MCP R/W on Perris Boulevard south of Placentia Avenue. <br> - Relocate 12 " water line into 24 " casing through Placentia Avenue Bridge. <br> - Relocate water line of unknown size within MCP R/W on Reservoir Avenue. <br> - Sewer on Placentia Avenue cut off by MCP in cut condition which will require a lift station. <br> - Sewer on Redlands Avenue cut off by MCP in cut condition requiring a lift station. <br> - 24 " sewer conflict with Evan Road interchange. <br> - Relocate recycled water pump station from MCP R/W at Bridge Street in San Jacinto. <br> - Relocate 42" recycled water line from MCP R/W at Warren Road. |
| Metropolitan <br> Water <br> District of | Water Supply Aqueduct | The MCP, at various locations, will be located adjacent to and also cross Metropolitan pipelines along the alignment. The MCP would cross the Colorado River Aqueduct (CRA) in three places, and run roughly parallel to it |

## Table 5.F:

Utility Impacts

| Utility <br> Provider | Type of <br> Utility | Potential Impacts |
| :--- | :--- | :--- |
| Southern <br> California | Pipe Lines | in other locations. The three crossings are located just east of Lake Perris, <br> at Warren Road, and at the interchange with SR-79. In areas where the MCP <br> is running roughly parallel to the CRA, the design would incorporate elements <br> to ensure that settlement from the roadway embankments is either minimized <br> or avoided. At the crossing locations, two designs would be utilized. Where <br> the roadway facilities are near ground level, a protective slab would be built <br> over the CRA, and the roadway would then be placed on a small fill above <br> the slab. This would minimize the potential for settlement or other impacts to <br> the CRA. Where the roadway facilities are substantially above ground level, <br> structures would be built to carry the roadway facilities over the CRRA. This <br> would occur at Warren Road and with the connectors at the interchange with <br> SR-79. These structures would have a minimal vertical clearance of 22 ft <br> above ground at the CRA, as requested by Metropolitan for maintenance <br> purposes. Columns for the elevated structures would be outside <br> Metropolitan's right of way for the CRA, and the designs of these structures <br> would be such that settlement or other impacts to the CRA would be <br> minimized or avoided |

## xi. Intelligent Transportation Systems (ITS)

Installation of ITS infrastructure will be considered for the project. A fiber optic communication system may be used for the transmission of video and data from field elements to the Transportation Management Center (TMC). Other infrastructure may include vehicle detection stations (VDS) for the collection of speed and volume data; changeable message signs (CMS) to convey traveler information to motorists; and closed circuit television (CCTV) cameras to enable the TMC to assess traffic incidents, construction closures, major events, and provide traveler information. Final locations of the ITS elements will be determined during the final design phase.

## xii. Railroad Involvement

The project crosses railroad lines west of I-215. The railroad lines are owned by RCTC in fee so no further easements are necessary. They are operated by BNSF, which holds a license from RCTC. The transverse crossings will be expanded at existing crossings at Cajalco Road and Placentia Avenue. No new fee R/W is anticipated from the existing railroad R/W and no new railroad alignment is anticipated. Early railroad notification is anticipated due to the lengthy notification and approval process typically encountered with railroad crossing approvals. Temporary Construction Easements (TCEs) are possible at these locations. Construction and Maintenance (C\&M) agreements are also anticipated. A California Public Utility Commission Application (CPUC) will need to be submitted to the CPUC for approval. The type of application has yet to be determined.

## xiii. Highway Planting

The project will include landscaping for unpaved areas within the MCP R/W, affected R/W of I-215 and SR-79, and any affected existing landscaping within the MCP area of potential effect. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land and reserve areas with native plant species. The roadside within the project limits is generally classified as "natural" vegetation, with the exception of the existing I-215. The entire MCP corridor, including I-215 and SR-79, is considered to be in an urban area that will provide for "Highway Planting." The graded areas between the edge of shoulder and the cut/fill (daylight/catch point) line and at all Best Management Practice (BMP) basins are assumed to have highway planting that will include plant species consistent with adjacent vegetation and trees and shrubs that will enhance the visual character of the corridor while also being noninvasive. Plant pallets and materials will include those that are native, drought-resistant, shadow- and shaderesistant, noninvasive, and offer soil erosion control. All highway planting plans should be prepared by a licensed Landscape Architect. All highway planting within the state right-of-way should be reviewed and approved during the final design phase by the District Landscape Architect.

## xiv. Erosion Control, Runoff Management, Water Quality Best Management Practices (BMPs)

Permanent erosion control measures will be incorporated into the project for the proposed side slopes to help stabilize the slopes, minimize catch basin siltation, and prevent storm water pollution. During final design, slowing velocities via landform grading will be evaluated and applied in accordance with Caltrans' design standards. The erosion control plan will be reviewed and approved during the final design phase by a licensed Landscape Architect.

Design Pollution Prevention BMPs are permanent measures that are used to reduce erosion after construction is complete. Design Pollution Prevention BMPs applicable to the project include measures that minimize impacts to downstream drainage systems, slope surface protection, concentration flow conveyance systems, and preservation of existing vegetation. These BMPs will be implemented on the project to reduce storm water impacts. The Storm Water Data Report (September 2014) includes BMPs in a conceptual plan for the project. Thirty-six BMPs are proposed for this project in the conceptual BMP plans included in the Storm Water Data Report and shown in F- 1 to F23, Attachment F, Layout Plans).

Biofiltration swales (bioswales) are vegetated channels that convey storm water and remove pollutants by filtration through the grass, sedimentation, absorption to soil particles, and infiltration through the soil. Bioswales are effective at removing debris and solid particles, although only some removal of dissolved constituents is achieved. Bioswales will be incorporated into the project wherever feasible. Two bioswales are proposed for this project as shown in the conceptual plans that are included in the Storm

Water Data Report. The two bioswales are located at the I-215 / Cajalco Road interchange and at the MCP and Ramona Expressway / Antelope Road interchange.

Infiltration basins are designed to remove pollutants by capturing storm water runoff and infiltrating it to the soil, instead of discharging it into receiving waters. Infiltration basins remove a wider range of pollutants than detention basins. Pollutants removed by infiltration basins include total suspended solids, nutrients, pesticides, particulate metals, dissolved metals, pathogens, litter, biochemical oxygen demand, and total dissolved solids (TDS). Table 5.G lists the number of bioswales and infiltration basins proposed for this project.

Table 5.G:

## Quantities of Potential BMPs to be Implemented in the Project Area

| Bioswales | Infiltration Basins |
| :---: | :---: |
| 2 | 36 |

All proposed locations for bioswales and infiltration basins have been identified. Additional field studies will need to be conducted to determine if sites are suitable for these BMPs during the final design phase.

## xv. Noise Barriers

For proposed noise barriers on private property, Caltrans requires that 100 percent of the property owners adjacent to that noise barrier approve the installation of that noise barrier at that location. For noise barriers on/along State right of way, Caltrans' Traffic Noise Analysis Protocol states that if 50 percent or more of the adjacent property owners deny the installation of that noise barrier at that location, then it is not considered reasonable. In accordance with Caltrans procedures, RCTC sent letters in January 2014 by certified mail to each property owner adjacent to a proposed noise barrier for Alternative 9 Modified (Preferred Alternative) to survey the owners on whether they would approve or disapprove of the noise barriers at the locations at or adjacent to their properties. Each letter included a noise barrier survey letter and survey form, a map showing the location of the noise barrier being considered specific to the individual property, and a postage paid return envelope. For the noise barriers proposed on private property (NB-5, NB-50, NB-43, and NB-44), responses in support of the noise barriers were less than 100 percent. Similarly, for the noise barriers that would be located on future State right of way, less than 50 percent of the adjacent property owners support the proposed noise barriers. Therefore, it was not possible to reach a conclusion on whether the noise barriers were reasonable under the "Viewpoints of Benefited Receptors" requirements in Caltrans' Traffic Noise Analysis Protocol. However, as Lead Agency under CEQA, RCTC will carry the feasible and reasonable noise barriers forward into final design for the preferred alternative and will continue to work with adjacent property owners to assess their support for those noise barriers.

## xvi. Non-Motorized and Pedestrian Features

Where feasible, the project will provide pedestrian crossings of the MCP facility in locations where local streets will cross the MCP facility. The sidewalks will comply with ADA requirements and the latest HDM standards during final design. Type D detector loops will be considered per Assembly Bill 1581. Type $D$ is required at limit lines for the purpose of limit line bicycle/motorcycle detection.

Cross slopes for pedestrian crossings would be flatter than the maximum allowable cross slope per Caltrans and ADA standards, with the exception of some existing conditions. Lighting standards, electrical cabinets, fire hydrants, signs, and other fixed objects would be located per HDM 309.1 Horizontal Clearances for Highways. Temporary access for pedestrians, individuals with disabilities, and bicyclists will be considered during construction stages. Lighting will be considered in areas that are not within reserves or environmentally sensitive areas. In addition, existing and planned bike routes and trails are being considered in the design of the MCP project and provisions are being made so that bike routes and trails can use the planned overcrossing bridges and undercrossings to cross the MCP facility where existing and/or planned features exist. The Riverside County General Plan calls for a combination trail (Regional/Class 1 Bike Path) along the San Jacinto River south of Ramona Expressway, and along Cajalco Road west of I-215. The City of Perris is preparing a Trails Master Plan to identify existing and future needs for bikeway and trail users. The existing Placentia Avenue overcrossing and overhead structures have designated equestrian trails on the south sides of the bridges. Both of these bridges are being widened as part of the project and the widened structures will also include an equestrian crossing similar to the existing crossing on the south side of the widened structures.

## xvii. Needed Roadway Rehabilitation and Upgrading

In the next phase of design, any proposed modifications to existing I-215 and SR-79 will be coordinated with Caltrans to review the status of rehabilitation of these existing facilities.

## xviii. Needed Structure Rehabilitation and Upgrading

In the next phase of design, any proposed modifications to existing structures on I-215 and SR-79 will be coordinated with Caltrans to review the status of rehabilitation and retrofitting of these existing structures.

## xix. Cost Estimate

The project cost estimate was prepared using the Caltrans Project Cost Estimate Summary sheets. These summary sheets provide the cost breakdown and are presented in $\mathrm{H}-1$ to $\mathrm{H}-8$ in Attachment H, Cost Estimates, of this document. The cost estimates for the bridges can be found in the Advance Planning Study (APS) General Plan sheets included in H-B-1 to H-B-48, Attachment H. The list of the bridges and a key map showing their locations are provided in $\mathrm{H}-9$ and $\mathrm{H}-10$, respectively, Attachment H . APS General Plans for the following three bridge undercrossing locations on SR-79 were
not prepared and are being deferred until the Plans, Specifications and Estimates (PS\&E) phase: Ramona Expressway, MCP Extension and Record Road. The cost estimates for these three bridges are based on a bridge square footage cost in lieu of the APS cost estimates and are included in the total project cost estimate in Table 5.H below. The minimum vertical clearance requirements for these bridges have been met.

The cost estimate provided is for the project. Table $5 . \mathrm{H}$ summarizes the project costs, including construction (roadway and structure), right-of-way, and support costs.

Table 5.H:
Cost Summary

| Cost Item | Cost (in \$B) |
| :--- | :---: |
| Roadway | $\$ 0.587$ |
| Structure | $\$ 0.526$ |
| Subtotal Construction | $\$ 1.113$ |
| Right-of-Way | $\$ 0.237$ |
| TOTAL CAPITAL OUTLAY COST | $\$ 1.350$ |
|  | $\$ 0.045$ |
| PR/ED Support | $\$ 0.167$ |
| PS\&E Support | $\$ 0.014$ |
| Right-of-Way Support | $\$ 0.156$ |
| Construction Support | \$ 0.382 |
| TOTAL CAPITAL OUTLAY SUPPORT COST | $\$ 1.732$ B |
|  |  |
| TOTAL PROJECT COST |  |

## xx. Right of Way Data

New R/W acquisitions and utility easements will be required for the project. R/W acquisitions include partial takes and full takes. Permanent easements including utility easements and public lands (local, state, federal government, and public agency properties) are included in the estimate within the R/W footprint.

Total R/W cost include all identified R/W acquisitions, relocation expenses, demolition costs, SB-1210 appraisal costs, condemnation, and title and escrow fees. These costs are listed in the project Right of Way Data Sheet presented in Attachment I (November 2014).

## xxi. Effect of Special Funded Proposal on State Highway

The Mid County Parkway is not currently a State Highway, but RCTC proposes to recommend this facility for adoption as a new State Route alignment. Any impacts the
proposed MCP facility would have on existing State Highways I-215 and SR-79 will be adequately mitigated by the MCP project. The project assumes and includes mitigation for a "no project" condition on the I-215 and SR-79.

## B. Rejected Alternatives

## i. Alternatives considered and withdrawn from further study

Seven alternatives were evaluated and eliminated from further study during the alternatives refinement process and response to concerns on the Draft EIR/EIS circulated in October 2008.

During the Value Analysis (VA) process, it became apparent that the alternative alignments near the dams at Lake Perris (Perris Dam) and Lake Mathews (Lake Mathews Dam) may be substantially constrained by engineering considerations associated with those dams. Section 6.B provides additional information about the VA process and steps undertaken to develop and refine alternatives. The additional alternatives considered in the development of this report but withdrawn from further consideration as a result of the VA process include Build Alternative 2 and Alternative 3, previously named Alternative 1B in the Tier 1 HCLE studies and named Alternative 2: Offsite Alternative - North of Lake Mathews in the PSR (December 2004).

To address the concerns in response to comments on the Draft EIR/EIS for a 32-mile MCP facility, in spring 2009, RCTC as the lead agency under CEQA, FHWA as the lead agency under NEPA, in cooperation with Caltrans, developed an approach for completing the EIR/EIS process for the project that would refine the project purpose statement and project alternatives to focus on the transportation needs from I-215 to SR79. Therefore, the additional alternatives considered but withdrawn in response to these concerns include Alternatives 4, 5, 6, 7, and 9.

Table 5.I identifies and describes the alternatives withdrawn and provides a summary of the decisions to remove these alternatives from further study.

Table 5.I:
Summary of Alternatives Withdrawn from Further Study

| Alternative | Description | Comment |
| :---: | :--- | :--- |
| 2 | Provide a six- to eight-lane controlled- | This alternative was eliminated |
| North Lake | access facility north of Lake Mathews | due to engineering safety |
| Mathews/ | and a north alignment through city of | concerns regarding proximity to |
| North Perris | Perris near Perris Lake | the Lake Perris Dam, and <br> Alternative |
|  |  | Metropolitan facilities including <br> Lake Mathews Dam, as stated in <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  <br>  Protters from Metropolitan dated |
| May 13, 2005, and DWR dated |  |  |
| August 19, 2005. |  |  |

Table 5.I:
Summary of Alternatives Withdrawn from Further Study

| Alternative | Description | Comment |
| :---: | :---: | :---: |
| North Lake Mathews/ South Perris Alternative | access facility north of Lake Mathews and a south alignment through city of Perris near Perris Lake | due to engineering safety concerns regarding proximity to Metropolitan facilities including Lake Mathews Dam, as stated in a letter from Metropolitan dated May 13, 2005. |
| 4 <br> South Lake Mathews/ North Perris (Drain) Alternative | Provide a six- to eight-lane controlledaccess parkway located south of Lake Mathews that follows a northern alignment through the City of Perris, adjacent to the Perris Drain | This alternative was eliminated in 2009 to address the concerns identified in public comments on the Draft EIR/EIS and to focus transportation funding where the need is the greatest, between I215 and SR-79. |
| 5 <br> South Lake Mathews/ South Perris (Rider Street) Alternative | Provide a six- to eight-lane controlledaccess parkway located south of Lake Mathews that follows a southern alignment through the City of Perris along Rider Street | This alternative was eliminated in 2009 to address the concerns identified in public comments on the Draft EIR/EIS and to focus transportation funding where the need is the greatest, between I215 and SR-79. |
| 6 <br> General Plan/North Perris (Drain) Alternative | Implementation of General Plan Circulation Element improvements between I-15 and El Sobrante Road and a new six- to eight-lane controlledaccess parkway east of El Sobrante Road to SR-79. Includes a four-lane urban arterial north of Lake Mathews, a four-lane controlled-access expressway south of Lake Mathews, west of El Sobrante Road, and a six- to eight-lane controlled-access parkway east of El Sobrante Road. Alternative 6 follows a northern alignment through the City of Perris. | This alternative was eliminated in 2009 to address the concerns identified in public comments on the Draft EIR/EIS and to focus transportation funding where the need is the greatest, between I215 and SR-79. |
| 7 <br> General Plan/South Perris Alternative | Implementation of General Plan Circulation Element improvements between I-15 and El Sobrante Road and a new six- to eight-lane controlledaccess parkway east of El Sobrante Road to SR-79. Includes a four-lane urban arterial north of Lake Mathews, a four-lane controlled-access expressway south of Lake Mathews, west of El Sobrante Road, and a six- to eight-lane controlled-access parkway east of El Sobrante Road. Alternative 6 follows a | This alternative was eliminated in 2009 to address the concerns identified in public comments on the Draft EIR/EIS and to focus transportation funding where the need is the greatest, between I-215 and SR-79. |

Table 5.I:
Summary of Alternatives Withdrawn from Further Study

| Alternative | Description | Comment |
| :---: | :--- | :--- |
|  | southern alignment through the City of <br> Perris along Rider Street. |  |
| 9 | Provide a four- to six-lane controlled- <br> access parkway south of both Lake <br> Far South/ <br> Placentia <br> Avenue | Mathews and Mead Valley and a six- to <br> eight-lane controlled-access parkway <br> Alternative <br> between Old Elsinore Road and I-215 <br> and a six- to eight-lane controlled-access was eliminated address the concerns <br> parkway between I-215 and SR-79. |
| indentified in public comments on <br> pand <br> the Draft EIR/EIS and to focus <br> transportation funding where the <br> need is the greatest, between <br> I-215 and SR-79. |  |  |

## ii. Rejected Environmental Site Avoidance Design Variations

No alternatives or design variations have been rejected due to environmental concerns.

## 6. CONSIDERATIONS REQUIRING DISCUSSION

## A. Hazardous Waste

A Hazardous Waste Initial Site Assessment (ISA) was prepared for the project (LSA, July 2011) to determine whether construction of the proposed project could be affected by any recorded or visible hazardous waste problems and to recommend any additional work that may be needed. Releases of hazardous substances occurred in the vicinity of the project.

Historically, groundwater in the vicinity has been encountered between 20 and 350 feet below ground surface (bgs). ${ }^{7}$ Six hazardous spill incidents have been recorded as occurring within the project footprint; these consist of five geocoded sites and one nongeocoded site. ${ }^{8}$ None of the spill and/or release cases within the project footprint has affected area groundwater and/or is currently within remediation. Three leaking underground storage tank (LUST) sites have affected groundwater in the vicinity and are currently undergoing various stages of remediation. They are identified as Nandina Liquor store-Texaco gas station, Nuevo AM/PM, and U.S. Army Camp Haan (Former) Site Y. March Air Reserve Base (MARB) has also been identified as a source of extensive groundwater contamination and a National Priorities List site and is undergoing remediation. Due to the proximity of these sites to the project R/W, and as dewatering may occur during construction of the proposed project, these sites are likely to pose a concern during construction of the proposed project.

Based on the governmental records database search, site survey, and aerial photograph review, several measures are recommended, which apply the project. A Site

7 Water Quality Assessment Report for Mid County Parkway. August 2011.
8 Non-geocoded sites are sites where missing or inaccurate information has been provided by the reporting agency or where insufficient information prevents the proper placement of a site on a given map.

Investigation (SI) will be conducted for hazardous materials sites identified in the ISA that are within the right of way of the project.

- Prior to construction, prepare a site-specific Health and Safety Plan consistent with Caltrans requirements.
- SIs for any automotive or industrial uses will be coordinated with the Riverside County Department of Environmental Health (RCDEH). SIs for any clandestine drug lab locations will be coordinated with the RCDEH, Department of Toxic Substances Control (DTSC), and law enforcement agencies.
- Soil sampling will be conducted for aerially deposited lead (ADL) in unpaved locations adjacent to existing highway right of way within the project limits, if not previously tested.
- A certified consultant will conduct asbestos, lead-based paint (LBP), and polychlorinated biphenyl (PCB) surveys of building structures that will be renovated or demolished as part of the proposed project.
- Utility pole-mounted transformers within the project area will be inspected for leaks.
- Unless documentation from the utility company indicates that creosote was not used, all wooden utility poles that are to be removed or relocated as part of the proposed project as well as those soils located at the bases of these utility poles will be handled for treated wood waste in accordance with Caltrans SSP 14-11.09 "Treated Wood Waste" during PS\&E or prior to construction.
- Notify and ensure that utility owners mark the locations of underground transmission lines and facilities; call the Underground Service Alert of Southern California at 811 at least 2 working days prior to subsurface excavation.
- Any yellow traffic striping and pavement-marking material will be tested and removed in accordance with Caltrans Standard Special Provisions.
- Prior to construction, determine whether removal of groundwater will be required during construction of the project. Any dewatering will require coordination with the Riverside County Department of Environmental Health, the DTSC regarding removal and disposal of groundwater, and the Department of Defense. The RCTC Project Engineer will provide the RCTC Resident Engineer and the Construction Contractor with the Waste Discharge Identification Number or a copy of an individual permit (as applicable) issued by the Regional Water Quality Control Board (RWQCB) prior to construction. During all disturbance, excavation, and drilling requiring groundwater dewatering, the RCTC Resident Engineer will require the Construction Contractor to collect any extracted groundwater and dispose of that water consistent with the requirements of the Waste Discharge Identification Number or the individual RWQCB permit.
- Soils adjacent to the BNSF railroad tracks that will be disturbed during construction of the project will be sampled for petroleum hydrocarbons, metals, and solvents at a minimum to determine whether they require special handling and disposal.
- Soil sampling for pesticides in former or current agricultural properties will be conducted where soil has not been disturbed (through grading, etc.) if these areas will be disturbed by the project.
- Any demolition or renovation of a structure requires notification and submittal of fees to the South Coast Air Quality Management District (SCAQMD) at least 10 days prior to proceeding with the demolition work (refer to SCAQMD Rule 1403). Contractors will adhere to the requirements of SCAQMD Rule 1403 during renovation/demolition activities.
- If suspect hazardous waste or underground tanks are encountered during construction, the contractor will stop work and follow the procedures in Caltrans Unknown Hazards Procedures for Construction.

Details of these recommendations are available in the ISA.

During preparation of the ISA for the project, RCTC requested that Preliminary Site Investigations (PSIs) be completed after the environmental studies stage. The basis for this request is that there is a long lead time for a project of this scale; thus, any PSIs conducted now may be outdated by the time the PS\&E phase commences. Caltrans accepted this approach and approved the ISA in July 2011. Consistent with the American Society for Testing and Materials (ASTM) requirements, RCTC will update the approved ISA no later than 180 days prior to property acquisition to ensure no additional Recognized Environmental Concerns (REC) are present.

## B. Value Analysis and Original Build Alternatives Refinement Process

Since the Notice of Intent/Notice of Preparation (NOI/NOP) was issued, Caltrans conducted a total of four Value Analysis (VA) Studies in 2004-2006, on the original project, to determine whether there were additional alignment refinements that could more effectively and efficiently meet the project Purpose and Need. As a result of the VA Study, new information became available with regard to the practicability of some of the alternative alignments, as well as opportunities to further avoid or minimize adverse environmental impacts to existing habitat reserves, Section 404 and Section 4(f) resources, and existing communities.

In addition, during this same period, the MCP engineering and environmental project team conducted engineering studies, environmental studies, fieldwork, public scoping meetings, and traffic modeling for the MCP. Based on these studies and results from the VA Studies, the Small Working Group (SWG) considered and approved the refined set of alternatives to be evaluated in the Draft EIR/ Draft EIS in 2008, later to be modified, approved and evaluated in the RDEIR/SDEIS in 2013. As described earlier in Section 5.B, the revised suite of alternatives eliminated two alternatives (Alternatives 2 and 3 ) that included a facility north of Lake Mathews and rerouted a segment of Alternatives 4 and 6 away from the Perris Dam due to engineering feasibility issues. The approved revised suite of alternatives also renumbered Alternative 8 to Alternative 1B (No

Action/No Project General Plan Circulation Element conditions) and added Alternative 9, the Far South Alternative. In 2009, the original project limits were modified to focus on the transportation needs from I-215 to SR-79. Alternatives 4, 5, 6, 7, and 9 were eliminated from further consideration based on the comments on the 2008 Draft EIR/EIS. In June 2009, RCTC took action to Alternatives 4, 5, and 9 to create a modified version referred to as Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified focusing on a 16 -mile MCP project from I-215 to SR-79. Specific considerations in the alternatives refinement process are discussed below.

## i. Value Analysis Study Results and Constraints Considered

This Project Report is the final version of the Revised Draft Project Report signed in January 2013 for the modified 16-mile Mid County Parkway project that supported the RDEIR/SDEIS released in 2013. The Revised Draft Project Report and RDEIR/SDEIS are the revised version of the original Draft Project Report signed in October 2008 for a 32-mile Mid County Parkway that supported the DEIR/DEIS released in 2008.

The VA Studies for the MCP alternatives were conducted by Caltrans District 8 as part of the original Draft Project Report and DEIR/DEIS process (2005 to 2008). The VA Study objectives were to identify alternatives that would maintain or improve MCP performance, reduce costs if possible, and minimize impacts to local agency land use plans, including local circulation access. The MCP VA mainline study complemented earlier VA studies that focused on the configuration of the MCP connections at SR-79, I-215, and I-15.

The VA Study process resulted in the generation of multiple alternative alignments that were presented to Caltrans, RCTC, the Cities, the County, and the SWG for consideration. Some of these alternative alignments offered advantages with regard to transportation and safety concerns, as well as the avoidance and/or minimization of impacts to the natural and built environments. Some of the specific resources and constraints that were addressed through the VA process and led to refinement of alternatives included the following.

Engineering Constraints (Dams). Two of the initial alternatives (Alternatives 2 and 3) included a facility north of Lake Mathews in close proximity to Lake Mathews Dam, and three of the initial alternatives (Alternatives 2, 4, and 6) included a facility along the existing Ramona Expressway in close proximity to Perris Dam. Lake Mathews Dam is owned and operated by Metropolitan and the Perris Dam is owned and operated by the State Department of Water Resources, with Metropolitan as the principal user of water from Lake Perris. For the alternatives in close proximity to Lake Mathews Dam and Lake Perris Dam, the VA team determined that it was prudent to consider other alternatives that would fully avoid close proximity to the dams given the engineering and safety constraints related to the two dams as described below.

The Department of Water Resources, Division of Safety and Dams, regulates the safety and integrity of dams in California. There are several constraints in the area adjacent to Perris Dam including Metropolitan facilities (pipeline, tunnels, and power plant) and Department of Water Resources (DWR) emergency facilities. The VA team developed a revised alignment for Alternatives 2, 4, and 6 to avoid the area adjacent to Perris Dam that also attempted to minimize community impacts in the City of Perris. The alignment proposed by the VA team extends west from Antelope Road, west along the South Perris alignment to the Perris Drain, north past Evans Road and parallel to and west of the Perris Drain, then turns west and joins the North Perris alignment before Perris Boulevard (at Perry Street). The advantages of this alignment include full avoidance of Perris Dam; however, one disadvantage is that it would require flood control improvements as part of the MCP to locate the facility outside the Perris Drain floodway or placing the facility on a structure to avoid impacts to the floodway. Consultation with the Riverside County Flood Control District (RCFCD) regarding the feasibility of a flood control project, resulted in the decision to study constructing the alternative on an elevated structure (such as a viaduct) to avoid the floodway.

Preceding and concurrent with the VA process, RCTC and the MCP project team consulted with the Metropolitan engineering staff and the State. The discussions focused on safety issues with regard to excavation, construction activities, and ultimate operation of a major transportation facility in proximity to the major dam structure, Perris Dam. In a letter dated May 13, 2005 (see J-1 to J-3 in Attachment J, Agency Letters), Metropolitan specified that excavation for the MCP facility could not take place within 1,000 feet of the Lake Mathews Dam abutment (Lake Mathews Dike No. 1). In letters dated June 8, 2005, and August 19, 2005 (see Figures J-4 and J-5 in Attachment J, Agency Letters), DWR expressed similar concerns regarding the potential impacts of a major transportation facility adjacent to Perris Dam, with specific concerns regarding the recent DWR seismic stability analysis, adjacent wildlife areas, and the need to maintain access to emergency outlet structures and a seepage collection system at the base of the dam. DWR requested that RCTC not move forward with the North Perris alignment in this location due to impacts to existing facilities and the need to maintain R/W for possible repair operations.

Given the discussed engineering and safety constraints, Alternatives 2 and 3 were removed from further consideration due to proximity to Lake Mathews Dam and Alternatives 4 and 6 were revised to be located away from the Perris Dam.

Local Traffic Circulation. The VA team evaluated the need to maintain parallel westeast access through the study area to accommodate local west-east traffic movement, especially through the Mead Valley area. The specific traffic concern identified by the VA Team was that Alternatives 4, 5, 6, and 7, parkway alternatives on Cajalco Road, would eliminate a major west-east thoroughfare for local traffic in Mead Valley. Although the County of Riverside Transportation staff identified long-term opportunities for the development of parallel access as provided for in the General Plan Circulation Element,
the VA team also considered this concern in the development of other possible MCP alternatives. This discussion supported adding an alternative that did not eliminate Cajalco Road. Alternative 9 was added to the suite of alternatives. Alternative 9 was located approximately two miles south of Cajalco Road; therefore, existing Cajalco Road would remain in place and could continue to accommodate local west-east traffic movement.

Other constraints considered in the Area East of Warren Road to SR-79. The original alignment located the MCP alignment just north of the existing Ramona Expressway. Through the VA process, a second alignment was proposed in this area where the MCP to SR-79 alignment parallels the Colorado River Aqueduct (CRA) and is located between Ramona Expressway and adjacent to the CRA. This design variation alignment was proposed to better fit with planned land uses as designated in the City of San Jacinto General Plan, optimize the interchange configuration at SR-79, and move the alignment farther from the San Jacinto River and floodplain. This variation became part of the main alternative alignment and the original alignment in this area became the design variation for this area (San Jacinto North Design Variation).

## ii. Other Alternatives Refinement

Reorganization of the No Project/No Action Alternatives. As a result of discussions with the SWG, the No Build Alternative 8 was renumbered to Alternative 1B and No Build Alternative 1 renumbered to 1A. The SWG identified two No Project/No Action Alternatives as described in the November 2004 NOI and NOP. Alternative 1 was represented by projected 2035 traffic on the planned street network with the exception of Cajalco Road and the Ramona Expressway, which would remain as they exist today. ${ }^{9}$ Alternative 8 was described as full implementation of the County's General Plan Circulation Element street network, including the planned improvements to Cajalco Road and the Ramona Expressway. Both these alternatives are considered "No Action" alternatives for RCTC, FHWA, and Caltrans as they reflect conditions that would occur without the MCP. Therefore, to clarify the status of these alternatives as No Action alternatives, they were renumbered as Alternatives 1A and 1B and titled "No Action/No Project-Existing Ground Conditions" and "No Action/No Project-General Plan Circulation Element Conditions," respectively, as follows:

- Alternative 1A (originally Alternative 1): No Project/No Action-Existing Ground Conditions

Alternative 1 A is the CEQA No Project Alternative comparing the proposed MCP project to existing conditions ("plan to ground" comparison) and 2040 traffic on

[^4]the planned street network except for Ramona Expressway, which would remain as it exists today.

- Alternative 1B (originally Alternative 8): No Project/No Action—General Plan Circulation Element Conditions

Alternative 1B is the NEPA No Action Alternative including foreseeable future actions and 2040 traffic on the planned street network according to the Circulation Element of the Riverside County General Plan.

As a result, there is no Alternative 8 under consideration for this project and the No Build Alternatives are listed as Alternatives 1A and 1B, as discussed above.

## C. Resource Conservation

Features proposed affecting energy requirements and energy use efficiencies for various stages of construction, operation and maintenance include the construction techniques and design features. Existing fill slopes will be left in place wherever possible.

Measures proposed to minimize the consumption, destruction and disposal of nonrenewable resources include recycling of pavement and salvaging existing materials. Pavement recycling will be considered and specified in the project's Special Provisions where applicable. The contractor will have the option of recycling the existing asphalt concrete (AC) pavement for use on the project or stockpiling the removed AC for future use as a base material. If economically available and feasible, the contractor will have the option to utilize State-owned salvaged AC materials. In addition, items such as guardrails, light standards, and signs will be salvaged or relocated wherever possible.

## D. Right of Way Issues

Right of way acquisition costs account for approximately $14 \%$ of the total project costs. R/W impacts for the project are as follows: (1) outdoor advertisement signs, (2) dairies, (3) gas stations, (4) retail improvements, (5) utility substations, (6) sod farms, (7) singlefamily residences (SFRs), (8) mobile homes, (9) proposed residential tract development, and (10) industrial/manufacturing facilities.

Right of way spreadsheets for the build alternative detailing individual parcels have been submitted to Caltrans Right of Way staff for internal review and are not a part of this report due to the confidentiality of the information submitted.

Table 6.A:
Number of Parcels Affected by Project

| Impact Type | Alt 9 Modified <br> with SJRB DV |
| :--- | :---: |
| Number of Partial Acquisition (Fee) | 239 |
| Number of "Full Takes" (Fee) | 199 |
| Number of Anticipated Permanent <br> Easements | TBD during PS\&E |

Right of way Data Sheets for the project are provided in Attachment I. A Final Relocation Impact Report (FRIR) was prepared for this project. Proposed R/W impacts are both full and partial parcel acquisitions. Relocations will be required for the project.

## i. Right of Way Required

As noted above, various property types are affected by the project outlined in more detail in the Right of Way Data Sheets. Depending on the complexity and size, the R/W impacts are influenced and at times subordinate to the impacts from environmental and engineering design demands. Potential R/W cost impacts were considered for the project along with potential damage mitigation. Measures such as shifting the R/W line or adding retaining and sound walls were suggested to mitigate damages and impacts. These suggestions were considered in close cooperation with the engineering and environmental teams. Significant R/W cost impacts were examined for proposed new construction of improvements that would severely affect the project budget or community agencies. These included regional and national distribution warehouses, major housing developments, and commercial and industrial work centers. Attempts are made for avoidance of existing and proposed public facilities such as schools, parks, public safety, service facilities, and environmentally sensitive areas. Utility impacts have similar scrutiny.

## ii. Relocation Impact Studies

A Draft Relocation Impact Report (DRIR; December 2011) was prepared for all the build alternatives to determine potential property acquisitions. The DRIR covered a wide area due to the size of the project and examined the current and future impacts of the project related to relocation of residential, commercial, and industrial uses. An updated Final Relocation Impact Report was prepared in November 2014 for the project. Below is a summary table of the number of potential full acquisitions for the project. As shown in Table 6.B, while the project would result in acquisitions, due to the rapid growth of the areas and availability of vacant land and existing relocation facilities, it was determined that there was an adequate supply of relocation stock available to handle the displacements without going outside of the communities or constructing new housing.

## Table 6.B: <br> Project Full Parcel Acquisitions

| Full Parcel Acquisitions | Alternative 9 Modified <br> with SJRB DV |
| :--- | :---: |
| Residential acquisitions | 99 |
| Nonresidential acquisitions | 100 |
| Total Full Acquisitions | 199 |

Source: Final Relocation Impact Report, November 2014.

## iii. Airspace Lease Areas

Based upon the preliminary nature of the design, there does not appear to be any significant potential for future airspace leases at this time. Once the project is completed, the project agency and its engineering, environmental, R/W, and traffic safety teams will review any potential excess land for possible airspace leases. Typically, airspace projects are constructed in more dense urban areas with little available vacant land for development. Airspace leases are driven by a lack of alternative sites outside of the project area. The rural portions of the transportation project generally have demands that are tied to potential cell site or communication facilities, or even traveler services or rest stops. These are limited many times by the lack of available utilities or service roads. The majority of the project traverses through rural areas except for the west portion of the project through the City of Perris. Land values along the project corridor are not high and there are sufficient undeveloped areas for private enterprise to acquire airspace lease from adjacent properties along the project corridor. The March Air Reserve Base (MARB) is located approximately 2.5 miles north of the MCP project. The MARB is currently the home to the Air Force Reserve Command's $4^{\text {th }}$ Air Force Headquarters and the host to the 452d Air Mobility Wing. The MARB is also home to units from the Army Reserve, Navy Reserve, Marine Corps Reserve and the California Air National Guard. The status of the MARB should be reviewed at time of right of way purchase to make sure the use at the facility does not change conclusions on air space leases.

## E. Environmental Issues

The Final EIR/EIS has been prepared in accordance with Caltrans' environmental procedures, State and Federal environmental regulations, CEQA Guidelines Section 15088.5 and CEQ NEPA Regulation 42 CFR 1502.9 "Draft, final, and supplemental statements." The attached Final EIR/EIS is the appropriate document for the proposal and was signed on April 15, 2015.

## i. Biological Resources

A Natural Environment Study (NES) (July 31, 2008), a Supplemental NES (December 2011), a Multiple Species Habitat Conservation Plan (MSHCP) Consistency Determination Including Determination of Biologically Equivalent or Superior Preservation Analysis (September 2014), and a Determination of Biologically Equivalent
or Superior Preservation Analysis Addendum (October 2014) were prepared for the MCP project. The project would result in direct and indirect impacts on biological resources as summarized below. Impacts within the project footprint have been calculated entirely as permanent impacts, with the exception of areas spanned by bridges that have resulted in reduced or avoided impacts. Impacts to riparian habitats and jurisdictional areas at the bridged areas have been calculated as temporary and permanent impacts (permanent impact calculations were estimated conservatively).

Potential Impacts to Critical Habitat Areas. The project would affect final designated critical habitat areas for San Bernardino Kangaroo Rat (SBKR) and spreading navarretia. The project would affect approximately 1.5 acres of final SBKR critical habitat and 18.6 acres of final spreading navarretia critical habitat of which 1.09 consists of primary constituent elements for the species.

Riparian/Riverine Areas and Vernal Pools. There will be permanent and temporary impacts to riparian/riverine areas. The project will not affect vernal pools as defined under the Western Riverside County MSHCP.

MSHCP Plant Survey Species. The project would affect areas of long-term conservation value for smooth tarplant, Coulter's goldfields, spreading navarretia, and San Jacinto Valley crownscale. The project would potentially affect approximately 1.09 acres of spreading navarretia occupied habitat, 2.72 acres of smooth tarplant occupied habitat, and 2.25 acres of Coulter's goldfields occupied habitat. The project would also affect 0.36 acres of San Jacinto Valley crownscale occupied habitat.

Burrowing Owl. Suitable burrowing owl habitat was determined to be present within the MCP Biological Study Area (BSA). A single burrowing owl was observed within the BSA. There is suitable habitat in the project footprint that burrowing owl may subsequently occupy due to the transitory nature of the species. Pre-construction presence/absence surveys for burrowing owl within suitable habitat will be conducted within 120 days and 30 days prior to ground disturbance.

Least Bell's Vireo (LBV) and Southwestern Willow Flycatcher (SWWF). There are 3.66 acres of occupied LBV habitat located within the project at the San Jacinto River and SR-79. The project study area will not affect SWWF breeding habitat.

Los Angeles Pocket Mouse (LAPM) and San Bernardino Kangaroo Rat (SBKR). LAPM were captured within the BSA southwest of the San Jacinto River and Lake Perris, and northeast of the San Jacinto River and Sanderson Avenue. The project will potentially affect approximately 20.85 acres of LAPM-occupied habitat suitable for longterm conservation. The Project will affect approximately 1.29 acres of occupied SBKR habitat.

Bat Species. The project will directly impact the edges of existing bridges and larger culverts that may provide maternity roosts and foraging roosts for bat species. Those bridges and culverts will be impacted by extending the existing structures to accommodate the MCP project improvements. The existing bridges and culverts will not be removed; therefore, only a small part of bat roosting habitat may be permanently altered by the MCP Build Alternatives. Bat maternity roosts change seasonally; therefore, maternity roosting surveys will be conducted between May 1 and August 31 prior to construction at larger culverts and bridges to determine the location of active maternity roosts.

Western Riverside County MSHCP. The project will result in impacts to the MSHCP Conservation Area east of Lake Perris. Specifically, the project would traverse Existing Constrained Linkage C, Proposed Extension of Existing Core 4, Proposed Constrained Linkage 20, and Proposed Noncontiguous Habitat Block 5 of the MSHCP Conservation Area and would traverse Cells 2442, 2347, 2348, 2251, 2252, 2253, 2349, 2258, 2259, $2355,2357,2261,2358,2266,2363,2267$, and 2364 within the MSHCP Conservation Area. Detailed discussion of the MCP project's effect on the MSHCP Conservation Area is presented in the report titled Mid County Parkway MSHCP Consistency Determination Including Determination of Biologically Equivalent or Superior Preservation Analysis (Dudek, February 2014, revised in September 2014, DBESP Addendum October 2014).

## ii. Mitigation

In order to avoid and minimize impacts to biological resources during construction of the project, the following measures, where applicable, will be implemented:

- Removal of vegetation will be confined to approved limits by erecting barrier fencing (or other appropriate means of demarcating construction limits) at project limits in the area adjacent to habitat with long-term conservation value.
- Notes will be placed on project construction plans informing contractors that areas designated with long-term conservation value outside the project footprint are environmentally sensitive and that construction activity is excluded from those areas.
- A biological monitor will ensure that disturbance outside the footprint is avoided and seasonal restrictions are observed.
- Removal of riparian vegetation prior to construction and between September 16 and February 14 will avoid the nesting season.
- Avoidance and minimization measures specified in the MSHCP Guidelines Pertaining to Urban Wildlands Interface will be followed, as applicable.

A determination of biologically equivalent or superior preservation (DBESP) as set forth in MSHCP Section 4.1 through 4.6 was prepared to ensure that mitigation for unavoidable impacts to riparian/riverine areas will be sufficient (mitigated to replace the lost functions and values as they relate to covered species).

Mitigation for permanent impacts to USACE jurisdictional non-wetland waters of the U.S. and wetlands waters of the U.S. and CDFW jurisdictional areas will be implemented at a minimum replacement ratio of $2: 1$. This will occur through habitat restoration and/or enhancement of on-site areas along the length of the MCP to the extent practical. If it is infeasible to mitigate entirely on site, alternative off-site mitigation, such as enhancement, creation, and restoration, would occur through coordination with USACE and CDFW. USACE/EPA wetland mitigation regulations include a stated preference for mitigation bank and in lieu fee programs over permittee-responsible mitigation, if appropriate credits are available. However, Federal policies for replacement of resource function and area in the same watershed generally take precedence over the mitigation mechanism. Therefore, mitigation for impacts to waters/wetlands will be within the San Jacinto River watershed and will be at a minimum $1: 1$ replacement ratio through establishment or reestablishment of both State and federal jurisdictional areas within the San Jacinto River watershed. This will mitigate for the replacement of area and function of both State and federal jurisdictional areas within the San Jacinto River watershed. The project will comply with the Federal policy to achieve "no net loss" of wetlands.

The Habitat Mitigation and Monitoring Plan (HMMP) for USACE Jurisdictional Waters (Appendix $P$ in the Environmental Impact Report [EIR]/Environmental Impact Statement [EIS]) describes the approach and specific concepts for mitigation of impacts to waters of the United States and wetlands. This HMMP for USACE Jurisdictional Waters was prepared in coordination with the USACE, the United States Fish and Wildlife Service (USFWS) and the United States Environmental Protection Agency (USEPA). It is RCTC's intent that mitigation sites identified in the HMMP for USACE Jurisdictional Waters will also address project effects on State jurisdictional areas.

Additional mitigation to achieve the remainder of the 2:1 mitigation ratio may occur outside of the San Jacinto River watershed.

If there are any temporary impacts to USACE and/or CDFW jurisdictional areas, the RCTC Resident Engineer will require the Construction Contractor to revegetate those on site areas at a minimum 1:1 replacement ratio.

Should an in-lieu fee program for mitigating impacts to waters of the United States be developed and become available within the San Jacinto River watershed with an appropriate service area that encompasses the MCP project area, the RCTC shall consult with the USACE and the USEPA to determine if a third-party mitigation option would be preferable rather than the permittee-responsible mitigation described in the HMMP for USACE Jurisdictional Waters.

As a permittee under the Western Riverside County MSHCP, RCTC has committed to a number of measures addressing impacts of the MCP project on biological resources. Those measures are documented in the Mid County Parkway MSHCP Consistency Determination Including Determination of Biologically Equivalent or Superior

Preservation Analysis (September 2014) and the Determination of Biologically Equivalent or Superior Preservation Analysis Addendum (October 2014) provided in Appendix $T$ in the Final EIR/EIS. RCTC will comply with the commitments in those measures throughout the design, construction, and operation of the MCP project.

Mitigation for impacts to smooth tarplant, Coulter's goldfields, spreading navarretia, San Jacinto Valley crownscale, LBV, LAPM, and SBKR will be achieved through project consistency with the MSHCP. In order for MCP to be consistent with the MSHCP, a DBESP was made because 90 percent or more of those portions of the site that provide for long-term conservation value for these species are affected, and if achievement of overall MSHCP conservation goals for the particular species has not yet been demonstrated. A DBESP (as set forth in MSHCP Sections 4.1 through 4.6) ensures that there is sufficient mitigation to provide benefits with respect to MSHCP Conservation Area design and configuration. USFWS issued a streamlined Biological Opinion on the federally listed species (San Jacinto Valley crownscale, least Bell's vireo, San Bernardino kangaroo rat, spreading navarretia, and California gnatcatcher) based on the project's consistency with the MSHCP and its associated implementation agreement and permit (as documented in the MSHCP Consistency Determination and DBESP for MCP). Take of these federally listed species is authorized for MCP through the Section 10(a)(1)(B) permit for the MSHCP.

For the project to be in compliance with the MSHCP, impacts to burrowing owls within the project footprint will be mitigated by passive relocation (use of one-way doors and collapse of burrows) outside of nesting season. A pre-construction presence/absence survey for burrowing owl within suitable habitat will be conducted within 120 days prior to disturbance due to the transitory nature of the species, which may subsequently occupy the project footprint or leave the project footprint. Should any owls be found within the project footprint, any owls remaining in the Perris Valley Storm Drain portion of the project alignment or elsewhere in the construction footprint 30 days prior to construction that would be impacted by the project will be conserved through avoidance measures and relocation efforts as described in a burrowing owl relocation plan. If burrowing owls are identified during the preconstruction surveys and cannot be avoided between 60 and 90 days prior to any ground-disturbing activities, the relocation plan will be submitted to the CDFW and the Regional Conservation Authority 60-90 days prior to ground disturbing activities.

Environmental mitigation costs are included in the project cost estimate and include specific considerations for impacts to biological, aquatic, cultural, paleontological, and visual resources.

## iii. Wetlands and Flood Plains

The 2008 Jurisdictional Delineation and Assessment Report was updated in December 2013. A Preliminary Jurisdictional Determination was issued by the USACE on December 18, 2013.

Table 6.C shows the acreage of direct impacts to CDFW jurisdictional riparian habitat and streambeds, and wetlands and non-wetland waters under USACE jurisdiction.

Table 6.C:
Impacts to Wetlands and Other Jurisdictional Areas*

|  | Impacts (acres) |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CDFW |  | USACE |  |  |  |  |  |
|  | Non-Wetlands |  | Wetlands |  | Total |  |  |  |
|  | Temp | Perm | Temp | Perm | Temp | Perm | Temp | Perm |
| MCP | 3.63 | 7.94 | 1.99 | 4.36 | 4.69 | 0.64 | 6.68 |  |

* Excludes impacts to jurisdictional areas that are within the MCP/SR-79 interchange footprint, but are wholly attributable to the SR-79 EA 494000 (PN 0800000784) realignment project (i.e., jurisdictional areas that will be impacted by the SR-79 project prior to construction of MCP).

USACE = U.S. Army Corps of Engineers
CDFW = California Department of Fish and Wildlife
SJRB = San Jacinto River Bridge
Alt $=$ Alternative $\quad \mathrm{DV}=$ Design Variation
Mod = Modified

## iv. Cultural Resources

A Historic Property Survey Report (HPSR) (LSA Associates, Inc., June 2012), a Supplemental HPSR (LSA Associates, Inc. July 2014), and Findings of Effect (FOE) (LSA Associates, Inc., November 2012), Memorandum of Agreement (MOA) (LSA Associates, Inc. August 2014) and Discovery and Monitoring Plan (DMP) (LSA Associates, Inc. August 2014) were prepared for the project. The documents were completed in accordance with the Section 106 Programmatic Agreement (PA) and the Caltrans Environmental Handbook, Volume 2, Cultural Resources (February 2012). As such, this project is designed to meet the requirements of reporting cultural resource investigations as required under both CEQA and 36 CFR 800 of the National Historic Preservation Act (NHPA).

The studies found that one property (Site 33-16598) in the MCP Area of Potential Effects (APE) is eligible for the National Register of Historic Places (National Register), five properties (33-3653, 33-19862, 33-19863, 33-19864, and 33-19866) are assumed eligible for the National Register for the project. Seven resources are considered Historical Resources for the purposes of CEQA (Sites 33-16598, 33-3653, 33-19862, 3319863, 33-19864, 33-19866 and CBJ Dairy). Based on the Finding of Effect (FOE) (LSA Associates, Inc., November 2012), the MCP project will result in an adverse effect under NHPA Section 106 for Sites 33-16598, 33-19862, 33-19863, 33-19864, and 33-19866.

In order to complete Section 106/CEQA historical resources compliance, a MOA has been developed for Sites 33-16598, 33-19862, 33-19863, 33-19864, and 33-19866 to document the required mitigation measures in consultation with the Native American Tribes and the State Historic Preservation Officer (SHPO). The Native American Tribes that have been involved in consultation for the MCP project were invited to participate in
the development of the MOA for the MCP project including a DMP and a Burial Treatment Plan. A Final MOA was submitted to SHPO on September 23, 2014 and SHPO concurred on October 30, 2014. The stipulations in the MOA will be complied with throughout the PS\&E and construction phases of the project.

## v. Growth Inducement

A Community Impact Assessment (CIA) was prepared for the project (LSA Associates, Inc., January 2012). As a designated CETAP Corridor planned as part of the RCIP, one of the purposes of the project is to accommodate planned growth by providing a transportation facility that will effectively and efficiently accommodate regional west-east movement of people and goods between and through San Jacinto and Perris. Specifically, the proposed project would provide increased capacity to support the forecast travel demand generated by planned land uses for the 2040 design year.

The growth analysis conducted for the MCP project concluded that implementation of the proposed MCP project is expected to have little influence on location, amount, rate, or type of growth in the area. The basis for this conclusion is threefold:
(1) The area has undergone rapid development since well before the MCP project planning (and prior to CETAP corridor planning) had begun.
(2) The MCP project has been integrated into the overall planning of the area based on the inclusion of the CETAP corridor overlay in the Riverside County General Plan Circulation Element.
(3) Based on RCTC monthly review meetings with local land use authorities, there has been no indication of developers intensifying or substantially modifying their development proposals in response to the proposed MCP project.

Therefore, the MCP project will meet the purpose and need of the project to accommodate regional west-east movement of people and goods without resulting in adverse growth-related effects due to unplanned growth within the study area.

## vi. Noise

A Vehicular Traffic Noise Impact Analysis was prepared for the project (LSA Associates, Inc., January 2012). Short-term noise levels were measured at 63 representative locations to document the existing noise environment. Twenty-five out of the 63 shortterm noise level measurements were used to calibrate the noise prediction model with concurrent traffic counts and measured vehicle speeds. No calibration factors for the remaining 38 short-term noise level measurements were applied to the monitoring locations due to one or more of the following reasons: no existing roadways, very little traffic volumes or slow travel speeds identified during the noise monitoring work, or substantially altered alignments and profiles of an existing highway under 2040 build conditions.

A total of 355 receptors were modeled and evaluated for potential noise impacts resulting from vehicular traffic for the project. The results of the existing and the predicted future worst-case noise levels are shown in Noise Study Report (LSA Associates, Inc., January 2012). When traffic noise impacts were identified, noise abatement measures were considered.

Traffic noise impacts result from one or both of the following occurrences: (1) an increase of 12 dB or more over existing noise levels; or (2) predicted noise levels approach or exceed the Noise Abatement Criteria (NAC).

Implementation of the project Variation would result in potential short-term noise impacts during construction and long-term noise impacts from use of the completed project. Of the 355 modeled receptors under the project traffic noise conditions, 66 receptors approach or exceed the $67 \mathrm{dBA} \mathrm{L}_{\text {eq }}$ NAC, and 150 receptors would experience a substantial increase in noise of 12 dB or more over their corresponding modeled existing noise level for Activity Categories B and C.

Noise abatement measures were evaluated for frequent outdoor use areas within the project limits that would be or would continue to be exposed to traffic noise levels approaching or exceeding the NAC or would experience a substantial noise increase of 12 dB over their corresponding modeled existing noise level. A total of 23 of 24 noise barriers evaluated for the project were capable of reducing noise levels by 5 dB or more as required to be considered feasible. Two or three combined barriers that are evaluated to shield the same group of impacted receptors are counted as one barrier because they overlap one another. Noise Barrier Alt9-NB-4 was determined to be not feasible because they would not reduce noise levels by 5 dB or more. The overall reasonableness of noise abatement for each noise barrier is determined by considering a minimum noise reduction of 7 dB for at least one of the benefited receptor locations based on the Traffic Noise Analysis Protocol (Caltrans 2011). Noise barriers Alt9-NB-29 could provide a 7 dB insertion loss to satisfy the design goal with a barrier of 18 ft . Noise barriers Alt9-NB52/53/54 was determined to be not reasonable because it would not reduce noise levels by 7 dB or more for at least one of the benefited receptor locations. Detailed information on noise barriers are provided in Tables C-1 through C-8 of the Noise Study Report (LSA Associates, Inc., January 2012).

## F. Air Quality Conformity

An Air Quality Analysis for the project was prepared (LSA Associates, Inc., March 2012). The proposed project will help to improve traffic flow and reduce congestion on roadway links in the project vicinity. The project is located in an attainment/maintenance area for Federal carbon monoxide (CO) standards. Using the Caltrans Transportation ProjectLevel Carbon Monoxide Protocol, a screening analysis was conducted to determine whether the proposed project would result in any CO hot spots. It was determined that the proposed project will not result in any exceedances of the one-hour or eight-hour CO standards.

The proposed project is within a nonattainment area for federal standards for particulate matter (PM) less than 2.5 microns $\left(\mathrm{PM}_{2.5}\right)$ and within a federal attainment/maintenance area for PM less than 10 microns $\left(\mathrm{PM}_{10}\right)$ in size. Therefore, per 40 Code of Federal Regulations (CFR) Part 93, PM analyses are required for conformity purposes. However, the Environmental Protection Agency (EPA) does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in Section 93.123(b)(1) as an air quality concern. As the MCP project will be constructing a new roadway, it is potentially a project of air quality concern. A detailed $\mathrm{PM}_{2.5}$ and $\mathrm{PM}_{10}$ hot-spot analysis was submitted to and reviewed by the Transportation Conformity Working Group (TCWG) on June 14, 2011, and June 28, 2011, respectively. This project was approved and concurred upon by Interagency Consultation by the TCWG as a project not having adverse impacts on air quality and that meets the requirements of the CAA and 40 CFR 93.116.

Compliance with South Coast Air Quality Management District (SCAQMD) Rules and regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. To reduce fugitive dust emissions, the construction contractor shall adhere to the requirements of SCAQMD Rule 403. The Best Available Control Measures (BACM) specified in SCAQMD Rule 403 shall be incorporated into the project construction. Because the proposed highway construction project does not generate new regional vehicular trips, no new regional vehicular emissions would occur as a result of project operation.

The MCP project is listed in the 2012 RTP ISCS Amendment No.1, which was found to conform to the State Implementation Plan (SIP) by the Southern California Association of Governments (SCAG) on June 6, 2013, and the FHWA and the Federal Transit Administration (FTA) made a regional conformity finding on July 15, 2013. The project is also included in the financially constrained 2015 Federal Transportation Improvement Program (FTIP) (Project ID: RIV031218). The 2015 FTIP was determined to conform to the SIP by the FHWA and the FTA on December 15, 2014. Regional $\mathrm{PM}_{10}$ State Implementation Plan (SIP) budget compliance was accounted for during the currently approved RTP and FTIP conformity determination. Therefore, as the proposed project is consistent with the FTIP description, it is in conformance with the SIP.

## G. Title VI Considerations

A Community Impact Assessment (CIA) (LSA, January 2012) and a Final Relocation Impact Report (FRIR) (Epic, November 2014) were prepared for the proposed modified project. The project will involve the construction of a new highway through communities within the City of Perris that have a higher number of minority groups, a higher number of persons below the poverty line, and lower median income than the County and the cities within the study area. The establishment of a facility will result in a large number of property acquisitions, temporary construction detours, temporary air quality impacts,
permanent noise impacts, permanent aesthetic impacts, and temporary and permanent changes in travel patterns throughout the study area, including the Perris area.

Impacts to minority and low-income populations will be avoided or minimized through a variety of measures. Air quality impacts would be avoided or minimized by adhering to SCAQMD rules and regulations and to Caltrans Standard Construction Specifications for equipment emissions and fugitive dust. Temporary noise impacts would be avoided or minimized through implementation of Caltrans Standard Construction Specifications for noise. Long-term noise impacts would be minimized by implementing abatement measures such as noise barrier construction. These barriers reduce noise levels to within noise abatement criteria, an improvement in many cases over existing and future No Build conditions. For property acquisitions, standard relocation assistance will be provided to all displacees, in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. As indicated in the Final Relocation Impact Report (2014), there is adequate replacement housing for those residents being displaced. Appropriate signage and detours for both pedestrian and vehicular traffic will reduce impacts to access and circulation.

The project is not considered to have disproportionate impacts to environmental justice populations because measures such as depressing the alignment below grade and providing a local roadway connections across the new freeway would help maintain the cohesiveness of this community. Also, there is an ample supply of existing housing stock in the immediate area that will facilitate the ability to relocate residents within their existing communities.

## 7. OTHER CONSIDERATIONS AS APPROPRIATE

## A. Public Hearing Process

In January 2013, after approval of the Revised Draft Project Report, the Recirculated Draft EIR/Supplemental Draft EIS was circulated to the public. A public hearing to present the developed viable alternatives for public comment was held within the 45 day public review period and 57 people attended. A public hearing is recommended after the approval of this document.

## B. Route Matters

RCTC anticipates recommending the MCP facility for route adoption as a new State Route alignment on or near Ramona Expressway. Upon adoption of MCP as a state route, SR-74 from generally the same limits as MCP (from I-215 to SR-79) may be relinquished to the local agencies, subject to a future, formal agreement. The relinquishment would be an action of CTC resolution. SR-74 is an existing, west-east state highway located approximately 6 miles south of MCP.

This proposal is a Category 1 project (see Attachment AA-2, Project Category Assignment Memorandum) as defined in the Project Development Procedures Manual
( $7^{\text {th }}$ Edition, Chapter 8, and Section 5) requiring access control, new alignment, new R/W, and adoption of a new route by the California Transportation Commission (CTC).

## C. Permits

The project meets the thresholds required for consideration in the NEPA/Section 404 integration process. Pursuant to the NEPA/Section 404 Memorandum of Understanding (MOU), the resource agencies each participated in the project development process at an appropriate level depending on the quality and quantity of the resource involved. Checkpoint meetings were held when it was time to make a checkpoint decision. Caltrans on behalf of RCTC and FHWA transmitted the appropriate checkpoint decision items to the resource agencies for agree/disagree, comment/no comment, and concur/non-concur and sent the checkpoint closure letters as defined in the MOU. A Section 408 permit from the USACE is not required for the project.

The permits, reviews, and approvals listed in Table 7.A are anticipated to be required for the proposed MCP project:

Table 7.A:
Permits and Approvals Needed

| Agency | Permit/Approval | Status/Timeline |
| :---: | :---: | :---: |
| U.S. Fish and Wildlife Service (USFWS) | - Section 7 consultation for Threatened and Endangered Species <br> - Review Riverside County Transportation Commission (RCTC) Multiple Species Habitat Conservation Plan (MSHCP) Consistency Determination <br> - Concurrence on Determination of Biologically Equivalent or Superior Preservation (DBESP) | 1. The USFWS issued the Biological Opinion on February 11, 2015. <br> 2. The MSHCP Consistency Determination and DBESP were reviewed by USFWS, and the DBESP was concurred on November 14, 2014. |
| U.S. Army Corps of Engineers (USACE) | - Section 404 Permit for the discharge of dredged or fill material into waters of the United States; a Section 408 permit will not be required. | Application was submitted by RCTC to USACE on February 11, 2015. USACE approval will occur after FHWA approves the Record of Decision (ROD), and USACE will issue its own ROD for the permit decision based on the Final EIR/EIS. |
| California Department of Fish and Wildlife (CDFW) | - Section 1602 Lake and Streambed Alteration Agreement <br> - Review RCTC's MSHCP Consistency Determination <br> - Concurrence on DBESP | 1. Section 1602 Notification is to be submitted and agreement obtained prior to the start of construction. <br> 2. The MSHCP Consistency Determination and DBESP were reviewed by CDFW, and the DBESP was concurred on November 14, 2014. |

## Table 7.A: <br> Permits and Approvals Needed

| Agency | Permit/Approval | Status/Timeline |
| :---: | :---: | :---: |
| California Department of Transportation (Caltrans) District 8 | - Route Adoption <br> - Freeway Agreements with County of Riverside, Cities of Perris and San Jacinto <br> - Construction Encroachment Permit <br> - Freeway Maintenance Agreement <br> - PS\&E and Construction Cooperative | 1. RCTC will submit a request to Caltrans for Route Adoption prior to the MCP project being operational. <br> 2. Freeway Agreements would be executed following Route Adoption <br> 3. Construction Encroachment Permit will be obtained prior to start of construction. <br> 4. Freeway Maintenance Agreement will be executed following Route Adoption. <br> 5. PS\&E and Construction Cooperative Agreement will be executed prior to start of PS\&E and construction, respectively. |
| State Water <br> Resources Control <br> Board (SWRCB) | - Water Discharge Permit, approval of Notice of Intent to comply with General Construction Activity National Pollutant Discharge Elimination System (NPDES) Permit. | Application to be submitted prior to construction. |
| Western Riverside County Regional Conservation Authority (RCA) | - Concur on and approve RCTC's MSHCP Consistency Determination <br> - Concur on and approve RCTC's DBESP <br> - Concur on and approve RCTC's Public/ Quasi-Public Equivalency Determination (per MSHCP, Section 3.2.1) | The MSHCP Consistency Determination, DBESP, and Public/ Quasi-Public Equivalency Determination were concurred on August 20, 2014 by RCA. |
| Region 8, Santa Ana Regional Water Quality Control Board (RWQCB) | - Section 401 Water Quality certification | Application to be submitted following FHWA Record of Decision. |
| County of Riverside, City of Perris and City of San Jacinto | - Freeway Agreement with Caltrans should the project be adopted as a State Highway by the California Transportation Commission (CTC) <br> - Approval of encroachment permits and street construction permits, street closures and re-routing, and associated improvements in the public right of way <br> - General Plan Amendment | Actions/permits would be issued prior to start of construction. |
| Riverside County Flood Control and Water Conservation District (RCFCD) | - Encroachment permits and/or cooperative agreements for improvements in District Rights of Way or easements affecting RCFCD facilities | Application(s) to be submitted prior to construction. |
| Riverside County Environmental Health Department and California Department of Transportation (Caltrans) | - Aboveground Storage Tank (AST)/Underground Storage Tank (UST)Permits <br> - Caltrans Statewide permit (Order No. 99-06-DWQ), NPDES NO. CAS000003 | Permit to be requested if project acquires parcels with ASTs or USTs on site. |
| State Historic Preservation Officer (SHPO) | - Approval of a Memorandum of Agreement (MOA) with FHWA | SHPO approval of the MOA occurred on October 30, 2014. |

Table 7.A:
Permits and Approvals Needed

| Agency | Permit/Approval | Status/Timeline |
| :---: | :---: | :---: |
| Interested Native American Tribes | - Required consultation under Section 106 of the National Historic Preservation Act (NHPA) on the overall project cultural work, including (but not limited to) determinations of eligibility, findings of effect, and future work that includes involvement with the MOA, Archaeological Monitoring Plan, and Data Recovery Plan. | Native American consultation for the MCP is ongoing and will continue through project design and construction as described in the MOA. |
| Utilities | - Approvals to relocate, protect in place, or remove utility facilities | Prior to any construction activities that would affect utility facilities. |
| Burlington Northern Santa Fe (BNSF) Railroad Company | - Memorandum of Understanding and a Construction and Maintenance Agreement between RCTC and BNSF <br> - Approval of the proposed action, based on review of the Construction and Maintenance Agreement between RCTC and BNSF. | Prior to any construction within or above railroad right of way. |
| California Public Utilities Commission (CPUC) | - General Order 131-D for relocation of electrical transmission lines between 50 to 200 kilowatts <br> - Certificate of Public Convenience and Necessity for relocations to electrical transmission lines and gas lines | 1. Prior to any construction within or above railroad right of way. <br> 2. After certification of EIR/EIS and the filing of a Notice of Determination to complete the CEQA process. |

In addition, the FEIR/FEIS may be used by Responsible Agencies under CEQA for related discretionary actions, including General Plan Circulation and Land Use Element Amendments by the County of Riverside, City of Perris, and City of San Jacinto.

## D. Cooperative Agreements

It is anticipated that a Cooperative Agreement between Caltrans and RCTC will be needed for the PS\&E/Right of Way and Construction phases of the project.

## E. Other Agreements

If the MCP becomes a new state freeway, New Freeway Agreements will be required with the City of Perris, City of San Jacinto and County of Riverside for their respective jurisdictions along the MCP. Superseding Freeway Agreements will be required with the City of Perris and the County of Riverside for the new interchanges of MCP and Placentia Avenue on I-215 and for the modification of the Ramona Expressway/Cajalco Road interchange. If the SR-79 becomes a freeway, it would cover the MCP/SR-79 interchange in the Freeway Agreement with the City of San Jacinto.

If the MCP is adopted as a state route, a Freeway Maintenance Agreement will be needed with the City of Perris, City of San Jacinto and County of Riverside. A construction and maintenance agreement with BNSF will be needed for the widening of the Placentia Overhead Bridge and the Cajalco Overhead Bridge. A maintenance agreement for shared R/W with Metropolitan Water District will also be needed.

## F. Navigable Rivers

None of the alternatives considered would require construction of a new bridge over a navigable river and thus would not disrupt public access to any navigable river.

## G. Public Boat Ramps

The project is located adjacent to the Lake Perris Park. The park contains public boat ramps. The existing access at Bernasconi Road will be replaced with a service interchange at the same location. During construction, activities will be coordinated with the Park so as not to impact access to the public boat ramps.

## H. Transportation Management Plan for Use During Construction

## Overview:

The Transportation Management Plans (TMPs) will employ the following strategies to mitigate the traffic impact during construction to the region: a Public Information/Public Awareness Campaign (PAC), Traveler Information Strategies, Incident Management, Construction Strategies, Demand Management (DM), Alternate Route Strategies and other strategies. See K-1 to K-6, Attachment K, Transportation Management Plan Data Sheets.

According to Deputy Directive DD-60-R1, the policy objective for creating the TMP is to minimize motorist delays when implementing projects or performing other activities on the California State highway and freeway systems. This should be accomplished without compromising public or worker safety or the quality of the work being performed.

TMPs, including contingency plans, are required for all construction, maintenance, encroachment permits, planned emergency restoration, locally or specially-funded, or other activities on the State highway system. Where several consecutive or linking projects or activities within a region or corridor create a cumulative need for a TMP, Caltrans coordinates individual TMPs or develops a single interregional TMP. TMPs are considered during the project initiation or planning stage.

A TMP will be implemented for the project in a cost-efficient and timely manner with minimal interference to the traveling public. The TMP, when implemented, results in minimized project-related traffic delay and accidents by the effective application of traditional traffic mitigation strategies and innovative combinations of public and motorist information, demand management, incident management, system management, alternate route strategies, construction strategies, and other strategies.

The following construction impacts are anticipated for the project:

## I-215 and Mainline Area

- It is anticipated that traffic will be maintained in both directions along I-215 as MCP connections are made and as the median lanes are added. However, over the course of construction, a total of 40 nighttime temporary lane closures are anticipated on I-215 for restriping and the placement of temporary railing.
- It is anticipated that the existing ramps at Ramona Expressway will be temporarily closed for 12 nights for restriping to accommodate the construction of the new ramps.
- It is anticipated that 12 nighttime temporary lane closures on Placentia Avenue will be required for construction of the new ramps at Placentia Avenue.
- It is anticipated that Placentia Avenue will be reduced to one lane in each direction at $\mathrm{I}-215$ for 180 days during construction for widening of the existing $\mathrm{I}-215$ overcrossing and widening of the existing railroad overhead west of I-215.
- It is anticipated that Cajalco Road/Ramona Expressway will be reduced to one lane in each direction west of I-215 for 180 days during construction for widening of the existing railroad overhead and tieback walls.
- It is anticipated that East Frontage Road will be temporarily closed for 60 days for reconstruction from Orange Avenue to West Morgan Street.
- It is anticipated that Nevada Avenue will be temporarily closed for 40 days for reconstruction north and south of Ramona Expressway.
- It is anticipated that Indian Street will remain open as the mainline bridge structure is constructed over Indian Street. However, construction false work and restriping may require nighttime closures for 12 nights and reduction in lanes for 180 days.
- It is anticipated that Placentia Avenue will be temporarily closed for the construction of the proposed overcrossings at the MCP (west of Redlands Avenue) for approximately 160 days. The detour will use Harvill Avenue and Ramona Expressway.
- It is anticipated that Perris Boulevard will be temporarily closed, from Placentia Avenue to Gallant Fox Road, for approximately 160 days to construct the proposed Perris Boulevard overcrossing. The detour will use Redlands Avenue.
- It is anticipated that Redlands Avenue will be temporarily closed, from Placentia Avenue to south of Rider Street, for approximately 160 days to construct the proposed Redlands Avenue overcrossing. The detour will use Perris Boulevard.


## SR-79 Interchange Area

- It is anticipated that traffic will be maintained in both directions along Ramona Expressway as MCP connections are made to the existing Ramona Expressway alignment. However, traffic lanes will be closed temporarily for 30 nights, along

Ramona Expressway when the lanes will be restriped in stages as the MCP connections are made.

During the second stage of construction:

- It is anticipated that construction of the remaining connections will have little or no effect on the surrounding roadway system. Construction false work and restriping may require nighttime closures for 24 nights and/or reduction in lanes for 30 months.


## I. Stage Construction

In an effort to minimize impacts to freeway and local street operations, construction of the project will occur in multiple stages as described below.

## I-215 and Perris Area

In this area the project constructs two new mixed-flow lanes in the existing I-215 median from south of Nuevo Road to Van Buren Boulevard, a new 6-lane MCP freeway between $\mathrm{l}-215$ and west of Bernasconi Road, and a new freeway-to-freeway system interchange between MCP and I-215. The project also modifies the existing interchange at Cajalco/Ramona Expressway on I-215, constructs a new interchange at the existing Placentia Avenue overcrossing on I-215, and constructs the new MCP local service interchanges at Redlands Avenue, Evans Road, and Ramona Expressway/Antelope Road. Additionally, the project adds 1 auxiliary lane each direction from Nuevo Road interchange to l-215/MCP systems interchange and from l-215/MCP systems interchange to Cajalco/Ramona Expressway interchange. See L-1 to L-3, Attachment L, Stage Construction.

The entire I-215 mainline widening and the freeway-to-freeway systems interchange can be constructed with minimal impact to the l-215 and local street operations. This section of the MCP will be constructed in two stages.

## Stage 1

- I-215 inside median widening will be constructed from 0.4 mile south of the Nuevo Road overcrossing to the Van Buren Boulevard overcrossing (Sta $1460+00$ to Sta 1809+50). The freeway will be re-striped to allow the three lanes of traffic to be shifted to the outside, allowing the contractor to construct pavement in the median for the length of the project. The inside shoulder in both directions will be 1 foot wide. There are no anticipated long-term closures or detours.
- The following streets will be reconstructed:
- East Frontage Road will be reconstructed just north and south of Orange Avenue and from Placentia Avenue to West Morgan Street.
- Patterson Avenue and Nevada Avenue will be reconstructed just north and south of Ramona Expressway.
- The following improvements will be made to bridges and ramps: See H-B-13 to H-B-17 and H-B-30 to H-B-032, Attachment H, Cost Estimates.
- The Perris Boulevard overcrossing over the proposed MCP will be constructed
- The Placentia Avenue overcrossing over the proposed MCP will be constructed
- The Redlands Avenue overcrossing over the proposed MCP and ramps will be constructed
- The MCP bridge at the Perris Valley Storm Drain undercrossing will be constructed
- The MCP bridges at Evans Road undercrossing and ramps will be constructed
- The MCP bridges at Ramona Expressway / Antelope Road undercrossing and ramps will be constructed
- The 6-lane MCP mainline will be constructed from I-215 to west of Bernasconi Road, 3-lanes in the eastbound direction and 3-lanes in the westbound directions. This portion of MCP is predominantly on new roadway. Any detail relating to local road closures or detours is not discussed at this time and will be outlined in the final design phase.


## Stage 2

- I-215 outside widening will be constructed from 0.3 mile north of the Nuevo Road overcrossing to 0.6 mile south of the Placentia Avenue overcrossing (Sta $1492+00$ to Sta $1527+00$ ) and from 0.5 mile north of the Placentia Avenue overcrossing to just north of the Ramona Expressway overcrossing (Sta 1586+00 to Sta $1641+50$ ). The freeway will be re-striped to push the traffic toward the median to utilize the newly constructed pavement in the median. The contractor would begin to work on the widening toward the outside of the freeway. There will be bridge widening, retaining walls, drainage structures, and other items being constructed during this stage of the project. There are no long-term closures or detours anticipated during this stage.
- The following l-215/MCP connectors will be constructed:
- I-215 southbound to MCP eastbound direct connector
- I-215 northbound to MCP eastbound connector
- MCP westbound to I-215 southbound direct connector
- MCP westbound to I-215 northbound connector
- The following improvements will be made to bridges and ramps:
- At Cajalco/Ramona Expressway, the ramps connecting to I-215 will be realigned to tie into the new construction.
- At the existing Placentia Avenue overcrossing, new ramps will be constructed connecting to the I-215 new construction.
- The existing Ramona Expressway railroad overhead just west of I-215 will be widened to the outside.
- Tieback walls will be constructed for the existing Ramona Expressway overcrossing at l-215.
- The existing Placentia Avenue overcrossing at I-215 and railroad overhead just west of I-215 will be widened to the outside.


## Lakeview/Nuevo Area

This section of the project constructs a new 6-lane MCP freeway, 3-lanes in the eastbound direction and 3-lanes in the westbound directions, from west of Bernasconi Road to west of Warren Road including the local service interchanges at Bernasconi Road, Reservoir Avenue, Town Center Boulevard, and Park Center Boulevard. This section of MCP will be constructed in two stages. See L-4 to L-8, Attachment L, Stage Construction Plans.

## Stage 1

- The three-lane MCP eastbound will be constructed from west of Bernasconi Road to west of Warren Road to the south of the existing Ramona Expressway. The project will leave the existing Ramona expressway in place to carry traffic.


## Stage 2

- Once the three new MCP lanes are constructed the traffic from Ramona expressway will be shifted to utilize the newly constructed pavement to carry traffic in both the west bound and east bound directions. The contractor will begin to construct the three-lanes of MCP westbound on what used to be the existing Ramona expressway.
- The following MCP bridges and interchanges will be constructed: See H-B-33, H-B-36, and H-B-37, Attachment H, Cost Estimates.
- The Bernasconi Road overcrossing over the proposed MCP and ramps will be constructed
- The Reservoir Avenue overcrossing over the proposed MCP and ramps will be constructed
- The Town Center Boulevard overcrossing over the proposed MCP and ramps will be constructed
- The Park Center Boulevard overcrossing over the proposed MCP and ramps will be constructed


## San Jacinto River Bridges (within Lakeview Nuevo Area)

This subsection of the Lakeview Nuevo MCP mainline section constructs the Martin St undercrossing and San Jacinto River Bridge. It assumes that mainline MCP has been constructed to the west of this area and to the east of Reservoir Avenue with a connection remaining to existing Ramona Expressway. A section of existing Ramona Expressway remains in the area for local access form Martin Street across the San Jacinto River to Reservoir interchange under the final project conditions. See L-6 to L-8, Attachment L, Stage Construction Plan.

## Stage 1

- Existing Ramona Expressway is extended with a detour from west of the proposed Martin Street bridge to join the newly built MCP westbound and eastbound lanes to the west of this area. Existing Ramona Expressway carries eastbound and westbound traffic to and from the newly constructed MCP on either sides of this section.


## Stage 2

- The three new MCP eastbound lanes and bridges are constructed.


## Stage 3

- The traffic from Ramona expressway will be shifted to utilize the newly constructed MCP eastbound pavement and bridges to carry traffic in both the west bound and east bound directions.
- The contractor will construct the three-lanes of MCP westbound and bridges, with portions overlapping existing Ramona Expressway.
- The contractor will construct the realigned portion of existing Ramona Expressway and connection to Martin Street.
- Traffic moved to utilize eastbound and westbound MCP, as well as Ramona Expressway for local access from Martin Street to Reservoir Avenue interchange.


## SR-79 Interchange Area

This section of the project constructs a new 6-lane MCP freeway, 3-lanes in the eastbound direction and 3 -lanes in the westbound direction between west of Warren Road and SR-79, and a new freeway-to-freeway interchange between MCP and SR-79. The project also modifies the existing ramps at the SR-79/Gilman Springs Road interchange, constructs new local interchanges at SR-79 and Warren Road, and reconfigures SR-79 from Gilman Springs Road interchange to south of the new MCP / SR-79 freeway-to-freeway interchange. The freeway-to-freeway interchange will be constructed with minimal impact to the SR-79 and Ramona Expressway. This section of MCP will be constructed in two stages as detailed below.

## Stage 1

- The project will leave the existing SR-79 in place to carry both northbound and southbound traffic and will construct the new southbound SR-79 lanes to the west of existing SR-79 from Ramona Expressway to the south of the Gilman Springs Road interchange. Once the new southbound SR-79 lanes are constructed, southbound traffic can be moved from existing SR-79 to the new southbound section. If the construction of this area for both projects - SR-79 Realignment and MCP, is within a short time frame, the area of SR-79 from the San Jacinto River Bridge to south of the proposed MCP/SR-79 freeway-tofreeway interchange would be constructed to match proposed MCP plans to reduce any throwaway. If the duration between the construction of the SR-79 realignment and the construction of MCP in this area is lengthy, after new southbound SR-79 constructed, traffic in both the southbound and northbound directions would be shifted from exist SR-79 to new southbound SR-79. The new northbound SR-79 lanes would be constructed and replace the existing SR-79 lanes.
- The following SR-79 bridge widening will be constructed:
- San Jacinto River Bridge at SR-79


## Stage 2

- The new six-lane MCP freeway between west of Warren Road and SR-79 and the new freeway-to-freeway interchange will be constructed. The freeway-tofreeway interchange can be constructed with minimal impact to the existing SR79 traffic operations and local road circulation. The staging will utilize the existing Ramona Expressway while the MCP Extension Road is constructed from Warren Road to Ramona Expressway and utilize the new MCP Extension Road when constructing the systems interchange over existing Ramona Expressway.
- The following connections and ramps will be constructed:
- MCP eastbound and westbound from Warren Road to Ramona Expressway with intersections at Sanderson Avenue and Ramona Expressway.
- SR-79/Ramona Expressway single-point diamond interchange (via newly constructed MCP eastbound and westbound extension).
- Southbound SR-79 on-ramps and off-ramps at MCP eastbound and westbound MCP extension to Ramona Expressway.
- Northbound SR-79 on-ramps and off-ramps at MCP eastbound and westbound MCP extension to Ramona Expressway.
- Warren Road interchange at MCP.
- Ramona Expressway realignment at Warren Road.
- The following connectors and bridges will be constructed: See H-B-43 to H-B-47, Attachment H, Cost Estimate.
- MCP eastbound to SR-79 northbound direct connector (with bridge structure over Ramona Expressway westbound to MCP westbound on-ramp).

MCP eastbound to SR-79 southbound connector (with bridge structure over MCP eastbound off-ramp to Ramona Expressway eastbound).
SR-79 northbound to MCP westbound direct connector (with bridge structure over Ramona Expressway westbound to MCP westbound on-ramp).
SR-79 southbound to MCP westbound connector (with bridge structure over Ramona Expressway westbound to MCP westbound on-ramp).

## J. Potential Phasing

The MCP from I-215 to SR-79 has been cleared by the Final EIR/Final EIS and is ready to move forward into the Plans, Specifications, and Estimates (PS\&E) and Construction phases for the entire 16-mile facility. It is RCTC's intent that full funding will be identified following the ROD, and that RCTC would proceed to construction of the entire MCP facility so that it would be opened to the public at the same time.

Both this document and the approved Final EIR/Final EIS assume the project will be constructed in its entirety at one time and have conducted their analyses as such. However, RCTC received several comments on the Draft EIR/EIS that circulated in October 2008 for the 32-mile MCP, requesting additional information on when the "west" segment (I-15 to I-215) versus the "east" segment (I-215 to SR-79) would be constructed and what interim effects on traffic conditions might result from constructing the project in phases. In response to public comments, in the event that funding is not available for construction of the entire project at one time, RCTC developed a potential construction phasing plan that could provide traffic benefits to the traveling public during the interim condition of each phase. As an FHWA Major Project, if the project is constructed in phases, the MCP project must meet FHWA Major Project Guidance for operational independence, nonconcurrent construction, and advancing the Purpose and Need. Coordination with FHWA will be required prior to each phase to determine that the FHWA Major Project Guidance is being met.

This Final Project Report and the Final EIR/Final EIS include a description of this potential phasing plan. The FEIR/FEIS also includes a traffic phasing analysis for 2020 and 2030 conditions in addition to the traffic analysis for the build and no build conditions in 2040. The purpose of the traffic phasing analysis is to provide general information on the expected traffic forecasts and roadway improvements that would be provided should the MCP project be built in phases. All other impact discussions in the FEIR/FEIS assume construction of the project at one time.

It is noted that this is a "potential" phasing plan, one of many scenarios that could be done if the project is phased. If the project is phased, a phasing plan will be reviewed with FHWA for approval.

## Potential Phasing Plan

The following summarizes the potential phasing plan for all MCP Build Alternatives. Each phase consists of improvements that would provide independent utility, logical termini, and advance the Purpose and Need should funding not be available to construct the project at one time; (see M-1 through M-3, Attachment M, Phasing). Each phase assumes local and regional roadway improvements in the project study area to have been completed by other projects if they are included in local and regional plans including, but not limited to, SCAG Regional Transportation plan and City/County fiveyear capital improvement programs.

Initial Phase (Opening Day): The initial phase of the project could be built by 2020 and would include the following improvements: (1) a service interchange at $\mathrm{I}-215 /$ Placentia Avenue providing access to $\mathrm{I}-215$ to and from Placentia Avenue; (2) one additional lane in each direction on I-215 from Nuevo Road to Van Buren Boulevard; and (3) a four-lane arterial from west of Bernasconi Road to Reservoir Avenue, including an intersection with Bernasconi Road, and a four-lane MCP freeway from west of Reservoir Avenue to west of Warren Road, including service interchanges at Reservoir Avenue, Town Center Boulevard, and Park Center Boulevard (these improvements would likely be built in conjunction with Riverside County and other local land development projects with County conditions). The fourlane facility from Bernasconi Road to Warren Road, would leave the existing twolane Ramona Expressway in place and add two lanes to the south of the existing Ramona Expressway. The existing Ramona Expressway lanes would carry westbound traffic and the two new lanes of eastbound traffic. The two new lanes would be constructed at the location and elevation of the ultimate MCP. Existing Ramona Expressway is four or more through lanes from I-215 to west of Bernasconi Road and four lanes from west of Warren Road to the future SR-79 alignment. The existing Ramona Expressway between Bernasconi Road and Warren Road is two lanes.

Second Phase: The second phase of the project could be built by 2030 and would include the following improvements: (1) the MCP systems interchange at I-215 that would include only the southbound I-215 to eastbound MCP and the westbound MCP to northbound I-215 ramps; (2) a four-lane MCP freeway from I 215 to west of Bernasconi Road, including service interchanges at Perris Boulevard or Redlands Avenue, Evans Avenue, Ramona Expressway/Antelope Road, and Bernasconi Road (locations differ by MCP Build Alternative); and (3) a four-lane MCP freeway from west of Warren Road to SR-79, including a service interchange at Warren Road, an intersection with Sanderson Avenue, and a service interchange with SR-79. This phase would differ by MCP Build Alternative regarding the location where the system interchange would be constructed along I 215 and the completion of the four-lane freeway through the city of Perris.

Final Phase (Horizon Year): The final phase of the project could be built by 2040 and would include: (1) the addition of northbound I-215 to eastbound MCP and the westbound MCP to southbound I-215 ramps at the I 215/MCP interchange; (2) widening of the MCP facility to a six-lane freeway from I-215 to SR-79; and (3) a system interchange at SR-79 and MCP. The widening of the MCP from four to six lanes, from I-215 to Bernasconi Road and from Warren Road to SR-79, involves constructing an additional lane on the inside of the two existing lanes in each direction of travel. The widening of the MCP from four lanes to six lanes in the section between Bernasconi Road and Warren Road would involve adding one lane to the inside of the two eastbound lanes built in the initial phase. It would also include removing the two westbound lanes, which are the original Ramona Expressway, and constructing three westbound lanes at the location and elevation of the MCP.

Although the MCP project is currently fully funded in the 2015 FTIP, if a decision is made after project approval to construct the MCP project in phases, then RCTC would identify the impacts and needed mitigation measures of a first phase and would compare these to the impacts and mitigation measures addressed and committed to in the Final EIR/EIS through an Environmental Revalidation, which would determine whether an EIR Addendum, Supplemental EIR, or Subsequent EIR would be required under CEQA, and whether a Supplemental EIS would be required under NEPA. If new adverse impacts or mitigation are identified for the first phase or a subsequent phase, then RCTC would prepare supplemental environmental documentation for approval of that project phase. In addition, the MCP project is considered a "major project" under FHWA guidelines, and it is not unusual for major projects to be constructed in phases due to the size of such a project. If the project is to be constructed in phases, the MCP project phases must meet FHWA Major Project Guidance for operational independence, nonconcurrent construction, and advancing the project purpose and need. This guidance is used to determine if a project can be divided from the scope of work in the NEPA decision document (the Final EIS and Record of Decision) into phases. This determination is made by the FHWA Division Office and the FHWA Project Delivery team prior to initiation of phased construction. Per the Major Project Deliverable Timeline, the Cost Estimate Review, Financial Plan, and Project Management Plan would be re-submitted, approved, and/or updated.
The Supplemental New Connection Report (NCR) Conceptual Acceptability was granted on August 17, 2012, from FHWA for the full build out of the new connection of the MCP at I-215, including a new Placentia Avenue interchange and improvements to I-215 from Nuevo Road to Van Buren Boulevard. The NCR Conceptual Acceptability was required before the approval of the Revised Draft Project Report and circulation of the Recirculated Draft EIR/Supplemental Draft EIS. FHWA approval of an NCR is required after the federal Record of Decision. If a decision is made to construct the MCP project in phases, after project approval, RCTC certification of the Final EIR, and FHWA approval of a Record of Decision, the RCTC will submit the phase of the NCR to be constructed to FHWA for NCR final approval. As subsequent phases are constructed,
the process will be repeated, similar to the Cost Estimate Review (CER), Financial Plan, and Project Management Plan.

The regulatory permitting could be authorized for all of the phases under one permit/ agreement/certification from each regulatory agency (USACE, CDFW, and RWQCB). Implementation of the mitigation may also be phased, as would be identified in the permit/agreement/certification. Regulatory agencies may require updated information if phasing is to occur and may also require higher mitigation ratios than if all mitigation obligations were met at the beginning of the construction. Alternatively, the permits could be phased as described above, with acknowledgment by the agencies that each phase is part of a larger project.

Supplemental New Connection Report (NCR) Conceptual Acceptability was granted on August 17, 2012 from FHWA for the full build of the new connection of MCP at I-215, including a new Placentia Avenue Interchange and improvements to the I-215 from Nuevo Road to Van Buren Boulevard. The NCR Conceptual Acceptability was required before the approval of the Revised Draft Project Report and circulation of the RDEIR/SDEIS. FHWA approval of an NCR is required after the federal Record of Decision. If a decision is made to construct the MCP project in phases, after project approval, RCTC certification of the Final EIR, and FHWA approval of a Record of Decision, the RCTC will submit the phase of the NCR to be constructed to FHWA for NCR final approval. As subsequent phases are constructed, the process will be repeated, similar to the Cost Estimate Review (CER), Financial Plan, and Project Management Plan.

## K. Accommodation of Oversize Loads

The project freeway-to-freeway interchange ramp construction at I-215 and SR-79 maintains standard vertical clearances. Modifications to existing interchange at Ramona Expressway also maintains standard vertical clearances. Consequently, the project will not affect the ability of the I-215 freeway mainline and ramps to transport oversized loads. The $\mathrm{I}-215$ is a designated Extra Legal Network (ELLN) route.

There is also a need for the project to accommodate truck traffic, which will be integral to future job growth in the area. For this reason, the design of the project considers the potential to serve large trucks. The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks to operate on the Interstate and certain primary routes (called collectively the National Network). Roadway design to accommodate these trucks, referred to as STAA trucks, must accommodate turning movements characterized by the rear tires following a shorter tracking path than the front tires. Ramp local street intersections will be designed to accommodate STAA trucks. Currently, I-215 and SR-79 north of the study area and south of State Route 74 (SR-74) are included in the STAA network. The project, is designed to meet STAA standards and will provide another eastwest link for goods movement.

## L. Graffiti Control

Development of a graffiti removal specification is anticipated as parts of the project site are in an urbanized area of Riverside County and are therefore considered graffiti-prone. In addition, design features will be proposed to prevent vandals from accessing bridges, signs, walls, and other features. Furthermore, vines and/or aesthetic architectural treatment will be provided wherever large vertical surfaces (e.g., retaining walls and sound walls) are accessible to discourage graffiti, minimize adverse impacts, and allow for easy maintenance.

## 8. FUNDING/PROGRAMMING

MCP is currently included in Amendment No. 1 of the 2012 RTP adopted June 6, 2013, listed as New Mid County Parkway (RIV031218). The FTIP Project ID number is also RIV031218.

The following is the description for the project, adopted in June 2013:

> "CONS 6 THRU LN (3 LNS IN EA DIR) APPROX 16-MI BTWN I-215 IN PERRIS EAST TO SR-79 IN SAN JACINTO, INC CONS/RECONS OF 13 ICS, ADD OF AUX LN REDLANDS - EVANS AND EB AUXILIARY LN EVANS - ANTELOPE. I-215 IMP: ADD 1 MF LN IN EA DIR NUEVO RD VAN BUREN BLVD, \& ONE AUX LN IN EA DIR MID CO PKWY CAJALCO/RAMONA EXP AND FROM MID CO PKWY - NUEVO."

Funding for the Project Approval/Environmental Document (PA/ED) phase of the project, including preparation of the Recirculated FEIR/FEIS, was provided from the western Riverside County Transportation Uniform Mitigation Fees (TUMF) and from a Federal Streamlining Fund Allocation. Measure A designates funding to CETAP corridors; Mid County Parkway is one of four CETAP Corridors. Funding for the PS\&E and right of way phases is provided from local Measure A, bond, and TUMF revenues. The project is scheduled for start of construction in February 2018. The project is eligible for federalaid funding, and funding for the construction phase is included in the FTIP window from FY 2012/13 to FY 2019/20. It is anticipated that a combination of the State Transportation Improvement Program (STIP), local Measure "A" 0.5 cent sales tax, local TUMF fees, and Federal dollars would be pursued. The Mid County Parkway is recognized by Caltrans as a possible future State Highway and will be considered for adoption as such. It is anticipated the project will be eligible for STIP funding if it is included in the State Highway System.

Table 8.A shows the Capital Outlay Support and Project Estimates.

Table 8.A:
Capital Outlay Support and Project Estimates

| Fund Source | Fiscal Year Estimate |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Measure A | Prior | $2014 / 15$ | $2015 / 16$ | $2016 / 17$ | $2017 / 18$ | $2018 / 19$ | Future | Total |
| Component | In thousands of dollars $(\$ 1,000)$ |  |  |  |  |  |  |  |
| PA\&ED Support | 38,000 | 7,083 |  |  |  |  |  | 45,083 |
| PS\&E Support |  |  | 75,000 | 80,000 | 11,899 |  |  | 166,899 |
| Right-of-Way Support |  |  | 6,000 | 7,000 | 1,446 |  |  | 14,446 |
| Construction Support |  |  |  |  | 40,000 | 50,000 | 65,773 | 155,773 |
| Right-of-Way |  |  | 30,000 | 150,000 | 56,630 |  |  | 236,630 |
| Construction |  |  |  |  | 250,000 | 350,000 | 512,662 | $1,112,662$ |
| Total | 38,000 | 7,083 | 111,000 | 237,000 | 359,975 | 400,000 | 578,435 | 1.732 B |

The current project cost estimate of $\$ 1.732 \mathrm{~B}$, which was updated in late 2014, slightly exceeds the current FTIP programmed amount of $\$ 1.691 \mathrm{~B}$. Prior to this update, the cost estimate had been less than the FTIP programmed amount. RCTC will request an amendment to the FTIP in the next programming update to amend the programmed funds to match or exceed the cost estimate amount. The support cost ratio is $28.3 \%$.
9. SCHEDULE

| Project Milestones |  | Scheduled Delivery Date <br> (Month Year) |
| :--- | :---: | :---: |
| PROGRAM PROJECT | M 015 | 2004 |
| BEGIN ENVIRONMENTAL | M 020 | 2004 |
| NOTICE OF PREPARATION (NOP) | M 030 | November 2004 |
| NOTICE OF INTENT (NOI) | M 035 | November 2004 |
| CIRCULATE DPR \& DED EXTERNALLY | M 120 | November 2008 |
| CIRCULATE SDPR \& RDED EXTERNALLY |  | January 2013 |
| PA \& ED | M 200 | April 2015 |
| DRAFT STRUCTURES PS\&E (1 ${ }^{\text {st }}$ Segment) | M 378 | August 2016 |
| PROJECT PS\&E | M 380 | July 2017 |
| RIGHT OF WAY CERTIFICATION | M 410 | August 2017 |
| READY TO LIST | M 460 | October 2017 |
| AWARD | M 495 | December 2017 |
| APPROVE CONTRACT | M 500 | January 2018 |
| CONTRACT ACCEPTANCE | M 600 | December 2020 |
| END PROJECT | M 800 | December 2020 |

M030 and M035 are only required if the environmental document is an EIR/EIS, M120 is only required if there is a draft environmental document that will be released to the public, and M378 is not required, but optional if there are structures involved, delete rows as needed.

## 10.RISKS

A Risk Register was created to identify and manage the major project risks that may have a potential to adversely affect the project cost and/or schedule. At the Major Project Cost Estimate Review (CER) workshop conducted by FHWA and Caltrans in April 2014, the risk items in the Risk Register were further analyzed with each risk quantified by dollars and schedule delay using a probabilistic model and input from the subject matter experts present at the CER. The results of the risk analysis performed at the CER workshop are tabulated in the Risk Register N-1 to N-3, Attachment N, Risk Register.

The major project risks consist of, but are not limited to, the following::

- Geotechnical
- MCP alignment embankment stress on the MWD Colorado River Aqueduct (CRA)
- Groundwater table at depressed MCP segment in city of Perris
- Uncertainty of soil conditions along project corridor as geotechnical soil sampling only performed at bridge locations and a few other specific locations
- Earthwork and Pavement
- Uncertainty in pavement structural section, contingent upon whether MCP is adopted as a state route
- Earthwork balance dependent on construction sequencing
- Right-of-Way Acquisition
- Large number of acquisitions with some likely requiring eminent domain
- Market conditions with potential for property value increase
- Utility Relocation
- Railroad Coordination
- Connection with SR-79
- MCP project assumes SR-79 will be constructed prior to MCP construction
- Environmental Issues
- Unanticipated Cultural/Archaeological Findings
- Section 4(f) Resources
- Floodplain Impact
- Coordination with local developers


## 11.FHWA COORDINATION

FHWA has been involved with the MCP project since it was identified as a key west-east regional transportation corridor in Riverside County's RCIP, and more specifically, in the CETAP planning efforts, which began in 1999. CETAP study efforts were jointly undertaken by RCTC and the County in coordination with Caltrans and FHWA. FHWA has participated in the planning process through RCIP, CETAP, and now the PA/ED of the MCP.

The MCP is an Executive Order 13274 Project, signed September 18, 2002, with CETAP selected as a priority project in October 31, 2002. MCP, as a CETAP corridor, meets criteria qualifications of Joint Stewardship and Oversight as a High Profile Project (HPP). Per the current Joint Stewardship and Oversight Agreement between Caltrans and FHWA, signed September 4, 2007 and the subsequent update signed October 14, 2010, this project is considered to be an HPP.

FHWA "Engineering and Operational Conceptual Acceptability Determination", in the form of the New Connection Report for the I-215/MCP systems interchange, was received in September 2011. "Final Approval" is expected to be received after the Record of Decision in early 2015.

## 12. PROJECT REVIEWS

Per the current Joint Stewardship and Oversight Agreement (Agreement) between the California Department of Transportation (Caltrans) and Federal Highway Administration (FHWA), signed September 4, 2007 and the subsequent update signed October 14, 2010, this project is considered to be a High Profile Project. The MCP is an Executive Order 13274 Project, signed September 18, 2002, with CETAP selected as priority project October 31, 2002. Therefore, MCP, as a CETAP corridor, meets criteria qualifications of Joint Stewardship and Oversight as a High Profile Project. However, should any future situation/circumstance that will potentially declassify the project as a High Profile Project arise, Caltrans shall notify FHWA and reassess this project using the High Profile Project selection outlined in the Agreement.

The project requires approval of the following engineering technical studies and reports from Caltrans and/or FHWA: Design Exception Fact Sheets, New Connection Report (NCR), Geometric Approval Drawings (GAD), and the Project Report. The six Design Exception Fact Sheets have all been approved and consist of the following: I-215 Mandatory, I-215 Mandatory Supplemental, I-215 Advisory, MCP Mainline Mandatory, MCP Mainline Advisory, and the SR-79 Mandatory. The l-215 Supplemental NCR obtained conceptual approval (operational and engineering acceptability) in August 2012 and is awaiting final approval following the approval of this Project Report. The GAD was approved in February 2015. The Draft Project Report was approved in January 2013.

The following is a list of the FHWA and Caltrans personnel who have provided review and the engineering studies/reports they have reviewed.

| Name | Title | Phone | Date(s) of Review |
| :---: | :---: | :---: | :---: |
| Tay Dam | FHWA <br> Senior Transportation Engineer | (213) 202-3954 | - Supplemental NCR: I-215, 2011 |
| Jeff Holm | FHWA <br> Design/Traffic Ops <br> Engineer | (916) 498-5021 | - NCR: I-215, 04/2008 <br> - Supplemental NCR: I-215, 2011 |
| Bren George | FHWA <br> Field Operations Engineer | (916) 498-5890 | - NCR: I-215, 04/2008 |
| Luis Betancourt | Caltrans HQ Design Coordinator, Division of Design | (916) 651-6551 | - Mandatory Fact Sheets: I-215 and SR79, 08/2007 <br> - Supplemental Mandatory Fact Sheets: I-215, 09/2011 <br> - NCR: I-215, 08/2007 <br> - Supplemental NCR: I-215, 09/2011 |
| Brian Frazer | Caltrans HQ Design Reviewer | (916) 651-6775 | - Fact Sheets: I-215 and SR-79, 08/2007 <br> - Supplemental Mandatory Fact Sheets: I-215, 09/2011 <br> - NCR: I-215, 08/2007 <br> - Supplemental NCR: I-215, 09/2011 |



Name
Anthony Ng

Jon Bumps

Mark Pertile

Title
Caltrans
FHWA Liaison/Design Reviewer

Phone
(909) 383-4952
(909) 383-4616

Caltrans
Design Oversight Manager

Caltrans
(Former) Design Oversight Manager
(909) 383-4243

Caltrans
Traffic Operations Senior

Date(s) of Review

- Supplemental Mandatory Fact Sheets: I-215, 09/2011
- Supplemental NCR:

I-215, 09/2011

- Advisory Fact Sheet:

I-215, 02/2014

- Mandatory and Advisory Fact Sheets:
MCP Mainline, 03/2014
- GAD, 2011-2014
- Supplemental Mandatory Fact Sheet: I-215, 09/2011
- Supplemental NCR: I-215, 09/2011
- Mandatory Fact Sheet: MCP Mainline, 03/2014
- Advisory Fact Sheet: I-215, 02/2014
- Advisory Fact Sheet: MCP Mainline, 03/2014, 10/2014
- Draft Project Report:

MCP, 2012

- GAD, 2011-2014
- Mandatory Fact Sheets: I-215 and SR79, 08/2007
- NCR: I-215, 08/2007
- Traffic Technical

Report, 02/2012

- GAD, 2011-2014


## 13. PROJECT PERSONNEL

The following individuals may be contacted for information or questions regarding this Project Report:

| Name | Affiliation | Phone |
| :---: | :---: | :---: |
| Nassim Elias | Caltrans Project Manager | (909) 383-6713 |
| Jon Bumps | Caltrans <br> Design Oversight Manager | (909) 383-4616 |
| Mainul Khan | Caltrans Project Oversight Engineer | (909) 388-7307 |
| Marie Petry | Caltrans <br> Senior Environmental Planner, <br> Special Projects "B" | (909) 383-6379 |
| Alex Menor | RCTC Capital Project Manager | (951) 787-7970 |
| Gustavo Quintero | Bechtel/RCTC Project Coordinator | (951) 787-7935 |
| Merideth Cann | Jacobs <br> Project Manager | (949) 224-7810 |
| Chao Chen | Jacobs Engineering Task Lead | (909) 974-2702 |
| Rob McCann | LSA Associates Inc. Environmental Task Lead | (949) 553-0666 |
| Frank Lara | Jacobs <br> Drainage and Utility Task Lead | (909) 974-2726 |


| Erik Ruehr | VRPA <br>  <br>  <br> George Hsu | (858) 566-1766 |
| :--- | :--- | :--- |
|  | CH2M Hill |  |
|  | Drainage Task Lead | (714) 435-6205 |

## 14. ATTACHMENTS

LIST OF ATTACHMENTS
ATTACHMENT AA: Final EIR / Final EIS Cover Page and Signature and Project Category Assignment Memorandum
ATTACHMENT A: Vicinity Map
ATTACHMENT B: Purpose and Need Exhibits
ATTACHMENT C: 2040 ADT Forecasts, and Directional ADT and Peak Hour Horizon Year 2040 and Capacity and Level of Service Horizon Year 2040
ATTACHMENT D: Peak Hour Traffic Forecasts 2040 - Systems (Freeway to Freeway) Interchanges

ATTACHMENT E: Peak Hour Traffic Forecasts 2040 - Service (Local) Interchanges
ATTACHMENT F: Layout Plans
ATTACHMENT G: Typical Sections, Life Cycle Cost Analyses, Traffic Index Memorandum, Park and Ride Locations, and Maintenance Facility Locations

ATTACHMENT H: Cost Estimates
ATTACHMENT I: Right of Way Data Sheets
ATTACHMENT J: Agency Letters
ATTACHMENT K: Transportation Management Plan Data Sheets
ATTACHMENT L: Stage Construction
ATTACHMENT M: Phasing
ATTACHMENT N: Risk Register

FINAL PROJECT REPORT
ATTACHMENTS


MID COUNTY PARKWAY
RAMONA EXPRESSWAY
April 2015

## LIST OF ATTACHMENTS

| ATTACHMENT AA: Final EIR/Final EIS Cover Page and |  | C-14 | I-215 |
| :---: | :---: | :---: | :---: |
|  | Signature and Project Category Assignment Memorandum | C-15 | MCP |
| AA-1 | FEIR / FEIS Cover Page and Signature | C-16 | Existing (2010) Intersections |
| AA-2 | Project Category Assignment Memorandum | C-17 | No Build Intersections |
|  |  | C-18 | Intersections (MCP) |
| ATTACHMENT A: Vicinity Map |  |  |  |
| A-1 | Vicinity Map | ATTACHMENT D: Peak Hour Traffic Forecasts Year 2040 - Systems (Freeway to Freeway) Interchanges |  |
| ATTACHMENT B: Purpose and Need Exhibits |  | D-1 | MCP/ I-215 |
| B-1 | Circulation Element | D-2 | MCP/ SR-79 |
| B-2 | Hemet to Corona / Lake Elsinore Study Area | ATTACHMENT E: Peak Hour Traffic Forecasts Year 2040 - Service (Local) Interchanges |  |
| B-3 | Freeways and Other State Highways |  |  |
| B-4 | Jurisdictional Boundaries | E-1 | MCP at Redlands Ave |
|  |  | E-2 | MCP at Evans Road |
| ATTACHMENT C: 2040 ADT Forecasts, Directional ADT and Peak Hour Horizon Year 2040, and Capacity and Level of Service Horizon Year 2040 |  | E-3 | MCP at Ramona Expressway / Antelope Road |
|  |  | E-4 | MCP at Bernasconi Road |
| 2040 Average Daily Traffic Forecasts |  | E-5 | MCP at Reservoir Avenue |
| C-1 to C-2 | No Build | E-6 | MCP at Town Center Boulevard |
| C-3 to C-4 | MCP | E-7 | MCP at Park Center Boulevard |
|  |  | E-8 | MCP at Warren Road |
| Directional ADT and Peak Hour Horizon Year 2040 |  | E-9 | SR-79 at MCP Extension |
| C-5 | Existing (2010) I-215 | E-10 | $\mathrm{I}-215$ at Placentia Ave |
| C-6 | No Build I-215 | E-11 | I-215 at Cajalco / Ramona Expwy |
| C-7 | I-215 | ATTACHMENT F: Layout Plans |  |
| C-8 | MCP |  |  |
|  |  | F-1 | Layout Sheets Key Map |
| Capacity and Level of Service Horizon year 2040 |  | F-2 to F-9 | I-215 |
| C-9 | Existing (2010) I-15 | F-10 to F-20 | MCP |
| C-10 | Existing (2010) I-215 | F-21 to F-23 | SR-79 |
| C-11 | No Build I-15 |  |  |
| C-12 | No Build I-215 |  |  |
| C-13 | I-15 |  |  |

ATTACHMENT G: Typical Sections, Life Cycle Cost Analyses, Traffic Index Memorandum, Park and Ride Locations, and Maintenance Facility Locations

G-1 to G-3 I-215 Typical Sections
G-4
G-5
G-6
G-7
G-8
G-9
G-10
G-11

MCP Typical Section
MCP Typical Sections (Depressed and at Bridge)
SR-79 Typical Section
LCCA - MCP Mainline, Preliminary Draft
LCCA - Ramp A (Typical Ramp), Preliminary Draft
LCCA - Ramp B (High Truck Traffic), Preliminary Draft
Traffic Index Memorandum
Park and Ride \& Maintenance Facility Locations

## ATTACHMENT M: Phasing

M-1 to M-3 Potential Phasing Plan
ATTACHMENT N: Risk Register
$\mathrm{N}-1$ to $\mathrm{N}-3$
Risk Register Matrix

## ATTACHMENT H: Cost Estimates

| $\mathrm{H}-1$ to H-8 | Project Cost Estimate Summary Sheets |
| :--- | :--- |
| $\mathrm{H}-9$ | Bridge APS List |
| H-10 | Bridge APS Key Map |
| H-B-1 to H-B-48 | APS General Plan Sheets with Bridge Cost Estimates |

## ATTACHMENT I: Right of Way Data Sheets

I-1 to l-4

MCP

## ATTACHMENT J: Agency Letters

| $J-1$ to J-3 | MWD 05/13/05 |
| :--- | :--- |
| J-4 | DWR 06/08/05 |
| $J-5$ | DWR 08/19/05 |

## ATTACHMENT K: Transportation Management Plan Data Sheets

$\mathrm{K}-1$ to $\mathrm{K}-6$
TMP Data Sheets

## ATTACHMENT L: Stage Construction

| L-1 to L-3 | I-215 Stages 1-2 |
| :--- | :--- |
| L-4 | Lakeview Nuevo Area Stage 1 |
| L-5 | Lakeview Nuevo Area Stage 2 |
| L-6 | San Jacinto River Bridges Stage 1 |
| L-7 | San Jacinto River Bridges Stage 2 |
| L-8 | San Jacinto River Bridges Stage 3 |

## ATTACHMENT AA

FINAL ENVIRONMENTAL IMPACT REPORT/ FINAL ENVIRONMENTAL IMPACT STATEMENT COVER PAGE AND SIGNATURE

AND
PROJECT CATEGORY ASSIGNMENT MEMORANDUM

FINAL EIR / FINAL EIS COVER PAGE AND SIGNATURE

Mid County Parkway, a new freeway from the City of Perris in the west to the City of San Jacinto in the east. FINAL ENVIRONMENTAL IMPACT REPORT/FINAL ENVIRONMENTAL IMPACT STATEMENT AND FINAL SECTION 4(F) EVALUATION

Submitted Pursuant to: (State) Division 13, Califormia Public Resources Co
(233(2)(C) and 49 USC 303
u.S. DEPARTMENT OF TRANSPORTATIO THE STATE OF CALIFORNIA
HE RIVERSIDE COUNTY TRANSPORTATION COMMISSION
COOPERATING AGENCY: United States Arny Corps of Engineers Califomia Department of Fish and Wildifte Califomia Public Utilitites Comm

County of Riverside,
City of Perris, and
City of San Jacinto

$$
\begin{aligned}
& \text { Anpil, } 3,2015 \\
& \frac{4 / 8 / 15}{\text { Date of Approval }} \\
& \frac{4 / 15 / 15}{\text { Date of Approval }}
\end{aligned}
$$

$$
\begin{aligned}
& \text { Riverside County Tral } \\
& \text { CEQA Lead Agency }
\end{aligned}
$$




The forming
Mr. Alex Menor
Riverside County
Transporation Commissio
Mr. Tay Dam
Federal High
4ivesside Lenon Street, 3rd Flo
Riverside. CA 2501 Federal Highway Administration
888 South Figucra Strect Suit 1850
Los Angeles, CA $90017-54673337$

Los Angeles, CA
(916) 498-5001

Abstract: The Mid County Parkway project will provide a new freeway that will effectively and efficicently accommodate regiona west-east movement of people and goods between and through the cities of San Jacinto and Perris. Potential benefits from future
implementation include increased aceessibility for residents and businesses and the relief of traffic congestion on the regional an implementation include increased accessibiiity for residents and businesses and the relief of traffic congestion on the regional and resources, aquatic resources, cultural resources, aesthetics, residential relocations, business relocations, traffic noise, and temporary FHWA will not issue a single Final Environmental Impact Statement and Record of Decision document pursuant to Pub. L. . 112 -14 Stat. 405, Scetion 1319(b) because FHWA has determined that practicability yonsididrations (no identification of a preferred alternative in the Draft Environmental Impacas Staten
of a combined document pursuant to Section 1319 .

1 FHWA is the lead agency under the National Environmental Policy Act (NEPA), in cooperation with Caltrans.

## Memorandum

Flex your power: Be energy efficient!

To: LUIS BETANCOURT
Deputy District Director
Design, MS 1267

From: JON BUMPS
Office Chief
Design H, MS 1164

Subject: Project Category Assignment

Approval is requested for assignment of the above-referenced projects to Category 1, in accordance with requirements in Chapter 8, Section 5 of the Project Development Procedures Manual.

The project proposes a new divided highway with access control and with grade separations at local interchanges. RCTC proposes to recommend this facility for adoption as a new State Route alignment on or near Cajalco Road and Ramona Expressway.

This project requires access control, new alignment, new right-of-way, and adoption of a new route by the California Transportation Commission (CTC).

Approved by


Deputy District Director
Design
c: NElias, Project Manager, MS 1229 File

ATTACHMENT A
VICINITY MAP

VICINITY MAP


LEGEND
$\square$ Mid County Parkway Study Area

# ATTACHMENT B <br> PURPOSE AND NEED EXHIBITS 




LEGEND
Figure 1.2.1
[-] Previous Mid County Parkway Study Area - 2004
$\square$ Mid County Parkway Study Area - 2011
Hemet to Corona/Lake Elsinore Study Area



LEGEND
Figure 1.3.3

## $\square$ Study Area

Li.:. County Boundary
$\square$ City Limits

- Highways

Major Roads
SOURCE: TBM (2010); Jacobs Engineering (02/2011)


## ATTACHMENT C

2040 AVERAGE DAILY TRAFFIC FORECASTS,
DIRECTIONAL ADT AND PEAK HOUR HORIZON YEAR 2040,
AND
CAPACITY AND LEVEL OF SERVICE (HORIZON YEAR 2040)


MID COUNTY PARKWAY - NO BUILD
2040 Average Daily Traffic
East of I-215 to SR 79
February, 2012



MID COUNTY PARKWAY
2040 Average Daily Traffic
East of I-215 to SR 79
February, 2012










C-9
Existing (2010)
Freeway Capacity Analysis (1)
Interstate 15

(1) Capacity analysis is shown for freeway only. See separate page of C-9 for ramps.
(2) Freeway capacity is defined as the capacity at level of service E , expressed in vehicles per hour.
(3) LOS = Level of Service
(4) Density is expressed in passenger cars/mile/lane

|  | $\begin{gathered} \text { C-9 (cont.) } \\ \text { Existing (2010) } \\ \text { Ramp Capacity Analysis (1) } \\ \text { Interstate } 15 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northbound |  | Peak Hour Traffic (veh/hr) |  |  |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
|  |  | AM |  | PM |  |  |  |  |  |  |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Temescal Canyon Rd Off Ramp | Diverge | 5635 | 849 | 5264 | 131 | 3 |  | D | 32.9 | D | 30.2 |
| Temescal Canyon Rd On Ramp | Merge | 4786 | 325 | 5133 | 426 | 3 | 1 | D | 28.9 | D | 31.5 |
| Weirick Road Off Ramp | Diverge | 5111 | 137 | 5559 | 88 | 3 | 1 | D | 29.6 | D | 31.5 |
| Weirick Road On Ramp | Merge | 4974 | 990 | 5471 | 559 | 3 | 1 | E | 35.2 | D | 34.2 |
| Cajalco Road Off Ramp | Diverge | 5964 | 157 | 6030 | 335 | 3 | 1 | D | 33.2 | D | 33.7 |
| Cajalco Road On Ramp | Merge | 5807 | 1013 | 5695 | 583 | 3 | 1 | F | 47.4 | E | 35.5 |
| El Cerrito Road Off Ramp | Diverge | 6820 | 393 | 6278 | 190 | 3 | 1 | F | 50.2 | D | 34.5 |
| El Cerrito Road On Ramp | Merge | 6427 | 703 | 6088 | 264 | 3 | 1 | F | 49.6 | D | 35.0 |
| Ontario Avenue Off Ramp | Diverge | 7130 | 970 | 6352 | 470 | 3 | 1 | F | 56.3 | E | 35.1 |
| Ontario Avenue On Ramp | Merge | 6160 | 935 | 5882 | 960 | 3 | 1 | F | 49.3 | F | 47.6 |
| Magnolia Avenue Off Ramp | Diverge | 7095 | 1078 | 6842 | 469 | 3 | 1 | F | 56.8 | F | 50.8 |
| Magnolia Avenue On Ramp | Merge | 6017 | 883 | 6373 | 1555 | 3 | 1 | F | 48.0 | F | 55.1 |

(2) LOS $=$ Level of Service.
(3) Density is expressed in passenger cars/mile/lane.

C-9 (cont.)
Existing (2010)
Freeway Capacity Analysis (1)
Interstate 15

(1) Capacity analysis is shown for freeway only. See separate page of C-9 for ramps.
(2) Freeway capacity is defined as the capacity at level of service E , expressed in vehicles per hour.
(3) LOS = Level of Service

| Southbound |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AM |  | PM |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Magnolia Avenue Off Ramp | Diverge | 7911 | 1888 | 8440 | 1401 | 3 | 1 | F | 41.9 | F | 49.0 |
| Magnolia Avenue On Ramp | Merge | 6023 | 333 | 7039 | 617 | 3 | 1 | E | 35.2 | F | 44.7 |
| Ontario Avenue Off Ramp | Diverge | 6356 | 1110 | 7656 | 812 | 3 | 1 | E | 36.2 | F | 47.6 |
| Ontario Avenue On Ramp | Merge | 5246 | 357 | 6844 | 763 | 3 | 1 | D | 31.5 | F | 42.3 |
| El Cerrito Road Off Ramp | Diverge | 5603 | 305 | 7607 | 510 | 3 | 1 | D | 31.9 | F | 49.4 |
| El Cerrito Road On Ramp | Merge | 5298 | 282 | 7097 | 576 | 3 | 1 | D | 31.1 | F | 45.4 |
| Cajalco Road Off Ramp | Diverge | 5580 | 457 | 7673 | 597 | 3 | 1 | D | 32.1 | F | 49.2 |
| Cajalco Road On Ramp | Merge | 5123 | 168 | 7076 | 443 | 3 | 1 | D | 29.4 | F | 46.1 |
| Weirick Road Off Ramp | Diverge | 5291 | 458 | 7519 | 715 | 3 | 1 | D | 30.8 | F | 47.3 |
| Weirick Road On Ramp | Merge | 4833 | 49 | 6804 | 151 | 3 | 1 | C | 26.9 | F | 46.3 |
| Temescal Canyon Road Off Ramp | Diverge | 4882 | 288 | 6955 | 430 | 3 | 1 | D | 28.8 | F | 45.4 |
| Temescal Canyon Road On Ramp | Merge | 4594 | 80 | 6525 | 243 | 3 | 1 | C | 26.0 | F | 43.7 |

(1) Capacity analysis is shown for ramps only. See separate page of C-9 for freeway segments.
(2) LOS = Level of Service
(3) Density is expressed in passenger cars/mile/lane

C-10
Existing (2010)
Freeway Capacity Analysis (1)
Interstate 215

(1) Capacity analysis is shown for freeway only. See separate page of C-10 for ramps.
(2) Freeway capacity is defined as the capacity at level of service E , expressed in vehicles per hour
(3) LOS = Level of Service.
(4) Density is expressed in passenger cars/mile/lane

C-10 (cont.)
Existing (2010)
Ramp Capacity Analysis (1)
Interstate 215

(1) Capacity analysis is shown for ramps only. See separate page of C-10 for freeway segments.
(2) LOS = Level of Service.
(3) Density is expressed in passenger cars/mile/lane
(4) For weaving volumes, see Figure C - 5 c. The ramp to ramp movement was assumed to be zero. The weaving length is 2,000 feet.
(5) Ramp capacity analysis shown for information only, since this is technically part of a weaving section.

C-10 (cont.)
Existing (2010)
Freeway Capacity Analysis (1)
Interstate 215

(1) Capacity analysis is shown for freeway only. See separate page of C -1 10 for ramps.
(2) Freeway capacity is defined as the capacity at level of service $E$, expressed in vehicles per hour.
(3) LOS = Level of Service
(4) Density is expressed in passenger cars/mile/lane

|  | $\begin{gathered} \text { C-10 (cont.) } \\ \text { Existing (2010) } \\ \text { Ramp Capacity Analysis (1) } \\ \text { Interstate } 215 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Peak Hour Traffic (veh/hr) |  |  |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Southbound |  | AM |  | PM |  |  |  |  |  |  |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| I-215 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Alessandro Blvd Off Ramp | Diverge | 5134 | 415 | 6168 | 655 | 3 | 1 | D | 30.1 | D | 34.7 |
| Alessandro Blvd On Ramp | Merge | 4719 | 321 | 5513 | 666 | 3 | 1 | D | 28.6 | E | 35.3 |
| Cactus Avenue Off ramp | Diverge | 5040 | 623 | 6179 | 771 | 3 | 1 | D | 30.0 | D | 34.9 |
| Cactus Avenue On Ramp | Merge | 4417 | 369 | 5408 | 666 | 3 | 1 | C | 27.4 | D | 34.8 |
| Van Buren Blvd Off Ramp | Diverge | 4786 | 811 | 6074 | 651 | 3 | 1 | D | 29.2 | D | 34.3 |
| Van Buren Blvd On Ramp | Merge | 3975 | 489 | 5423 | 715 | 3 | 1 | C | 26.2 | E | 35.2 |
| Harley Knox Blvd Off Ramp | Diverge | 4464 | 262 | 6138 | 416 | 3 | 1 | C | 26.8 | D | 34.2 |
| Harley Knox Blvd On Ramp | Merge | 4202 | 84 | 5722 | 96 | 3 | 1 | C | 24.1 | D | 31.8 |
| Cajalco Expwy Off Ramp | Diverge | 4286 | 714 | 5818 | 1003 | 3 | 1 | C | 26.7 | D | 33.9 |
| Cajalco Expwy On Ramp | Merge | 3572 | 473 | 4815 | 519 | 3 | 1 | C | 24.0 | D | 30.6 |
| Nuevo Road Off Ramp | Diverge | 4045 | 345 | 5334 | 861 | 3 | 1 | C | 24.9 | D | 31.7 |
| Nuevo Rd On Ramp | Merge (4) | 3700 | 351 | 4473 | 468 | 3 | 1 | C | 23.7 | D | 28.5 |
| Nuevo Rd On Ramp to D Street Off Ramp | Weave (5) | 4051 |  | 4941 |  | 3 |  | C | 25.7 | D | 33.9 |

(1) Capacity analysis is shown for ramps only. See separate page of C-10 for freeway segments.
(2) LOS $=$ Level of Service
(3) Density is expressed in passenger cars/mile/lane
(4) Ramp capacity analysis shown for information only, since this is technically part of a weaving section.
(5) For weaving volumes, see Figure C - 5 c . The ramp to ramp movement was assumed to be zero. The weaving length is 2,000 feet.

C-11
Horizon Year (2040)
Freeway and HOV Lane Capacity Analysis (1)
Interstate 15 - No Build

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Freeway Mainline and HOV Level of Service (2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northbound |  | AM |  | PM |  | Number of Lanes |  | Freeway Capacity (3) | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | HOV | Freeway | HOV | Freeway | HOV |  | LOS (4) | Density (5) | LOS (4) | Density (5) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |  |
| South of Temescal Canyon Rd | Freeway | 7533 |  | 7617 |  | 4 |  | 8690 | D | 33.4 | D | 34.0 |
| South of Temescal Canyon Rd | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| Temescal Canyon Rd On Ramp to Weirick Rd Off Ramp | Freeway | 7912 |  | 7802 |  | 4 |  | 8690 | E | 36.4 | E | 35.5 |
| Temescal Canyon Rd On Ramp to Weirick Rd Off Ramp | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| Weirick Rd On Ramp to Cajalco Rd Off Ramp | Freeway | 8688 |  | 8369 |  | 4 |  | 8690 | E | 44.9 | E | 41.0 |
| Weirick Rd On Ramp to Cajalco Rd Off Ramp | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| Cajalco Rd On Ramp to El Cerrito Rd Off Ramp | Freeway | 9521 |  | 8763 |  | 4 |  | 8690 | F | 49.3 | F | 45.4 |
| Cajalco Rd On Ramp to El Cerrito Rd Off Ramp | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| El Cerrito Rd On Ramp to Ontario Ave Off Ramp | Freeway | 9143 |  | 7809 |  | 4 |  | 8690 | F | 47.3 | E | 35.5 |
| El Cerrito Rd On Ramp to Ontario Ave Off Ramp | HOV |  | 3600 |  | 3600 |  | 2 |  | D | 32.2 | D | 32.2 |
| Ontario Ave On Ramp to Magnolia Ave Off Ramp | Freeway | 9282 |  | 8011 |  | 4 |  | 8690 | F | 48.1 | E | 37.3 |
| Ontario Ave On Ramp to Magnolia Ave Off Ramp | HOV |  | 3600 |  | 3600 |  | 2 |  | D | 32.2 | D | 32.2 |
| North of Magnolia Ave to SR-91 | Freeway | 9836 |  | 8416 |  | 4 |  | 8690 | F | 50.9 | E | 41.5 |
| North of Magnolia Ave to SR-91 | HOV |  | 3600 |  | 3600 |  | 2 |  | D | 32.2 | D | 32.2 |

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-11 for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service E, expressed in vehicles per hour.
(4) LOS $=$ Level of Service.
(5) Density is expressed in passenger cars/mile/lane. For facilities at level of service F , the density shown is the theoretical density that would occur if all demand could be accomodated.

C-11 (cont.)
Horizon Year (2040)
Ramp Capacity Analysis (1) Interstate 15 - No Build

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northbound |  | AM |  | PM |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Temescal Canyon Rd Off Ramp | Diverge | 7533 | 360 | 7617 | 495 | 4 | 1 | D | 32.3 | D | 33.4 |
| Temescal Canyon Rd On Ramp | Merge | 7173 | 2904 | 7122 | 2693 | 4 | 2 | C | 25.1 | C | 24.9 |
| Weirick Rd Off Ramp | Diverge | 7912 | 324 | 7802 | 446 | 4 | 1 | D | 33.7 | D | 33.9 |
| Weirick Rd On Ramp | Merge | 7588 | 2904 | 7356 | 2693 | 4 | 2 | C | 25.8 | C | 25.4 |
| Cajalco Rd Off Ramp | Diverge | 8688 | 821 | 8369 | 1129 | 4 | 1 | F | 45.0 | F | 45.0 |
| Cajalco Rd EB On Ramp | Merge | 7867 | 2904 | 7240 | 2693 | 4 | 2 | C | 26.8 | C | 25.3 |
| Cajalco Rd WB On Ramp | Merge | 8483 | 1038 | 7807 | 956 | 4 | 1 | F | 49.3 | C | 26.3 |
| El Cerrito Rd Off Ramp | Diverge | 9521 | 2904 | 8763 | 2693 | 4 | 2 | F | 49.3 | F | 45.4 |
| El Cerrito Rd On Ramp | Merge | 9024 | 815 | 8080 | 656 | 4 | 1 | F | 47.3 | C | 27.3 |
| Ontario Ave Off Ramp | Diverge | 9143 | 3600 | 7809 | 3600 | 4 | 2 | F | 47.3 | E | 36.3 |
| Ontario Ave On Ramp | Merge | 8157 | 1125 | 6902 | 1109 | 4 | 1 | F | 48.1 | C | 24.4 |
| Magnolia Ave Off Ramp | Diverge | 9282 | 3600 | 8011 | 3600 | 4 | 2 | F | 48.1 | F | 45.0 |
| Magnolia Ave EB On Ramp | Merge | 8032 | 1203 | 6990 | 951 | 4 | 1 | F | 50.9 | C | 24.6 |
| Magnolia Ave WB On Ramp | Merge | 9235 | 3600 | 7941 | 3600 | 4 | 2 | F | 50.9 | C | 27.2 |

(1) Capacity analysis shown for ramps only. See separate page of C-11 for freeway mainline and HOV lanes.
(2) LOS = Level of Service
(3) Density is expressed in passenger cars/mile per lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated.

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Freeway Mainline and HOV Level of Service (2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southbound |  | AM |  | PM |  | Number of Lanes |  | Freeway Capacity (3) | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Hov | Freeway | HOV | Freeway | HOV |  | LOS (4) | Density (5) | LOS (4) | Density (5) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |  |
| SR-91 to Magnolia Ave | Freeway | 9001 |  | 10833 |  | 4 |  | 8690 | F | 46.6 | F | 56.1 |
| SR-91 to Magnolia Ave | HOV |  | 2918 |  | 3600 |  | 2 |  | C | 25.2 | D | 32.2 |
| Magnolia Ave On Ramp to Ontario Ave Off Ramp | Freeway | 7718 |  | 10455 |  | 4 |  | 8690 | D | 34.8 | F | 54.1 |
| Magnolia Ave On Ramp to Ontario Ave Off Ramp | HOV |  | 2918 |  | 3600 |  | 2 |  | C | 25.2 | D | 32.2 |
| Ontario Ave On Ramp to El Cerrito Rd Off Ramp | Freeway | 7765 |  | 10955 |  | 4 |  | 8690 | E | 35.2 | F | 56.7 |
| Ontario Ave On Ramp to El Cerrito Rd Off Ramp | HOV |  | 2918 |  | 3600 |  | 2 |  | C | 25.2 | D | 32.2 |
| El Cerrito Rd On Ramp to Cajalco Rd Off Ramp | Freeway | 7789 |  | 10712 |  | 4 |  | 8690 | E | 35.4 | F | 55.5 |
| El Cerrito Rd On Ramp to Cajalco Rd Off Ramp | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |
| Cajalco Rd On Ramp to Weirick Rd Off Ramp | Freeway | 7438 |  | 9774 |  | 4 |  | 8690 | D | 32.7 | F | 50.6 |
| Cajalco Rd On Ramp to Weirick Rd Off Ramp | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |
| Weirick Rd On Ramp to Temescal Canyon Rd Off Ramp | Freeway | 6934 |  | 8901 |  | 4 |  | 8690 | D | 29.5 | F | 46.1 |
| Weirick Rd On Ramp to Temescal Canyon Rd Off Ramp | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |
| South of Temescal Canyon Rd | Freeway | 6769 |  | 8474 |  | 4 |  | 8690 | D | 28.6 | E | 42.2 |
| South of Temescal Canyon Rd | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-11 for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service E , expressed in vehicles per hour.
(4) LOS = Level of Service
(5) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated.

C-11 (cont.)
Horizon Year (2040)
Ramp Capacity Analysis (1)
Interstate 15 - No Build

(1) Capacity analysis shown for ramps only. See separate page of C-11 for freeway mainline and HOV lanes.
(2) LOS $=$ Level of Service
(3) Density is expressed in passenger cars/mile per lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated.

C-12

## Horizon Year (2040)

## Freeway and HOV Lane Capacity Analysis (1)

Interstate 215 - No Build

| Northbound |  | Peak Hour Traffic (vel/hr) |  |  |  |  |  | Freeway Mainline and HOV Level of Service (2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AM |  | PM |  | Number of Lanes |  | Freeway Capacity (3) | AMPeak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | HOV | Freeway | HOV | Freeway | HOV |  | LOS (4) | Density (5) | LOS (4) | Density (5) |
| 1-215 Mainline |  |  |  |  |  |  |  |  |  |  |  |  |
| Nuevo Rd On Ramp to Cajalco/Ramona Expwy Off Ramp | Freeway | 6261 |  | 5620 |  | 3 |  | 6470 | E | 414 | D | 33.6 |
| Nuevo Rd On Ramp to Cajalco/Ramona Expwy Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 |  | D | 32.2 | D | 32.2 |
| Cajalco/Ramona Expwy On Ramp to Harley Knox Blvd Off Ramp | Freeway | 7101 |  | 6129 |  | 3 |  | 6470 | F | 49.4 | E | 39.5 |
| Cajalco/Ramona Expwy On Ramp to Harley Knox Blvd Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 |  | D | 32.2 | D | 32.2 |
| Harley Knox Blvd On Ramp to Van Buren Blvd Off Ramp | Freeway | 7554 |  | 6810 |  | 3 |  | 6470 | F | 52.5 | F | 47.4 |
| Harley Knox Blvd On Ramp to Van Buren Blvd Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 |  | D | 32.2 | D | 32.2 |
| Van Buren Blvd On Ramp to Cactus Ave Off Ramp | Freeway | 7458 |  | 6721 |  | 3 |  | 6470 | F | 51.9 | F | 46.7 |
| Van Buren Blvd On Ramp to Cactus Ave Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 |  | D | 32.2 | D | 32.2 |
| Cactus Ave On Ramp to Alessandro Blvd Off Ramp | Freeway | 7317 |  | 6592 |  | 3 |  | 6470 | F | 50.9 | F | 45.8 |
| Cactus Ave On Ramp to Aessandro Blvd Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 |  | D | 32.2 | D | 32.2 |
| North of Alessandro Blvd | Freeway | 7026 |  | 6324 |  | 3 |  | 6470 | F | 48.9 | E | 42.4 |
| North of Aessandro Blvd | HOV |  | 1800 |  | 1800 |  | 1 |  | D | 32.2 | D | 32.2 |

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-12 for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service $E$, expressed in vehicles per hour.
(4) LOS = Level of Service.
(5) Density is expressed in passenger cars/milellane. For facilities at level of service F, the density shown is the theoretical density that would occur if all demand could be accomodated.

C-12 (cont.)
Horizon Year (2040)
Ramp Capacity Analysis (1)
Interstate 215-No Build

(1) Capacity analysis shown for ramps only. See separate page of $\mathrm{C}-12$ for freeway mainline and HOV lanes.
(2) $\mathrm{LOS}=$ Level of Service
(3) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that
would occur if all demand could be accomodated based on capacity of the adjacent freeway segment.
(4) For weaving volumes, see Figure C-6c. The ramp to ramp movement was assumed to be zero. Weaving length is 2,000 feet per the $\mathrm{I}-215$ videning project.
(5) Ramp capacity analysis shown for information only, since this is technically part of a weaving section.

## C-12 (cont.)

## Horizon Year (2040)

## Freeway and HOV Lane Capacity Analysis (1)

Interstate 215 - No Build

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-12 for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service $E$, expressed in vehicles per hour.
(4) LOS = Level of Senice
(5) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated

(1) Capacity analysis shown for ramps only. See separate page of C -12 for freeway mainline and HOV lanes.
(2) $L O S=$ Level of Senvice.
(3) Density is expressed in passenger cars/mile/lane.
(4) Ramp capacity analysis shown for information only, since this is technically part of a weaving section.
(5) For weaving volumes, see Figure C-6c. The ramp to ramp movement was assumed to be zero. Weaving length is 2,000 feet per the $\mathrm{I}-215$ videning project.

C-13
Horizon Year (2040)
Freeway and HOV Lane Capacity Analysis (1)
Interstate 15

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Freeway Mainline and HOV Level of Service (2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northbound |  | AM |  | PM |  | Number of Lanes |  | Freeway Capacity (3) | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | HOV | Freeway | HOV | Freeway | HOV |  | LOS (4) | Density (5) | LOS (4) | Density (5) |
| 1-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |  |
| South of Temescal Canyon Rd | Freeway | 7533 |  | 7617 |  | 4 |  | 8690 | D | 33.4 | D | 34.0 |
| South of Temescal Canyon Rd | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| Temescal Canyon Rd On Ramp to Weirick Rd Off Ramp | Freeway | 7912 |  | 7802 |  | 4 |  | 8690 | E | 36.4 | E | 35.5 |
| Temescal Canyon Rd On Ramp to Weirick Rd Off Ramp | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| Weirick Rd On Ramp to Cajalco Rd Off Ramp | Freeway | 8688 |  | 8369 |  | 4 |  | 8690 | E | 44.9 | E | 41.0 |
| Weirick Rd On Ramp to Cajalco Rd Off Ramp | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| Cajalco Rd On Ramp to El Cerrito Rd Off Ramp | Freeway | 9571 |  | 8812 |  | 4 |  | 8690 | F | 49.6 | F | 45.6 |
| Cajalco Rd On Ramp to El Cerrito Rd Off Ramp | HOV |  | 2904 |  | 2693 |  | 2 |  | C | 25.0 | C | 23.2 |
| El Cerrito Rd On Ramp to Ontario Ave Off Ramp | Freeway | 9193 |  | 7858 |  | 4 |  | 8690 | F | 47.6 | E | 35.9 |
| El Cerrito Rd On Ramp to Ontario Ave Off Ramp | HOV |  | 3600 |  | 3600 |  | 2 |  | D | 32.2 | D | 32.2 |
| Ontario Ave On Ramp to Magnolia Ave Off Ramp | Freeway | 9332 |  | 8060 |  | 4 |  | 8690 | F | 48.3 | E | 37.8 |
| Ontario Ave On Ramp to Magnolia Ave Off Ramp | HOV |  | 3600 |  | 3600 |  | 2 |  | D | 32.2 | D | 32.2 |
| North of Magnolia Ave to SR-91 | Freeway | 9886 |  | 8465 |  | 4 |  | 8690 | F | 51.2 | E | 42.1 |
| North of Magnolia Ave to SR-91 | HOV |  | 3600 |  | 3600 |  | 2 |  | D | 32.2 | D | 32.2 |

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of $\mathrm{C}-13$ for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service $E$, expressed in vehicles per hour.
4) LOS = Level of Service
(5) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated.

C-13 (cont.)
Horizon Year (2040)
Ramp Capacity Analysis (1)
Interstate 15

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northbound |  | AM |  | PM |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Temescal Canyon Rd Off Ramp | Diverge | 7533 | 360 | 7617 | 495 | 4 | 1 | D | 32.3 | D | 33.4 |
| Temescal Canyon Rd On Ramp | Merge | 7173 | 739 | 7122 | 680 | 4 | 1 | C | 25.1 | C | 24.9 |
| Weirick Rd Off Ramp | Diverge | 7912 | 324 | 7802 | 446 | 4 | 1 | D | 33.7 | D | 33.9 |
| Weirick Rd On Ramp | Merge | 7588 | 1100 | 7356 | 1013 | 4 | 1 | C | 25.8 | C | 25.4 |
| Cajalco Rd Off Ramp | Diverge | 8688 | 821 | 8369 | 1129 | 4 | 1 | F | 45.0 | F | 45.0 |
| Cajalco Rd EB On Ramp | Merge | 7867 | 616 | 7240 | 567 | 4 | 1 | C | 26.8 | C | 25.3 |
| Cajalco Rd WB On Ramp | Merge | 8483 | 1088 | 7807 | 1005 | 4 | 1 | F | 49.6 | C | 26.3 |
| El Cerrito Rd Off Ramp | Diverge | 9571 | 497 | 8812 | 683 | 4 | 1 | F | 49.6 | F | 45.6 |
| El Cerrito Rd On Ramp | Merge | 9074 | 815 | 8129 | 656 | 4 | 1 | F | 47.6 | C | 27.4 |
| Ontario Ave Off Ramp | Diverge | 9193 | 986 | 7858 | 907 | 4 | 1 | F | 47.6 | E | 36.5 |
| Ontario Ave On Ramp | Merge | 8207 | 1125 | 6951 | 1109 | 4 | 1 | F | 48.3 | C | 24.5 |
| Magnolia Ave Off Ramp | Diverge | 9332 | 1250 | 8060 | 1021 | 4 | 1 | F | 48.3 | F | 45.0 |
| Magnolia Ave EB On Ramp | Merge | 8082 | 1203 | 7039 | 951 | 4 | 1 | F | 51.2 | C | 24.7 |
| Magnolia Ave WB On Ramp | Merge | 9285 | 601 | 7990 | 475 | 4 | 1 | F | 51.2 | C | 27.3 |

(1) Capacity analysis shown for ramps only. See separate page of C-13 for freeway mainline and HOV lanes.
(2) LOS = Level of Service
(3) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated based on capacity of the adjacent freeway segment.

C-13 (cont.)
Horizon Year (2040)
Freeway and HOV Lane Capacity Analysis (1)
Interstate 15

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Freeway Mainline and HOV Level of Service (2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southbound |  | AM |  | PM |  | Number of Lanes |  | Freeway Capacity (3) | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | HOV | Freeway | HOV | Freeway | HOV |  | LOS (4) | Density (5) | LOS (4) | Density (5) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |  |
| SR-91 to Magnolia Ave | Freeway | 9033 |  | 10892 |  | 4 |  | 8690 | F | 46.8 | F | 56.4 |
| SR-91 to Magnolia Ave | HOV |  | 2918 |  | 3600 |  | 2 |  | C | 25.2 | D | 32.2 |
| Magnolia Ave On Ramp to Ontario Ave Off Ramp | Freeway | 7750 |  | 10514 |  | 4 |  | 8690 | E | 35.1 | F | 54.4 |
| Magnolia Ave On Ramp to Ontario Ave Off Ramp | HOV |  | 2918 |  | 3600 |  | 2 |  | C | 25.2 | D | 32.2 |
| Ontario Ave On Ramp to El Cerrito Rd Off Ramp | Freeway | 7809 |  | 11014 |  | 4 |  | 8690 | E | 35.5 | F | 57.0 |
| Ontario Ave On Ramp to El Cerrito Rd Off Ramp | HOV |  | 2918 |  | 3600 |  | 2 |  | C | 25.2 | D | 32.2 |
| El Cerrito Rd On Ramp to Cajalco Rd Off Ramp | Freeway | 7833 |  | 10771 |  | 4 |  | 8690 | E | 35.7 | F | 55.8 |
| El Cerrito Rd On Ramp to Cajalco Rd Off Ramp | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |
| Cajalco Rd On Ramp to Weirick Rd Off Ramp | Freeway | 7440 |  | 9774 |  | 4 |  | 8690 | D | 32.7 | F | 50.6 |
| Cajalco Rd On Ramp to Weirick Rd Off Ramp | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |
| Weirick Rd On Ramp to Temescal Canyon Rd Off Ramp | Freeway | 6936 |  | 8901 |  | 4 |  | 8690 | D | 29.5 | F | 46.1 |
| Weirick Rd On Ramp to Temescal Canyon Rd Off Ramp | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |
| South of Temescal Canyon Rd | Freeway | 6771 |  | 8474 |  | 4 |  | 8690 | D | 28.6 | E | 42.2 |
| South of Temescal Canyon Rd | HOV |  | 2376 |  | 3267 |  | 2 |  | C | 20.5 | D | 28.4 |

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-13 for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service $E$, expressed in vehicles per hour.

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southbound |  | AM |  | PM |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| I-15 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Magnolia Ave Off Ramp | Diverge | 9033 | 2190 | 10892 | 1625 | 4 | 1 | F | 46.8 | F | 56.4 |
| Magnolia Ave On Ramp | Merge | 6843 | 907 | 9267 | 1247 | 4 | 1 | C | 24.3 | F | 54.4 |
| Ontario Ave Off Ramp | Diverge | 7750 | 1289 | 10514 | 942 | 4 | 1 | F | 45.0 | F | 54.4 |
| Ontario Ave On Ramp | Merge | 6461 | 806 | 9572 | 1109 | 4 | 1 | C | 23.4 | F | 57.0 |
| El Cerrito Rd Off Ramp | Diverge | 7809 | 583 | 11014 | 802 | 4 | 1 | D | 34.6 | F | 57.0 |
| El Cerrito Rd On Ramp | Merge | 7226 | 607 | 10212 | 559 | 4 | 1 | C | 25.2 | F | 55.8 |
| Cajalco Rd Off Ramp | Diverge | 7833 | 1396 | 10771 | 1920 | 4 | 1 | F | 45.0 | F | 55.8 |
| Cajalco Rd On Ramp | Merge | 6437 | 1003 | 8851 | 923 | 4 | 1 | C | 23.5 | F | 50.6 |
| Weirick Rd Off Ramp | Diverge | 7440 | 900 | 9774 | 1238 | 4 | 1 | D | 34.8 | F | 50.6 |
| Weirick Rd On Ramp | Merge | 6540 | 396 | 8536 | 365 | 4 | 1 | C | 23.4 | F | 46.1 |
| Temescal Canyon Rd Off Ramp | Diverge | 6936 | 605 | 8901 | 832 | 4 | 1 | D | 31.2 | F | 46.1 |
| Temescal Canyon Rd On Ramp | Merge | 6331 | 440 | 8069 | 405 | 4 | 1 | C | 22.9 | C | 27.6 |

(1) Capacity analysis shown for ramps only. See separate page of C-13 for freeway mainline and HOV lanes.
(2) LOS = Level of Service.
(3) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated based on capacity of the adjacent freeway segment.

C-14
Horizon Year (2040) Freeway and HOV Lane Capacity Analysis (1) Interstate 215

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-14 for ramps.
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service E , expressed in vehicles per hour.
(4) LOS $=$ Level of Service
(5) Density is expressed in passenger cars/mile/lane. For facilities at level of service F, the density shown is the theoretical density that would occur if all demand could be accomodated
(6) Number of lanes per SCAG 2040 regional roadway network.

C-14 (cont.)
Horizon Year (2040)
Ramp Capacity Analysis (1)
Interstate 215

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Northbound |  | AM |  | PM |  | Number of Lanes (6) |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| 1-215 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| D Street On Ramp to Nuevo Rd Off Ramp | Weave (4) | 6820 |  | 6793 |  | 4 |  | E | 35.3 | D | 33.8 |
| Nuevo Rd Off Ramp | Diverge (5) | 6820 | 518 | 6793 | 413 | 4 | 2 | B | 10.9 | B | 10.1 |
| Nuevo Rd On Ramp | Merge (7) | 6302 | 784 | 6380 | 446 | 3 | 1 | C | 21.8 | C | 20.7 |
| Mid County Parkway EB Off Ramp | Diverge | 5286 | 230 | 5026 | 317 | 3 | 1 | D | 30.5 | D | 29.4 |
| Placentia Ave Off Ramp | Diverge | 5056 | 439 | 4709 | 604 | 3 | 1 | D | 29.8 | D | 28.5 |
| Placentia Ave On Ramp | Merge | 4617 | 720 | 4105 | 664 | 3 | 1 | D | 31.2 | D | 28.2 |
| Mid County Parkway WB On Ramp | Merge (7) | 5337 | 3071 | 4769 | 2827 | 3 | 2 | D | 27.8 | C | 24.6 |
| Cajalco/Ramona Expwy Off Ramp | Diverge | 8408 | 871 | 7596 | 1198 | 5 | 2 | B | 13.1 | B | 13.8 |
| Cajalco/Ramona Expwy On Ramp | Merge | 7537 | 890 | 6398 | 1058 | 4 | 1 | C | 25.8 | C | 23.4 |
| Harley Knox Blvd Off Ramp | Diverge | 8427 | 558 | 7456 | 518 | 4 | 1 | E | 37.0 | D | 32.9 |
| Harley Knox Blvd On Ramp | Merge | 7869 | 628 | 6938 | 871 | 4 | 1 | C | 26.8 | C | 24.5 |
| Van Buren Blvd Off Ramp | Diverge | 8497 | 1286 | 7809 | 1315 | 4 | 2 | C | 20.3 | B | 18.8 |
| Van Buren Blvd EB On Ramp | Merge | 7211 | 572 | 6494 | 551 | 3 | 1 | F | 54.1 | F | 49.0 |
| Van Buren Blvd WB On Ramp | Merge | 7783 | 123 | 7045 | 89 | 3 | 1 | F | 55.0 | F | 49.6 |
| Cactus Ave Off Ramp | Diverge | 7906 | 746 | 7134 | 942 | 3 | 1 | F | 55.0 | F | 49.6 |
| Cactus Ave EB On Ramp | Merge | 7160 | 216 | 6192 | 297 | 3 | 1 | F | 53.7 | F | 48.4 |
| Cactus Ave WB On Ramp | Merge | 7376 | 346 | 6489 | 475 | 3 | 1 | F | 53.7 | F | 48.4 |
| Alessandro Blvd Off Ramp | Diverge | 7722 | 1021 | 6964 | 940 | 3 | 1 | F | 53.7 | F | 48.4 |
| Alessandro Blvd On Ramp | Merge | 6701 | 669 | 6024 | 616 | 3 | 1 | F | 51.3 | F | 46.2 |

(1) Capacity analysis shown for ramps only. See separate page of C-14 for freeway mainline and HOV lanes.
(2) LOS $=$ Level of Service.
(3) Density is expressed in passenger cars/mile/lane.
(4) For weaving volumes, see Figure C-7c. The ramp to ramp movement was assumed to be zero. Weaving length is 2,000 feet per the $\mathrm{I}-215$ widening project.
(5) Ramp capacity analysis shown for information only, since this is technically part of a weaving section
(6) Number of lanes per SCAG 2040 regional roadway network.
(7) Level of service and density of downstream freeway assumed since lanes are added to freeway at this location

C-14 (cont.)
Horizon Year (2040)
Freeway and HOV Lane Capacity Analysis (1)
Interstate 215

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Freeway Mainline and HOV Level of Service (2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southbound |  | AM |  | PM |  | Number of Lanes (6) |  | Freeway Capacity (3) | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | HOV | Freeway | Hov | Freeway | HOV |  | LOS (4) | Density (5) | LOS (4) | Density (5) |
| 1-215 Mainline |  |  |  |  |  |  |  |  |  |  |  |  |
| North of Alessandro Blvd | Freeway | 5702 |  | 8516 |  | 3 |  | 6470 | D | 34.5 | F | 59.2 |
| North of Alessandro Blvd | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Alessandro Blvd On Ramp to Cactus Ave Off Ramp | Freeway | 5990 |  | 8912 |  | 3 |  | 6470 | E | 37.7 | F | 62.0 |
| Alessandro Blvd On Ramp to Cactus Ave Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Cactus Ave On Ramp to Van Buren Blvd Off Ramp | Freeway | 6142 |  | 9120 |  | 3 |  | 6470 | E | 39.7 | F | 63.4 |
| Cactus Ave On Ramp to Van Buren Blvd Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Van Buren Blvd On Ramp to Harley Knox Blvd Off Ramp | Freeway | 6738 |  | 9783 |  | 4 |  | 8690 | D | 28.4 | F | 50.7 |
| Van Buren Blvd On Ramp to Harley Knox Blvd Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Harley Knox Blvd On Ramp to Cajalco/Ramona Expwy Off Ramp | Freeway | 6428 |  | 9704 |  | 4 |  | 8690 | D | 26.8 | F | 50.3 |
| Harley Knox Blvd On Ramp to Cajalco/Ramona Expwy Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Cajalco/Ramona Expwy On Ramp to Mid County Parkway EB Off Ramp | Freeway | 6552 |  | 9684 |  | 5 |  | 10930 | C | 21.1 | D | 34.5 |
| Cajalco/Ramona Expwy On Ramp to Mid County Parkway EB Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Mid County Parkway EB Off Ramp to Placentia Off Ramp | Freeway | 4039 |  | 6229 |  | 4 |  | 8690 | B | 16.6 | C | 25.8 |
| Mid County Parkway EB Off Ramp to Placentia Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Placentia Off Ramp to Placentia On Ramp | Freeway | 3446 |  | 5418 |  | 3 |  | 6470 | C | 19.3 | D | 31.8 |
| Placentia Off Ramp to Placentia On Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Placentia Ave On Ramp to Mid County Parkway WB On Ramp | Freeway | 3983 |  | 5912 |  | 3 |  | 6470 | C | 22.4 | E | 36.7 |
| Placentia Ave On Ramp to Mid County Parkway WB On Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |
| Mid County Parkway WB On Ramp to Nuevo Rd Off Ramp | Freeway | 4265 |  | 6171 |  | 4 |  | 8690 | B | 17.5 | C | 25.6 |
| Mid County Parkway WB On Ramp to Nuevo Rd Off Ramp | HOV |  | 1800 |  | 1800 |  | 1 | 6470 | D | 32.2 | D | 32.2 |

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of C-14 for ramps
(2) One-lane HOV Lane density and level of service calculated using conditions for two freeway lanes and doubling the peak hour traffic.
(3) Freeway capacity is defined as the capacity at level of service E , expressed in vehicles per hour.
(4) LOS $=$ Level of Service.
(5) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated
(6) Number of lanes per SCAG 2040 regional roadway network.

C-14 (cont.)
Horizon Year (2040)
Ramp Capacity Analysis (1)
Interstate 215

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southbound |  | AM |  | PM |  | Number of Lanes (6) |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| 1-215 Mainline |  |  |  |  |  |  |  |  |  |  |  |
| Alessandro Blvd Off Ramp | Diverge | 5702 | 554 | 8516 | 752 | 3 | 1 | D | 32.7 | F | 59.2 |
| Alessandro Blvd WB On Ramp | Merge | 5148 | 254 | 7764 | 346 | 3 | 1 | D | 30.2 | F | 56.4 |
| Alessandro Blvd EB On Ramp | Merge | 5402 | 588 | 8110 | 802 | 3 | 1 | D | 34.1 | F | 62.0 |
| Cactus Ave WB Off Ramp | Diverge | 5990 | 422 | 8912 | 389 | 3 | 1 | D | 33.7 | F | 62.0 |
| Cactus Ave EB Off Ramp | Diverge | 5568 | 264 | 8523 | 243 | 3 | 1 | D | 31.7 | F | 59.3 |
| Cactus Ave On Ramp | Merge | 5304 | 838 | 8280 | 840 | 3 | 1 | E | 35.6 | F | 63.4 |
| Van Buren Blvd Off Ramp | Diverge | 6142 | 569 | 9120 | 782 | 3 | 1 | D | 34.5 | F | 63.4 |
| Van Buren Blvd On Ramp | Merge (4) | 5573 | 1165 | 8338 | 1445 | 3 | 1 | D | 28.4 | F | 50.7 |
| Harley Knox Blvd Off Ramp | Diverge | 6738 | 766 | 9783 | 713 | 4 | 1 | D | 31.2 | F | 50.7 |
| Harley Knox Blvd On Ramp | Merge | 5972 | 456 | 9070 | 634 | 4 | 1 | C | 21.9 | F | 50.3 |
| Cajalco/Ramona Expwy Off Ramp | Diverge | 6428 | 941 | 9704 | 1000 | 4 | 1 | D | 30.9 | F | 50.3 |
| Cajalco/Ramona Expwy On Ramp | Merge (4) | 5487 | 1065 | 8704 | 980 | 4 | 2 | C | 21.1 | D | 34.5 |
| Mid County Parkway EB Off Ramp | Diverge (5) | 6552 | 2513 | 9684 | 3455 | 5 | 2 | C | 21.1 | D | 34.5 |
| Placentia Ave Off Ramp | Diverge | 4039 | 593 | 6229 | 811 | 4 | 1 | B | 19.3 | D | 29.4 |
| Placentia Ave On Ramp | Merge | 3446 | 537 | 5418 | 494 | 3 | 1 | C | 23.9 | D | 33.4 |
| Mid County Parkway WB On Ramp | Merge (4) | 3983 | 282 | 5912 | 259 | 3 | 1 | B | 17.5 | C | 25.6 |
| Nuevo Rd Off Ramp | Diverge (7) | 6065 | 396 | 7971 | 545 | 3 | 1 | B | 17.5 | C | 25.6 |
| Nuevo Rd On Ramp | Merge (8) | 5669 | 634 | 7426 | 583 | 3 | 1 | E | 35.8 | F | 55.7 |
| Nuevo Rd On Ramp to D Street Off Ramp | Weave (9) | 6303 |  | 8009 |  | 4 |  | D | 32.2 | E | 42.8 |

(1) Capacity analysis shown for ramps only. See separate page of C-14 for freeway mainline and HOV lanes.
(2) LOS $=$ Level of Service
(3) Density is expressed in passenger cars/mile/lane.
(4) Level of service and density of downstream freeway since lanes are added to the freeway at this point.
(5) Major diverge area. Level of service and density assumed to be the same as upstream freeway segment.
(6) Number of lanes per SCAG 2040 regional roadway network.
(7) Off ramp removes one lane at this location. LOS and density of upstream freeway assumed
(8) Ramp capacity analysis shown for information only, since this is technically part of a weaving section.
(9) For weaving volumes, see Figure C -7c. The ramp to ramp movement was assumed to be zero. Weaving length is 2,000 feet per the $\mathrm{I}-215$ widening project.

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of $\mathrm{C}-15$ for ramps,
(2) Freeway capacity is defined as the capacity at level of service $E$, expressed in vehicles per hour.
(3) LOS = Level of Service.
(4) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated.

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AM |  | PM |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| Mid County Parkway |  |  |  |  |  |  |  |  |  |  |  |
| MCP Northbound/Southbound On Ramps | Merge | 2513 | 230 | 3455 | 317 | 2 | 1 | B | 15.4 | C | 21.2 |
| Redlands Ave Off Ramp | Diverge | 2743 | 392 | 3772 | 545 | 3 | 1 | B | 18.0 | C | 23.8 |
| Redlands Ave On Ramp | Merge | 2351 | 657 | 3227 | 822 | 3 | 1 | B | 19.4 | C | 25.1 |
| Evans Rd Off Ramp | Diverge | 3008 | 483 | 4049 | 563 | 3 | 1 | B | 19.7 | C | 25.3 |
| Evans Rd On Ramp | Merge | 2526 | 340 | 3486 | 454 | 3 | 1 | B | 17.7 | C | 23.4 |
| Ramona Expwy Off Ramp | Diverge | 2866 | 230 | 3940 | 317 | 3 | 1 | B | 18.4 | C | 24.3 |
| Ramona Expwy On Ramp | Merge | 2636 | 741 | 3623 | 1020 | 3 | 1 | C | 21.5 | D | 28.6 |
| Bernasconi Rd Off Ramp | Diverge | 3377 | 274 | 4643 | 376 | 3 | 1 | C | 21.3 | C | 27.8 |
| Bernasconi Rd On Ramp | Merge | 3103 | 321 | 4267 | 295 | 3 | 1 | C | 20.5 | C | 26.1 |
| Reservoir Ave Off Ramp | Diverge | 3424 | 517 | 4562 | 533 | 3 | 1 | C | 22.0 | C | 27.7 |
| Reservoir Ave On Ramp | Merge | 2907 | 290 | 4029 | 367 | 3 | 1 | B | 19.2 | C | 25.5 |
| Town Center Blvd Off Ramp | Diverge | 3197 | 974 | 4396 | 1169 | 3 | 1 | C | 21.8 | D | 28.2 |
| Town Center Blvd On Ramp | Merge | 2223 | 202 | 3227 | 186 | 3 | 1 | B | 15.1 | B | 20.0 |
| Park Center Blvd Off Ramp | Diverge | 2425 | 295 | 3413 | 406 | 3 | 1 | B | 16.0 | C | 21.7 |
| Park Center Blvd On Ramp | Merge | 2130 | 554 | 3007 | 510 | 3 | 1 | B | 17.4 | C | 21.5 |
| Warren Rd Off Ramp | Diverge | 2684 | 975 | 3517 | 1191 | 3 | 1 | B | 19.1 | C | 24.0 |
| Warren Rd On Ramp | Merge | 1709 | 247 | 2326 | 427 | 3 | 1 | B | 12.9 | B | 17.4 |

(1) Capacity analysis shown for ramps only. See separate page of C-15 for freeway mainline and HOV lanes.
(2) LOS = Level of Service.
(3) Density is expressed in passenger cars/mile/lane.

(1) Capacity Analysis shown for freeway mainline and HOV lanes. See separate page of $\mathrm{C}-15$ for ramps
(2) Freeway capacity is defined as the capacity at level of service E, expressed in vehicles per hour
(3) LOS = Level of Service.
(4) Density is expressed in passenger cars/mile/lane. For facilities at level of service $F$, the density shown is the theoretical density that would occur if all demand could be accomodated.

|  |  | Peak Hour Traffic (veh/hr) |  |  |  |  |  | Ramp Level of Service |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Westbound |  | AM |  | PM |  | Number of Lanes |  | AM Peak Hour |  | PM Peak Hour |  |
| Location | Facility | Freeway | Ramp | Freeway | Ramp | Freeway | Ramp | LOS (2) | Density (3) | LOS (2) | Density (3) |
| Mid County Parkway |  |  |  |  |  |  |  |  |  |  |  |
| Warren Rd Off Ramp | Diverge | 2356 | 202 | 2250 | 277 | 3 | 1 | B | 15.4 | B | 15.0 |
| Warren Rd On Ramp | Merge | 2154 | 861 | 1973 | 1112 | 3 | 1 | B | 18.5 | B | 19.1 |
| Park Center Blvd Off Ramp | Diverge | 3017 | 454 | 3085 | 624 | 3 | 1 | B | 19.7 | C | 20.4 |
| Park Center Blvd On Ramp | Merge | 2563 | 362 | 2461 | 332 | 3 | 1 | B | 17.4 | B | 17.3 |
| Town Center Blvd Off Ramp | Diverge | 2925 | 166 | 2793 | 228 | 3 | 1 | B | 18.6 | B | 18.0 |
| Town Center Blvd On Ramp | Merge | 2759 | 1147 | 2565 | 1031 | 3 | 1 | C | 25.3 | C | 23.4 |
| Reservoir Ave Off Ramp | Diverge | 3906 | 238 | 3596 | 327 | 3 | 1 | C | 24.0 | C | 22.5 |
| Reservoir Ave On Ramp | Merge | 3668 | 407 | 3269 | 586 | 3 | 1 | C | 24.0 | C | 23.4 |
| Bernasconi Rd Off Ramp | Diverge | 4075 | 283 | 3855 | 364 | 3 | 1 | C | 24.9 | C | 23.9 |
| Bernasconi Rd On Ramp | Merge | 3792 | 334 | 3491 | 308 | 3 | 1 | C | 24.0 | C | 22.3 |
| Ramona Expwy Off Ramp | Diverge | 4126 | 907 | 3799 | 834 | 3 | 1 | C | 26.3 | C | 24.6 |
| Ramona Expwy On Ramp | Merge | 3219 | 282 | 2965 | 259 | 3 | 1 | C | 20.1 | B | 19.3 |
| Evans Rd Off Ramp | Diverge | 3501 | 403 | 3224 | 554 | 3 | 1 | C | 22.2 | C | 21.0 |
| Evans Rd On Ramp | Merge | 3098 | 595 | 2670 | 718 | 3 | 1 | C | 21.6 | C | 21.4 |
| Redlands Ave Off Ramp | Diverge | 3693 | 724 | 3388 | 747 | 3 | 1 | C | 23.8 | C | 22.3 |
| Redlands Ave On Ramp | Merge | 2969 | 384 | 2641 | 445 | 3 | 1 | C | 20.3 | B | 19.1 |
| MCP Northbound/Southbound Off Ramps | Diverge | 282 | 3071 | 259 | 2827 | 1 | 2 | C | 18.8 | B | 17.3 |

(1) Capacity analysis shown for ramps only. See separate page of C-15 for freeway mainline and HOV lanes.
(2) LOS = Level of Service.
(3) Density is expressed in passenger cars/mile/lane.

## C－16

Existing（2010）
Intersection Capacity Analysis
I－15 Area

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :--- | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay <br> （sec） | Los | Average Delay <br> （sec） |
|  |  |  |  |  |
| Magnolia Avenue and ■ Sobrante Road | D | 45.1 | D | 54.7 |
| Magnolia Avenue and I－15 Southbound Ramps | F | $>80.0$ | E | 73.1 |
| Magnolia Avenue and I－15 Northbound Ramps | C | 20.3 | B | 12.4 |
| Magnolia Avenue and ■ Camino Avenue | B | 13.3 | B | 14.7 |
| Ontario Avenue and California Avenue | C | 25.5 | C | 34.2 |
| Ontario Avenue and I－15 Southbound Ramps | C | 23.4 | B | 18.0 |
| Ontario Avenue and I－15 Northbound Ramps | D | 36.2 | C | 28.1 |
| Ontario Avenue and State Street | E | 44.8 | E | 46.8 |
| 日 Cerrito Road and Bedford Canyon Road | B | 15.3 | B | 18.3 |
| 日 Cerrito Road and I－15 Southbound Ramps | B | 10.6 | A | 6.5 |
| 日 Cerrito Road and I－15 Northbound Ramps | D | 35.1 | C | 25.4 |
| 日 Cerrito Road and Temescal Canyon Road | E | 49.7 | D | 27.7 |
| Cajalco Road and Bedford Canyon Road | A | 7.1 | B | 13.2 |
| Cajalco Road and I－15 Southbound Ramps | C | 22.4 | C | 27.3 |
| Cajalco Road and I－15 Northbound Ramps | B | 17.5 | B | 15.6 |
| Cajalco Road and Temescal Canyon Road | C | 28.1 | C | 27.5 |
| Cajalco Road and Eagle Valley Rd | B | 13.2 | B | 12.6 |
| Weirick Road and Knabe Road | B | 10.4 | B | 13.2 |
| Weirick Road and I－15 Southbound Ramps | B | 12.5 | B | 15.1 |
| Weirick Road and I－15 Northbound Ramps | B | 16.3 | B | 17.2 |
| Weirick Road and Temescal Canyon Road | B | 12.4 | B | 11.8 |
| Temescal Canyon Road and Layson Drive | C | 17.8 | C | 18.0 |
| Temescal Canyon Road and I－15 Southbound Ramps | B | 12.4 | B | 15.9 |
| Temescal Canyon Road and I－15 Northbound Ramps | C | 32.7 | C | 27.5 |


| C－16（Cont．） <br> Existing（2010） <br> Intersection Capacity Analysis Cajalco Road，l－15 to I－215 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | AM Peak Hour |  | PM Peak Hour |  |
| Intersection | LOS | Average Delay （sec） | LOS | $\begin{gathered} \text { Average Delay } \\ \text { (sec) } \end{gathered}$ |
| Cajalco Road and La Sierra Avenue | B | 16.3 | B | 14.7 |
| Cajalco Road and Lake Matthew Road | C | 15.1 | B | 12.9 |
| Cajalco Road and 日 Sobrante Road | B | 11 | C | 20.2 |
| Cajalco Road and Gavilan Road | B | 10.5 | B | 14.6 |
| Cajalco Road and Harley John Road | C | 25.9 | C | 25.5 |
| Cajalco Road and Wood Road | C | 21.8 | B | 13.8 |
| Cajalco Road and Alexander Street | F | ＞80．0 | F | 728 |
| Cajalco Road and Clark Street | D | 35.6 | C | 26.0 |
| Cajalco Road and Seaton Avenue | F | ＞50．0 | F | ＞50．0 |

Notes：
＂$>50$＂－Exceeds 50 seconds，the threshhold for level of senvice $F$ at an unsignalized intersection． ＂$>80$＂－Exceeds 80 seconds，the threshhold for level of service $F$ at a signalized intersection．

## C-16 (Cont.) <br> Existing (2010) <br> Intersection Capacity Analysis <br> I-215 Area

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: |
|  | LOS | $\begin{gathered} \text { Average Delay } \\ \text { (sec) } \end{gathered}$ | LOS | $\begin{gathered} \text { Average Delay } \\ (\mathrm{sec}) \end{gathered}$ |
| Alessandro Blvd and Meridian Parkway | B | 19.0 | B | 11.1 |
| Alessandro Blvd and I-215 Southbound Ramps | B | 10.1 | B | 10.2 |
| Alessandro Blvd and l-215 Northbound Ramps | C | 24.8 | C | 23.2 |
| Alessandro Blvd and Valley Springs Parkway | A | 9.4 | B | 10.4 |
| Cactus Avenue and Innovation Drive | C | 19.5 | B | 12.8 |
| Cactus Avenue and I-215 Southbound Ramps | B | 11.7 | C | 22.1 |
| Cactus Avenue and I-215 Northbound Ramps | B | 10.2 | A | 3.0 |
| Cactus Avenue and Elsworth Street | C | 27.0 | D | 47.4 |
| Van Buren Boulevard and Harmon Street | B | 13.6 | C | 25.9 |
| Van Buren Boulevard and I-215 Southbound Ramps | F | >50.0 | F | >50.0 |
| Van Buren Boulevard and I-215 Northbound Ramps | E | 76.1 | C | 22.0 |
| Harley Knox Boulevard and Hanill Avenue | A | 9.9 | B | 12.0 |
| Harley Knox Boulevard and I-215 Southbound Ramps | C | 26.6 | C | 28.5 |
| Harley Knox Boulevard and I-215 Northbound Ramps | B | 12.1 | A | 9.2 |
| Harley Knox Boulevard and Western Way | B | 10.8 | B | 10.4 |
| Cajalco Road and Harvill Avenue | C | 22.1 | C | 23.8 |
| Cajalco Road and I-215 Southbound Ramps | C | 31.0 | D | 50.9 |
| Cajalco Road and l-215 Northbound Ramps | C | 22.6 | B | 17.0 |
| Ramona Expressway and Webster Avenue | C | 20.7 | C | 21.9 |
| Placentia Avenue and Harvill Avenue | C | 15.4 | C | 24.6 |
| Placentia Avenue and East Frontage Road | A | 9.1 | B | 10.1 |
| Nuevo Road and A Street | E | 39.2 | D | 27.2 |
| Nuevo Road and I-215 Southbound Ramps | C | 29.3 | D | 38.2 |
| Nuevo Road and I-215 Northbound Ramps | B | 11.9 | B | 17.7 |
| Nuevo Road and Old Nuevo Road | B | 15.7 | B | 13.6 |

Notes:
" $>50^{\prime}$ " - Exceeds 50 seconds, the threshhold for level of senvice $F$ at an unsignalized intersection.
" $>80$ " - Exceeds 80 seconds, the threshhold for level of service $F$ at a signalized intersection.

## C-16 (Cont.)

Existing (2010)
intersection Capacity Analysis
Ramona Expressway, I-215 to SR 79

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay <br> (sec) | Los | Average Delay <br> (sec) |
|  |  |  |  |  |
| Perris Boulevard and Markham Street | E | 44.3 | C | 17.8 |
| Perris Boulevard and Ramona Expressway | D | 35.6 | D | 36.4 |
| Perris Boulevard and Dawes Street | A | 3.4 | A | 3.3 |
| Evans Boulevard and Marbella Gate | F | $>80.0$ | C | 23.3 |
| Evans Road and Ramona Expressway | D | 40.3 | C | 28.5 |
| Evans Boulevard and Morgan Street | C | 20.1 | B | 14.9 |
| Rider Street and Ramona Expressway | B | 19.7 | C | 21.5 |
| Lakeview Avenue and Ramona Expressway | D | 27.2 | C | 24.0 |
| Reservoir Avenue and 9th Street | B | 10.0 | A | 8.8 |
| Hansen Avenue and Ramona Expressway | B | 16.6 | B | 17.5 |
| Bridge Street and Ramona Expressway | C | 17.0 | C | 22.9 |
| Warren Road and Ramona Expressway | B | 20.0 | C | 21.4 |
| Sanderson Avenue and Ramona Expressway | D | 36.5 | C | 33.8 |
| Sanderson Avenue and Cottonwood Avenue | B | 12.0 | B | 11.4 |
| Lyon Avenue and Ramona Expressway | B | 10.8 | B | 11.2 |
| Gilman Springs Road and SR 79 Southbound Ramps | E | 44.5 | F | $>80.0$ |
| Gilman Springs Road and SR 79 Northbound Ramps | E | 49.2 | F | $>80.0$ |

Notes:
" $>50$ " - Exceeds 50 seconds, the threshhold for level of service $F$ at an unsignalized intersection.
" $>80$ " - Exceeds 80 seconds, the threshhold for level of service $F$ at a signalized intersection.

C-17
Horizon Year (2040)
No Build / County General Plan
Intersection Capacity Analysis l-15 Area

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay (sec) | LOS | Average Delay (sec) |
| Magnolia Avenue and ■ Sobrante Road | F | >80.0 | F | >80.0 |
| Magnolia Avenue and I-15 Southbound Ramps | F | >80.0 | F | >80.0 |
| Magnolia Avenue and I-15 Northbound Ramps | B | 18.0 | C | 23.9 |
| Magnolia Avenue and $\boxminus$ Camino Ave | C | 20.1 | E | 70.6 |
| Ontario Avenue and California Avenue | D | 51.0 | F | >80.0 |
| Ontario Avenue and l-15 Southbound Ramps | C | 23.4 | B | 15.2 |
| Ontario Avenue and I-15 Northbound Ramps | C | 29.3 | C | 33.3 |
| Ontario Avenue and State Street | B | 13.0 | B | 13.2 |
| $\boxminus$ Cerrito Road and Bedford Canyon Road | C | 26.7 | C | 28.0 |
| $\boxminus$ Cerrito Road and I-15 Southbound Ramps | B | 17.5 | C | 22.7 |
| ■ Cerrito Road and l-15 Northbound Ramps | D | 35.6 | C | 20.8 |
| ■ Cerrito Road and Temescal Canyon Road | C | 31.4 | C | 30.7 |
| Cajalco Road and Bedford Canyon Road | C | 20.1 | C | 31.1 |
| Cajalco Road and I-15 Southbound Ramps | C | 23.9 | C | 23.8 |
| Cajalco Road and I-15 Northbound Ramps | B | 10.5 | B | 14.8 |
| Cajalco Road and Temescal Canyon Road | E | 61.4 | F | >80.0 |
| Weirick Road and Knabe Road | D | 39.5 | C | 31.1 |
| Weirick Road and I-15 Southbound Ramps | C | 22.6 | B | 16.2 |
| Weirick Road and I-15 Northbound Ramps | A | 9.4 | B | 11.0 |
| Weirick Road and Temescal Canyon Road | C | 22.2 | C | 29.3 |
| Temescal Canyon Road and Lawson Drive | C | 20.4 | B | 18.8 |
| Temescal Canyon Road and I-15 Southbound Ramps | B | 15.5 | D | 38.4 |
| Temescal Canyon Road and I-15 Northbound Ramps | C | 22.5 | C | 24.9 |

Notes:

[^5]C-17 (cont.)
Horizon Year (2040)
No Build / County General Plan
Intersection Capacity Analysis Cajalco Road, I-15 to l-215

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay <br> (sec) | LOS | Average Delay <br> (sec) |
|  |  |  |  |  |
| Eagle Valley Road and Cajalco Road | C | 20.2 | B | 19.5 |
| Lake Malthews Road and Cajalco Road | B | 11.4 | B | 18.0 |
| ■ Sobrante Road and Calalco Road | B | 18.7 | B | 15.6 |
| Wood Road and Cajalco Road | C | 22.7 | C | 31.2 |
| Alexander Street and Cajalco Road | B | 18.5 | B | 17.7 |
| Clark Street and Cajalco Road | C | 30.7 | D | 38.5 |

Notes:
" $>80$ " - Exceeds 80 seconds

C-17 (cont.)
Horizon Year (2040) No Build / County General Plan Intersection Capacity Analysis I-215 Area

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: |
|  | LOS | $\begin{array}{\|c} \hline \text { Average Delay } \\ (\mathrm{sec}) \\ \hline \end{array}$ | LOS | Average Delay (sec) |
| Aessandro Blvd and Meridian Parkway | F | >80.0 | F | >80.0 |
| Alessandro Blvd and I-215 Southbound Ramps | E | 61.4 | F | >80.0 |
| Alessandro Blvd and l-215 Northbound Ramps | D | 53.5 | F | >80.0 |
| Alessandro Blvd and Valley Springs Pkwy | E | 74.8 | F | >80.0 |
| Cactus Avenue and Innovation Drive | C | 29.9 | F | >80.0 |
| Cactus Avenue and I -215 Southbound Ramps | B | 17.4 | C | 22.4 |
| Cactus Avenue and I-215 Northbound Ramps | C | 26.6 | C | 33.7 |
| Cactus Avenue and Elsworth Street | D | 43.5 | D | 38.7 |
| Van Buren Boulevard and Meridian Parkway | C | 27.2 | E | 63.8 |
| Van Buren Boulevard and I-215 Southbound Ramps | B | 12.6 | B | 14.6 |
| Van Buren Boulevard and I-215 Northbound Ramps | C | 21.5 | B | 15.0 |
| Harley Knox Blvd and Hanill Avenue | C | 20.8 | C | 21.8 |
| Harley Knox Blvd and I-215 Southbound Ramps | B | 19.6 | D | 48.8 |
| Harley Knox Blvd and I-215 Northbound Ramps | B | 18.5 | B | 14.9 |
| Harley Knox Blvd and Western Way | B | 18.7 | B | 12.2 |
| Cajalco Road and Harvill Avenue | D | 37.4 | D | 38.3 |
| Cajalco Road and I-215 Southbound Ramps | C | 21.3 | C | 24.8 |
| Cajalco Road and I-215 Northbound Ramps | B | 19.6 | C | 24.5 |
| Cajalco Road and Webster Avenue | C | 31.5 | D | 42.4 |
| Placentia Avenue and Harvill Avenue | D | 36.6 | D | 38.7 |
| Placentia Avenue and East Frontage Road | B | 18.5 | B | 18.3 |
| Nuevo Road and A Street | B | 17.4 | C | 23.1 |
| Nuevo Road and I-215 Southbound Ramps | C | 24.5 | C | 24.0 |
| Nuevo Road and I-215 Northbound Ramps | A | 8.3 | B | 15.1 |
| Nuevo Road and Old Nuevo Road | D | 42.8 | D | 38.4 |

## Notes:

" $>80$ " - Exceeds 80 seconds

C-17 (cont.
Horizon Year (2040)
No Build / County General Plan
Ramona Expressway, I-215 to SR 79

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay (sec) | LOS | Average Delay (sec) |
| Perris Boulevard and Markham Street | B | 20.0 | C | 20.9 |
| Perris Boulevard and Ramona Expressway | D | 41.5 | D | 42.2 |
| Perris Boulevard and Morgan Street | C | 28.0 | C | 29.8 |
| Redlands Avenue and Ramona Expressway | D | 50.0 | E | 71.8 |
| Evans Road and Marbella Gate | A | 2.9 | A | 2.0 |
| Evans Road and Ramona Expressway | E | 62.5 | E | 58.3 |
| Evans Road and Morgan Street | A | 8.6 | A | 7.6 |
| Bernasconi Road and New Street | B | 14.4 | B | 15.4 |
| Bernasconi Road and Ramona Expressway | D | 37.1 | D | 44.7 |
| Bernasconi Road and Orange Avenue | C | 26.7 | C | 32.3 |
| Reservoir Avenue and Martin St | B | 17.2 | B | 16.2 |
| Reservoir Avenue and Ramona Expressway | C | 31.5 | C | 33.0 |
| Reservoir Avenue and 9th Street | B | 14.4 | B | 13.9 |
| Town Center Boulevard and Frontage Rd | B | 10.8 | B | 10.3 |
| Town Center Boulevard and Ramona Expressway | D | 48.7 | D | 43.5 |
| Town Center Boulevard and 5th Street | C | 28.1 | C | 30.2 |
| Park Center Boulevard and Marvin Road | C | 31.7 | C | 29.4 |
| Park Center Boulevard and Ramona Expressway | C | 32.6 | C | 31.3 |
| Park Center Boulevard and New Street | A | 6.9 | A | 7.4 |
| Warren Road and Ramona Expressway | D | 39.4 | C | 32.7 |
| Warren Road and Record Road | B | 11.7 | B | 12.5 |
| Gilman Springs Road and SR 79 Southbound Ramps | B | 17.7 | C | 22.1 |
| Gilman Springs Road and SR 79 Northbound Ramps | C | 28.6 | C | 27.0 |
| Ramona Expressway and SR 79 Southbound Ramps | C | 28.0 | C | 29.7 |
| Ramona Expressway and SR 79 Northbound Ramps | A | 7.1 | B | 15.3 |
| Sanderson Avenue and SR 79 WB Ramps | C | 20.1 | C | 24.8 |
| Sanderson Avenue and SR 79 EB Ramps | A | 8.7 | A | 9.8 |
| Sanderson Avenue and Cottormood Avenue | D | 38.0 | D | 37.7 |

Notes:
" $>80$ " - Exceeds 80 seconds

C－18
Horizon Year（2040）
Intersection Capacity Analysis
－15 Area

| Intersection |  | AM Peak Hour |  | PM Peak Hour |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay <br> （sec） | LOS | Average Delay <br> （sec） |  |
|  |  |  |  |  |  |
|  | F | $>80.0$ | F | $>80.0$ |  |
| Magnolia Avenue and ■ Sobrante Road | F | $>80.0$ | F | $>80.0$ |  |
| Magnolia Avenue and I－15 Southbound Ramps | B | 18.0 | C | 23.9 |  |
| Magnolia Avenue and I－15 Northbound Ramps | C | 20.1 | E | 70.8 |  |
| Magnolia Avenue and ■ Camino Avenue | D | 51.0 | F | $>80.0$ |  |
| Ontario Avenue and California Avenue | C | 23.4 | B | 15.2 |  |
| Ontario Avenue and I－15 Southbound Ramps | C | 29.3 | C | 33.3 |  |
| Ontario Avenue and I－15 Northbound Ramps | B | 13.0 | B | 13.2 |  |
| Ontario Avenue and State Street | C | 26.7 | C | 28.0 |  |
| 日 Cerrito Road and Bedford Canyon Road | B | 17.5 | C | 22.7 |  |
| 日 Cerrito Road and I－15 Southbound Ramps | D | 35.6 | C | 20.8 |  |
| 日 Cerrito Road and I－15 Northbound Ramps | C | 31.4 | C | 30.7 |  |
| 日 Cerrito Road and Temescal Canyon Road | C | 20.1 | C | 30.9 |  |
| Cajalco Road and Bedford Canyon Road | C | 24.2 | C | 24.0 |  |
| Cajalco Road and I－15 Southbound Ramps | B | 10.8 | B | 15.2 |  |
| Cajalco Road and I－15 Northbound Ramps | E | 61.4 | F | $>80.0$ |  |
| Cajalco Road and Temescal Canyon Road | C | 26.7 | C | 28.9 |  |
| Weirick Road and Knabe Road | C | 22.1 | B | 16.8 |  |
| Weirick Road and I－15 Southbound Ramps | A | 9.3 | B | 11.3 |  |
| Weirick Road and I－15 Northbound Ramps | C | 22.1 | C | 29.2 |  |
| Weirick Road and Temescal Canyon Road | C | 20.4 | B | 18.8 |  |
| Temescal Canyon Road and Lamson Drive | B | 15.5 | D | 38.8 |  |
| Temescal Canyon Road and I－15 Southbound Ramps | C | 22.5 | C | 24.9 |  |
| Temescal Canyon Road and I－15 Northbound Ramps |  |  |  |  |  |

Notes：
＂$>80$＂－Exceeds 80 seconds

> C-18 (cont.)
> Horizon Year (2040)
> Intersection Capacity Analysis
> Cajalco Road, I-15 to l-215

| Intersection | AM Peak Hour |  | PM Peak Hour |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | LOS | Average Delay <br> （sec） | LOS | Average Delay <br> （sec） |
|  |  |  |  |  |
| Eagle Valley Road and Cajalco Road | C | 20.3 | B | 16.6 |
| Lake Mathews Road and Cajalco Road | B | 11.7 | B | 17.7 |
| 日 Sobrante Road and Calalco Road | B | 19.2 | B | 16.5 |
| Wood Road and Cajalco Road | C | 22.7 | C | 23.8 |
| Alexander Street and Cajalco Road | B | 19.4 | B | 15.1 |
| Clark Street and Cajalco Road | C | 26.3 | D | 42.5 |

Notes：
＂$>80$＂－Exceeds 80 seconds

|  |  |  |  |  | Hor <br> Intersect Mid County | (2040) <br> y Ana <br> -215 to | sis SR 79 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Peak Hour |  | Peak Hour |
|  |  |  |  |  | Intersection | LOS | $\begin{gathered} \text { Average Delay } \\ (\mathrm{sec}) \\ \hline \end{gathered}$ | LOS | $\begin{array}{\|c} \hline \text { Average Delay } \\ (\mathrm{sec}) \\ \hline \end{array}$ |
| Intersec | ty |  |  |  |  |  |  |  |  |
|  |  |  |  |  | Redlands Ave and Rider Street | C | 30.7 | C | 33.2 |
|  |  |  |  |  | Redlands Ave and MCP Westbound Ramps | C | 21.5 | C | 25.7 |
|  |  | Peak Hour |  | eak Hour | Redlanda Ave and MCP Eastbound Ramps | B | 16.8 | B | 18.1 |
| Intersection |  | Average Delay |  | Average Delay | Redlands Ave and Placentia Avenue | C | 27.2 | C | 29.7 |
|  | LOS | (sec) | LOS | (sec) | Evans Road and Rider Street | C | 27.4 | C | 24.6 |
|  |  |  |  |  | Evans Road and MCP Westbound Ramps | A | 7.9 | A | 9.7 |
| Alessandro Blvd and Meridian Parkway | F | >80.0 | F | >80.0 | Evans Road and MCP Eastbound Ramps | A | 9.8 | A | 9.4 |
| Alessandro Blvd and I-215 Southbound Ramps | F | >80.0 | F | >80.0 | Evans Road and Orange Ave | C | 34.8 | D | 42.4 |
| Alessandro Blvd and I-215 Northbound Ramps | F | >80.0 | F | >80.0 | Ramona Expressway and Rider Street | D | 38.9 | B | 13.5 |
| Alessandro Blvd and Valley Springs Parkway | F | >80.0 | F | >80.0 | Ramona Expressway and MCP Westbound Ramps | B | 13.1 | A | 8.2 |
| Cactus Avenue and Innovation Drive | C | 30.8 | D | 35.8 | Ramona Expressway and MCP Eastbound Ramps | B | 12.6 | B | 17.4 |
| Cactus Avenue and I-215 Southbound Ramps | B | 17.4 | B | 19.9 | Ramona Expressway and Orange Ave | C | 29.1 | D | 37.4 |
| Cactus Avenue and l-215 Northbound Ramps | C | 28.2 | D | 52.5 | Bernasconi Road and New St | B | 12.6 | B | 12.9 |
| Cactus Avenue and Elsworth Street | D | 40.1 | D | 36.0 | Bernasconi Road and MCP Westbound Ramps | B | 13.8 | B | 15.5 |
| Van Buren Boulevard and Meridian Parkway | C | 28.9 | E | 77.6 | Bermasconi Road and MCP Eastbound Ramps | B | 14.9 | B | 14.5 |
| Van Buren Boulevard and I -215 Southbound Ramps | B | 12.4 | B | 14.0 | Bermasconi Road and Orange Avenue | C | 33.6 | D | 35.5 |
| Van Buren Boulevard and I-215 Northbound Ramps | C | 25.3 | C | 24.7 | Reservoir Avenue and Martin St | D | 36.6 | D | 37.1 |
| Harley Knox Blvd and Hanvill Avenue | C | 21.3 | C | 24.5 | Reservoir Avenue and MCP Westbound Ramps | B | 16.4 | B | 16.7 |
| Harley Knox Blvd and I-215 Southbound Ramps | B | 17.0 | C | 20.9 | Reservoir Avenue and MCP Eastbound Ramps | B | 10.7 | B | 11.2 |
| Harley Knox Blvd and I-215 Northbound Ramps | B | 19.6 | B | 16.3 | Reservoir Avenue and 9th Street | B | 16.0 | B | 16.8 |
| Harley Knox Blvd and Western Way | B | 10.1 | B | 10.9 | Town Center Boulevard and Frontage Rd | B | 12.0 | B | 13.2 |
| Cajalco Road and Hanill Avenue | D | 46.1 | D | 41.2 | Town Center Boulevard and MCP Westbound Ramps | A | 5.9 | A | 5.4 |
| Cajalco Road and l-215 Southbound Ramps | B | 18.7 | B | 20.0 | Town Center Boulevard and MCP Eastbound Ramps | C | 21.3 | C | 21.0 |
| Cajalco Road and I-215 Northbound Ramps | C | 20.3 | C | 23.6 | Town Center Boulevard and 5th Street | C | 33.3 | C | 32.6 |
| Ramona Expressway and Patterson Avenue | B | 18.0 | C | 26.9 | Park Center Boulevard and Marvin Road | C | 33.7 | C | 32.3 |
| Ramona Expressway and Webster Avenue | D | 40.1 | C | 34.9 | Park Center Boulevard and MCP Westbound Ramps | B | 13.5 | B | 16.1 |
| Placentia Avenue and Hanill Avenue | D | 35.3 | D | 41.5 | Park Center Boulevard and MCP Eastbound Ramps | B | 11.4 | B | 11.6 |
| Placentia Avenue and l -215 Southbound Ramps | B | 15.5 | B | 17.2 | Park Center Boulevard and New Street | A | 7.8 | A | 8.1 |
| Placentia Avenue and l -215 Northbound Ramps | B | 15.7 | B | 17.4 | Warren Road and Ramona Expressway | C | 24.3 | C | 21.8 |
| Placentia Avenue and East Frontage Road | A | 8.6 | A | 6.6 | Warren Road and MCP Westbound Ramps | A | 5.4 | A | 6.3 |
| Nuevo Road and A Street | B | 19.5 | C | 21.3 | Warren Road and MCP Eastbound Ramps | B | 12.6 | B | 11.5 |
| Nuevo Road and l-215 Southbound Ramps | C | 20.3 | C | 20.6 | Warren Road and Record Road | B | 10.1 | B | 11.0 |
| Nuevo Road and I-215 Northbound Ramps | A | 8.4 | A | 6.7 | Gilman Springs Road and SR 79 Southbound Ramps | B | 19.0 | B | 17.4 |
| Nuevo Road and Old Nuevo Road | C | 33.5 | D | 39.3 | Gilman Springs Road and SR 79 Northbound Ramps | B | 17.8 | C | 25.1 |
|  |  |  |  |  | Sanderson Ave and MCP | C | 34.8 | D | 51.9 |
| Notes: |  |  |  |  | MCP and SR 79 | C | 25.9 | C | 33.9 |
|  |  |  |  |  | Ramona Expressway and MCP | D | 36.6 | D | 48.8 |
| " 880 - - Exceeds 80 seconds |  |  |  |  | SR 79 Westbound Ramps and Sanderson Ave | C | 24.3 | C | 26.4 |
|  |  |  |  |  | SR 79 Eastbound Ramps and Sanderson Ave | A | 9.5 | B | 12.0 |
|  |  |  |  |  | Sanderson Ave and Cottormood Avenue | D | 48.6 | D | 41.9 |

# ATTACHMENT D <br> PEAK HOUR TRAFFIC FORECASTS YEAR 2040 - <br> SYSTEMS (FREEWAY TO FREEWAY) INTERCHANGES 




FOR DISCUSSION
PURPOSES ONLY PURPOSES ONLY

JACOBS

 AT SR-79 SYSTEMS INTERCHANGE

SCALE $\quad{ }^{\prime \prime \prime}=1000^{\prime}$
Jonuory 2015

## ATTACHMENT E

PEAK HOUR TRAFFIC FORECASTS YEAR 2040 -
SERVICE (LOCAL) INTERCHANGES



FOR DISCUSSION
PURPOSES ONLY PURPOSES ONLY AM / PM PEAK HOUR VOLUMES PEAK HOUR VOLUMES
AT REDLANDS AVE

 AM PM PEAK HOUR POLUMES $\underbrace{800^{\circ}}_{1 / \mathrm{B} \text { MLE }}$







## PURPOSES ONLY 

MID COUNTY JACOBS AM / PM PEAK HOUR VOLUMES AT BERNASCONI ROAD


## LEGEND

XXX/YyY - AM/PM PEAK HOUR VOLUMES PROJECTED YEAR - 2040


FOR DISCUSSION
PURPOSES ONLY




FOR DISCUSSION
PURPOSES ONLY



LEGEND
XXX/YYY - AM/PM PEAK HOUR VOLUMES PROJECTED YEAR - 2040


FOR DISCUSSION FOR DISCUSSION


Jacobs MID COUNTY PARKWAY AM PM PEAK HOUR VOLUMES AT PARK CENTER BLVD


SCALE $=800$
Jonuory 2015


## LEGEND

XXX/YYY - AM/PM PEAK HOUR VOLUMES PROJECTED YEAR - 2040


FOR DISCUSSION
PURPOSES ONLY


JACOBS MID COUNTY PARKWAY AM / PM PEAK HOUR VOLUMES AT WARREN RD





Jonuory 2015



ATTACHMENT F

## LAYOUT PLANS

























# ATTACHMENT G <br> TYPICAL SECTIONS, <br> LIFE CYCLE COST ANALYSES, <br> TRAFFIC INDEX MEMORANDUM, <br> PARK AND RIDE LOCATIONS, <br> AND <br> <br> MAINTENANCE FACILITY LOCATIONS 

 <br> <br> MAINTENANCE FACILITY LOCATIONS}

TYPICAL SECTIONS
LIFE CYCLE COST ANALYSES TRAFFIC INDEX MEMORANDUM PARK AND RIDE LOCATIONS MAINTENANCE FACILITY LOCATIONS

ATTACHMENT G


PROPOSED TYPICAL STRUCTURAL CROSS SECTION
(A)- $\mathbf{O} .10^{\prime}$ RHMA-G

B- $0.20^{\prime}$ RHMA-C B- $\begin{aligned} & 0.50^{\prime} \\ & 1.35^{\prime} \\ & \text { HBA } \\ & \text { (CL2) }\end{aligned}$

| C | $\left[\begin{array}{l} 1.00^{\prime} \\ 0.10^{\prime} \end{array}\right.$ | JPCP <br> HMA BB | $E\left[\begin{array}{l} 0.50^{\prime} \text { HMA } \\ 2.00^{\prime} A B \quad(C L 2) \end{array}\right.$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.50' | LCB |  |  |  |  |
|  | 0.70' | AS (Cl2) |  |  |  |  |
| D | $1.00^{\prime}$ | JPCP | $F=\left[\begin{array}{ll} 0.85^{\prime} & \text { JPCP } \\ 00.10^{\prime} & \text { HMA } \\ 0.50^{\prime} & \text { LCB } \\ 0.70^{\prime} & \text { AS (CL2) } \end{array}\right.$ |  |  |  |
|  | 0.10' | HMA BB |  |  |  |  |
|  | 0.33' | LCB |  |  |  |  |
|  | $1.00^{\prime}$ | AB (CL2) |  |  |  |  |

## I-215 TYPICAL SECTION <br> NUEVO Rd TO Sta 1527+00.00 Sta 1624+00.00 TO Sta 1641+50.00

* Applies only to Sta 1624+00 TO Sta 1641+50

> G- | $0.20^{\prime}$ |
| :--- |
| $0.40^{\prime}$ |

$1.70^{\prime} \mathrm{AB}$ (CL2)

DESIGN DESIGNATIONS:
STA 1527 TO STA 1586 $\operatorname{ADT}(2010)=103,000$ $\operatorname{ADT}(2040)=164,400$ $V(\mathrm{mph})=75$ DHV $=14,797$ D\%= 54.0 $T \%=5.0$

DESIGN DESIGNATIONS:
(STA 1641 TO VAN BUREN BLVD)
$\operatorname{ADT}(2010)=117,000$
$\operatorname{ADT}(2040)=228,200$
$V(\mathrm{mph})=75$ DHV $=18,960$ $D \%=60.7$ $\mathrm{T} \%=5.0$


## I-215 TYPICAL SECTION

Sta 1527+00.00 TO Sta 1586+50.00
Sta 1641+50.00 TO VAN BUREN BIvd

* Applies only to Sta 1771+00 TO Sta 1787+00

Proposed


## I-215 TYPICAL SECTION

Sta 1586+50.00 TO Sta 1624+00.00

FOR DISCUSSION
DESIGN DESIGNATIONS:
$\operatorname{ADT}(2010)=N / A$
$V(\mathrm{mph})=75$
TABLE A

| R/W |  |
| ---: | :---: |
| HEIGHT OF | MIN. |
| CUT SLOPE | DISTANCE |
| $30^{\prime}-50^{\prime}$ | $20^{\prime}$ |
| $50^{\prime}-75^{\prime}$ | $25^{\prime}$ |
| $75^{\prime}$ | $1 / 3 \mathrm{H} \&<50^{\prime}$ |

$\operatorname{ADT}(2040)=93,800 / 55,000$
DHV $=8,769 / 4,311$
$D \%=53.0 / 52.3$
$\mathrm{T} \%=5.0$
TYPICAL SECTION
(GENERAL)



DESIGN DESIGNATIONS: $\operatorname{ADT}(2010)=N / A$
$\operatorname{ADT}(2040)=93,800 / 55,000$ $V(\mathrm{mph})=75$

DHV $=8,769 / 4,311$ $\begin{aligned} D H V & =8,169 / 4,311 \\ D \% & =53.0 / 52.3\end{aligned}$ $\begin{aligned} D \% & =53.0 \\ T \% & =5.0\end{aligned}$


MCP TYPICAL SECTION MCP TYPICAL SECTION


> DESIGN DESIGNATIONS: $\begin{aligned} \text { ADT }(2010) & =\text { N/A } \\ \operatorname{ADT}(2040) & =134,000 \\ \mathrm{~V}(\mathrm{mph}) & =75 \\ (\mathrm{AM} / \mathrm{PM}) \mathrm{DHV} & =10,720 / 12,060 \\ D \% & =51.0 \\ T \% & =5.0\end{aligned}$

## Mid County Parkway Project

## Alternative 1 (Preferred Alternative): Hot Mixed Asphalt (HMA)

Pavement Design Life: $\qquad$ Years Initial Construction Costs: Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:** AGENCY COSTS
USER COSTS:
TOTAL LIFE CYCLE COSTS:

Alternative 2: Hot Mixed Asphalt w/ Rubberized Hot Mixed Asphalt (HMA w/RHMA)
Pavement Design Life: $\qquad$ Years Initial Construction Costs: Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
TOTAL AGENCY
TOTAL LIFE CYCLE COSTS:


| $\$ 276,703,840$ |
| ---: |
| $\$ 1,809,290$ |

Reason that this is not Alternative 1:
The difference between Alternatives 1 and 2 is $0.5 \%$, therefore either can be considered the lowest
life cycle cost option. HMA was selected as the preferred alternative because it has the lowest
initial cost.

Alternative 3: Hot Mixed Asphalt w/ Rubberized Hot Mixed Asphalt (HMA w/RHMA)
Pavement Design Life: $\qquad$ Years
Initial Construction Costs:-
Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
USER COSTS:
TOTAL LIFE CYCLE COSTS:


| $\$ 1,503,160$ |
| ---: |
| $\$ 352,489,350$ |

Reason that this is not Alternative 1:
The life-cycle costs for this alternative is $26 \%$ and $27 \%$ higher than the other alternatives.
** Includes both future maintenance, construction, and project support costs.
NOTE: For analysis purposes, project alternatives whose life-cycle costs are within 10 percent of each other are considered to be equivalent.

## Mid County Parkway Projec

## Alternative 1 (Preferred Alternative): Hot Mixed Asphalt (HMA)

Pavement Design Life: $\qquad$ Years Initial Construction Costs Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
USER COSTS:
TOTAL LIFE CYCLE COSTS:
\$ 1,040,669

240,097
$\qquad$

Alternative 2: Hot Mixed Asphalt w/ Rubberized Hot Mixed Asphalt (HMA w/RHMA)
Pavement Design Life: $\qquad$ Years Initial Construction Costs: Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
TOTAL AGENCY
TOTAL LIFE CYCLE COSTS:

$\qquad$

| $\$ 1,464,760$ |
| ---: |
| $\$ 7,110$ |
| $\$ 1,471,870$ |

Reason that this is not Alternative 1:
The difference between Alternatives 1 and 2 is $2 \%$, therefore either can be considered the lowest
life cycle cost option. HMA was selected as the preferred alternative because it has the lowest
initial cost.

Alternative 3: Hot Mixed Asphalt w/ Rubberized Hot Mixed Asphalt (HMA w/RHMA)
Pavement Design Life: $\qquad$ Years
Initial Construction Costs:-
Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
USER COSTS:
TOTAL LIFE CYCLE COSTS:


Reason that this is not Alternative 1:
The life-cycle costs for this alternative is $21 \%$ and $23 \%$ higher than the other alternatives.
** Includes both future maintenance, construction, and project support costs
NOTE: For analysis purposes, project alternatives whose life-cycle costs are within 10 percent of each other are considered to be equivalent.

## Mid County Parkway Project

Life Cycle Cost Analysis Form - Ramp B (High Truck Traffic)

Alternative 1 (Preferred Alternative): Hot Mixed Asphalt (HMA)
Pavement Design Life:
Initial Construction Costs:
Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
USER COSTS:
TOTAL LIFE CYCLE COSTS:


Alternative 2: Hot Mixed Asphalt w/ Rubberized Hot Mixed Asphalt (HMA w/RHMA)
Pavement Design Life: $\qquad$ _Years
Initial Construction Costs
Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS
USER COSTS:
TOTAL LIFE CYCLE COSTS:


Reason that this is not Alternative 1
The difference between Alternatives 1 and 2 is $1 \%$, therefore either can be considered the lowest life cycle cost option. HMA was selected as the preferred alternative because it has the lowest initial cost.

## Alternative 3: Hot Mixed Asphalt w/ Rubberized Hot Mixed Asphalt (HMA w/RHMA)

Pavement Design Life: $\qquad$ Years
Initial Construction Costs:
Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
USER COSTS:
TOTAL LIFE CYCLE COSTS:


Reason that this is not Alternative 1:
The difference between Alternatives 1 and 3 is $4 \%$, therefore either can be considered as the lowest life cycle cost option. HMA was selected as the preferred alternative because it has the lowest initial cost.

Alternative 4: Jointed Plain Concrete Pavement (JPCP)
Pavement Design Life: $\qquad$ Years
Initial Construction Costs:
Initial Project Support Costs:
Future Maintenance \& Rehabilitation Costs:**
TOTAL AGENCY COSTS:
TOTAL AGENCY
TOTAL LIFE CYCLE COSTS:


Reason that this is not Alternative 1:
The difference between Alternatives 1 and 4 is $6 \%$, therefore either can be considered as the lowest life cycle cost option. HMA was selected as the preferred alternative because it has the lowest initial cost.
** Includes both future maintenance, construction, and project support costs.
NOTE: For analysis purposes, project alternatives whose life-cycle costs are within 10 percent of each other are considered to be equivalent.

LIFE CYCLE COST ANALYSIS RAMP B (HIGH TRUCK TRAFFIC)

To: NASSIM ELIAS
Project Manager
Date: April 9, 2012
File: $\quad 08-$ RIV-MCP PM 0.0/16.3 08-RIV-215- PM 28.0/34.3 Mid County Parkway Project EA: 0F3200
-Rev. Aug 8, 2012
From: MARIA "SOLE" ARANGUIZ
Acting Office Chief
Office of Transportation System Information, MS 726

Subject: Verification of Traffic Indices (TI) and AADT values for the proposed Mid County Parkway Project

Per your request, we reviewed the Traffic Indices (TI) calculations and AADT values Report for the proposed Mid County Parkway (MCP) project. The TI calculations submitted by Jacobs are based on the horizon years ADT and Truck 5\% obtained from the Traffic Technical Report dated February 3, 2012. Therefore, the TI values are acceptable as follows:

MCP Mainline and Ramps Traffic Data:

|  | 2020 AADT <br> (Opening Year) | 2030 AADT <br> (10-yr Horizon) | 2040 AADT <br> (20-yr Horizon) | 2060 AADT <br> (40-yr Horizon) |
| :--- | :---: | :---: | :---: | :---: |
| MCP Mainline | 63,600 | 78,700 | 93,800 | 114,500 |
| Ramp A | 6,600 | 9,600 | 12,600 | 15,400 |
| Ramp B | 3,500 | 8,400 | 13,300 | 16,200 |

MCP Mainline: Traffic Index (TI)

| Traffic Indices are based on the Construction Completion Acceptance (CCA) year 2020 |  |  |
| :---: | :---: | :---: |
| Traffic Index (TI) Year ${ }^{1}$ | Lanes \# 1, 2 \& 3 |  |
|  | Mainline + first 2' of Shoulder | Outside Shoulder* |
| $\mathbf{T I}_{\mathbf{2 0}}=\mathbf{1 0}$-Year | 11.50 | 7.50 |
| $\mathbf{1 0}$-Year (ESAL) | $9,453,444$ | 189,069 |
| $\mathbf{T I}_{40}=\mathbf{2 0}$-Year | 13.00 | 8.00 |

1. Year refers to time passed since opening year, not design life

TI notation defined in HDM 103.1 added for clarity since TI calculation is based on ESAL at design life midpoint per HDM 613.2(2)

| 20-Year (ESAL) | $22,534,512$ | 450,690 |
| :---: | :---: | :---: |
| $\mathbf{T I}_{80}=\mathbf{4 0}$-Year | 14.50 | 9.00 |
| $\mathbf{4 0 - Y e a r ~ ( E S A L ) ~}$ | $54,992,774$ | $1,099,855$ |
| *Section 613.4(2), the TI shall be no less than 2 percent of the project ESALs of the adjacent traffic lane or a TI |  |  |

*Section 613.4(2), the TI shall be no less than 2 percent of the project ESALs of the adjacent traffic lane or a TI of 5 , whichever is greater
Ramp A: Traffic Index (TI)

| Traffic Index (TI) Year | Ramp Lanes |  |
| :---: | :---: | :---: |
|  | Ramp Lane + first 2' of Shoulder | Shoulder* |
| $\mathrm{TI}_{20}=10$-Year | 10.00 | 6.50 |
| 10-Year (ESAL) | 2,882,880 | 57,658 |
| $\mathrm{TI}_{40}=20$-Year | 11.50 | 7.00 |
| 20-Year (ESAL) | 7,567,560 | 151,351 |
| $\mathrm{TI}_{80}=40$-Year | 13.00 | 8.00 |
| 40-Year (ESAL) | 18,467,723 | 369,354 |

*Section 613.4(2), the TI shall be no less than 2 percent of the project ESALs of the adjacent traffic lane or a TI of 5 , whichever is greater.
Ramp B: Traffic Index (TI)

| Traffic Index (TI) Year | Ramp Lanes |  |
| :---: | :---: | :---: |
|  | Ramp Lane + first 2' of Shoulder | Shoulder* |
| $\mathrm{TI}_{20}=10$-Year | 10.00 | 6.50 |
| 10-Year (ESAL) | 2,522,520 | 50,450 |
| $\mathrm{T}_{40}=20$-Year | 11.50 | 7.00 |
| 20-Year (ESAL) | 7,987,980 | 159,760 |
| $\mathrm{TI}_{80}=40$-Year | 13,00 | 8.00 |
| 40-Year (ESAL) | 19,493,707 | 389,874 |

*Section 613.4(2), the TI shall be no less than 2 percent of the project ESALs of the adjacent traffic lane or a T of 5, whichever is greater

If you have any questions regarding the information above, you may reach me at extension 7017 or Aung Naing at extension 5904.

C: Merideth Cann, Jacobs


## ATTACHMENT H COST ESTIMATES

## $\underset{\substack{\text { MID COUNTY PARKWAY } \\ \text { PROEECT COST ESTMAATE }}}{\text { In }}$

Project Report Cost Estimate
N: 0800000125 (EA: 08-0F3200)

| Type of Estimate | Project Report (PA/ED) |
| :---: | :---: |
| Program Code : | FTIP/STIP |
| Project Limits : | MCP: PM 0.0/16.3; I-215: PM 28.0/34.3 |
| Description: | New "Mid County Parkway" Freeway from I-215 to SR-79 with freeway-to-freeway connectors at $\mathrm{t}-215$ and SR-79 |
| Scope : | New freeway construction and freeway improvements on $1-215$ |
| Alternative | Selected Alternative in the EIR/EIS |


|  | Current Cost (2014) |  | Escalated Cost (2019) |  |
| :---: | :---: | :---: | :---: | :---: |
| roadway items | \$ | 587,074,000 | \$ | 680,580,000 |
| Structure items | \$ | 525,588,000 | \$ | 609,301,000 |
| Subtotal construction cost | \$ | 1,112,662,000 | \$ | 1,289,881,000 |
| right of way | \$ | 236,630,000 | \$ | 322,582,000 |
| TOTAL CAPITAL OUTLAY COST | \$ | 1,349,292,000 | \$ | 1,612,463,000 |
| PR/ED SUPPORT | \$ | 45,083,000 | \$ | 45,083,000 |
| PS\&E SUPPORT | \$ | 166,899,000 | \$ | 193,482,000 |
| RIGHt OF WAY SUPPORT | \$ | 14,446,000 | \$ | 16,747,000 |
| CONSTRUCTION SUPPORT | \$ | 155,773,000 | \$ | 180,583,000 |
| TOTAL CAPITAL OUTLAY SUPPORT COST* | \$ | 382,201,000 | \$ | 435,895,000 |
| TOTAL PROJECT COST | \$ | 732,000,000 | \$ | ,049,000,000 |


-
$\begin{array}{cc}\text { PID Approval } & \text { December } 2004 \\ \text { PAED }\end{array}$
PS\&E July 2015 through July 2017
RTL October 2017

Approved by Projec
Manager $\qquad$
I. ROADWAY ITEMS SUMMARY

| Section |  |  | Cost |
| :---: | :---: | :---: | :---: |
| 1 | Earthwork |  | \$ 121,133,000 |
| 2 | Structural Section |  | \$ 105,716,000 |
| 3 | Drainage |  | \$ 28,669,000 |
| 4 | Specialty Items |  | \$ 59,023,000 |
| 5 | Environmental |  | \$ 48,948,000 |
| 6 | Traffic Items |  | \$ 34,600,000 |
| 7 | Detours |  | \$ 5,971,000 |
| 8 | Minor Items |  | \$ 13,738,000 |
| 9 | Roadway Mobilization |  | \$ 41,780,000 |
| 10 | Supplemental Work |  | \$ 29,743,000 |
| 11 | State Furnished |  | \$ 4,466,000 |
| 12 | Time-Related OH |  | \$ 16,712,000 |
| 13 | Contingency |  | \$ 76,575,000 |
| TOTAL ROADWAY ITEMS |  |  | \$ 587,074,000 |
| Estimate Prepa | ed By : Gene Ching, P.E., Engineer | $\frac{\text { February } 3,2015}{\text { Date }}$ | $\frac{(909)}{} \frac{974-2742}{\text { Phone }}$ |
| Estimate Reviev | ved By : Chao Chen, P.E.,. Project Engineer | $\frac{\text { February } 3,2015}{\text { Date }}$ | $\frac{(909) 974-2702}{\text { Phone }}$ |
| By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated. |  |  |  |

SECTION 1: EARTHWORK

## nem oode 160101 Clearing \& Grubbing 170101 Develoo Water Supoly 170101 Develop Water Supply 190101 Roadway Excavation 198001 Imported Boravow

TOTAL EARTHWORK SECTION ITEMS \$ 121,133,000

## SECTION 2: STRUCTURAL SECTION

nem code
250201
Class 2 - Aggregate Subbase
250201 Class 2 - Agregate Su
268201 Class 2 Aggregate Bas
280000 Lean Concrete aase
${ }_{3}^{280000}$ Lean Concrete Base
390132 Hot Mx Asphall (Type A)
390137 Ruberized Hot Mix sphalt (Gap Graded)
401050 Jointed Plain Concto Pay
401050 Jointed Plain Concrerete Pavement

SECTION 3: DRAINAGE
tem code
xxxxxx Storm Drains (CMP up to 30")
XXXXXX Storm Drains (CMP $36^{10}$ to $\left.60^{\prime \prime}\right)$
$\times X X X X X$ Storm Drains (CMP over $\left.0^{\circ}\right)$
$\times \times \times \times \times$ Storm Drains (CMP over $\left.60^{\prime \prime}\right)$
$\times \times \times \times \times \times$ Storm Drains (RCB single bo
XXXXXX Storm Drains (RCB single box)
XXXXXX Storm Drains ( RCB mutiple box)
XXXXXXX Permanent BMP
XXXXXX Pumping Plants

SECTION 4: SPECIALTY ITEMS
Hem code
Xxxxxx Retaining Walls
xxxxxx Noise Barriers
XXXXXX Barriers and Guardrails


Unit Quantity Unit Price ( $(\mathbf{s}) \quad \begin{gathered}\text { Cost } \\ \text { SF }\end{gathered}$

$\begin{array}{llllll}144,970 & \times & 60 & = & 8,698,200 \\ 102,09 & \times & 35 & =\$ & 3,584,315\end{array}$ TOTAL SPECIALTY ITEMS \$ 59,023,000


$\underset{\substack{\text { PRELIMINARY } \\ \text { PROJECT COST ESTMATE }}}{\text { P/ }}$

SECTION 6: TRAFFIC ITEMS
6A - Traffic Electrical
emode

$\times x \times x \times$ Tratic Signals
$x \times x \times x \times$ Ramp
$x$ Metering
XXXXX Ramp Metering
XXXXX ITS Elements

6B - Traffic Signing and Striping
liem code
566012 Roadside Sign (Two Post)
Xxxxx Traftic Delineation Items
XXXXX Overhead Sign Structures

6C - Stage Construction and Traffic Handling
Hem oode
120100 Traffic Control System


SECTION 7: DETOURS
Include constructing, maintaining, and removal
Hem oode
Unit Quantity Unit Price (s) Cost


| TOTAL DETOURS | $\$ 5,971,000$ |
| :---: | :---: | :---: |
| SUBTOTAL SECTIONS 1-7 | $\$ 404,060,000$ |


| 8 A - Americans with Disabilities Act Items |  |  |
| :---: | :---: | :---: |
| ADA lems | 0.2\% | 808,120 |
| - Bike Path litems |  |  |
| Bike Path Items | 0.2\% | 808,120 |
| 8 C - Other Minor ltems |  |  |
| Other Minor tems | 3.0\% | \$12,121,800 |
| Total of Section 1-7 |  | \$13,738,040 |

Total of Section 1.7 $\quad \$ 404060 \times 3.000 \times 3 \%$
TOTAL MINOR ITEMS $\$ 13,738,000$
SECTIONS 9: MOBILIZATION
Item
code

| code |
| :--- |
| 999990 |

Total Section $1-8$ | $\$ 417,798,000 \times \quad 10 \% \quad=\$ 41,779,800$ |
| :--- |

## SECTION 10: SUPPLEMENTAL WORK

```
Mem code (1)
```



```
xxxxxx sections 1 thru 8 costs) lem
```

Cost of NPDES Supplemental Work specified in Section $5 C \equiv \$ 0$
Total Section 1-8
\$ 417,798,000
4\%
$\$ 16,711,920$
$\underset{\substack{\text { PRELIMINARY } \\ \text { PROIECT COST ESTIMATE }}}{ }$

## SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

liem code
Unit Quantity Unit Price (\$)
Total Section 1-8
\$ 417,798,000
$1 \%=\$ 4,177,980$

SECTION 12: TIME-RELATED OVERHEAD

```
Estimated Time-Releated Overhead (TRO) Percentage (0% to 10%) = 4%
Htem code Unit Quantity Unit Price ($) Cost
XXxxx Time-Related Overhead
$ 417,798,000 X 4% = $16,712,000
```

TOTAL TIME-RELATED OVERHEAD $\$ 16,712,000$

## SECTION 13: CONTINGENCY

(Pre-PSR 30\%-50\%, PSR 25\%, Draft PR 20\%, PR 15\%, after PR approval 10\%, Final PS\&E 5\%)
Total Section 1-12
$\$ 510,499,000 \times 15 \%=\$ 76,575,000$

## II. STRUCTURE ITEMS

|  | Bridge 1A-1 | Bridge 1A-2 | Bridge 1A-3 |
| :---: | :---: | :---: | :---: |
| date of estimate <br> Bridge Name <br> Bridge Number <br> Structure Type <br> Width (Feet) [out to out] <br> Total Bridge Length (Feet) <br> Total Area (Square Feet) <br> Structure Depth (Feet) <br> Footing Type (pile or spread |  |  |  |
| COST OF EACH STRUCTURE | \$1,955,000 | \$2,210,000 | \$17,695,000 |


|  | Bridge 1A-4 | Bridge 1A-5 | Bridge 1A-6 |
| :---: | :---: | :---: | :---: |
| date of estimate <br> Bridge Name <br> Bridge Number <br> Structure Type <br> Total Bridge Leng to out] <br> Total Area (Square Feet) <br> Structure Depth (Feet) <br> Footing Type (pile or spread <br> Cost Per Square Foot |  |  |  |
| cost of each structure | \$3,451,000 | \$29,752,000 | \$30,715,000 |


|  | Bridge 1A-7 | Bridge 1A-10 | Bridge 1A-18 |
| :---: | :---: | :---: | :---: |
| DATE OF ESTIMATE | 09/09/11 | 08/01/11 | 01/28/1 |
| ${ }_{\text {Name }}^{\text {Bridge }}$ Number |  |  |  |
| Structure Type | Concrete sla | Pps Concrete Box giro | TIEBACK WALL No. 1 |
| Wioth (Feet) [out to out] | 45.75 LF | ${ }^{80.81}$ LF | 16.05 LF |
| Total Length (Feet) | 125.00 LF | 160.00 LF | 280.00 LF |
| Total Area (Square Feet) |  |  | 4494.0 SQFT |
| cture Depth (Feet) |  | $7^{7-3}{ }^{\text {a }}$ | NA ${ }_{\text {ciol }}^{\text {cid }}$ |
| Footing Type (pile or spre Cost Per Square Foot | $\underset{\$ 499.50}{\text { clid }}$ | $\underset{\$ 2661.28}{\text { ction }}$ | $\underset{\$ 288.00}{\text { cide }}$ |
| COST OFEACH | \$3,307,000 | \$3,378,000 | \$1,204,000 |


|  | Bridge 18-13 | Bridge 18-14 | Bridge 18-15 |
| :---: | :---: | :---: | :---: |
| date of estimate | 05/20/11 | 08/01/11 | 05/18/11 |
| Name |  | PLACENTA AVENUE OVERCROSS | REDLANDS AVENUE OVERCROSSING |
| Structure Type | GIPPS CONCRETE BOX GIRDER | Pss Concrete box girder | PS Concrete box girder |
| Wioth (Feet) [out to out] | ${ }^{126.00}{ }_{248}$ | ${ }_{\text {cker }}^{\text {838.00 }}$ | 100.00 27000 LF LF |
| Total Area (Square Feet) | ${ }_{31301}^{24.42}$ SOFT | 4438.250 SQFT | 27000.0 SOFT |
| Structure Depth (Feet) | 5'6"' ${ }^{\text {LF }}$ | $1^{11} 6^{\prime \prime}{ }^{\text {a }}$ LF | $5^{1} 6^{\prime \prime} 0^{\prime \prime}$ LF |
| Footing Type (pile or spread) |  |  |  |
| Cost Per Square Foot | \$319.52 | \$363.17 | \$301.70 |
| COST OF EACH | \$10,001,000 | \$16,029,000 | \$8,146,000 |


|  | Bridge 1B-16 \& 17 | Bridge 1B-30 \& 31 | Bridge 2-32 |
| :---: | :---: | :---: | :---: |
| date of estimate | 08/08/11 | 02/2208 | $22 / 08$ |
|  |  |  | nona Expressway Undercas |
| Bridge Number | CIPPS CoNCPEEEE BOX GIRDER | S Concreite box girder | Ps conceite box girder |
| Width (Feet) [out to out] | ${ }^{150.00}$ LF | 176.75 LF | ${ }^{143.94}$ |
|  | 853.00 127950 SQFT | ${ }_{35364.67}^{20.08} \mathrm{~S}$ SFFT |  |
|  | ${ }^{127.350}{ }^{\text {12, }}$ | ${ }_{\text {35364.07 }}^{4.0}{ }^{\text {a }}$ |  |
| Footing Type (pile or spread Cost Per Square Foot | $\begin{gathered} \text { CIDH } \\ \$ 231.97 \end{gathered}$ | $\underset{\$ 278.46}{\substack{\text { ciph }}}$ | $\begin{gathered} \text { CIDH } \\ \$ 218.57 \end{gathered}$ |
| COST OF EACH | \$29,681,000 | \$9,848,000 | \$7,946,000 |


|  | Bridge 2-33 | Bridge 2-34A \& B | Bridge 2-35A \& B |
| :---: | :---: | :---: | :---: |
| date of estimate Name | 09/15/14 <br> BERNASCONI ROAD OVERCROSSING | $08 / 07 / 14$ MARTIN STREET UC | 08/12/14 <br> SAN JACINTO RIVER BRIDGE |
| Bridge Number |  | ${ }_{\text {S }}^{\text {ST-XXX }}$ |  |
| Wioth (Feet) [out to out] | 5.50 LF | 兂 | 122.00 LF |
| Total Length (Feet) | ${ }^{348.50}$ LF |  | 1953.00 LF |
| Total Area (Square Feet) Structure Depit (Feet) | ${ }_{\text {cosilin }}^{26312}$ SQFT |  |  |
| Structure Depth (Feet) | ${ }_{\text {T-3 }}$ | 8-9" ${ }_{\text {CID }}$ | ${ }_{\text {cid }}$ |
| Cost Per Square Foot | \$318.76 | \$280.55 | \$274.76 |
| COST OF EACH | \$8,387,000 | \$17,387,000 | \$65,465,000 |


|  | Bridge 2-36 | Bridge 2-37 | Bridge 2-38 |
| :---: | :---: | :---: | :---: |
| dATE OF EStIMATE Name | $05 / 18 / 17$ MCP - Reservoir Road Overcrossing | 05/18/07 MCP - Town Center Blvd Overcrossing | 05/18/07 MCP - Park Center Blvd Overcrossing $57-$ XXX |
| Bridge Number Structure Type | 57-XXX | ${ }^{57-\mathrm{XXX}}$ | 57-XXX |
| Wioth (Feetl) [out to out] | ${ }^{\text {coser }}$ | ${ }^{110.37}{ }^{\text {125 }}$ | 102.37 <br> ${ }^{1023}$ <br> 232.29 <br> LF <br> LF |
| Total Area (Square Feet) | ${ }_{2461}{ }^{23461}$ SOFT | 27896.44 SOFT |  |
| Structure Depth (Feet) | $55^{200}$ LF | 5:6" ${ }^{\text {² }}$ | 5-0" ${ }^{\text {LF }}$ |
| Footing Type (pile or spread) |  |  |  |
| Cost Per Square Foot | \$232.32 | \$228.37 | \$222.37 |
| COST OF EACH | \$5,683,000 | \$6,371,000 | \$5,288,000 |



## III. RIGHT OF WAY




|  | TOTAL RIGHT OF WAY ESTIMATE | $\$ 236,630,000$ |
| :--- | :--- | :--- | :--- |

    TOTAL R/W ESTIMATE: Escalated \(\quad \$ 322,582,000\)
    N)

Right of Way Support $\quad$ \$ 14,446,000

Iv. SUPPORT COST ESTIMATE SUMMARY

| vear | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |  |  |  |  |  | furues |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (eorecastev supporit | 0.0\% | 30\% | 30\% | 3.\% | 30\% | 30\% |  |  |  |  |  |  |  |
|  | 2014 | 2015 | ${ }^{206}$ | ${ }^{217}$ | ${ }^{2018}$ | ${ }^{2019}$ |  |  |  |  | frune | PTToas | Supener Batio |
| $\begin{aligned} & \text { PR/ED (PD,PE,PM) } \\ & \text { (PA/ED in } 2014 \text { and prior; } \\ & \text { escalation does not apply) } \end{aligned}$ | s 45,08,411 | s 45,08,411 | s 45.083,411 | S 45,08,411 | s 450.08,411 | s 45,08,411 |  |  |  |  |  | 45,083,41 | $34 \%$ |
| PSEE (PS) | S 168.899300 | S 171,906.279 | s 177,063467 | ¢ 182375.371 | s 187896.633 | S 193,482032 |  |  |  |  |  | 193982000 | 14.348 |
| rw (rw) | S 14.446.000 | 14,879.380 | - 153257,761 | s 15,78,5.54 | ¢ 16285,100 | ¢ 16,746.873 |  |  |  |  |  | 16,747.000 | 1248 |
| CONSTRUCTION (CM) | S 155,72, 880 | S 180,45, 860 | S 1652599236 | s 170,27,013 | s $177.323,524$ | S 180,58,229 |  |  |  |  |  | S 180,583,000 | 13.389 |
| Total Support Cost: | s 382,20, 391 | s 392,314,930 | s 402,73,1.76 | s 413,461,30 | s $424.512,667$ | s 435.9595 .45 |  | s | s |  |  | S $435,895,41$ | 23920 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

v. ESCALATED CONSTRUCTION AND ROW COST SUMMARY

$$
\begin{aligned}
& \text { … }{ }^{9}
\end{aligned}
$$


MCP APS LIST
Note: Bridges listed in orange tables below had their APS's approved in 2008 in Metric units. $\quad$.













H-B-5d


H-B-5e





H-B-6c




H-B-10



H-B-14



H-B-16/17



H-B-18b


H-B-19


## LEGEND

(1) Conc Barrier Type 736 (Mod), typ (2) structure Approach Type N(305)

## NOTES

. Assumed CISS pile Foundation
3. Extension of Off-Ramp horizontal alignment (follow curve (3)) BC $39+80.84$

$530^{\prime}-0^{\prime \prime}$ Measured along I Mid County Parkway $\frac{844+00.00}{\text { Elev } 1462.56}$

## PROFILE GRADE (ALONG \& WARREN AVE WB ON-RAMP)

- EB


| MCP |
| :---: |
| $21^{\prime}-0^{\prime \prime}$ |

ELEVATION

Line $z$ Channel $=$
Pier 4
EC $47+11.03$
 $\frac{\text { Lanes © } 12^{\prime}-0^{\prime \prime}}{=36^{\prime}-0^{\prime \prime}}+\frac{10^{\prime}-0^{\prime \prime}}{\text { Shid }}+\frac{0^{\prime}-6^{\prime \prime}}{10^{\prime \prime}}$


TYPICAL SECTION

- 2:1

9-30-2011

EC $848+39.32$ STRUCT
LENGTH
width AREA COST/SO ET INCLUDING
$10 \%$
$25 \%$ MOBITIZATILN $\&$ 25\%. CONTING



H-B-21











PREPARED FOR THE StATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION


$\frac{\text { TYPICAL SECTION }}{1: 200}$


CURVE DATA

1) © Mid County Parkway


| Hot A Moun | ation |  | METERS UNLESS OTMENSIONS ARE IN |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DEsICNED EY Mohammed Atiquliah | ${ }^{\text {oate }} 05 / 07$ | AYMAN SALAMA <br> PROJECT ENGINEER | PLANNING STUDY |  |  |  |  |
| DRAMW Er Normon Morales | DATE $05 / 07$ |  | ODELL AVENUE UNDERCROSSING |  |  |  |  |
| Cherced by Ayman Salama | Date 05/07 |  | aridee mo. |  |  | cu |  |
| APpRové | DATE |  | Scale: | As | Noted | EA | 08-227-0F3200 |


prepared for the state of california - department of transportation














H-B-46d






## ATTACHMENT I

## RIGHT OF WAY DATA SHEETS

tate of california • Department of transportation
EXHIBIT
$\qquad$
To: District Division Chief
Division of Right of Way and Land Surveys
Co. RIV Rte. MCP PM 1016.3
Co. RIV Rte. MCPPM 1016
Attention: District Branch Chief
R/W Local Programs
Subject: RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES
Project Description:
Pight of way necessary for the subject project will be the responsibility of Riverside County Transportation Commission.
The information in this data sheet was developed by Epic Land Solutions, Inc.

1. Rightof Way Ensineering

Will Right of Way Engineering be required for this project?

- No $\quad$ No
- Hard copy (base map)
- Appraisal map

Acquisition Documents
Property Transfer Documents
R/W Record Map
Record of Survey

II. Engincering Survers

1. Is any surveying or photogrammetric mapping required?

No - Yes X (Complete the following.)
2. Datum Requirements

Yes $\frac{\mathrm{X}}{}$ Project will adhere to the following criteria:

- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of unit and measures.
- Vertical - datum policy is NAVD 88.
- Units - metric is not required.

No Provide an explanation on additional page.
3. Will land survey monument perpetuation be scoped into the project, if required?

Yes $\quad \mathrm{X}$
No ___ Provide explanation on additional page.

RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCIES (Cont)
EXHIBIT
7-EX-21 (NEW 12/2007)
Page 2 of 5
R/W Data Sheet - Local Public Agencies
Page 2 of 5
III. Parcel Information (Land and Improvements)

Are there any property rights required within the proposed project limits?
No __ Yes X (Complete the following.)

|  | Part Take | Full Take | Estimate \$ |
| :---: | :---: | :---: | :---: |
| A. Number of Vacant Land Parcels | 98 | 70 | \$ 60,251,760 |
| B. Number of Single Family Residential Units | 28 | 82 | \$ 33,673,325 |
| C. Number of Multifamily Residential Units | 5 | 17 | \$ 11,050,000 |
| D. Number of Commercia/IIdustrial Parcels | 79 | 29 | \$ 8,890,369 |
| E. Number of Farm/Agricultural Parcels | 20 | 1 | \$ 39,059,339 |
| F. Permanent and/or Temporary Easements | 0 | 0 | 0 |
| G. Other Parcels (define in "Remark" section) | 9 | 0 | \$ 14,145,401 |
| Totals | 239 | 199 | \$ 167,070,194 |

"Other" parcels include 8 transportation (Caltrans), 1 public (City of Perris).
Provide a general description of the right of way and excess lands required (zoning, use, improvements, rititical, or sensitive parcels, etc.)

The project will acquire properties with various zoning and uses such as Agricultural, Vacant land, Commercial
and Residential. Included in these acquisitions, is a dairy farm, and several small business and homes.
IV. Defications

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No $\quad \mathrm{X}$ Yes
Number of dedicated parcels $\qquad$
Have the dedication parcel(s) been accepted by the municipality involved?
V. Excess Lands/Relinquishments

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?
No _ X Yes___ (Provide an explanation on additional page.)
$\underset{\substack{\text { R/W Data Sheet - Local Public Agencies } \\ \text { Page } 3 \text { off }}}{\text {. }}$
VI. Relocation Information

Are relocation displacements anticipated?
No Yes $\quad \mathrm{X}$ (Complete the following)
Number of Single Family Residential Units Estimated RAP Payments

\$ 6,206,476 $\qquad$
B. Number of Multifamily Residential Units Estimated RAP Payments
C. Number of Businesss/Nonprofit Estimated RAP Payments
$\qquad$ \$ $1,049,024$

Number of Farms
Estimated RAP Payments
$\qquad$ \$ 4,874,476
$\qquad$
er (define in the "Remarks" section) Estimated RAP Payments

Totals
128
$\qquad$ \$ 1,368,524 $\qquad$
$\qquad$
$\qquad$ $\$ \underline{13,498,500}$

## VII. Utility Relocation Information

Do you anticipate any utility facilities or utility rights of way to be affected?
No __ Yes X (Complete the following.) See Attached Utility Information Sheet Total estimated cost of State's obligation for utility relocation on this project: $\mathbb{\$ 5 6 , 0 6 1 , 0 0 0}$

Any additional information concerning utility involvement on this project
Any See attached Utility Incormation Sheet.

EXHIBIT
(orm\#) (Con.) P-EX-21 (NEW 12/2007)
$\underset{\text { Page } 4 \text { of } 5}{\text { RWhet Local Public Agencies }}$

## VIII. Rail Information

Are railroad facilities or railroad rights of way affected?
No _ Yes X (Complete the following.) See Attached Railroad and Government Land Information Sheet
Describe railroad facilities or railroad rights of way affected.
 San Jacinto Branch Line owned by the Riverside County Transportation Commission's (RCTC).

| Owner's Name | Transverse Crossing | Longitudinal Encroachment |
| :---: | :--- | :--- |
| A. RCTC (Riverside County <br> Transportation Commission) | Overhead Grade Separation |  |

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?
Grade separations requiring construction and updated maintenance agreements. Temporary construction easement Grade separations requiring construction and updated maintenance agreements. Temporary construction easements
TCE) will be required. Update to aerial easements will be required. C\&M Agreement, Service Contract, and OE
learances will be required.
IX. Clearance Information

Are there improvements that require clearance?
No $\quad \mathrm{X} \quad$ Yes ___ (Complete the following.)
A. Number of Structures to be Demolished

Estimated Cost of Demolition
$\qquad$ \$ $\qquad$ -
X. Hazardous Materials/Waste

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain hazardous materials? None $\mathrm{X} \quad$ Yes ___ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain
hazardous waste? None__Yes X (Explain in the "Remarks" section.)

| Presther | Proposed lead time | Completion date |
| :---: | :---: | :---: |
| * Preliminary Engineering, Surveys | 9 (months) | 2015 |
| * R/W Engineering Submitals | 9 (months) | 2015 |
| *R/W Appraisals/Acquisition | 18 (monts) | 2016 |
| Proposed Environmental Clearance |  | 2016 |
| Proposed R/W Certification |  | 2016 |



| State of california - department of transportation | EXhibit |
| :---: | :---: |
| UTLLITY INFORMATION SHEET | 4-EX-5 (REV 3/2004) |
| Fom* | Page lof 1 |

1. Name of utility companies involved in project:

VERIZON
ADELPHIA
SCE
EASTERN MUNICLPAL WATER DISTRIC
METROPOLITAN WATER DISTRICT
2. Types of facilities and agreements required:

## electrical conduits

ELECTRR
WATER
Water supply
IRRIGATION EINES
ARRGAL ELECTRICAL
Is any faciliy
${ }^{\text {SEWER }}$ CABLE TV
CABLETV
TELEPHONE
WELL AND PUMP STATION
RECLAMED WATER SAMPLING STATION RECLAMMED WATER SAM
WATER PUMP STATION
3. Is any facility a longitudinal encroachment in existing or proposed access controlled right of way? Explain.

There are utilites located longitudinally and adjacent to existing and proposed access controlled right
of way. These utilites will be relocated outside of the new MCP Right - -of.Way.
Disposition of longitudinal encroachment(s)
Rispolication required

- $\begin{aligned} & \text { Exception to po } \\ & \text { Other. Explain. }\end{aligned}$

4. Additional information concerning utility involvements on this project, i.e., long lead time materials, growing or species seasons, customer service seasons (no transmission tower relocations in summer).
Relocation of electrical utility poles outside of MCP Right -of-Way at perpendicular crossings will
Relocation of electrical utility poles outside of MCP Right -of-Way at perpendicular crossings will ee required and need to be ordered at least 12 months in advance of the relocation date.
Relocation of pumplift and pressure reducing stations requires ordering new pumps and valves which need to be manufactured. Since the well appears new, no lead time is considered.
5. PMCS Input Information
$\$$ Note: $\quad 56,061,000$
Total essimated cost to includd any Department obligation to relocate longitudinal encroachments in
accesss conirolled right of way and acquire any necessary uilility easements.


Prepared By:
Pooge \& Petum $\qquad$
$\qquad$
ALTERNATIVE 9 MODIFIED (Preferred Alternative)

##  ${ }_{\text {EA }}^{\text {EA }}$ O8-OF32000 (PN Description On Mid County Parkway Project Description On Mid Count Yarkway Erom l-215 10 SR- $-79-$ Construcl New Freway <br> Allernative 9 Modified (Preferred Alternative)

Subject: Railroad and Government Land Data

1. Describe railroad facilities or righ of way affected.

Widening of two existing overhend crossings at Cajalco/Ramona Expressway and Placentia Areve over he San Jacinto Branch Line owned by the Riverside County Transportation Commission's (RCTC).
2. When branch lines or spurs are affected, would accuuisition and/or payment of damages to businesses and/or industries served by the railroad facility be more cost effective than construction of a facility to perpetuate the ral service?
Yes
No ® (If yes, please explain.)
3. Discuss types of agreements and right required from the railroads. Are grade crossings requiring service contracts or grade separations requiring construct and maintenance agreements involved?

Grade separations requiring construction and updated maintenance agreements. Temporary construction essemens
(TCE) will be required. Update to aerial easements will be required. C\&M Agrement, Service Contract, and OB Clearances will be required.
4. Remarks (non-operating railroad right of way involved?:

Califomia Public Utilities Commission (CPUC) application required
5. Are Government Lands involved?

If yes, number of parcels: 51
EMWD, MWD Piverside Connty Flood Control, RCTC, Cattrans, Yal Verde School District (roadways, street, and miscellaneous parcels
6. PMCS Input Information

RR Involvement
$C \& M$ Agreements
C\& M Agreements
Service Contract
OE Cleanaces
OEClearances
Clauses
LCRE
Govermment Land

| $\frac{\text { Yes }}{}$ |
| :--- |
| $\frac{1}{1}$ |
| $\frac{1}{\overline{2}}$ |
| $\frac{238}{438}$ |


 Project Description On Mid County Parkway
From I-215 to SR-79 - Construct New Freeway
Alternative 9 Modified (Preferred Altemative)


Prepared By:

$$
\begin{aligned}
& \text { Ry fte Dueveern } \\
& \text { tynette Overcamp, SRRWA - Epic Land Solutions It }
\end{aligned}
$$


$\frac{12 \log 114}{\text { Dale }}$

## ATTACHMENT J

AGENCY LETTERS

MWD
METROPOLTAN WATER DISTRICT OF SOITHEBN CAIFORNU

Exective Office
MWD Colorado River Aqueduct, etc.
Substr. Job No. 2001-04-007
May 13, 2005

Mr. Charles Landrey
Project Manager
Jacobs Civil, Inc
3850 Vine Strect, Suite 120
Riverside, CA 92507
Dear Mr. Landrey:
Mid-County Parkway Alignment Conflicts with MWD Facilities
his Ietter is fegarding the proposed Mid-County Parkway project alignment altematives ocated in Riverside County gencrally between Interstate 15 and the city of San Jacinto hith and south of Lake Mathews and south of lake Perris

The following comments provide a detailed explanation of potential conflicts between he proposed project alignments and Metropolitan's various facilities. The subject Incations are referenced accordingly on the enclosed aerial photo map that delineates the project's altemative alignments, which your company submitted to Metropolitan.
I. Colorado River Aqueducv(Casa Loma Siphon-1 ${ }^{\text {51 }}$ Barrel - at Sanderson Avenuc

Just south of the Ramona Expressway, Merropolitan's 148 -inch-inside-diametcr Casa Loma Siphon crosses Sanderson Avenue (MWD Station 10933+40). Ther is an existing protective concrete slab in place at Sanderson Avcnue and our pipeline is between 4 and 10 feet below grade at this location. This protective slab may need to be ungraded or extended depending on the limits of the corridor construction in this area. Enclosed are prints of our Casa Loma Siphon Drawings B-363-10, B-363-11, H-1224 and H-1300, and Drawing B-25759 for the protective slab

Mr. Charles Landrey
Page 2
May 13, 2005
II. Colorado River Aqueduct. Inland Feeder and Lakeview Pipeline - between Bridge Street and Princoss Ann Road

Just south of the Ramona Expressway at Princess Ann Road, Metropolitan's 185 -inch-insidc-diameter Colorado River Aqueduct monolithic concrete pipeline, 145 -inch-inside-diameter Inland Feeder welded steel pipeline, and 133 -inch-inside-diameter weldod steel Lakevicu Pipeline are all in close proximity to the proposed corridor alignment. Please submit detailed plans of your corridor projec in this area for our review and written approval when available. Enclosed are prints of our Drawings B-363-9, B-60591, B-88361, B-88362 and 13-88381 for our facilitics in this area
III. Inland Feeder Davis Road/llansen Avenue

Metropolitan's 145 -inch-inside-diameter Inland Feeder welded stecl pipeline is located at the intersection of Ramona Expressway and Davis Road and runs parallel to Ramona Expressway for approximately 800 feet. The pipeline is located approximately 15 feet bolow grade in this area and may need to be protected within the limits of your corridor improvements. Finclosed for your information are prints of our Drawings B-92103 and B-92104
IV. Lake Perris Facilities

Metropolitan has a number of facilitics and properties along the south side of Lake Perris that may be impacted by the proposed corridor. In addition, appropriate protection of our various pipelines and tunnels in this area may need to be undertaken Encinsed are prints of our Drawings B-363, B-363-6, B-60445 through B-60447, B-60561, B-60562, B-60563, B-60564, B-65646 and B-65656 through $B-65661$ for your information and use.
a. Lake Perris Bvpass Pipeline

The proposed corridor alignment must be kept outside the limits of this right-of-way except wbere it must cross the pipeline.

## The metropoutan water oistrict of southcen cauforn

## Mr. Charles Landrc

Page 3
May 13, 2005
b. Perris Power Plan

The proposed corridor alignment must be kept outside the limits of our power plant and pressure control facility right-of-way.
c. Bernasconi Tunnels No. 1 and No. 2 - W/est and East Portals

Appropriate access will need to he provided to Metropolitan to these portal sites for routine maintenance and repairs.
V. SR-215 - Chemical Unloading Facilities
a. Metropolitan owns and operates a chemical unloading facility just west of the proposed SR-215 interchange. The proposed alignment should not encroach into any area of this property. Please note that Metropolitan may be performing major upgrades to this facility in the near future. We will keep you informed of changes to this facility as they occur. Enclosed are prints of our Drawings B-26979 and B-26980 for your information and use.
b. In addition, just cast of the chlorine facility extending approximately to the Cajalco Dann, Metropolitan's 183 -inch-inside-diameter Colorado River Aqueduct Valverde Tunnel is longitudinally in close proximity to the proposed alignment with an average depth of 150 to 200 feet. Your proposed corridor must have no impact on this tunnel.

V1. Cajalco Dam - El Sobrante Road and Cajalco Road (Fast of Lake Mathews)
The proposed alignment may require modifications to the existing Cajalco Dam facility, which would have to be coordinated with Metropolitan, Riverside County Flood Control District and the Califormia Division of Safety of Dams (DSOD). Also, access to the facility will need to be maintained. Enclosed are prints of our Drawings A-1178, H-1362 and $\mathrm{H}-1363$ for your information and use

Metropolitan's facilities between the Cajalco Dam and our Lake Mathews

## THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

## Mr. Charles Landrey

Page 4
May 13, 2005
facility may also be affected where the Valverde Tunnel transitions into an outlet channel. Detailed plans of your proposed corridor improvements will be required in order to determine potential impacts to our facilities. Enclosed are prints of our Drawings B-363-1 through B-363-4 for your information and use.
VII. Lake Mathews Facilitics, Unner Feeder and Lower Feeder
a. The alignment of your proposed corridor in proximity to our Lake Mathew Dike No. 1 at McAllister Street would involve the removal of a hill that is acting as a buttress for this dike, which is unacceptable. Metropolitan cannot allow any activity which has the potential to compromise or reduce the actor of safcty of this dike. Your corridor alignment will need to be revised such that no material is removed from this ahutment area. Any construction in this area will also require ISSOD approval.
b. Seepage pipes located at the face of this dike may also be affected. Any impacts to these pipelines will need to be mitigated.
c. Metropolitan's main entrance to our Lake Mathews facility is accessed from El Somante Road. The proposed alignment appears to interfere with this access. If this alignment will bridge over La Siera Avenue, the eight should be sucb that it allows all of our vehicles to cross under the overcrossing.
d. Metropolitan's 140 -inch-inside-diameter Upper Fecder pipeline crosses the proposed alignment just west of La Sierra Avenuc. This pipcline will need o be protected in place.
e. Metropolitan's 108 -inch-inside-diameter Lower Feeder pipeline and related bove-ground facilities, including a small hydroelectric power plant, may be impacted by your proposed corridor alıgnment and auxiliary road between Lake Maibews and Temescal Canyon Road. As shown on the enclosed drawings, Metropolitan facilities include, but are not limited to, two standpipes, a control lower, a venturi meter and the Temescal Power
$\qquad$

## THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

## Mr. Charles Landrey <br> Page 5

May 13, 2005

Plant. Please provide detailed information on how these facilities will bo protected in place and how Metropolitan's access will be maintained in this area.

Enclosed for your information are prints of our Lower Feeder pipeline and tunnel
Drawings B-9363, B-10203 through B-10212, B-21226 and B-21227 and above-ground facility Drawings B-10275, B-10282, B-10283, B-30310 through B-30314, B-30398 and B-30399.
For any further correspondence with Metropolitan relating to this project, please mak reference to the Substructures Job Number located in the upper right-hand corner of this letter. Should you require any additional information, please contact Mr. Ish Singh at (213) 217-6679.

Very truly yours,
susarM. Uatlus
for Kieran M. Callanan. P.E.
Manager. Substructures Tcam
IS/ly
DOC 2001-04.007
Enclosures (53)

Mr. Rick Simon
CHZM HILL
3550 Vine Street, Suite 320
Riverside, Califomia 92507
Dear Mr. Simon:
This letter is in response to your letter dated March 29, 2005 requesting feedback from the Department of Water Resources (DWR) on the Mid County Parkway (MCP) project heing proposed by the Riverside County Transportation Commission.

One of the altematives being studied for the MCP project is to place the alignment of the parkway in front of the Lake Perris Dam. Your plan and proflie drawings were submitted with your letter for review to our Operations and Maintenance Division, Southern Field Division, and Division of Safety and Dams. As a result of the review, the following comments were submitted

1. The parkway, as shown on the prelliminary plan, is located in an area that was used for mitigation purposes during the construction of the dam.
2. The proposed alignment of the parkway crosses an emergency outlet near the left abutment of the dam. DWR would need access to the outet at all times.
3. The existing system used to drain seepage would lay beneath the proposed parkway, which is unacceptable by DWR.
4. The parkway would interfere with monitoring stations located throughout the downstream toe area of the dam.
For the reasons stated above this alternative alignment for the MCP is not desirable.
If you have further questions, please contact me by phone at (916) 653-5361 or you may e-mail me at cwinston(owater ca.gov.

Sincerely.
Cliftord Winston
Senior Land Agent
bcc. Teresa Sutiff, HQ Room 649
CWinston:CMarg
435FDJ. 907
71 CW060705CM

August 19, 2005

Ms. Cathy Bechtel, Division Head, Planning
Riverside County Transportation Commission
Post Office Box 12008
4080 Lemon Street, 3rd Floor
Riverside, California 92502-2208
Mid County Parkway North Perris Alignment
Dear Ms. Bechtel:
This letter is in response to your request for written confirmation regarding your several discussions with my staff, regarding the proposed Mid County Parkway North Perris Allgniment that includes a major section along the downstream toe area of Perris Dam

The Department of Water Resources (DWR) recently completed a seismic stability analysis of Perris Dam and conctuded that there is potential for large seismicallyinduced earthquake deformations, due to liquefaction of foundation soils beneath the eastern reach of the dam under the design earthquake loading. Based upon the completed analysis, we are lowering and restricting the Lake Perris water surface leve to 27 feet below the spillway crest of Perris Dam. This is being done to mitigate the seismic risks associated with Perris Dam and to ensure the continued safety of lives and property downstream of the dam. This is an interim safety measure until a permanent solution for repair is determined.

As previously indicated in a June 8, 2005 letter from Cliff Winston of DWR's Real Estate Branch to Mr. Rick Simon with CH2M Hill, the proposed Mid County Parkway North Perris Alignment would also impact our existing facilities at Perris Dam. These facilities are essential to the safety of Perris Dam and include the seepage collection system, outlet system for Lake Perris, and surveillance monitoring stations throughout the downstream toe area of the dam. I have included a copy of this letter for your records Another important item impacted by the proposed Parkway is the environmentally sensitive wildife area located just beyond the downstrearn toe area of Perris Dam. have been notified by our staff that this environmentally protected area was required as mitigation lands due to the original construction of Perris Dam.

Ms. Bechtel, Division Head
August 19, 2005
Page 2

Based on the above information, we are requesting that you do not move forward with the proposed Mid County North Perris Alignment due to the significant impacts it would have on our exlsting Perris Dam facilities, and our need to maintain right of way ownership of the downstream property. This downstream property between Perris Dam and Ramona Expressway will be essential to us when evaluating repair options for the dam in the future.
If you have any questions please call me at (916) 653-3014 or Teresa Sutift, Chief of the Division of Operations' Civil Engineering Branch at (916) 653-8350.


Stite Wer Project Operations Support Office Division of Operations and Maintenance

Attachment

## ATTACHMENT K

TRANSPORTATION MANAGEMENT PLAN DATA SHEETS


EES 066063 (Traffic Management Plan-Public Information), Cost to be reduced by Public Affairs (PA) and Construction Liaison (CL) only. Show under State Furnished as the total of PA + CL.
. 1 Include Rideshare information in PA/CL project material to encourage
vehicles reduction in work area
Brochures and Mailers
Media Releases (\& minority media sources)
Xublic Information Center/Kiosk
\$825,000
\$1,925,000
\$1,925,000
\$137,500
$X$ Public Meetings/PAC Mtgs./Speakers Bureau (show cost also for room
\$275,000
X Hand deliver notices to vicinity
\$874,500
Broadcast fax service

10 | 1.9 | Telephone Hotline OR |
| :--- | :--- |

Visual Information (videos, slide shows, etc.)
$\begin{array}{ll}1.12 & \text { Local cable TV and News } \\ \text { Traveler Information Systems (Internet) } \\ & \end{array}$

| x | Rideshare organizations |
| :--- | :--- | :--- |
| X |  |

            -schools
            geople with disabilitie
            X bicycle organizations
    1.16 Include PA/CL/Consultans
$\begin{array}{lll}1.17 & \text { Include PA/CL/Consultant resources in WPS } \\ & \text { Commercial traffic reporters/feeds - e.g. brief Traffic Information }\end{array}$
'A representative of the Contractor, at Superintendent level or higher
and authorized to commit the Contractor, shall attend and participate
the meeting(s) varies from two to four hours per month."

## |

Traveler Information Strategies

New Installation (Stationary) - BEES 860532 CHANGEABLE MESSAGE
SIGN SYSTEM - list locations. See Note 5
2.2
$\mathrm{X} \left\lvert\, \begin{aligned} & \text { Portable Changeable Message Signs (PCMS). Construction prefers } \\ & \text { Rental Lump sum BEES } 128650\end{aligned}\right.$
These PCMS advise motorists to divert at remote advance decision points - outside the usual work limits. Unlike These PCMS advise motorists to divert at remote advance decision points - outside the usual work limits.
stationary CMS, you are allowed to use them for advance motorist information - e.g. a week ahead. Their stationary
placement may need to be cleared environmentally so that they can be included in plans and SSP later. They may be in addition to Traffic Design's PCMS for regular traffic handling in and next to a work area

| TMP Elements | EA \# | $08-0$ F3200 | Date |  |
| :--- | :---: | :---: | :---: | :---: |
| Placement Details: units to be placed in the direction of travel towards the closure at 1 mile and $1 / 2$ mile before <br> getting to the closure. Total No. of PCMSs needed is |  |  |  |  |

[^6]3 Incident Managent
CHP's Construction or Maintenance Zone Enhanced Enforcement Program - COZEEP or MAZEEP. BEES 066062 -
show under "State or Agency furnished" in the Cost Estimate
Make sure to consider the LC hours and add CHP driving time to/from their office

Day COZEEP: To protect active closures

\$ 608,000

## $\begin{array}{lllll}\text { \# of nights } & \text { hours/night } & \text { CHP vehicles } & \begin{array}{l}\text { \# of officers. } \\ \text { Nights need } 2\end{array} & \text { Rate/Hr. }\end{array}$


3.2 BLANK
3.3 Freeway Service Patrol (FSP) for Construction (CFSP) \$/hr/truck

BEES 066065 - show under "State or Agency furnished" in the Cost Estimate
Short duration or remote area CFSP usually is bid with much higher hourly rates. If enhancement of program FSP feasible, CFSP could tie into the lower long-term FSP rates.
\# of trucks
A For service within the regular FSP hours
For service outside the regular FSP hours
B Extended Peak hour coverage
C Night support during structure freeway closures and major traffic shifts



| TMP Estimate |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EA\# | 08-0F3200 | ID (E-FIS) \# | 800000125 | Date |  |  |

TMP developer: Amounts under the cost column will automatically be copied from the TMP elements

## TMP Elements

1. Public Information
2. Motorist Information Strategies
3. Incident Management
4. Construction Strategies
5. Demand Management (DM)
6. Alternate Route Strategies
7. Other Strategies

Total TMP Estimate

Cost
\$9,240,000
\$330,000
$\$ 2,671,312$
\$640,000
\$150,000
$\$ 0$
$\$ 0$
\$ 13,031,312

## ATTACHMENT L

STAGE CONSTRUCTION


## I-215 STAGE 1 MEDIAN WIDENING

 0.4 MILE SOUTH OF NUEVO Rd OC TO VAN BUREN BIVd OC (Sta 1460+00 TO Sta 1809+50)

I-215 STAGE 2 OUTSIDE WIDENING (22')
0.3 MILE NORTH OF NUEVO Rd OC TO O.6 MILE SOUTH OF PLACENTIA Rd OC (Sta $1492+00$ TO Sta 1527+00)

Mlxed Flow
Proposed
${ }_{\text {Prop }}{ }^{\text {M }}$ - Proposed
FOR DISCUSSION



I-215 STAGE 2 OUTSIDE WIDENING (34')
O.5 MILE NORTH OF PLACENTIA Ave OC TO 0.3 MILE SOUTH OF RAMONA EXPRESSWAY OC (Sta $1586+00$ TO Sta 1623+00)

LEGEND
AUX
CRZ - Clear Recovery Zone
MLA - Median Lane Addition
$\underset{\text { Prop }}{\mathbf{M F}} \underset{\sim}{\text { - }}$ Mroped Flow
Proposed

FOR DISCUSSION PURPOSES ONLY


MID COUNTY PARKWAY STAGE CONSTRUCTION PLANS I-215 PLMCP

STAGE 2


MCP STAGE 1
LAKEVIEW TO NUEVO AREA
(Sta $560+00$ TO Sta $815+00$ )

RCTC

FOR DISCUSSION PURPOSES ONLY



MCP STAGE 2
LAKEVIEW TO NUEVO AREA
(Sta $560+00$ TO Sta $815+00$ )

FOR DISCUSSION PURPOSES ONLY





ATTACHMENT M
PHASING

PHASING

$\square$ Phase 1 (2020)


| Phase 1 (2020) $\square$ |  |
| :---: | :---: |
|  | Potential Phasing Plan Improvements - Phase 1 and 2 Mid County Parkway |
| NOT TO SCALE | 08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34/3 EA 08-0F3200 (PN 0800000125) |


Phase 1 (2020)
Phase 2 (2030)
Phase 3 (2040)

## ATTACHMENT N

RISK REGISTER

|  |  |  | $\begin{aligned} & \stackrel{.0}{⿷ 匚 ⿳ 亠 丷 厂 彡 ⿱ 亠 䒑 口 阝 ~} \\ & \hline \end{aligned}$ |  |  | Detailed Description of Risk <br> Event（Specific，Measurable <br> Attributable，Relevant <br> Timebound） <br> ［SMART］ | Proposed Mitigation Action | $\begin{aligned} & \text { 를 } \\ & \text { 言 } \\ & \text { 亳 } \end{aligned}$ | Probability （HardCode） | $\begin{aligned} & \stackrel{\rightharpoonup}{6} \\ & \stackrel{\circ}{0} \end{aligned}$ |  |  |  | $\begin{aligned} & \stackrel{\rightharpoonup}{8} \\ & \text { 。े } \end{aligned}$ | $\begin{aligned} & \text { Cost } \\ & \text { Impact } \end{aligned}$ | Correlation <br> Prior Cost Risk |  | Probable Cost Impact（\＄ss） | $\begin{gathered} 10 \% \\ \text { Schedule } \\ \text { SMO) } \end{gathered}$ | Most Likely Schedul （Mo） | $\begin{gathered} 90 \% \\ \text { Schedule } \\ \text { (Mo) } \end{gathered}$ | Schedule | Schedule Risk （Threat／ Opportunity） | Correlatio n （Cost／ Duration） |  | Parallel <br> Risks | Logical | $\begin{array}{\|c\|} \text { Probable } \\ \text { Schedule } \\ \text { Impact } \\ \text { (Mo) } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Active | dependent | N＋CE＋CO | ent | $\left.\begin{array}{\|l\|} \hline \text { Pe1 - Geo } \\ \text { Mw Colorado } \\ \text { Aqueduct } \end{array} \right\rvert\,$ |  |  | myaction | 75\％ | 75\％ | 25，00，000 |  | 50，000，000 |  | 00，000，000 | 50，000，000 | ii | Threat | 37，50，000 | 6 | 12 | 18 | 12 | Threat |  |  |  |  | 9 |
| 2 Aative | Independent | ${ }_{\text {PE }}$ | Projectwide |  |  | The project complies with the current HDM or has received Fact Sheet approvals．During the PS\＆E phase there might be additional non－standard features uncovered or new standards could have been issued．In either events，update to latest standards will have potential impact to the schedule and cost． The design has been updated for 2012 standards and notes areas that still need update． | My action | 25\％ | 25\％ | 1，000，000 | s | 3，000，000 |  | 5，000，000 | 3，000，000 | Ni | Theat | 750，000 | 3 | 3 | 6 | 3 | Threat |  |  |  | 0.75 | 0.75 |
| 3 3ative | Independent | CN＋CE＋CO | rojerwide |  | cost | The existing l－215 pavement section appears to be in good condition according to Caltran Material Engineer．However，the pavement condition will deteriorate overtime and mig construction． | $\left.\right\|_{\text {uy ation }}$ | 25\％ | 25\％ | 5，000，000 |  | 6，000，000 |  | 10，000，00 | 6，000，000 | Ni | Threat | \＄1，500，000 | 0.01 | 0.02 | 0.03 | 0.02 | Threat |  |  |  | 0.05 | 0.005 |
| AActive | Independent | N＋CE＋CO | wide | $\begin{array}{\|c} \substack{\text { Road2- } \\ \text { ect Pevenent } \\ \text { Section }} \\ \hline \end{array}$ | cost | The final pavement section design will depend on who will have the maintenance responsibility．Caltrans prefers rigid pavement and the County of Riverside decision will have impact to the cost | my action | 100\％ | 100 | 20，00，000 |  | 30，000，00 |  | 40，000，00 | 30，000，000 | Ni | Theat | 30，000，00 | 0 | 0.01 | 0.02 | 0.01 | Threat |  |  |  | 0.01 | 0.01 |
| 5 Aative | Independent | CN＋CC＋CO | Projectwide |  |  |  construction sequencing might potential break the balance and impact the ． | ny ation | 10\％ | 10\％ | 10，00，000 |  | 15，000，00 |  | 20，00，000 | 15，000，000 | Ni | Threat | \＄1，50，000 | 0 | 0.01 | 0.02 | 0.01 | Threat |  |  |  | 0.001 | 0.001 |
|  | dependent | N＋CE＋CO | Segment 14 | $\begin{array}{\|l\|l\|} \substack{\text { PN1. } \\ \text { Rapirad } \\ \text { Coordination }} \end{array}$ |  |  | my action | 100\％ | 100\％ | 1，000，000 |  | 2，000，000 |  | 3，000，00 | 2，000，000 | Ni | Threat | \＄2，000，000 | 。 | 0.01 | 0.02 | 0.01 | Threat |  |  |  | 0.01 | 0.01 |
| 7 Doormant | dent | ${ }^{\text {PE }}$ | Projectwide |  |  | There are many plan developments within <br> the project limits．Many of the interchanges <br> in Segment F／2 and G／3 are based on the <br> future developments．Any changes in the <br> development will certainly impact the <br> project． <br> TVOL is a massive 11，000 homes <br> development in Segment F／2 area．It is <br> currently in the planning stage and may <br> receive final approval soon．Many of the <br> project design features are to be compatible <br> with TVOL．If the development changes or is <br> replaced with another development in the | my attio $^{\text {a }}$ | 75\％ | 75\％ |  | s | ${ }_{2}$ | s | ${ }_{3}$ |  | ni | Threat | S |  |  | 188 |  | Treat |  |  |  |  | － |
| 8 Dormant | Independent |  | Projectwide | $\begin{aligned} & \text { en3. } \\ & \begin{array}{c} \text { conenection } \\ \text { cuith } 5879 \end{array} \\ & \hline \end{aligned}$ |  | The project assumes the SR 79 will be upgraded to freeway before MCP is upgraded to freeway before MCP is constructed．In the event this does not happen，minor modification to the original design will be necessary．The MCP assumes design will be necessary．The MCP assumes service interchange at Sanderson Avenue that can act as the MCP terminus until SR－7 is implemented．RCTC is sponsor for both projects and will have control of how funding risk of by having control over the timing of construction．Three options：1）simp connector saves millions 2）delayed construction costs millions in escalation constructed as planned $\qquad$ | myaction | 50\％ | 50\％ | 1．000，000 |  | 3，000，000 |  | 5，00，000 | 3，000，000 |  | Trreat | $s$ | 3 | 3 | 6 | 3 | Threat |  |  |  |  | 0 |


|  |  |  | $\begin{aligned} & \stackrel{.}{\stackrel{a}{e n}} \\ & \frac{2}{a} \end{aligned}$ |  | （er | Detailed Description of Risk Event（Specific，Measurable， Attributable，Relevant， Timebound） <br> ［SMART］ <br> RT］ | Proposed Actiotion Action |  | Probability （HardCode） |  | $\begin{aligned} & \text { प̈ } \\ & \stackrel{\rightharpoonup}{8} \end{aligned}$ |  |  |  | 高 | $\begin{gathered} \text { Cost } \\ \text { Impact } \end{gathered}$ | $\substack{\text { Correlation } \\ \text { Prior Cost }}$ Risk | Cost Risk （Threat Opportunity | Probable Cost Impact（\＄\＄\＄） | $\begin{gathered} 10 \% \\ \text { Schedule } \\ \text { (Mo) } \end{gathered}$ | Most Likely Schedule （Mo） | $\begin{gathered} 90 \% \\ \text { Schedule } \\ \text { (Mo) } \end{gathered}$ | Schedule Impact | Schedule Risk （Threat Opportunity） | Correlatio n（Cost／ Duration） |  | Parallel Risks Ris． | Logical | Probable Scheauie$\substack{\text { impact } \\ \text {（Mo）} \\ \hline}$ （Mo） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 Reitred | dependent | N＋CE＋CO | se 1 | Risk | cost | Shor wirteup | My ation | 50\％ | 50\％ |  |  | s |  | s |  |  | Nil | Theat | s | 0 | 0.01 | 0.02 | 0.01 | Threat |  |  |  | 0.005 | 0 |
| 20 Ative | Independent | $\mathrm{CNH}+\mathrm{CE}+\mathrm{co}$ | Projectwide | $\begin{aligned} & \text { Env. - Cutural, } \\ & \text { Historitul } \\ & \text { Section } 106 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { costr\| } \\ & \text { s.sed } \\ & \text { unee } \end{aligned}$ |  | My ation | 75\％ | 75\％ |  | 500，000 | s | 2，000，000 | s | 5，000，00 | 2，000，000 | Ni | Treat | \＄1，500，000 | 1 | 3 | 6 | 3 | Treat |  |  |  | 2.25 | 2.25 |
| 21 Ative | Indee | Row | ctride | $\begin{aligned} & \text { Env4 - Permit } \\ & \text { delays } \end{aligned}$ | cost | Permits or agency actions delayed or take longer than expected，Some of the agencies that require permits can be known to take a long time in issuing <br> long time in issuing． | My action | 75\％ | 75\％ | s | 100，000 | s | 500，000 | s | 2，000，000 | 500，000 | Ni | Treat | 375，00 | 。 | 0.01 | 0.02 | 0.01 | Treat |  |  |  | ${ }^{0.0075}$ | 0.0075 |
| 22 Retired | Independent | N＋CE＋CO | ojectwide | $\begin{aligned} & \text { Env5 S Section } \\ & 4\left(\begin{array}{l} \text { resoures } \\ \text { affected } \end{array}\right. \\ & \hline \end{aligned}$ | ue | and are going through the appropriat findings with FHWA．However，the to a 4（f）（resource）the SJWA reserve which is potent be watched with close scrutiny，so there is potential for 4 （f）discussions． | My ation | 50\％ | 50\％ |  |  | s |  | s | ${ }_{3}$ |  | Ni | Treat | s ． | 3 | a 3 | ${ }_{6}$ | 3 | Treat |  |  |  | 1.5 | 0 |
| 23 Retired | Independent | $\mathrm{CNH}+\mathrm{Ct}+\mathrm{co}$ | Projectwide |  | $\begin{aligned} & \text { costr } \\ & \text { soded } \\ & \text { fued } \end{aligned}$ |  | My ation | 50\％ | $50 \%$ | s | 500，000 | s | 2，500，000 | s | 5．00，000 | S 2，500，000 | Ni | Treat | 5 ． | 3 | 3 | 6 | 3 | Treat |  |  |  | 1.5 | 0 |
| 24AAtive | Independent | CN＋CE＋co | jjectwide |  | cost | Conserative Sturctues Sstimate | myation | 100\％ | 100\％ | s |  |  | 50，00，000 |  | 70，00，000 | s 50，000，000 | Ni | Opportunty | ¢（50，000，00） | 。 | 0.01 | 0.02 | 0.01 | Threat |  |  |  | 0.01 | 0.01 |
| 25 Active | Independent | $\mathrm{CNH}+\mathrm{Ct}+\mathrm{co}$ | Segment 2 | $\begin{aligned} & \text { san anation } \\ & \text { Piver } \\ & \text { Beige } \\ & \text { varaition } \\ & \hline \end{aligned}$ |  |  | My ation | 100\％ | 100\％ | s | 25，00，000 | s | 30，00，000 | s | 35，00，000 | s 30，000，000 | N | Opportunty | ¢（30，000，00） | 0 | 0.01 | 0.02 | 0.01 | Opportunity |  |  |  | 0.01 | 0.01 |
| 26 Dormant | Independent | CN＋CE＋co | segment 3 | Seismic |  | Updated seismic data and fault near Warren Rd． | Mvation | 50\％ | $50 \%$ | s | 5，00，000 | $s$ | 10，000，00 | s | 15，00，000 | s 10，000，000 | Ni | Treat | s ． | 。 | 0.01 | 0.02 | 0.01 | Threat |  |  |  | 0.005 | 0 |
| 27 Active | Indeenendent | Row＋UT | Projectwide | My Risk | cost | Short Writeup | My action | 50\％ | $50 \%$ | s |  | s |  | s | 3 S |  | Ni | Opportunity | （1） | 。 | 0.01 | 0.02 | 0.01 | Opportunty |  |  |  | 0.005 | 0.005 |


[^0]:    1 These are larger trucks that are permitted on the federal Interstate system and the non-Interstate Federal-aid Primary System.
    2012 RTP Integrated Growth Forecast, Southern California Association of Governments.

[^1]:    32012 RTP Integrated Growth Forecast, Southern California Association of Governments Planned improvements include widening of Ramona Expressway to a 6-8-lane limited-access facility per the Riverside County General Plan Circulation Element.

[^2]:    5 The transit oases concept is based on a system of locally served rubber-tired transit service (i.e., bus) to concentrations of employment, community activity, and residences in a manner that is linked with regional transportation opportunities.

[^3]:    6 SR-79 is proposed to be realigned as a four-lane limited-access expressway on a new alignment from south of Domenigoni Parkway to north of Gilman Springs Road and is currently undergoing a separate environmental review.

[^4]:    9 The planned street network includes improvements in the 2003 Riverside County General Plan, Circulation Element.

[^5]:    " $>80$ " - Exceeds 80 seconds

[^6]:    X Lane Closure Web Site
    
    others

