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Measure M2 Draft Freeway Plan



PREPARED FOR:



PREPARED BY:



TABLE OF CONTENTS

SECTION 1: MEASURE M2 OVERVIEW	1
SECTION 2: FREEWAY PLAN	6
CAPITAL ACTION PLAN FREEWAY PROJECTS	7
PROJECT A: I-5 WIDENING (SR-55 TO SR-57)	8
PROJECT C / PROJECT D: I-5 WIDENING (PCH TO AVENIDA PICO)	9
PROJECT C / PROJECT D: I-5 WIDENING (EL TORO ROAD TO SR-73)	10
PROJECT D: I-5/SR-74 (ORTEGA HIGHWAY) INTERCHANGE IMPROVEMENTS	11
PROJECT E: SR-22 ACCESS IMPROVEMENTS	12
PROJECT F: SR-55 WIDENING (I-405 TO I-5).....	13
PROJECT G: SR-57 WIDENING (ORANGETHORPE AVENUE TO LAMBERT ROAD).....	14
PROJECT G: SR-57 WIDENING (KATELLA AVENUE TO LINCOLN AVENUE)	15
PROJECT H: SR-91 WIDENING (I-5 TO SR-57)	16
PROJECT I: SR-91 WIDENING (SR-55 TO TUSTIN AVENUE).....	17
PROJECT J: SR-91 WIDENING (SR-55 TO SR-71).....	18
PROJECT K: I-405 WIDENING (I-605 TO SR-55)	19
FUTURE FREEWAY PROJECTS	20
PROJECT B: I-5 WIDENING (SR-55 TO I-405)	21
PROJECT D: I-5 AT EL TORO ROAD INTERCHANGE IMPROVEMENTS	22
PROJECT F: SR-55 WIDENING (I-5 TO SR-22).....	23
PROJECT G: SR-57 WIDENING (ORANGEWOOD AVENUE TO KATELLA AVENUE).....	24
PROJECT G: SR-57 WIDENING (LAMBERT ROAD TO COUNTY LINE).....	25
PROJECT I: SR-91 WIDENING (SR-57 TO SR-55).....	26
PROJECT J: SR-91 WIDENING (SR-241 TO I-15).....	27
PROJECT L: I-405 WIDENING (SR-55 TO I-5).....	28
PROJECT M: I-605 AT KATELLA AVENUE INTERCHANGE IMPROVEMENTS	29
PROJECT N: FREEWAY SERVICE PATROL	30
SECTION 3: REFERENCES	31



SECTION 1: MEASURE M2 OVERVIEW

INTRODUCTION

On November 6, 1990, Orange County voters approved Measure M, the first half-cent local transportation sales tax in Orange County. Measure M was in place for twenty years and concluded on March 31, 2011. All of the major projects promised and approved by voters in Measure M are now complete.

CONTINUED INVESTMENT NEEDED

The primary focus of Measure M was addressing existing congestion resulting from two decades of constrained funding for transportation programs in California. While Measure M achieved that goal, Orange County continued to grow.

RENEWING MEASURE M

On November 7, 2006, the half-cent local transportation sales tax was extended for an additional 30 years in the form of Measure M2 (M2). The M2 Transportation Investment Plan is a 30-year (2011-2041) program designed to address both existing and future transportation needs in Orange County by upgrading key freeways, fixing major freeway interchanges, improving and maintaining streets and roads, synchronizing traffic signals countywide, improving Metrolink and its connections to communities, providing new and expanded community based transit, and protecting our environment.

FREEWAYS

Improving Orange County freeways is the largest of the three major programs (freeways, streets and roads and transit) in the M2 program: Forty-three percent of net revenues will be invested in freeway construction. Relieving congestion on the Riverside/Artesia Freeway (SR-91) is the centerpiece of the M2 freeway program, and will include new lanes and improved interchanges. Other major projects will make substantial improvements on Interstate 5 (I-5) from central to southern Orange County, the San Diego Freeway (I-405), the Orange Freeway (SR-57) and the Costa Mesa Freeway (SR-55). I-5 will also be improved between SR-57 (the "Orange Crush interchange) and SR-55. Under the Plan, major traffic chokepoints on almost every Orange County freeway will be improved.

M2020 PLAN

Although M2 was approved in November 2006, sales tax collections did not begin until April 1, 2011. In order to expedite some of this work, OCTA instituted an Early Action Plan (EAP) that advanced the development of nine freeway projects before April 2011. The plan, which was approved by the OCTA Board of Directors in 2007 used state infrastructure bonds, federal stimulus funds, and other debt financing to start the projects early. The EAP was a five year plan that included the advancement of conceptual design, environmental clearance, design, and construction of a number of projects. After all major elements of the EAP were near complete OCTA began planning for the M2020 plan, which outlines projects and programs for all modes that can be delivered on an expedited schedule between 2013 and 2020. The M2020 plan freeway component implements the following objectives:

1. Deliver 14 M2 construction projects along I-405, I-5, SR-55, SR-57 and SR-91.
2. Complete the environmental phase of the nine remaining M2 projects making them shelf ready for early delivery as funding becomes available.

Freeway projects that will be constructed by 2020 are included in the M2020 Plan. All remaining M2 projects are also included in the M2020 Plan through the environmental phase.

M2 ACCOMPLISHMENTS

As a result of the EAP and M2020 Plan, much progress has been made in executing the M2 program since its renewal in 2006. Following is a summary of progress made through June 2014.

- ❖ Project A - Interstate 5 (SR-55 to SR-57): Two Project Study Reports were prepared to identify ways to relieve freeway congestion along the corridor which included looking at adding a second High Occupancy Vehicle (HOV) lane on I-5 between SR-55 and SR-57 in the City of Santa Ana, and operational improvements at the chokepoint within the I-5 and SR-55 interchange by increasing the weaving length



at the SB I-5 between 4th Street on ramp to SR-55. The studies looked at ways to increase capacity and improve traffic flow through this section of I-5 that connects four major freeways in central Orange County. The project is intended to provide additional capacity needed to accommodate HOV traffic from the direct HOV connectors at both the SR-55 and SR-57 interchanges. The Project Study Reports were completed and the project is now in the environmental phase with completion of the environmental document anticipated in 2015.

- ❖ Project B - Interstate 5 Widening (I-405 to SR-55): A Project Study Report was completed in December of 2013 that would relieve congestion along I-5 between I-405 and SR-55, passing through the cities of Tustin and Irvine. The Project Study Report proposed to add a new general purpose lane in each direction along with operational improvements. This project is currently in the Project Approval/Environmental Document (PA/ED) Phase.
- ❖ Projects C/D - Interstate 5 (PCH to Avenida Pico): A Project Report and Environmental Document was approved in 2011 to increase capacity of the I-5 corridor between Avenida Pico and Pacific Coast Highway through the cities of San Juan Capistrano, Dana Point and San Clemente. The project was split into three segments for the design phase. The three segments were San Juan Creek Road to Pacific Coast Highway (PCH), PCH to Vista Hermosa, and Vista Hermosa to Pico. The project extends the existing high-occupancy vehicle (HOV) lanes on I-5 that presently terminate south of Camino Capistrano in the City of San Juan Capistrano to Avenida Pico in the City of San Clemente. During the environmental phase of the project, local interchange operational improvements were incorporated into the project including improvements to the Avenida Pico interchange (Project D). Design was completed in 2013 and a contract was awarded for the San Juan Creek Road to PCH segment. The PCH to Vista Hermosa segment has been awarded and the Vista Hermosa to Pico segment is waiting on an executed cooperative agreement with Caltrans to start advertisement. Construction is scheduled for completion in 2018.

- ❖ Projects C/D - Interstate 5 (El Toro Road to SR-73): A locally approved alternative was chosen on November 20, 2013 that will add a general purpose lane in each direction along the I-5 between El Toro Road in the City of Lake Forest and SR-73 in the City of Mission Viejo. The Project report also identifies reconstruction of La Paz Road and Avery Parkway interchange to reduce traffic congestion in the area. The Environmental Document and Project Report were approved on May 2014 and Design phase will start late 2014. This project will be split into three segments including SR-73 to Oso Parkway, Oso Parkway to Alicia Parkway, and Alicia Parkway to El Toro Road.
- ❖ Project D - Interstate 5/State Route 74 Interchange: Construction is 35% complete on the I-5/Ortega Interchange project. The interchange is being reconstructed to better accommodate existing and future traffic volumes and alleviate congestion within the interchange area. Construction is anticipated to be complete in September of 2015.
- ❖ Project D - Interstate 5/El Toro Road Interchange: A Project Study Report is being developed to analyze how to increase the capacity of the I-5/El Toro Interchange. Several alternatives have been identified to improve the operational efficiency of the southbound on and off ramps.
- ❖ Project F - State Route 55 (I-405 to I-5): A Project Study Report was prepared to analyze options to improve the SR-55 between I-405 and I-5, passing through the cities of Tustin, Santa Ana, and Irvine. The study evaluated the feasibility of lane additions within the corridor and possible improvements to key interchanges to reduce traffic congestion in the area. This project is currently in the environmental phase and is anticipated to be complete in December 2014.
- ❖ Project F - State Route 55 (I-5 to SR-91): A Project Study Report is being developed to relieve congestion along SR-55 from I-5 to SR-91, passing through the cities of Santa Ana, Tustin, and Orange. The alternatives add a new general purpose lane in each direction between I-5 and SR-22. Other

improvements are operational north of the SR-22 interchange.

- ❖ Project G - State Route 57 Northbound Widening (Orangethorpe Avenue to Lambert): Construction is complete for a new northbound lane on SR-57 from Orangethorpe Avenue to Lambert Road through the cities of Placentia, Fullerton and Brea.
- ❖ Project G - State Route 57 Northbound Widening (Katella Avenue to Lincoln Avenue): Construction to add a new northbound lane on SR-57 between Katella Avenue and Lincoln Avenue in the City of Anaheim is underway and scheduled to be complete in late 2014.
- ❖ Project G - State Route 57 Northbound Widening (Orangewood to Katella): A project Study Report/Project Development Study (PSR/PDS) is being developed to identify ways to relieve congestion from Orangewood Avenue in the City of Orange to Katella Avenue in the City of Anaheim. The PSR/PDS proposes to add one general purpose lane in the northbound direction. The PSR/PDS is expected to be complete in late 2014.
- ❖ Project H - State Route 91 (I-5 to SR-57): Construction is currently underway to add a WB lane along SR-91 from I-5 to SR-57, and to widen undercrossings at several locations along the route. Construction is nearly half way complete and is scheduled to be complete in April 2016.
- ❖ Project I - State Route 91 (SR-57 to SR-55): A feasibility study was prepared to identify options for improving the SR-91 corridor between SR-55 and SR-57. Improvements identified included analyzing the interchanges as well as the mainline. A Project Study Report/Project Development Support (PSR/PDS) document is currently under preparation to analyze alternatives to add capacity and balance the number of lanes on SR-91 in the City of Anaheim. The interchanges at Kraemer/Glassell, Tustin and Lakeview are also proposed to be improved. Upon completion of the PSR/PDS, the Project Report/Environmental Document phase will commence. A revised final draft PSR/PDS will be

resubmitted to Caltrans early next quarter. Environmental study work is anticipated to begin in late 2014, and be complete in May 2017.

- ❖ Project I - State Route 91 (SR-55 to Tustin Avenue): Construction is currently underway to add a westbound (WB) Auxiliary lane on SR-91 beginning at the northbound (NB) SR-55 to WB SR-91 connector through the Tustin Avenue Interchange in the City of Anaheim. The project will also reduce choke-point conditions caused by weaving between the NB SR-55 to WB SR-91 connector and the WB SR-91 off-ramp to Tustin Avenue.
- ❖ Project J - State Route 91 (SR-55 to I-15): Three projects along SR-91 relieve traffic congestion in the corridor connecting Orange County and Riverside County. Construction of a new eastbound lane between SR-241 and SR-71 in Riverside County was completed in January 2011. This project extended the existing eastbound auxiliary lane that terminated before Green River Road to the SR-71 interchange. Construction to add one new lane in each direction along SR-91 from SR-55 to SR-241 was completed in March 2013. The project has improved freeway capacity through the cities of Anaheim and Yorba Linda. The third project is being advanced by the Riverside County Transportation Commission (RCTC) and is a two-phase (initial & ultimate) project that will add capacity on SR-91 each way between SR-241 in the City of Anaheim to I-15 in the City of Corona. Scheduled for completion by 2017, the initial phase of the project is being funded by RCTC and will add one eastbound express lane and one westbound express lane between SR-241 and the Riverside County line. The ultimate project will provide one additional eastbound and westbound general purpose lane of capacity between SR-241 and the Riverside County line. A schedule for delivery of the ultimate improvements has not yet been established.
- ❖ Project K - Interstate 405 (I-605 to SR-55): On October 22, 2012, the Orange County Transportation Authority (OCTA) Board of Directors (Board) selected Alternative 1, the addition of one general purpose (GP) lane in each direction, as the recommendation for the preferred alternative to the California

Department of Transportation (Caltrans). On December 9, 2013, the Board reaffirmed the recommendation of Alternative 1 as the preferred alternative to Caltrans as meeting the Measure M2 (M2) commitment to the voters. On July 24, 2014, Caltrans recommended Alternative 3 as the Preferred Alternative to be approved by the Caltrans District Director in the final environmental document. Alternative 3 adds one GP lane in each direction and a high-occupancy toll lane that would be managed with the existing high-occupancy vehicle lane to be operated as a two-lane express facility in each direction. Caltrans is scheduled to sign and release a final EIR/EIS in February 2015. The Notice of Determination/Record of Decision publication is scheduled for May 2015. Under Caltrans' plan, OCTA will move forward with the design-build (DB) procurement to add one GP lane to meet the M2 commitment. This project will add mainline capacity and improve key interchanges along the corridor that serves the cities of Santa Ana, Costa Mesa, Fountain Valley, Huntington Beach, Westminster, Seal Beach, and Los Alamitos. A program management consultant has been selected to manage the design-build implementation of the project. Construction is anticipated to begin in 2016. Delivery and funding for the high occupancy toll lane would be the responsibility of Caltrans.

❖ Project L - Interstate 405 (SR-55 to I-5): A PSR/PDS has been developed to identify ways to alleviate congestion along I-405 between SR-55 and I-5 and to improve freeway operation in the I-405/I-5 El Toro "Y" area. The project will generally be constructed within existing right of way. The PSR/PDS is complete and the PA/ED is underway.

❖ Project M - Interstate 605/Katella Interchange Improvement: A PSR/PDS is being developed to

identify operational improvements on I-605 and Katella Avenue in order to increase interchange safety and efficiency. The project will reduce freeway and arterial delay and traffic queuing in the interchange area. The PSR/PDS is expected to be complete in late 2014.

M2 FREEWAY PLAN SUMMARY

The M2 Freeway Plan includes an overview of issues and needs, time frames for project packages to improve mobility on Orange County freeway facilities. Project descriptions include some conceptual lane diagrams (as appropriate), cost estimates based upon 2014 and year of expenditure (YOE) as applicable, and discussion of key considerations that need to be addressed in the planning and development phase of each project. This Plan will provide OCTA and other partner agencies with a framework to implement M2 freeway improvements. Future plan updates will continue to refine the scope, cost, and schedule of each project included in this version of the plan. Table 1 summarizes the various projects in the 2014 Plan, and they are outlined below by implementation schedule (see Section 2 for detailed project summaries):

❖ The first set of freeway projects in the M2020 plan are delivered through construction and the environmental phase for future freeway projects. The Plan is anticipated to be delivered through construction by 2022 at a total YOE cost of approximately \$2.8 billion.

❖ The second set of M2 freeway program projects are future projects that are not currently part of the M2020 plan beyond the environmental phase. Also included is the ongoing Freeway Service Patrol program. These projects are anticipated to be completed by 2040 at a total cost of approximately \$2.5 billion.



Table 1 –Measure M2 Freeway Plan Projects

Project	Project Summary	Cost (YOE \$M)
<u>M2020 Freeway Projects</u>		
A	I-5 Widening (SR-55 to SR-57)	42.3
C / D	I-5 Widening (PCH to Avenida Pico)	246.3
C / D	I-5 Widening (El Toro Road to SR-73)	471.95
D	I-5/SR-74 (Ortega Hwy) Interchange Improvements	81
E	SR-22 Access Improvements	0*
F	SR-55 Widening (I-405 to I-5)	274.6
G	SR-57 Widening (Orangethorpe Avenue to Lambert Road)	113.89
G	SR-57 Widening (Katella Avenue to Lincoln Avenue)	38.5
H	SR-91 Widening (I-5 to SR-57)	64.2
I	SR-91 Widening (SR-55 to Tustin Avenue)	47.8
J	SR-91 Widening (SR-55 to SR-71)	138.6
K	I-405 Widening (I-605 to SR-55)	1,254.5
B, D, F, G, G, I, L, M	Future Project Environmental Costs	25.3
N	Freeway Service Patrol (M2020 portion)**	35.7
Project	Project Summary	Cost (2014 \$M)***
<u>Future Freeway Projects</u>		
B	I-5 Widening (SR-55 to I-405)	447.7
D	I-5 at El Toro Road Interchange Improvements	65.1
F	SR-55 Widening (I-5 to SR-22)	127.3
G	SR-57 NB Widening (Orangewood Avenue to Katella Avenue)	25.5
G	SR-57 NB Widening (Lambert Road to County Line)	74.6
I	SR-91 Widening (SR-57 to SR-55)	303.1
J	SR-91 Widening (SR-241 to I-15)	124.0**
L	I-405 Widening (SR-55 to I-5)	175.8
M	I-605/Katella Ave Interchange Improvements	13.3
N	Freeway Service Patrol	157.5

* - Delivered with the SR-22 HOV Lane Project in 2007

** - Reserve funding for ultimate improvements

***-Future project costs do not include environmental phase. Future Project environmental phase costs are covered in the M2020 Freeway project listing.



SECTION 2: _____ FREEWAY PLAN

OVERVIEW

A substantial component of the Measure M2 Transportation Investment Plan is a multi-billion program designed to reduce traffic congestion, strengthen our economy and improve our quality of life by upgrading key freeways and improving major freeway interchanges. Honoring its commitment to the Orange County voters, OCTA has developed the Measure M2 Freeway Plan (Plan), which will serve as a critical tool that enables OCTA to successfully manage and deliver this monumental program between now and 2041 and build upon the tremendous success of the original Measure M program.

The Plan captures the key relationships between project cost and biddability, financial capacity, facility priority and program phasing, and includes updated freeway cost estimates, proposed project segments and phasing, project summary fact sheets, and integration of OCTA's financial capacity. The Plan describes projects, implementation schedules, key considerations, benefits, and costs for major projects through 2041. The projects are grouped into two categories: 1) M2 freeway projects in the M2020 Plan through construction, 2) M2 freeway in the M2020 plan through the environmental phase, and 3) M2 future freeway projects through construction.

Each of the projects includes an estimate of project schedules. Schedules for implementation of the packages can be heavily influenced by engineering and

environmental complexities of each specific project. The M2 financial capacity will affect the phasing and schedule of projects as well.

It is important to note that implementing various time saving measures, such as design-build or contractor incentives for early completion may potentially reduce project schedules. The implementation phases are defined as follows:

- ❖ **Preliminary Engineering = Project Study Report/Project Development (PSR/PDS)** – Conceptual planning and engineering phase that allows for programming of funds. This phase also includes feasibility studies conducted prior to formal initiation of the PSR/PDS phase.
- ❖ **Environmental = Project Approval/Environmental Documentation (PA/ED)** – Identifies a Locally Preferred Alternative (LPA), and develops the detailed concept design that provides environmental clearance for the project and programs for design and right of way acquisition.
- ❖ **Design = Plans, Specifications and Estimates (PS&E)** – Provides detailed design to contractors for construction bidding and implementation.
- ❖ **Construction** = The project construction is complete and will provide congestion relief to motorists.

The intent of these Plan project fact sheets is to provide a guide for OCTA to assess the status of the M2 program.



M2020 FREEWAY PROJECTS

The OCTA Board of Directors approved M2020 Plan includes the following freeway projects that are scheduled to be completed by 2022 at a total estimated cost of \$2.8 billion in YOE dollars. An overview of the M2020 freeway projects is provided below. Detailed project fact sheets are provided on the following pages.

Project	Project Summary	Cost (YOE \$M)
A	I-5 Widening (SR-55 to SR-57)	42.3
C / D	I-5 Widening (PCH to Avenida Pico)	246.3
C / D	I-5 Widening (El Toro to SR-73)	471.95
D	I-5/SR-74 (Ortega Hwy) Interchange Improvements	81
E	SR-22 Access Improvements	0*
F	SR-55 Widening (I-405 to I-5)	274.6
G	SR-57 Widening (Orangethorpe Avenue to Lambert Road)	113.2
G	SR-57 Widening (Katella Avenue to Lincoln Avenue)	38.5
H	SR-91 Widening (I-5 to SR-57)	64.2
I	SR-91 Widening (SR-55 to Tustin Avenue)	47.8
J	SR-91 Widening (SR-55 to SR-71)	138.6
K	I-405 Widening (I-605 to SR-55)	1,254.5
B, D, F, G, G, I, L, M	Future Project Environmental Costs (2014 Costs)**	25.3
N	Freeway Service Patrol (M2020 portion)**	35.7

* - Delivered with the SR-22 HOV Lane Project in 2007

** - Project fact sheets are included under the Future Freeway Projects section.

Figure 2-1 – Summary of Capital Action Plan Freeway Projects



I-5 Widening (SR-55 to SR-57)

Project A

Anticipated Completion: 2019

Project Cost Estimate (YOE):

Capital Cost	\$ 27,280,000
R/W Cost	\$ 24,000
Support Cost	\$ 9,346,000
Management & Contingency	\$ 5,648,000
Total Project Cost	\$ 42,300,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	2015
Design	2016
Construction	2019

Project Description

Reduce freeway congestion by adding a second HOV lane, northbound and southbound, on Interstate 5 (I-5) between State Route 55 (SR-55) and State Route 57 (SR-57). The Main Street HOV drop ramps will be removed to maximize the benefits of the new HOV lane. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

Key Considerations

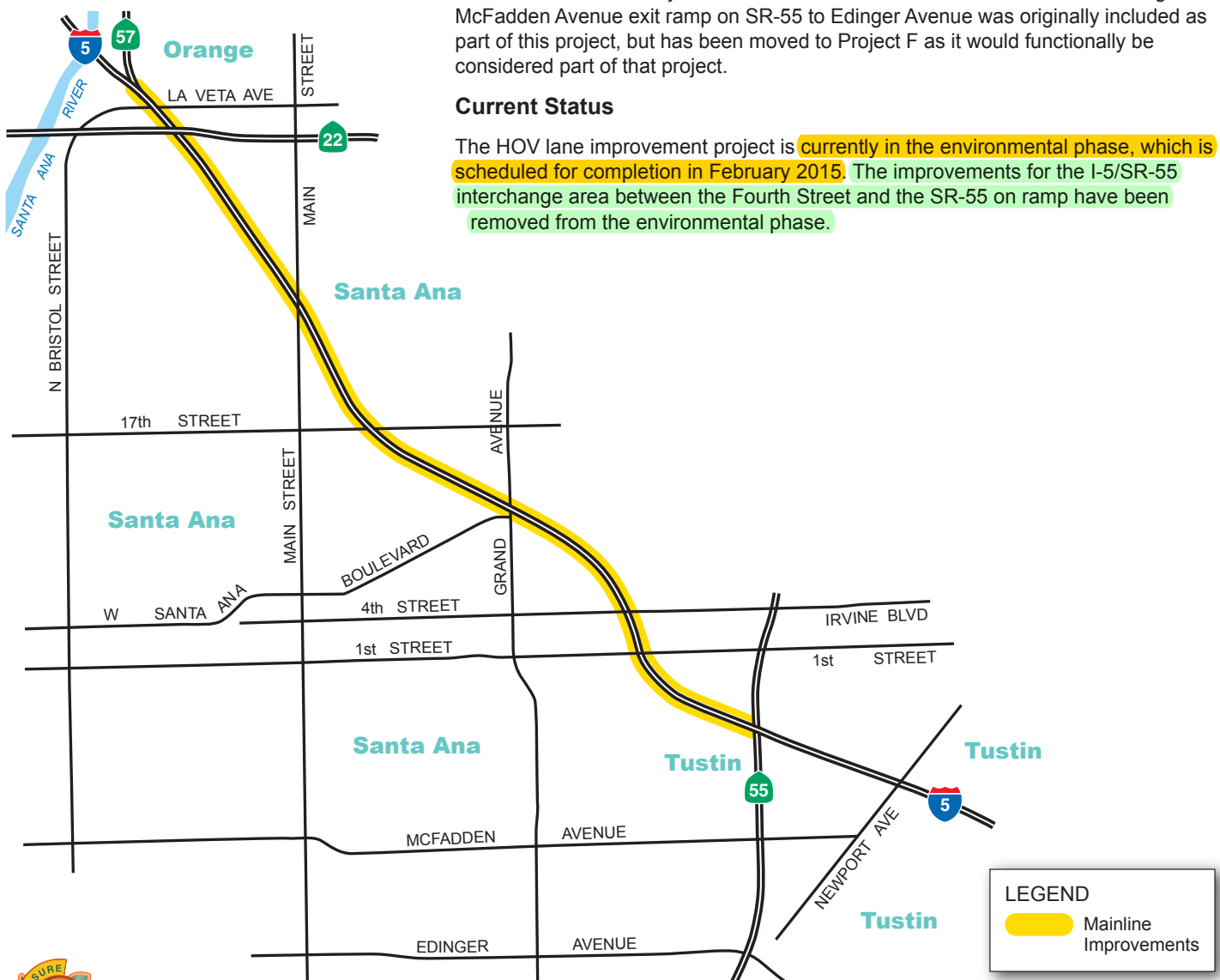
The HOV lane improvement project proposes to utilize available right of way to add a second continuous ingress/egress HOV lane. The elimination of the Main Street HOV drop ramps will remove the northbound HOV bottle neck impact on northbound HOV traffic flows.

Benefits

The purpose of the HOV lane improvement project is to increase the capacity of the HOV facility on I-5 in Santa Ana to meet traffic demands and eliminate bottlenecks to help relieve congestion and delay. The project is intended to provide the capacity needed to accommodate HOV traffic from both the SR-55/I-5 and SR-57/I-5 direct HOV connectors. Regional plans also include additional improvements on I-5 from the "Orange Crush" to State Route 91 (SR-91) using federal and state funds. The extension of the auxiliary lane from southbound I-5 to southbound SR-55 through the McFadden Avenue exit ramp on SR-55 to Edinger Avenue was originally included as part of this project, but has been moved to Project F as it would functionally be considered part of that project.

Current Status

The HOV lane improvement project is currently in the environmental phase, which is scheduled for completion in February 2015. The improvements for the I-5/SR-55 interchange area between the Fourth Street and the SR-55 on ramp have been removed from the environmental phase.



I-5 Widening (PCH to Avenida Pico)

Project C / Project D

Anticipated Completion: 2018

Project Cost Estimate (YOE):

Capital Cost	\$ 164,740,000
R/W Cost	\$ 9,280,000
Support Cost	\$ 57,440,000
Management & Contingency	\$ 14,820,000
Total Project Cost	\$ 246,300,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	2018

Project Description

Extend the HOV lanes on Interstate 5 (I-5) from Camino Capistrano to Avenida Pico to reduce freeway congestion in the cities of San Juan Capistrano, Dana Point and San Clemente. The project also includes major interchange improvements at Avenida Pico as previously listed in Project D. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

Key Considerations

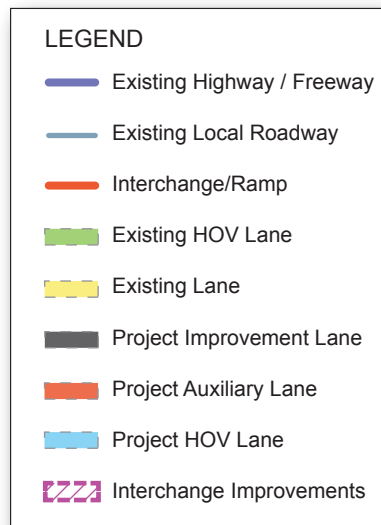
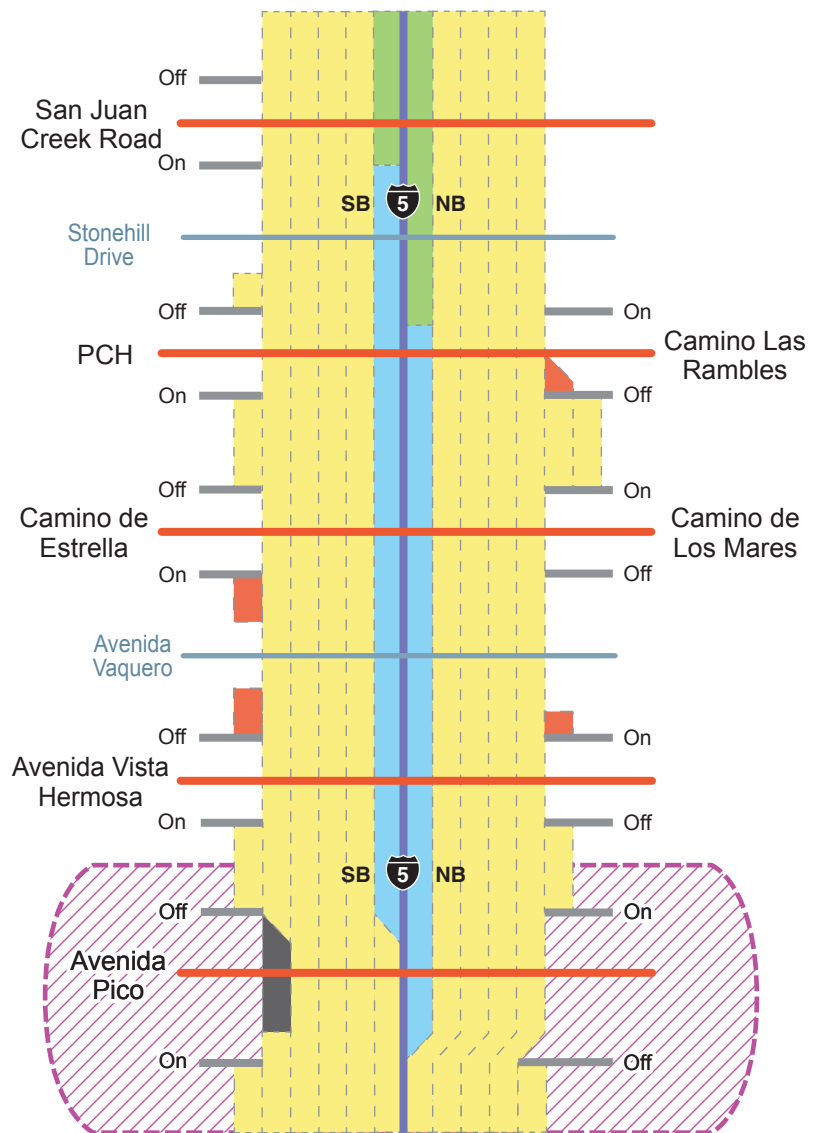
The right of way acquisition process at the Avenida Pico interchange will have to be closely monitored due to the acquisition of two commercial properties.

Benefits

The improvement project on I-5 between PCH and Avenida Pico would consist of extending the HOV lane between Camino Capistrano and Avenida Pico southbound, and Avenida Pico and PCH northbound. By providing a continuous flow of HOV lanes this project will also eliminate a southbound lane drop at Pacific Coast Highway and enable more efficient operation of general purpose lanes, and also serve projected traffic volumes for the year 2040.

Current Status

Design was completed in 2013 and a contract was awarded for the San Juan Creek Road to PCH segment. The PCH to Vista Hermosa segment has been awarded and the Vista Hermosa to Pico segment is waiting on an executed cooperative agreement with Caltrans to start advertisement. Construction is scheduled for completion in 2018.



Project C / Project D

Anticipated Completion: 2022

Project Cost Estimate (YOE):

Capital Cost	\$ 268,680,000
R/W Cost	\$ 77,090,000
Support Cost	\$ 80,960,000
Management & Contingency	\$ 45,220,000
Total Project Cost	\$ 471,950,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	Completed
Design	2018
Construction	2022

Project Description

Add new lanes to Interstate 5 (I-5) from Alicia Parkway in the City of Lake Forest to the vicinity of State Route 73 (SR-73) in the City of Mission Viejo. The project will also include an extension of the second HOV from El Toro Road to Alicia Parkway, completing continuous HOV access and reconstructing Avery Parkway and La Paz interchanges as part of Project D. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

Current traffic volume on I-5 near the El Toro “Y” is about 342,000 vehicles per day. This volume will increase in the future by 35 percent, bringing it up to 460,000 vehicles per day.

Key Considerations

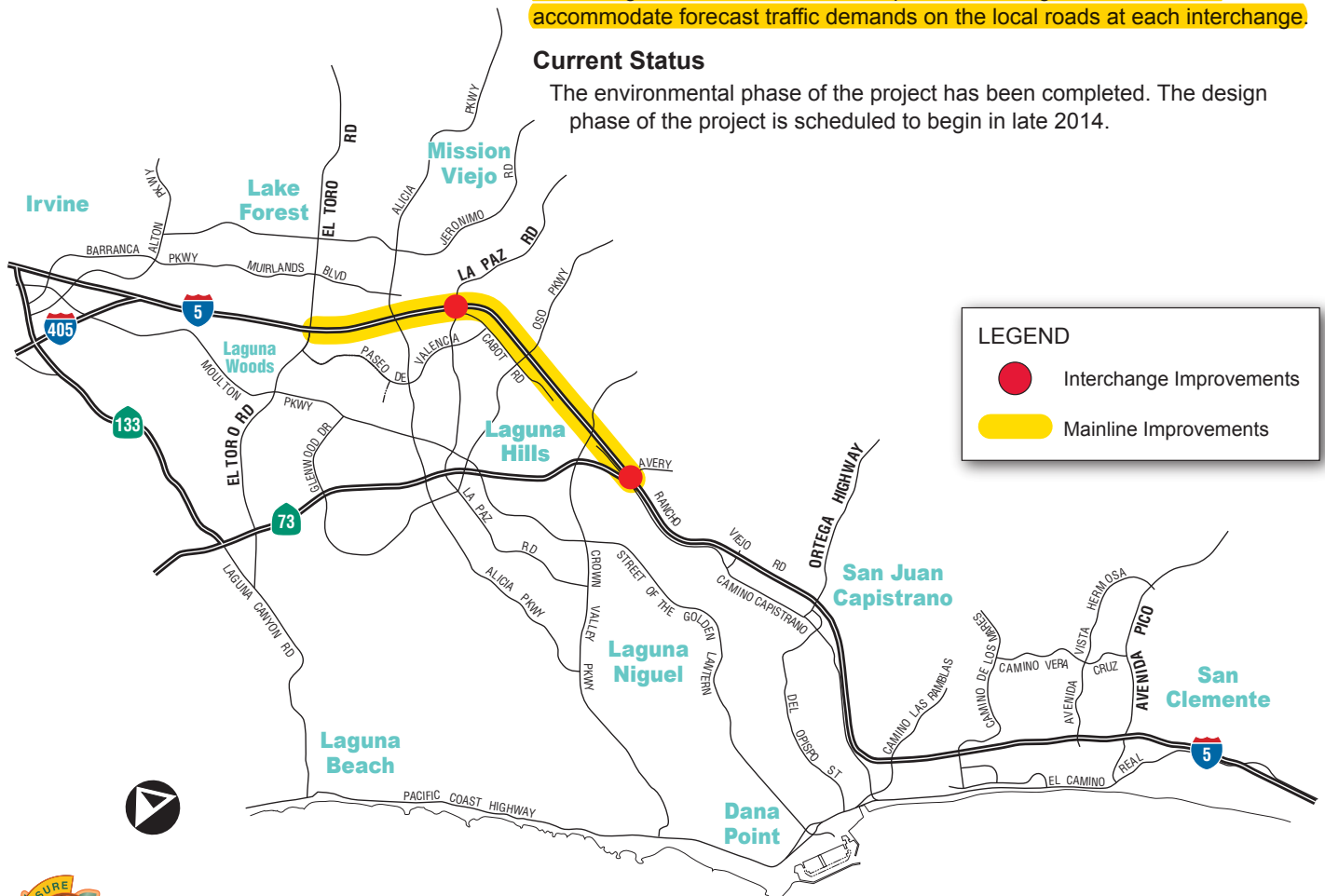
Mainline improvements will need to be closely coordinated with the El Toro Road interchange improvements provided under Project D. The I-5/La Paz Road interchange improvement project proposes to reconstruct the La Paz Road Undercrossing, which involves raising the I-5 profile grade and lowering the La Paz Road profile grade. The I-5/Avery Parkway interchange improvement project proposes to reconstruct the Avery Parkway Undercrossing, which involves raising the I-5 profile.

Benefits

The improvement project on I-5 between El Toro ‘Y’ and SR-73 would consist of adding (1) lane in each direction which would help alleviate congestion and reduce delay. The extension of the second HOV lane will enable more efficient operation of general purpose lanes and increase capacity for future projected traffic volumes. The reconstruction of La Paz Road and Avery Parkway interchanges will each reduce chokepoints and congestion, as well as accommodate forecast traffic demands on the local roads at each interchange.

Current Status

The environmental phase of the project has been completed. The design phase of the project is scheduled to begin in late 2014.



I-5 / SR-74 (Ortega Highway) Interchange Improvements

Project D

Anticipated Completion: 2015

Project Cost Estimate (Forecast at Completion):

Capital Cost	\$ 31,320,000
R/W Cost	\$ 31,870,000
Support Cost	\$ 15,910,000
Management & Contingency	\$ 2,010,000
Total Project Cost	\$ 81,020,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	2015

Project Description

The project proposes reconstruction of the Interstate 5 (I-5) interchange at State Route 74 (SR-74) in south Orange County. Improvements include widening SR-74, modifying entrance and exit ramps, and replacing the existing bridge structure.

Key Considerations

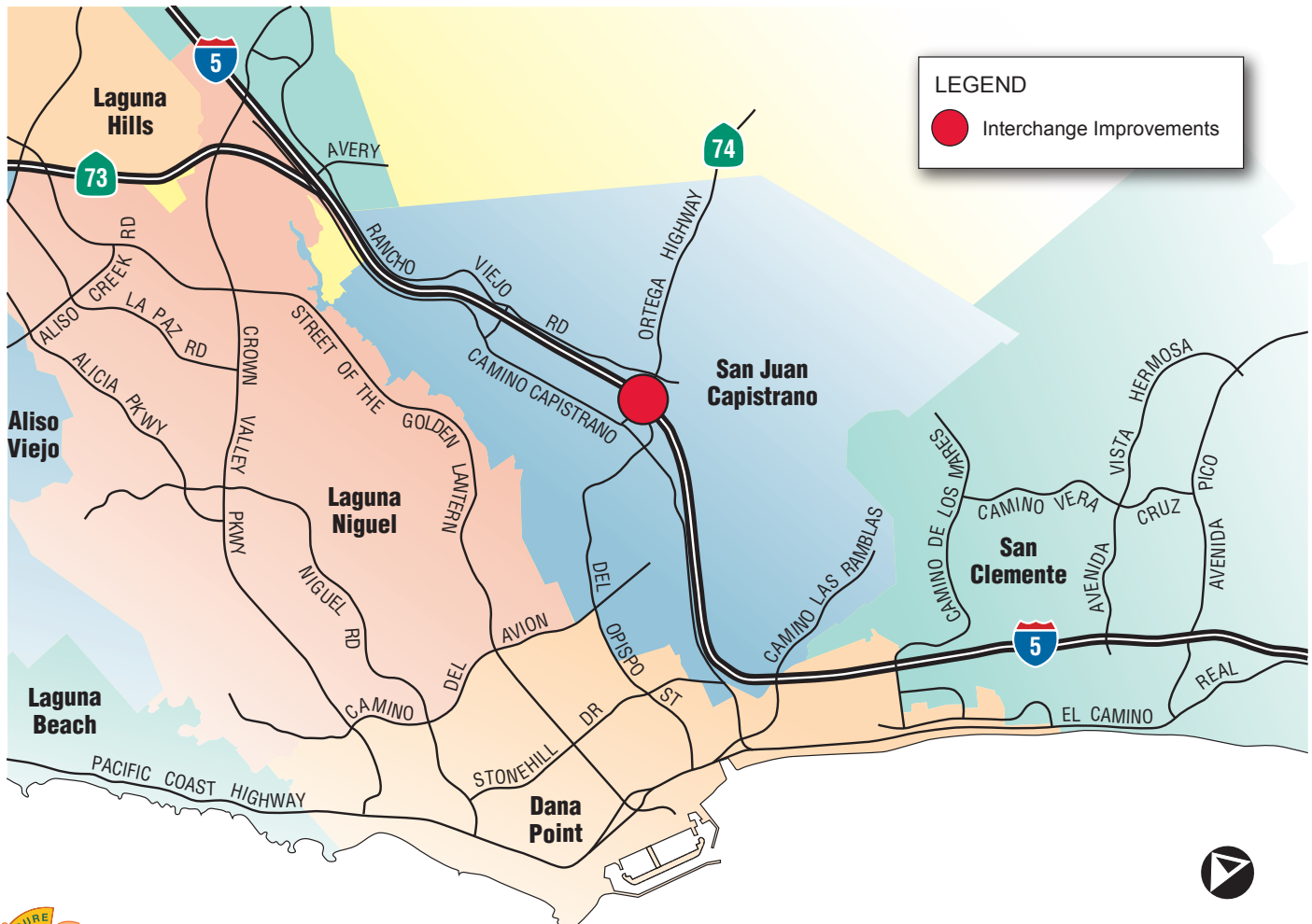
The I-5/SR-74 (Ortega Hwy) interchange improvement project will replace the freeway overcrossing and result in a deeper bridge superstructure. This will require the SR-74 roadway and bridge profile to be raised to maintain the minimum required vertical clearance. Also, the project requires right of way acquisition of multiple parcels.

Benefits

The purpose of the I-5/SR-74 (Ortega Hwy) interchange improvement project is to alleviate a chokepoint, reduce congestion, and accommodate forecast traffic demands on SR-74 at this interchange.

Current Status

Construction is underway and expected to be complete in September of 2015.



SR-22 Access Improvements

Project E

Project Completion: 2007

Project Cost Estimate:

Total Project Cost Complete

Project Description

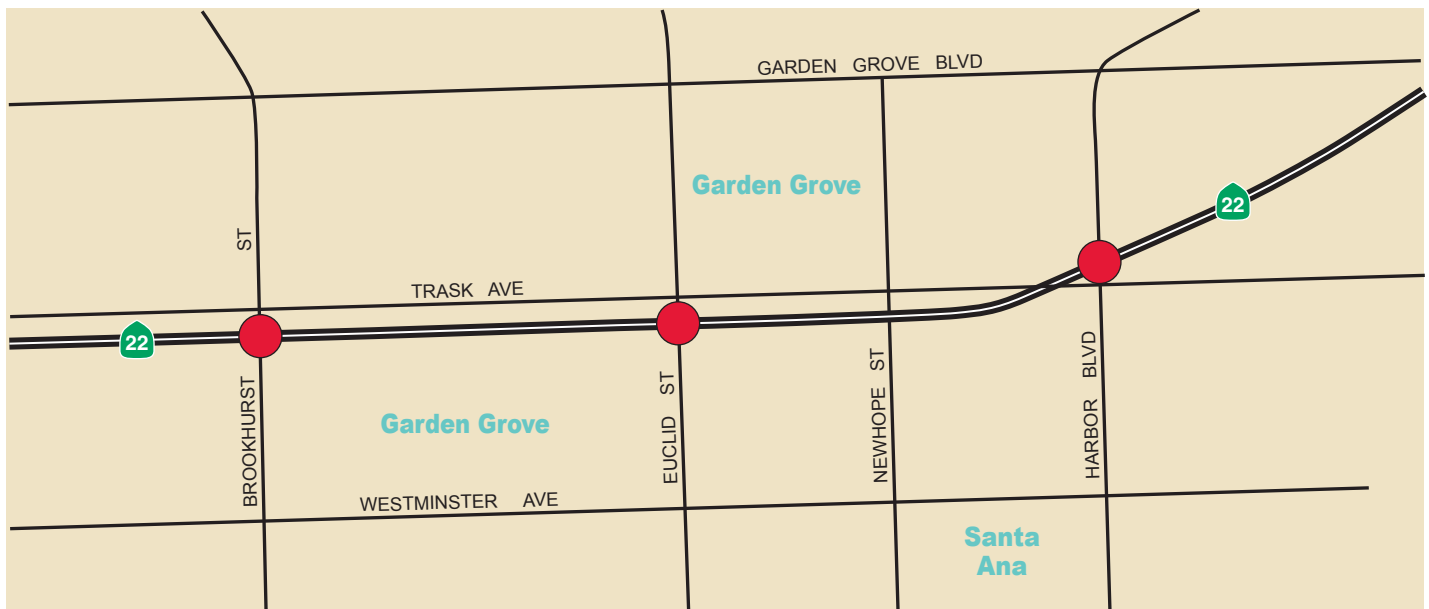
Construct interchange improvements at Euclid Street, Brookhurst Street and Harbor Boulevard to reduce freeway and street congestion near these interchanges. Specific improvements were developed in cooperation with local jurisdictions and affected communities.

Benefits

Regional plans also include the construction of new freeway-to-freeway carpool ramps to the State Route 22 (SR-22)/Interstate 405 (I-405) interchange, which are currently underway.

Current Status

The project improvements were constructed as part of the SR-22 HOV project completed in late 2007 using M1 funds.



LEGEND

● Interchange Improvements

Project F

Anticipated Completion: 2022

Project Cost Estimate (YOE) for SR-55 (I-405 to I-5):

Capital Cost	\$ 130,730,000
R/W Cost	\$ 67,110,000
Support Cost	\$ 40,970,000
Management & Contingency	\$ 35,760,000
Total Project Cost	\$ 274,600,000

Project Schedule for SR-55 (I-405 to I-5):

Preliminary Engineering	Complete
Environmental	2014
Design	2019
Construction	2022

Project Description

Add new lanes to SR-55 between Interstate 5 (I-5) and Interstate 405 (I-405), including merging lanes between interchanges to smooth traffic flow. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

The project will increase freeway capacity and reduce congestion. This freeway carries about 295,000 vehicles on a daily basis. This volume is expected to increase by nearly 13 percent, bringing it up to 332,000 vehicles per day in the future.

Key Considerations

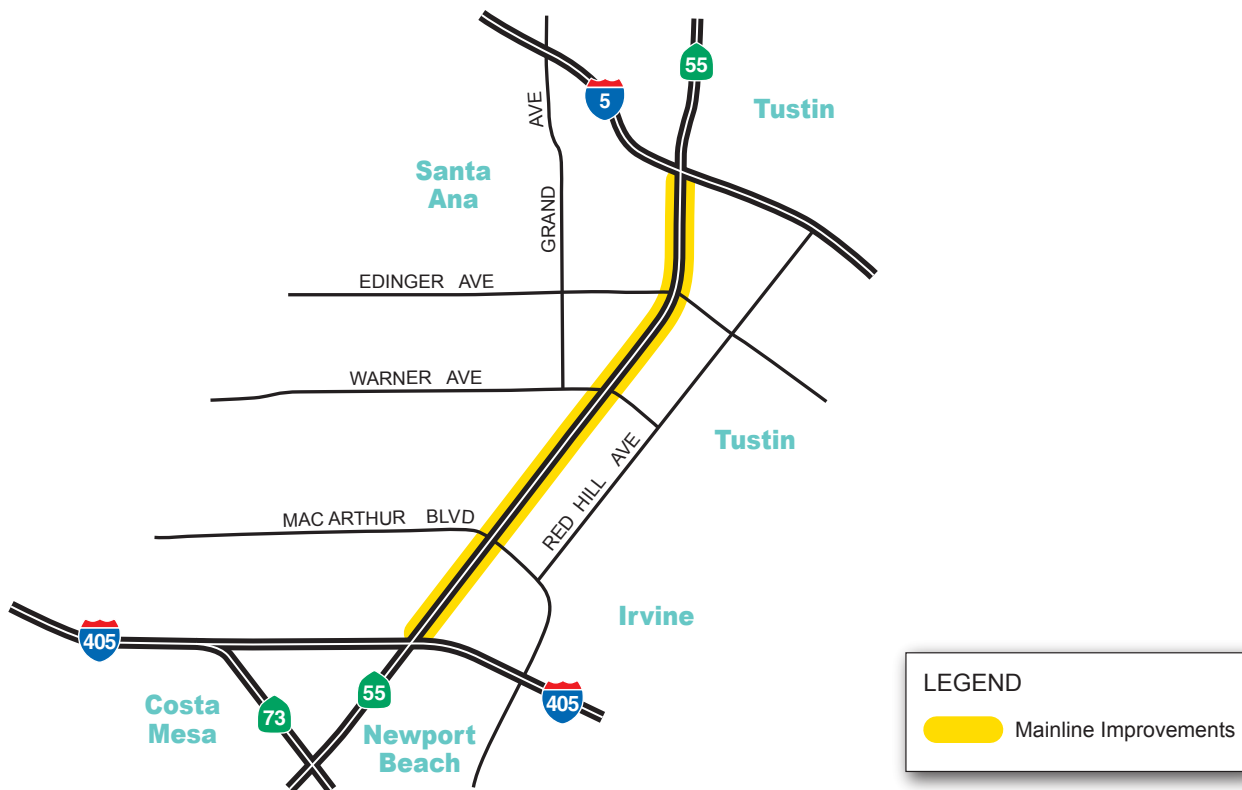
The project improvements on SR-55 between I-405 and I-5 propose to add lanes in each direction. This addition will reduce the space available for ramps at several interchanges; therefore, the ramp alignments would need to be altered.

Benefits

The project improvements on SR-55 between I-405 and I-5 will improve mobility and reduce congestion by providing an improved level of operation for existing and forecasted traffic volumes; especially for weaving and lane efficiency at ramp junctions.

Current Status

The PSR/PDS phase for the SR-55 (I-405 to I-5) project was completed in November 2008. The Project is currently in the environmental phase, which is scheduled for completion in late 2014. Design is expected to begin in mid 2015.



SR-57 Widening (Orangethorpe Avenue to Lambert Road)

Project G

Completion: 2014

Project Cost Estimate (Complete):

Capital Cost	\$ 65,850,000
R/W Cost	\$ 6,000,000
Support Cost	\$ 35,360,000
Management & Contingency	\$ 5,990,000
Total Project Cost	\$ 113,200,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Description

The improvements along State Route 57 (SR-57) primarily consist of adding one general purpose lane in the northbound (NB) direction from Orangethorpe Avenue in the City of Placentia to Lambert Road in the City of Brea. The project maintains existing auxiliary lanes and adds new auxiliary lanes in select locations.

Key Considerations

Project improvements on SR-57 from Orangethorpe Avenue to Lambert Road required right of way acquisition that included partial parcel acquisitions and temporary construction easements for the construction of proposed retaining walls and widened bridge structures. Railroad involvement was required; a Construction & Maintenance Agreement was needed for three overhead bridge structures.








Benefits

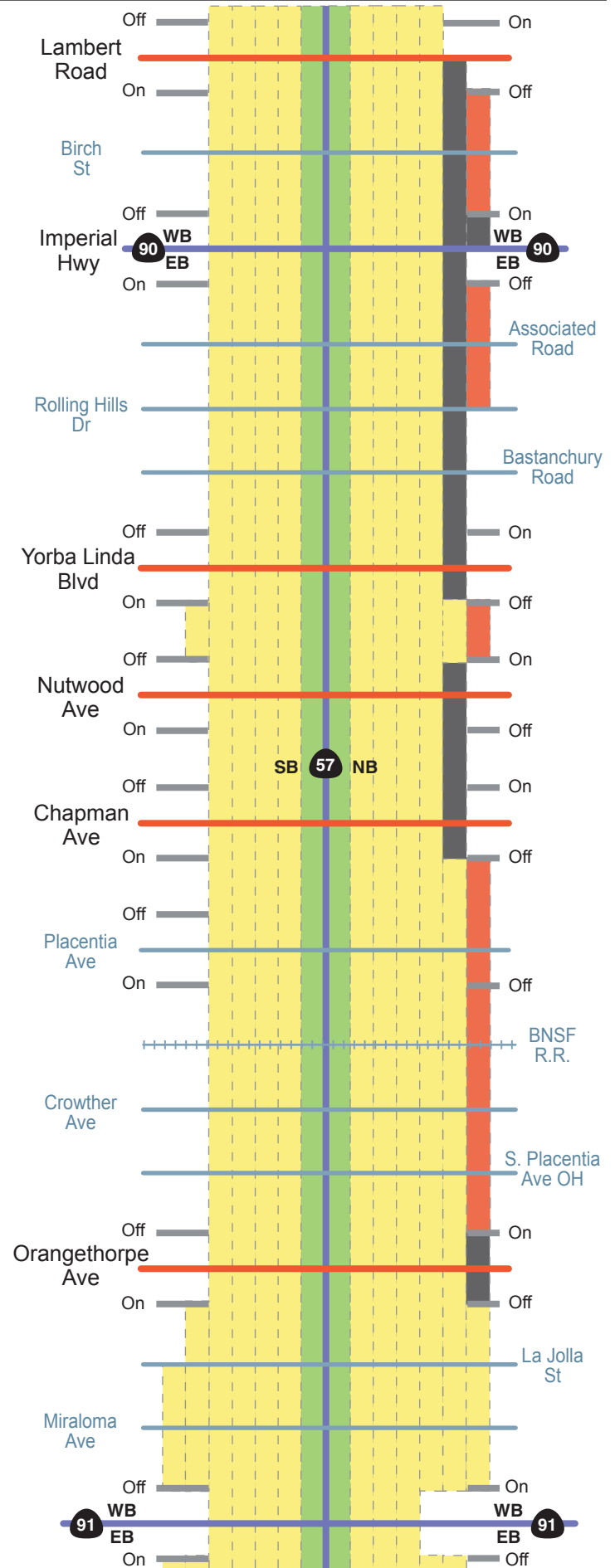
On SR-57, from Orangethorpe Avenue to Lambert Road, improvements substantially improve existing and future mobility, reduce congestion, improve mainline weaving, merge and diverge movements, which improve both traffic operations and safety. A 20% reduction in total delay is anticipated.

Current Status

Construction was completed in August of 2014.

LEGEND

-  Existing Highway / Freeway
-  Existing Local Roadway
-  Interchange/Ramp
-  HOV Lane
-  Existing Lane
-  Project Improvement Lane
-  Project Auxiliary Lane



SR-57 Widening (Katella Avenue to Lincoln Avenue)

Project G	
Anticipated Completion: 2014	
Project Cost Estimate (Forecast at Completion):	
Capital Cost	\$ 21,070,000
R/W Cost	\$ 2,080,000
Support Cost	\$ 12,690,000
Management & Contingency	\$ 2,640,000
Total Project Cost	\$ 38,480,000
Project Schedule:	
Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	2015

Project Description

The improvements along State Route 57 (SR-57), from Katella Avenue to Lincoln Avenue, primarily consist of adding one general purpose lane in the northbound (NB) direction. Additional widening is also being implemented to bring the lane widths and the left shoulder into compliance with design standards. Generally, the proposed improvements will be able to stay within the existing right of way with the utilization of retaining walls along the project area.

Key Considerations

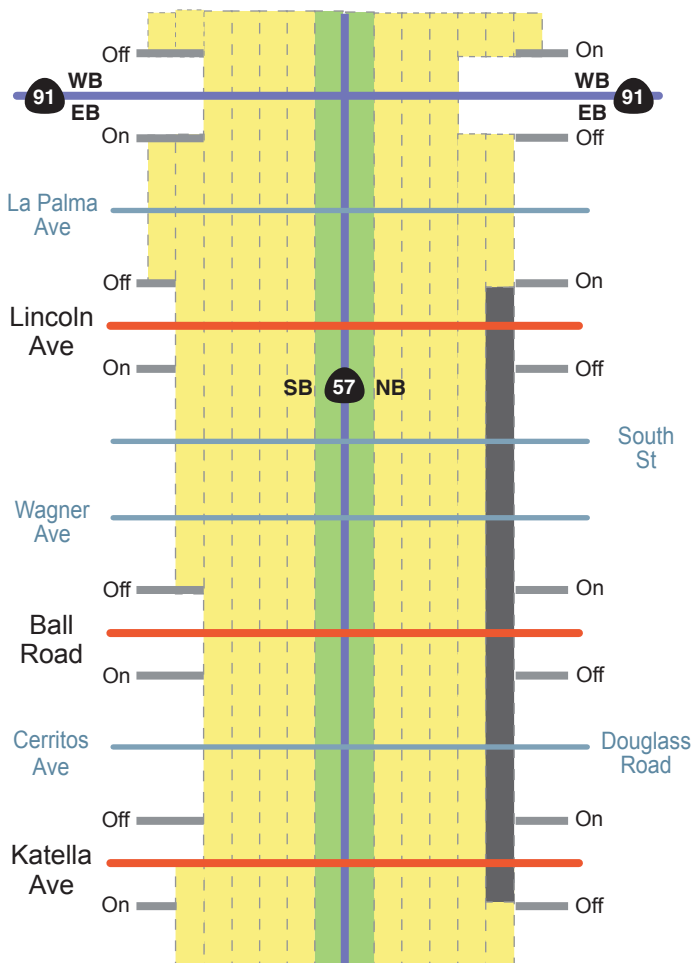
Project improvements will require entrance and exit ramps to be realigned and mainline bridges widened. Modified interchanges will retain their current configurations. Project improvements on SR-57 from Katella Avenue to Lincoln Avenue required temporary construction easements for the construction of proposed retaining walls. Railroad involvement was required, and a Construction and Maintenance Agreement was needed for the widening of the Douglass Road railroad overhead bridge.

Benefits

The addition of a northbound general purpose lane along SR-57 from Katella Avenue to Lincoln Avenue will relieve mainline congestion by increasing through capacity significantly and reducing travel times south of Katella Avenue.

Current Status

The design phase of this project was completed in April 2011. Construction is underway and is anticipated to be complete in January 2015.



LEGEND	
	Existing Highway / Freeway
	Existing Local Roadway
	Interchange/Ramp
	HOV Lane
	Existing Lane
	Project Improvement Lane



SR-91 Widening (I-5 to SR-57)

Project H

Anticipated Completion: 2016

Project Cost Estimate (Forecast at Completion):

Capital Cost	\$ 38,760,000
R/W Cost	\$ 4,080,000
Support Cost	\$ 17,420,000
Mgmt & Contingency	\$ 3,940,000
Total Project Cost	\$ 64,200,000

Project Schedule:

Preliminary Engineering	Completed
Environmental Design	Completed
Construction	2016

Project Description

The project widens westbound (WB) State Route 91 (SR-91) by connecting existing auxiliary lanes through interchanges, thus forming a fourth continuous general purpose lane between State Route 57 (SR-57) and Interstate 5 (I-5). In addition to the new general purpose lane, the existing auxiliary lanes on WB SR-91 between State College Boulevard and Raymond Avenue and between Euclid Street and Brookhurst Street will be replaced. A new auxiliary lane is planned on WB SR-91 between Raymond Avenue and Lemon Street.

Key Considerations

The widening of WB SR-91 will affect several parcels resulting in right of way involvements and temporary construction easements. An existing 12 kilovolt overhead electrical power line will be permanently relocated outside the project footprint. The widening between Euclid Street and Brookhurst Street will impact an existing reinforced concrete box culvert (Houston Channel) that will be extended to accommodate the proposed freeway ramp and widening improvements.

Benefits

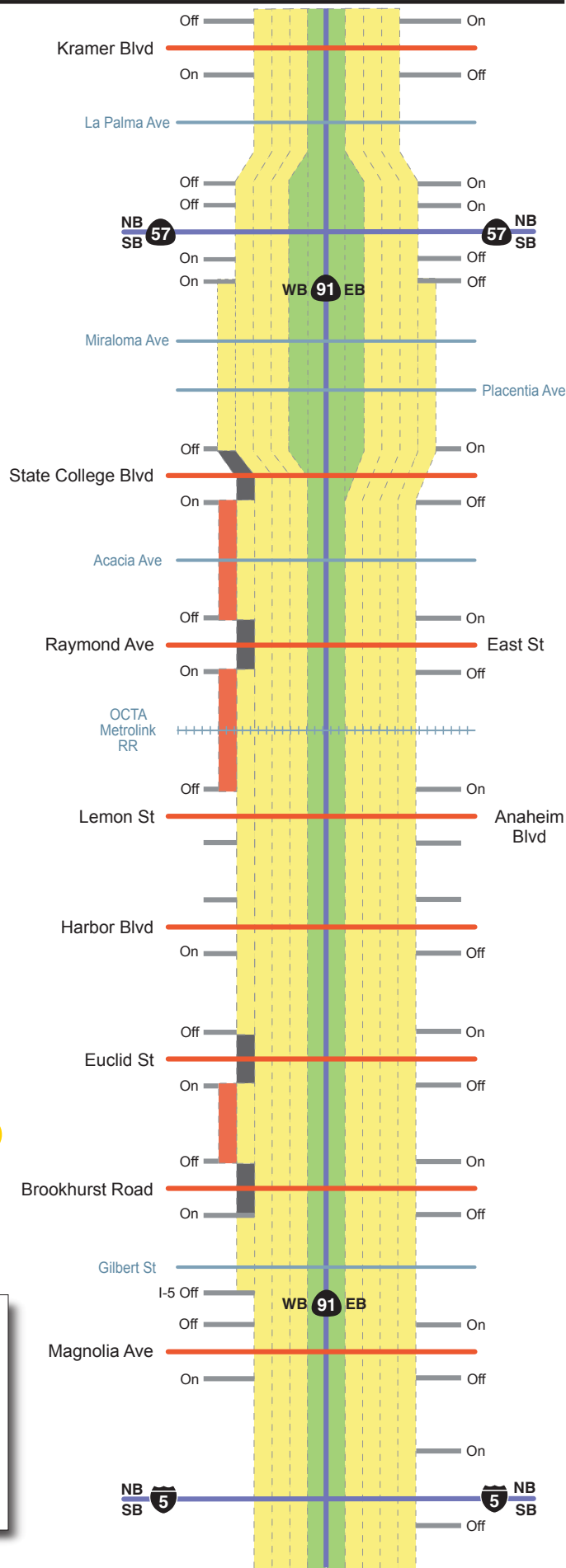
The addition of a new general purpose lane and proposed auxiliary lanes on WB SR-91 are intended to reduce congestion, provide additional mainline capacity, and improve diverge operations at each interchange.

Current Status

Construction on the project is currently underway and anticipated to be complete in April of 2016.

LEGEND

- Existing Highway / Freeway
- Existing Local Roadway
- Interchange/Ramp
- HOV
- Existing Lane
- Project Improvement Lane
- Project Auxiliary Lane



SR-91 Widening (SR-55 to Tustin Avenue)

Project I

Anticipated Completion: 2016

Project Cost Estimate (Forecast at Completion):

Capital Cost	\$ 22,220,000
R/W Cost	\$ 8,650,000
Support Cost	\$ 14,930,000
Management & Contingency	\$ 2,030,000
Total Project Cost	\$ 47,830,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	2016

Project Description

The project will add a westbound (WB) auxiliary lane on SR-91 beginning at the northbound (NB) SR-55 to WB SR-91 connector through the Tustin Avenue interchange.

Key Considerations

The SR-91 Widening (SR-55 to Tustin Avenue) will require the acquisition of right of way and the widening of the Santa Ana River bridge. Existing underground utilities will need to be considered within the proposed widening section. Additionally, the WB SR-91/Tustin Avenue intersection project was taken into consideration during the design phase of this project.








Benefits

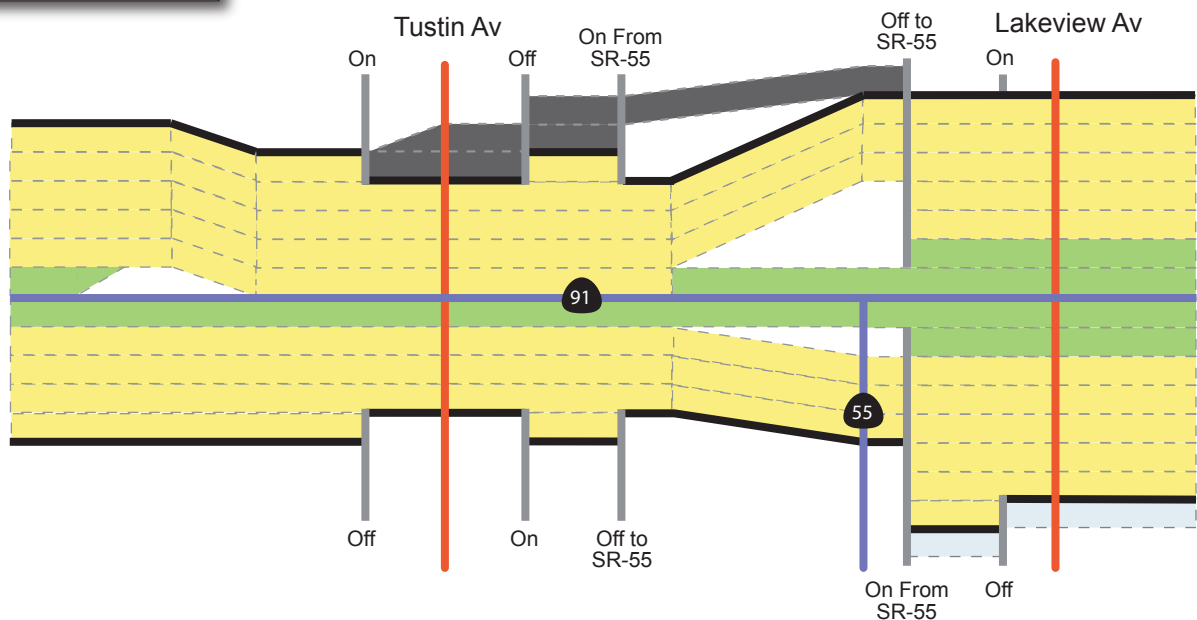
The project is intended to reduce or eliminate operational problems and deficiencies on this section of WB SR-91 including weaving and merging maneuvers. This project would also address choke-point conditions, which are caused primarily by extensive weaving between the NB SR-55 to WB SR-91 connector and the WB SR-91 off-ramp to Tustin Avenue.

Current Status

Construction on the project is currently underway and anticipated to be complete in July of 2016.

LEGEND

-  Existing Highway / Freeway
-  Interchange / Ramp
-  HOV or HOT Lane
-  Existing Lane
-  Project Improvement Lane
-  Existing Lanes Outline
-  SR-91 (SR-55 to SR-241) Project Improvement Lane



SR-91 Widening (SR-55 to SR-71)

Project J

Project Completion: 2013

Project Cost Estimate (Completed 2011) for SR-91 (SR-241 to SR-71):

Capital Cost	\$ 39,020,000
R/W Cost	\$ 1,620,000
Support Cost	\$ 16,780,000
Management & Contingency	\$ 340,000
Total Project Cost	\$ 57,760,000

Project Schedule for SR-91 (SR-241 to SR-71):

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Cost Estimate (Completed 2013) for SR-91 (SR-55 to SR-241):

Capital Cost	\$ 56,660,000
R/W Cost	\$ 420,000
Support Cost	\$ 22,680,000
Management & Contingency	\$ 1,110,000
Total Project Cost	\$ 80,870,000

Project Schedule for SR-91 (SR-55 to SR-241):

Preliminary Engineering	Completed
Environmental	Completed
Design	Completed
Construction	Completed

Project Description

These projects add capacity on State Route 91 (SR-91) beginning at State Route 55 (SR-55) and extending to State Route 71 (SR-71) in Riverside County. The first project, which has been completed, improves the segment of SR-91 east of State Route 241 (SR-241). One eastbound lane was provided between one mile east of SR-241 and SR-71 in Riverside County. The second completed project improves the segment of SR-91 between SR-55 and SR-241. The project adds one new lane in each direction and improves key interchanges. Today, this freeway carries about 314,000 vehicles every day. This volume is expected to increase by 36 percent, bringing it up to 426,000 vehicles by 2030.

Key Considerations

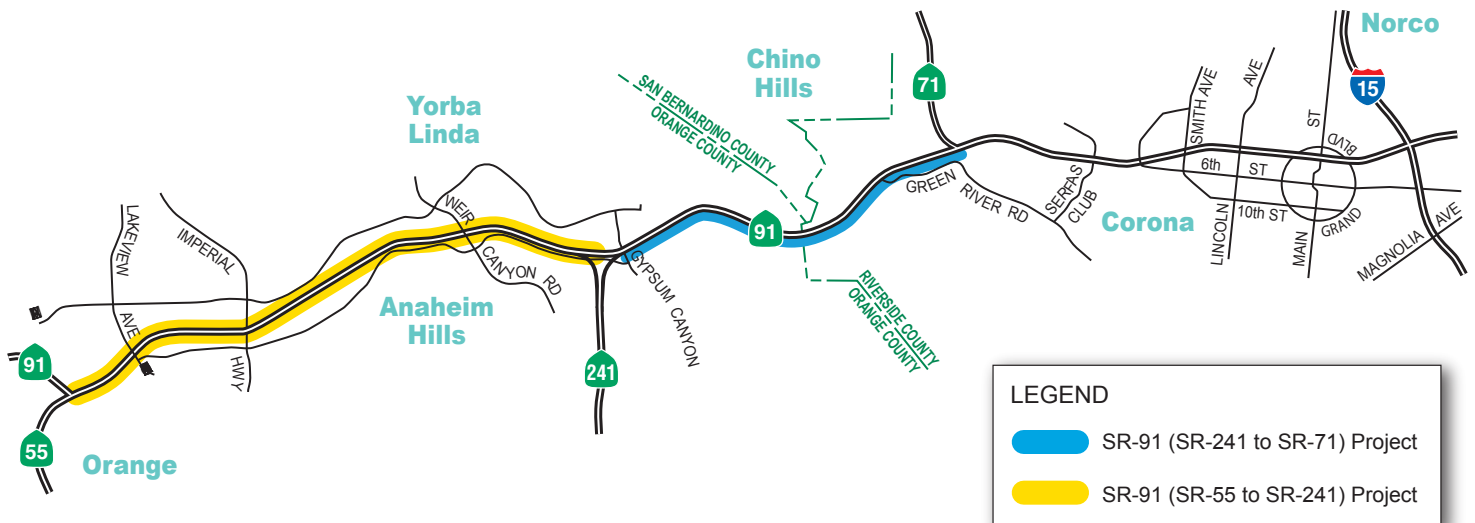
The completed project improvements on SR-91 between SR-55 to SR-241 considered maintenance of traffic through the construction phase.

Benefits

The project improvements on EB SR-91 between SR-241 to SR-71 added one general purpose lane. This project improves weaving in this segment as it reduces the volume of exiting vehicles in the SR-91 mainline through lanes that are exiting at Green River Road and SR-71. The project improvements on SR-91 between SR-55 and SR-241 alleviated congestion and reduced delay.

Current Status

The project improvement on EB SR-91 between SR-241 and SR-71 was completed in January 2011. The improvement project on SR-91 between SR-55 and SR-241 was completed in March of 2013.



I-405 Widening (I-605 to SR-55)

Project K

Anticipated Completion: 2020

Project Cost Estimate (YOE):

Capital Cost	\$ 914,980,000
R/W Cost	\$ 58,360,000
Support Cost	\$ 157,870,000
Management & Contingency	\$ 123,250,000
Total Project Cost	\$ 1,254,460,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	2015
Design - Build	2018

Project Description

Add new lanes to Interstate 405 (I-405) between Interstate 605 (I-605) and State Route 55 (SR-55) generally within the existing right of way. The project will make best use of available freeway property and update key interchanges. The improvements will be coordinated with other planned I-405 improvements in the I-405/State Route 22 (SR-22)/I-605 interchange area.

Today, I-405 carries over 300,000 vehicles daily. The volume is expected to increase by nearly 23 percent, bringing it up to 528,000 vehicles daily by 2030. The project will increase freeway capacity, reduce congestion, improve interchange operations and enhance safety.

Key Considerations

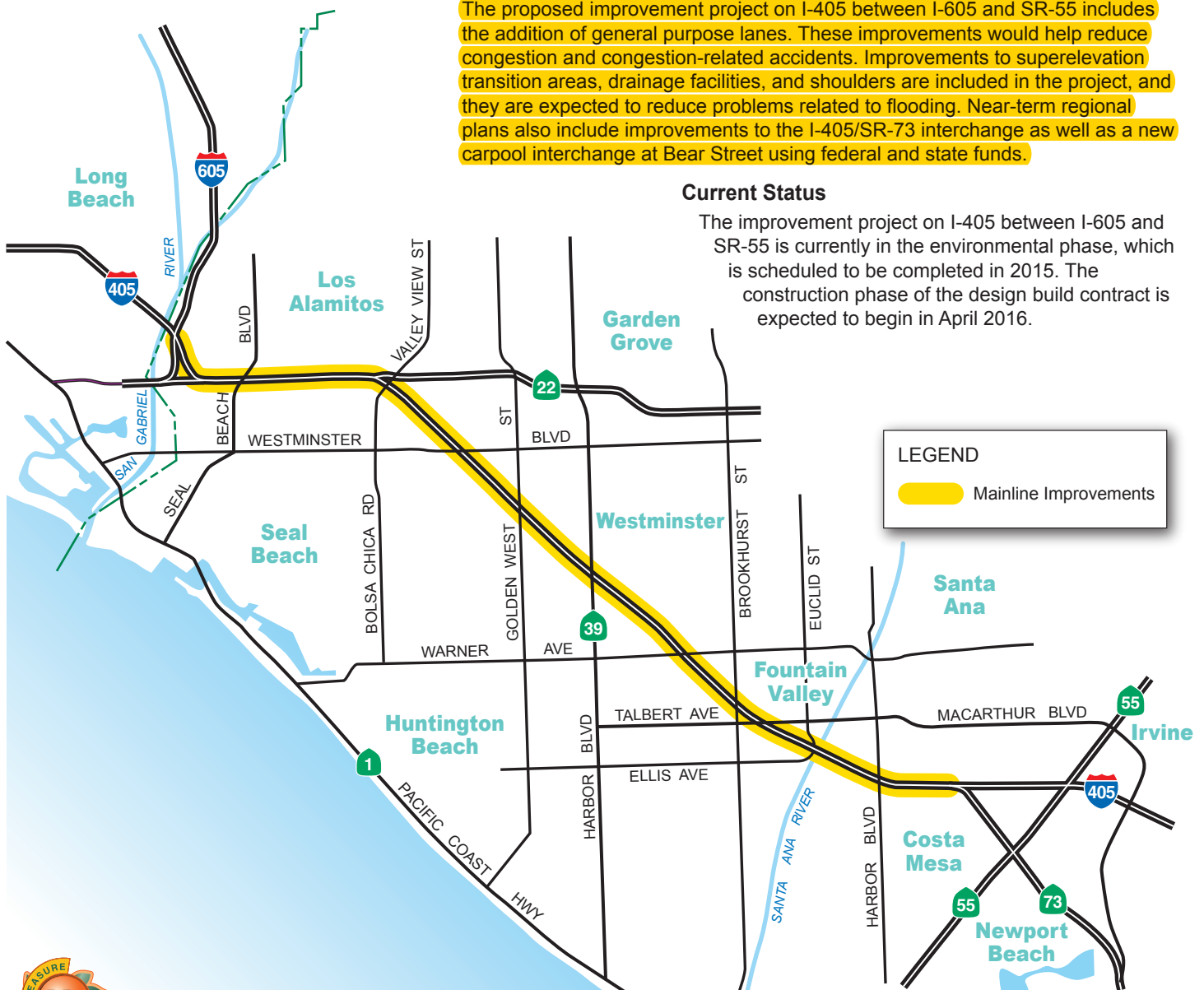
The improvement project on I-405 between I-605 and SR-55 is intended to limit right of way acquisition to ensure impacts to residents are minimized. The locally preferred alternative that was chosen by the OCTA Board of Directors will add a general purpose to I-405 in each direction. In order to reduce the project schedule, a design build contract will be used to deliver the contract. Caltrans approved alternative three in late July. The Caltrans preferred alternative, which will provide high occupancy toll lanes will be funded and delivered by Caltrans.

Benefits

The proposed improvement project on I-405 between I-605 and SR-55 includes the addition of general purpose lanes. These improvements would help reduce congestion and congestion-related accidents. Improvements to superelevation transition areas, drainage facilities, and shoulders are included in the project, and they are expected to reduce problems related to flooding. Near-term regional plans also include improvements to the I-405/SR-73 interchange as well as a new carpool interchange at Bear Street using federal and state funds.

Current Status

The improvement project on I-405 between I-605 and SR-55 is currently in the environmental phase, which is scheduled to be completed in 2015. The construction phase of the design build contract is expected to begin in April 2016.



LEGEND
 Mainline Improvements



FUTURE FREEWAY PROJECTS

Beyond the M2020 Plan, Measure M2 includes freeway projects that are scheduled to be completed by 2040, as well as the ongoing countywide Freeway Service Patrol program. The total estimated cost is \$2.6 billion in YOE dollars. An overview of these freeway projects is provided below. Detailed project fact sheets are provided on the following pages. Project delivery schedules are estimated based on OCTA funding availability.

Project	Project Summary	Cost (\$M)**
B	I-5 Widening (SR-55 to I-405)	447.7
D	I-5 at El Toro Road Interchange Improvements	65.1
F	SR-55 Widening (I-5 to SR-91)	127.3
G	SR-57 NB Widening (Orangewood Avenue to Katella Avenue)	25.5
G	SR-57 NB Widening (Lambert Road to County Line)	74.6
I	SR-91 Widening (SR-57 to SR-55)	303.1
J	SR-91 Widening (SR-241 to I-15)	124.0**
L	I-405 Widening (SR-55 to I-5)	175.8
M	I-605/Katella Ave Interchange Improvements	13.3
N	Freeway Service Patrol	157.5

* - Reserve Funding for Ultimate Improvements

** - Future project costs do not include environmental phase. Future Project Environmental phase costs are covered in the M2020 Freeway project listing.

Figure 2-2 – Summary of Future Freeway Projects



Project B

Project Cost Estimate:

Capital Cost	\$ 295,043,000
R/W Cost	\$ 22,125,000
Support Cost	\$ 76,619,000
Management & Contingency	\$ 53,907,000
Total Project Cost	\$ 447,692,000

Project Schedule:

Preliminary Engineering	2011
Environmental	30 months
Design	24 months
Construction	36 months

Project Description

The project will increase Interstate 5 (I-5) freeway capacity and reduce congestion by constructing new northbound and southbound general purpose lanes and improving key interchanges in the area between State Route 55 (SR-55) and State Route 133 (SR-133) (near the El Toro "Y"). This segment of I-5 is the major route serving activity areas in the cities of Irvine, Tustin, Santa Ana and north Orange County. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

The current traffic volume on this segment of I-5 is about 356,000 vehicles per day and is expected to increase by nearly 24 percent, bringing it up to 440,000 vehicles per day.

Key Considerations

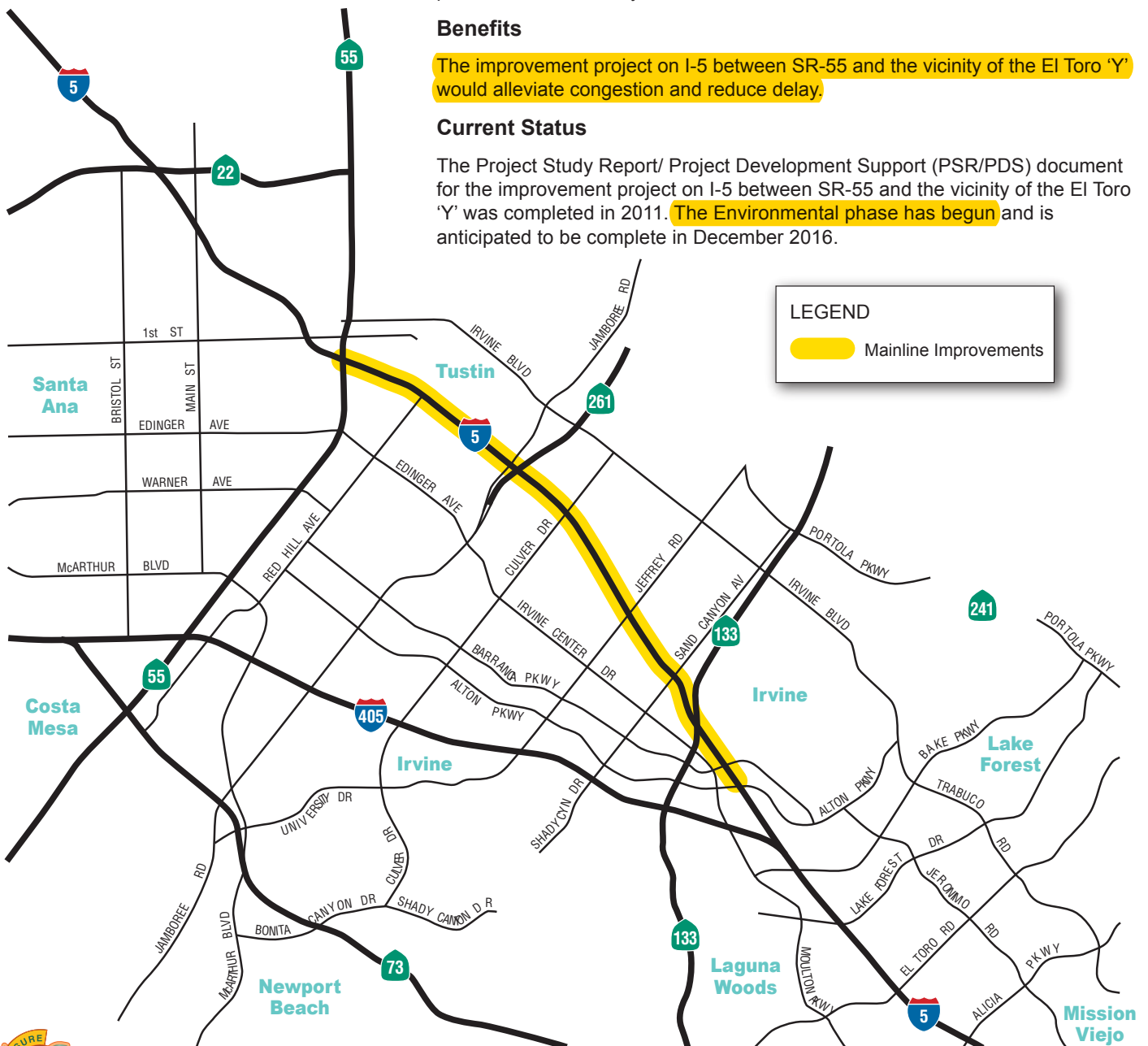
The I-5 mainline improvement project will require right of way acquisition adjacent to Interstate 5 that will include temporary construction easements for the construction of bridges, retaining walls, and soundwalls. Additionally the profile of Alton Parkway would be modified.

Benefits

The improvement project on I-5 between SR-55 and the vicinity of the El Toro 'Y' would alleviate congestion and reduce delay.

Current Status

The Project Study Report/ Project Development Support (PSR/PDS) document for the improvement project on I-5 between SR-55 and the vicinity of the El Toro 'Y' was completed in 2011. The Environmental phase has begun and is anticipated to be complete in December 2016.



I-5 at El Toro Road Interchange Improvements

Project D

Project Cost Estimate:

Capital Cost	\$ 40,000,000
R/W Cost	\$ 5,000,000
Support Cost	\$ 12,222,000
Management & Contingency	\$ 7,861,000
Total Project Cost	\$ 65,083,000

Project Schedule:

Preliminary Engineering	2014
Environmental	30 months
Design	24 months
Construction	36 months

Project Description

The project proposes improvements at the El Toro Road interchange with Interstate 5 (I-5) in south Orange County. Improvements at the interchange include modifying entrance and exit ramps, and modifying or replacing existing bridge structures.

Key Considerations

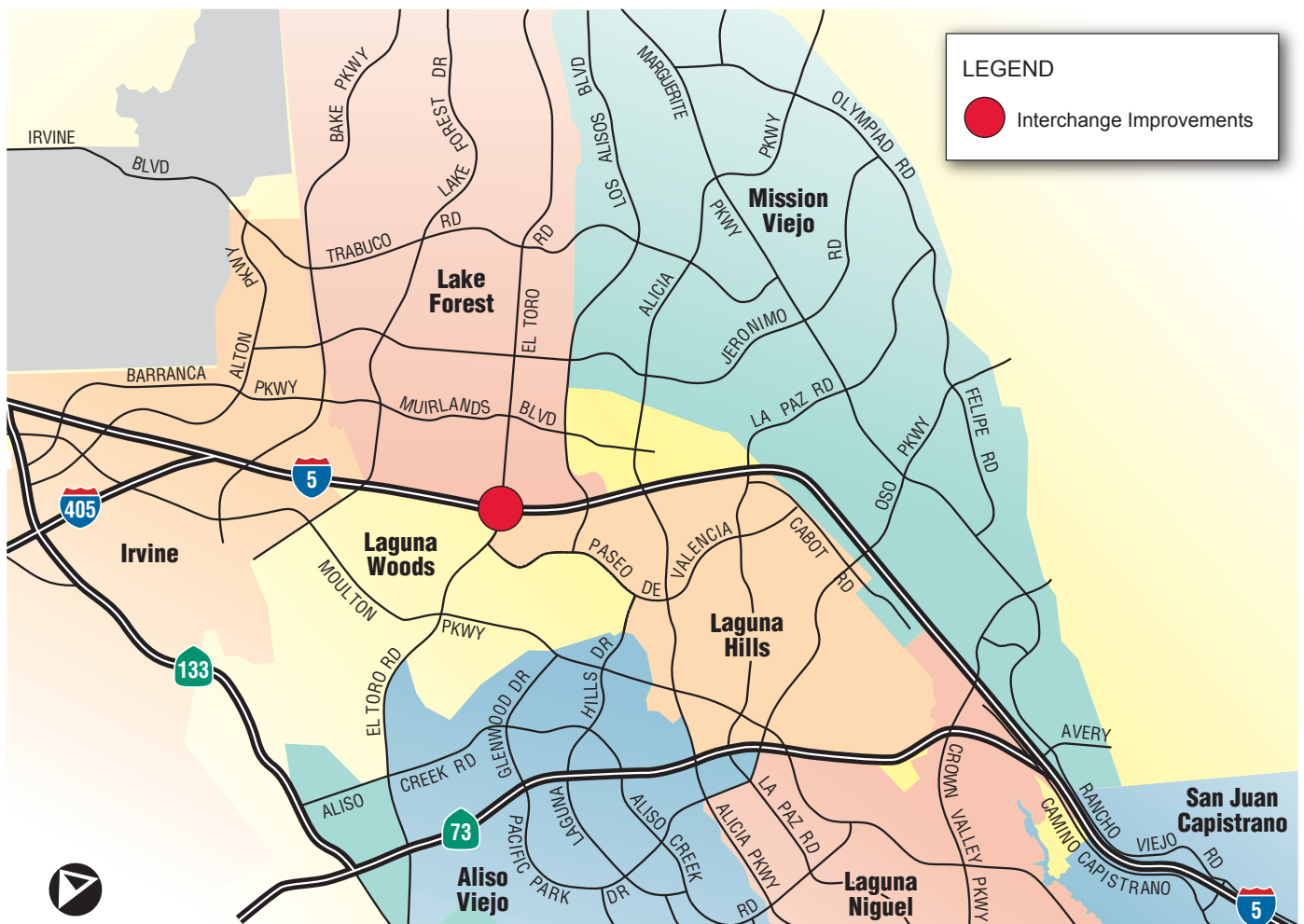
Depending on selection of the preferred alternative, the I-5/El Toro interchange improvement project could require a substantial amount of right of way acquisition.

Benefits

The interchange improvement project at I-5/El Toro Road will reduce chokepoints and accommodate forecast traffic demands on the local roads. Modification of the entrance and exit ramps will alleviate congestion at adjacent intersections.

Current Status

The interchange improvement project at I-5/El Toro Road is currently in the PSR/PDS phase, and is expected to be completed in October, 2015.



Project F

Project Cost Estimate:

Capital Cost	\$ 81,913,000
R/W Cost	\$ 6,575,000
Support Cost	\$ 23,447,000
Management & Contingency	\$ 15,365,000
Total Project Cost Cost	\$ 127,311,000

Project Schedule:

Preliminary Engineering	2014
Environmental	30 months
Design	24 months
Construction	36 months

Project Description

Add new lanes to State Route 55 (SR-55) between Interstate 5 (I-5) and State Route 22 (SR-22), including merging lanes between interchanges to smooth traffic flow. Operational improvements between SR-22 and SR-91 will also be evaluated. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and also affected communities.

Key Considerations

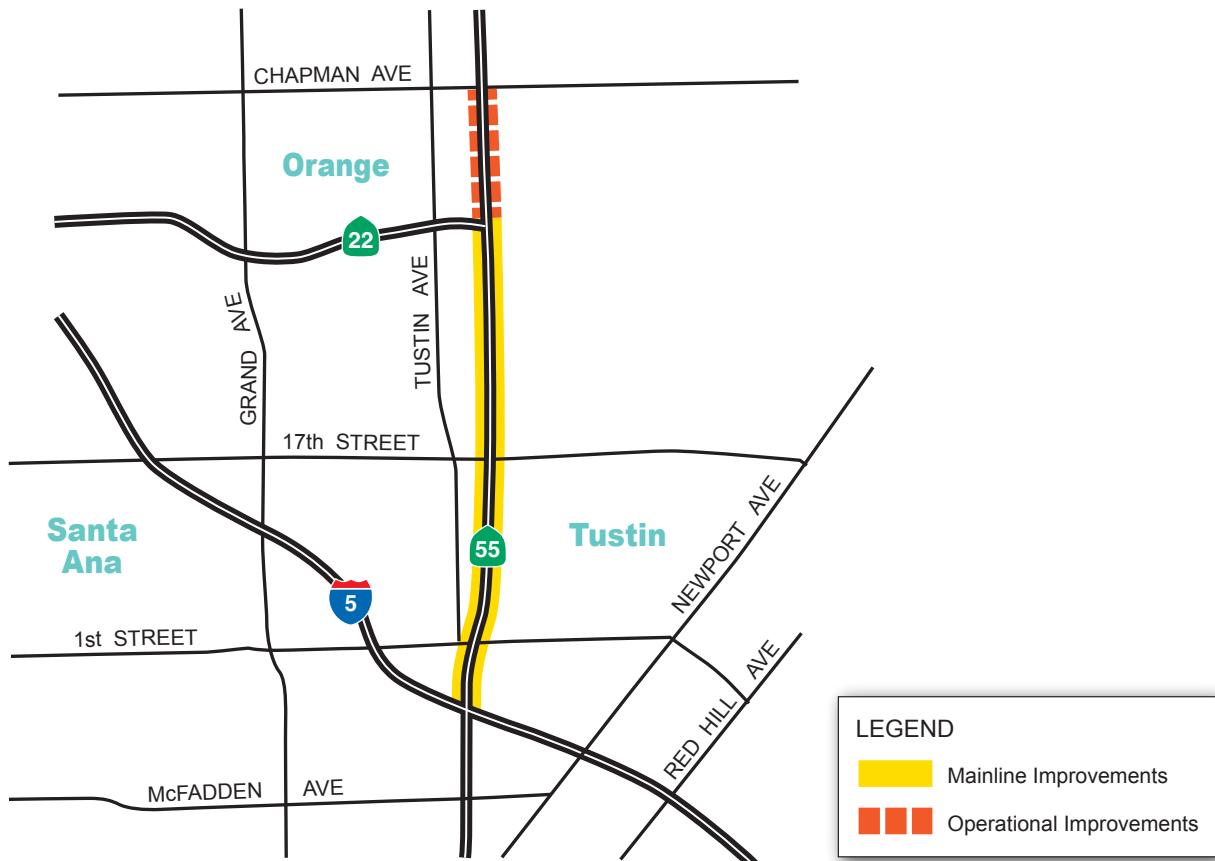
The project improvements are compatible with the proposed Meats Avenue interchange project. Due to right of way constraints, improvements between the I-5 and Chapman Avenue were limited to operational improvements in order to meet the project Need and Purpose.

Benefits

This project improves mobility and reduces congestion by providing an improved level of operation for existing and forecasted traffic volumes; especially for weaving and lane efficiency at ramp junctions.

Current Status

A feasibility study for improvements on SR-55 from I-5 to SR-91 was completed in June 2010. The PSR/PDS document is underway and the environmental phase is expected to begin February of 2015.



SR-57 Widening (Orangewood Avenue to Katella Avenue)

Project G

Project Cost Estimate:

Capital Cost	\$ 17,000,000
R/W Cost	\$ 750,000
Support Cost	\$ 4,631,000
Management & Contingency	\$ 3,071,000
Total Project Cost	\$25,501,000

Project Schedule:

Preliminary Engineering	2014
Environmental Design	30 months
Design	24 months
Construction	24 months

Project Description

The improvements along State Route 57 (SR-57) primarily consist of adding one general purpose lane in the northbound (NB) direction from Orangewood Avenue in the City of Orange to Katella Avenue in the City of Anaheim. The project will maintain the existing auxiliary lane between Orangewood Avenue and Katella Avenue. Specific improvements will be subject to approved plans developed in coordination with local jurisdictions and affected communities.

Key Considerations

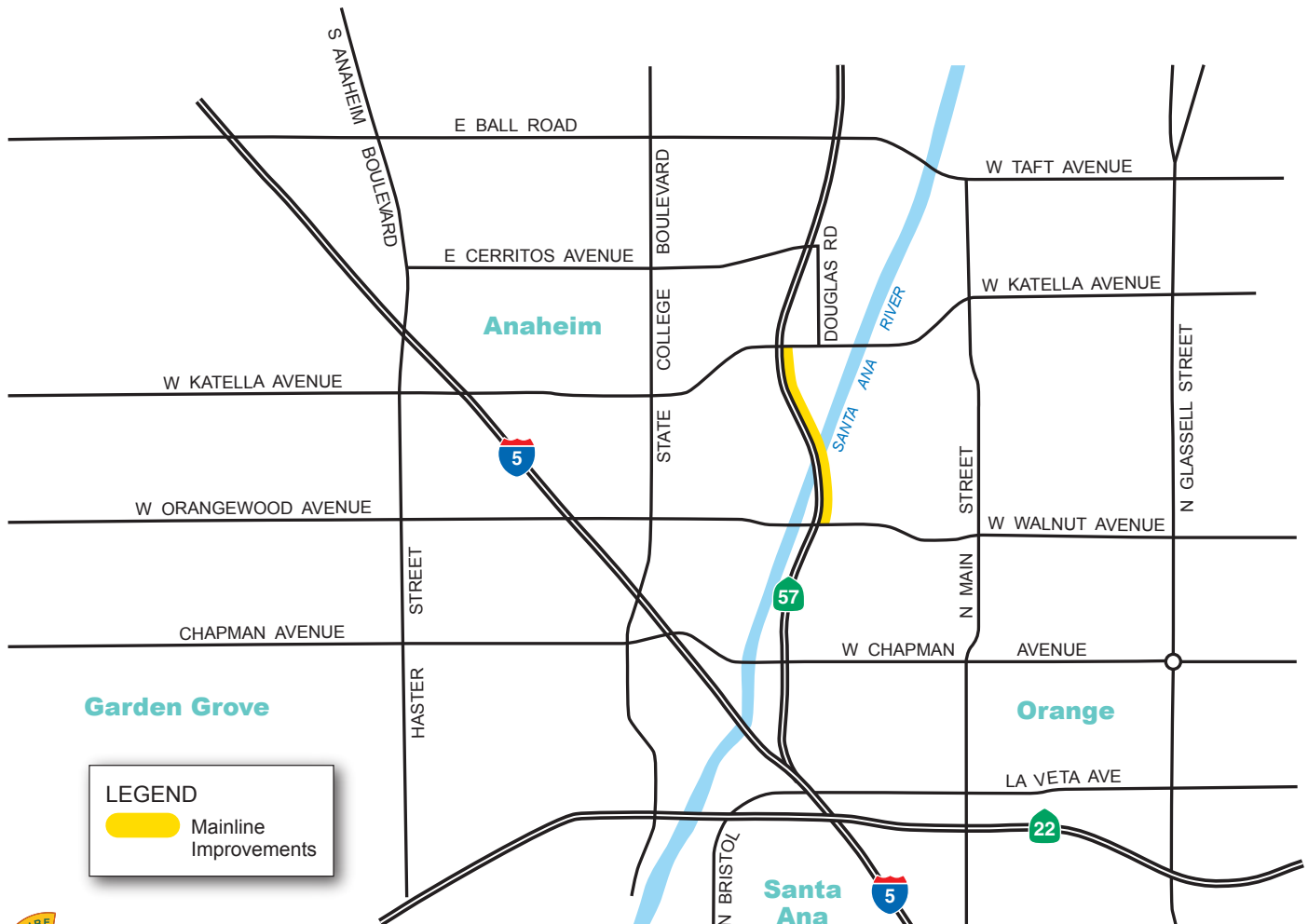
Project improvements on SR-57 from Orangewood Avenue to Katella Avenue may require limited right of way acquisition that includes partial parcel acquisitions and temporary construction easements for the construction of proposed retaining walls and widened bridge structures. Railroad involvement will be required; a Construction & Maintenance Agreement will be needed for one overhead bridge structure.

Benefits

On SR-57, from Orangewood Avenue to Katella Avenue, improvements will improve existing and future mobility, reduce congestion, improve mainline weaving, merge and diverge movements, which will improve both traffic operations and safety.

Current Status

A PSR/PDS is underway and the environmental phase of the project is expected to begin in mid 2015.



SR-57 Widening (Lambert Road to County Line)

Project G

Project Cost Estimate:

Capital Cost	\$ 48,760,000
R/W Cost	\$ 954
Support Cost	\$ 14,934,000
Management & Contingency	\$ 9,961,000
Total Project Cost	\$ 74,608,000

Project Schedule:

Preliminary Engineering	Completed
Environmental	36 months
Design	24 months
Construction	36 months

Project Description

The improvements along State Route 57 (SR-57) from Lambert Road to one-half mile north of the Los Angeles County line include the addition of a northbound truck climbing lane.

Key Considerations

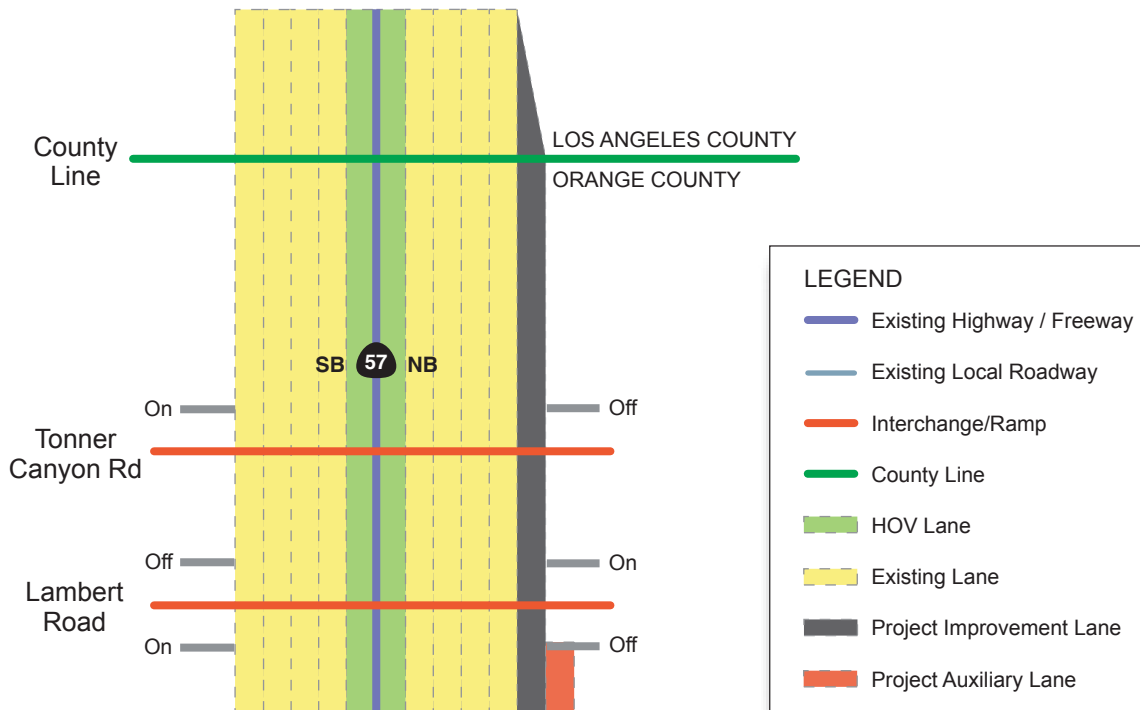
The segment of the project from Lambert Road to the County Line will require improvements in areas with both environmental and geotechnical challenges. This project will include coordination with Caltrans District 7 and Los Angeles County Metro.

Benefits

On SR-57 from Lambert Road to the County Line project improvements will increase truck traffic travel speed and throughput in the northbound direction. The project will also substantially improve future mobility and reduce congestion, which will improve both traffic operations and safety. In conjunction with the SR-57 northbound improvements from Orangethorpe Avenue to Lambert Road, a 40% reduction in total delay could be achieved through the SR-57 northbound corridor.

Current Status

A Project Study Report was approved in 2001, which completed the PSR/PDS phase. In 2011 Caltrans created a cost estimate for the PSR supplement. The environmental phase is expected to begin in mid 2016.



SR-91 Widening (SR-57 to SR-55)

Project I

Project Cost Estimate:

Capital Cost	\$ 174,965,000
R/W Cost	\$ 38,750,000
Support Cost	\$ 52,920,000
Management & Contingency	\$ 36,527,000
Total Project Cost	\$ 303,146,000

Project Schedule:

Preliminary Engineering	2013
Environmental	30 months
Design	24 months
Construction	36 months

Project Description

Improve State Route 91 (SR-91) with the addition of freeway capacity between SR-55 and SR-57. The proposed capacity improvement on SR-91 between SR-57 and SR-55 includes adding one (1) general purpose lane in the each direction. Improvements for the SR-91 / SR-55 interchange will also be evaluated. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

Current freeway volumes on this segment of the SR-91 is about 245,000 vehicles per day. This vehicular demand is expected to increase by 22 percent, bringing it up to 300,000 vehicles per day in the future.

Key Considerations

The proposed project improvements need to be closely coordinated if phased delivery of the project is executed.

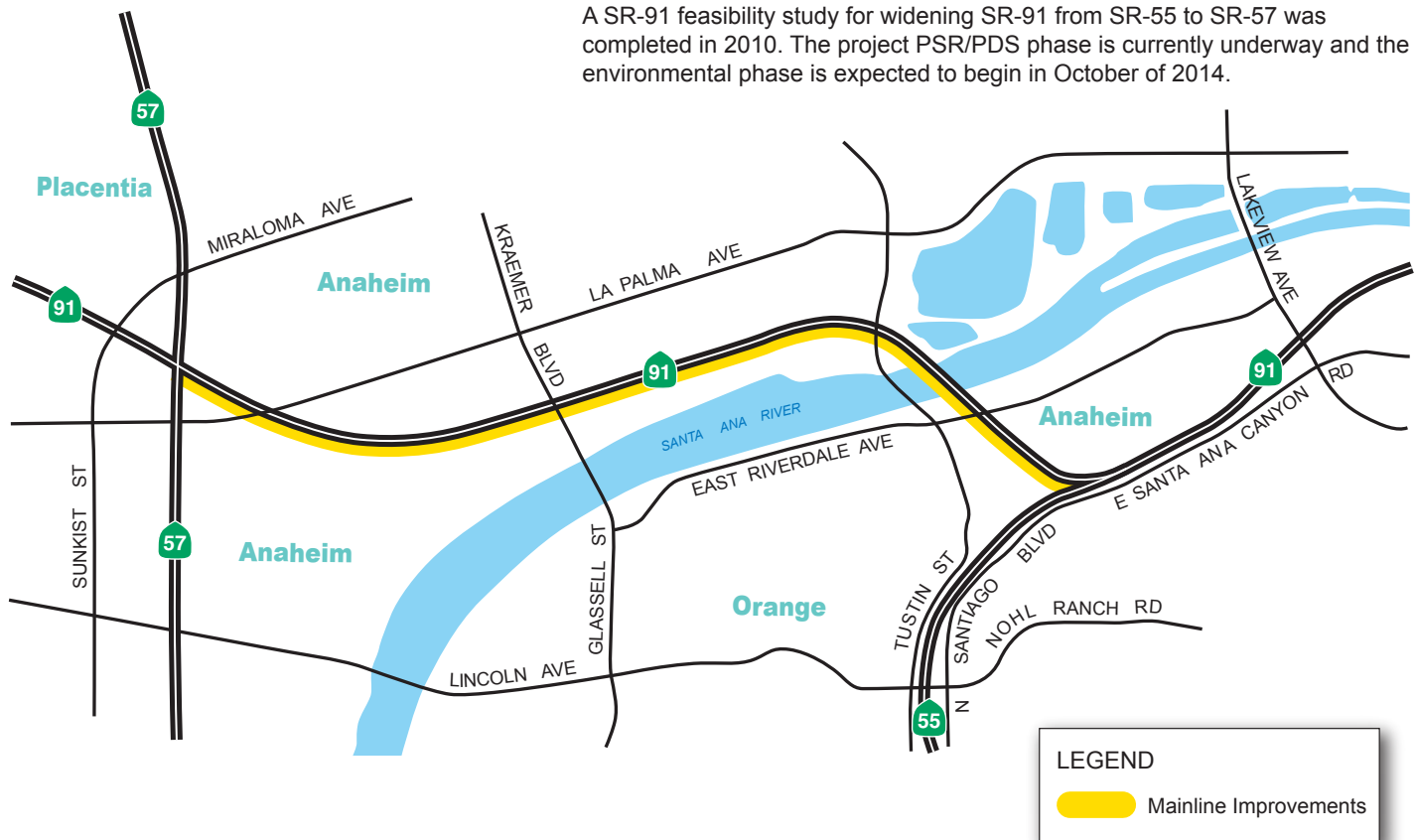
The definition of the SR-91/SR-55 interchange improvements requires further study, including an evaluation of right of way impacts. Implementation of the interchange improvements may be considered for later phasing than the freeway widening between SR-55 and SR-57. Also, these proposed improvements need to be coordinated with SR-91 widening improvements delivered as part of Project I and Project J. The project improvements will require substantial right of way acquisition.

Benefits

The project improvement will alleviate congestion and reduce delay. The SR-91/SR-55 interchange improvements are expected to provide congestion relief for westbound SR-91 traffic and improve the connection from westbound SR-91 to southbound SR-55.

Current Status

A SR-91 feasibility study for widening SR-91 from SR-55 to SR-57 was completed in 2010. The project PSR/PDS phase is currently underway and the environmental phase is expected to begin in October of 2014.



Project J

Project Cost Estimate Initial Phase:

Funded by RCTC

Project Cost Estimate

Ultimate Phase:

Capital Cost	\$ 87,787,000
R/W Cost	\$ 5,758,000
Support Cost	\$ 15,215,000
Management & Contingency	\$ 15,215,000
Total Project Cost	\$ 124,000,000*

* M2 reserve funds for Orange County improvements

Project Schedule for Initial Phase:

Preliminary Engineering	Completed
Environmental	Completed
Design - Build	2017

Project Schedule for Ultimate Phase:

TBD

Project Description

The Riverside County Transportation Commission (RCTC) is leading the two-phase (initial & ultimate) delivery of this project, which adds capacity on State Route 91 (SR-91) beginning at State Route 241 (SR-241) and extending to Interstate 15 (I-15) in Riverside County, which would provide a continuous set of improvements between SR-241 and I-15. Scheduled for completion by 2017, the initial phase of the project is being funded by RCTC and will provide (1) eastbound express lane and (1) westbound express lane between SR-241 and the Riverside County line. The ultimate project will provide (1) additional eastbound lane and (1) additional westbound general purpose lane of capacity between SR-241 and the Riverside County line. However, the Orange County improvements are contingent upon RCTC's delivery of the complementary improvements within Riverside County. The M2 funding currently assigned to Project J are reserve funds dedicated to the delivery of the ultimate phase SR-91 improvements within Orange County and are subject to change pending further project definition and development. A schedule for delivery of the ultimate improvements has not yet been established. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities. Today, this freeway carries about 314,000 vehicles every day. This volume is expected to increase by 36 percent, bringing it up to 426,000 vehicles by 2030.

Key Considerations

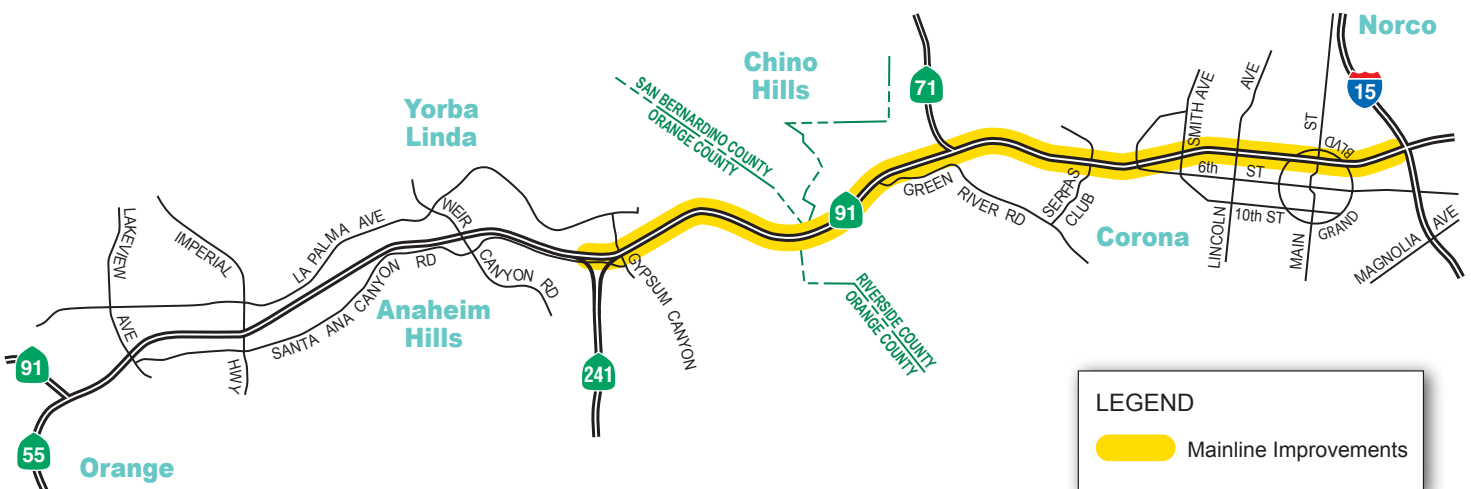
This improvement project will have to be coordinated with three other major improvement projects on SR-91: 1) Project J widened SR-91 from SR-241 to SR-71, and 2) the SR-241/SR-91 High Occupancy Vehicle/High Occupancy Toll (HOV/HOT) direct connectors.

Benefits

The proposed project improvements on EB and WB SR-91 between SR-241 and I-15 are expected to reduce congestion and improve the safety and operational efficiency of the facility by increasing the carrying capacity of the facility and by reducing the existing chokepoints within the project limits.

Current Status

The environmental phase of the SR-91 project has been completed, and the initial phase (RCTC) will be delivered as a design build contract. Construction of the project is expected to be complete in 2017. The schedule for the ultimate project is anticipated after 2035.



Project L

Project Cost Estimate:

Capital Cost	\$ 124,400,000
R/W Cost	\$ 620,000
Support Cost	\$ 9,631,000
Management & Contingency	\$ 21,159,000
Total Project Cost	\$ 175,790,000

Project Schedule:

Preliminary Engineering	2014
Environmental	30 months
Design	24 months
Construction	36 months

Project Description

Add new lanes to Interstate 405 (I-405) from State Route 55 (SR-55) to the vicinity of Interstate 5 (I-5) to alleviate congestion and reduce delay. The project could also improve chokepoints at interchanges and add merging lanes near on/off ramps such as Lake Forest Drive, Irvine Center Drive and State Route 133 (SR-133) to improve the overall freeway operations in the Interstate 405 (I-405)/I-5 El Toro "Y" area. The project will generally be constructed within the existing right of way. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities.

This segment of the freeway carries 354,000 vehicles a day. This number will increase by nearly 13 percent, bringing it up to 401,000 vehicles per day by 2030. The project will increase freeway capacity and reduce congestion.

Key Considerations

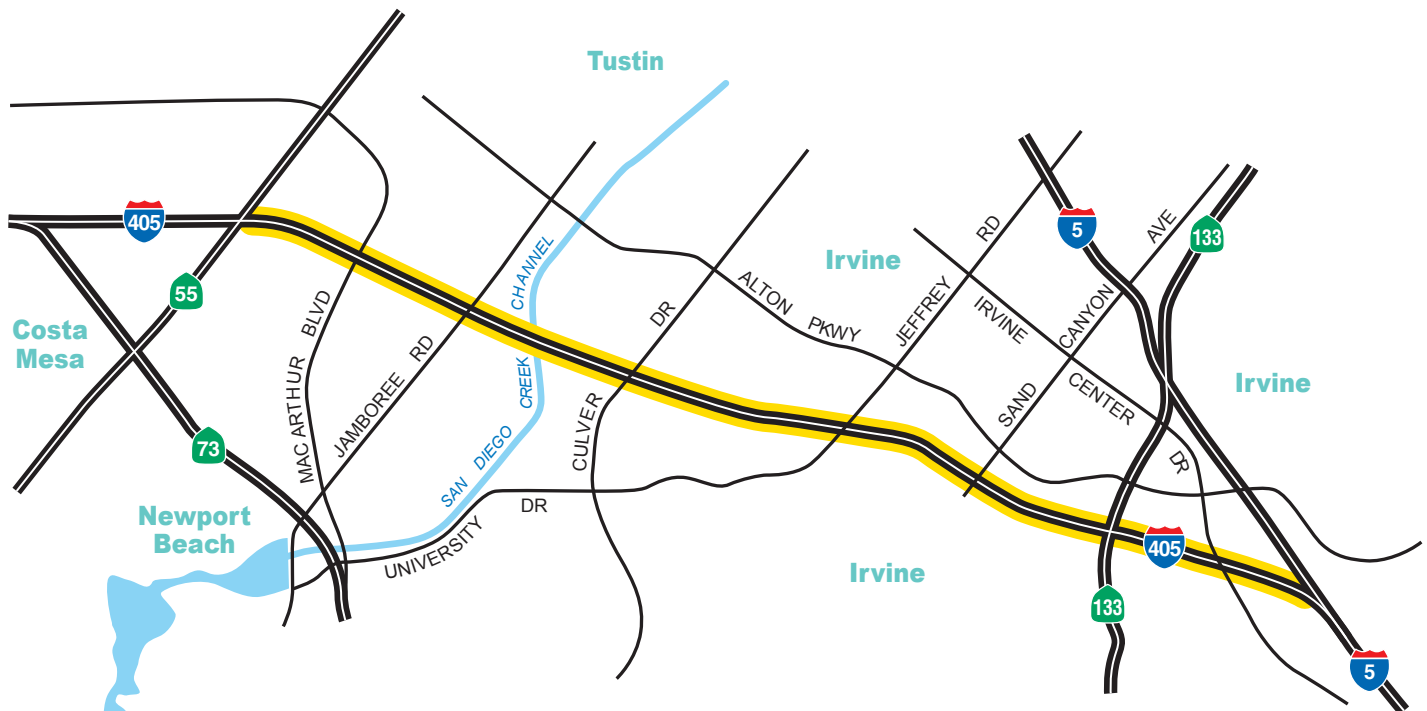
The I-405 mainline improvement project will have to be closely coordinated with local interchange improvement projects that are currently in the preliminary engineering or environmental phases of project development. Local interchange improvement projects are being developed by Caltrans and the City of Irvine at Culver Drive, Jeffrey Road, Jamboree Road, and Sand Canyon Avenue. The project should also be coordinated with Project B and Project C to ensure that lane balancing issues are addressed.

Benefits

The improvement project on I-405 between SR-55 and El Toro 'Y' would help alleviate congestion and reduce delay.

Current Status

The environmental phase of the project is expected to begin in November of 2014.



I-605 at Katella Avenue Interchange Improvements

Project M

Project Cost Estimate:

Capital Cost	\$ 8,750,000
R/W Cost	\$ 400,000
Support Cost	\$ 2,478,000
Management & Contingency	\$ 1,597,000
Total Project Cost	\$ 13,300,000

Project Schedule:

Preliminary Engineering	2014
Environmental	24 months
Design	24 months
Construction	24 months

Project Description

Improve freeway access and arterial connection to Interstate 605 (I-605) at Katella Avenue, which serves the communities of Los Alamitos and Cypress. The project will be coordinated with other planned improvements along State Route 22 (SR-22) and Interstate 405 (I-405). Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities. Regional plans also include the addition of new freeway-to-freeway HOV connectors to the I-405/I-605 interchange using federal and state funds. This improvement will connect to interchange improvements at I-405 and SR-22, as well as new freeway lanes between I-405 and I-605. Operational improvements have been identified on the I-605 and Katella in order to increase the efficiency and safety of the interchange.

Key Considerations

The project improvements require multi agency coordination and R/W acquisition. Improvements were also carefully planned to provide the most operational benefit while keeping within the OCTA budget. There is emphasis on a provision of improvements to accommodate pedestrian and bicycles.

Benefits

The purpose of the I-605/Katella Avenue interchange improvements is to reduce both freeway and arterial congestion, traffic queuing, and delay within the interchange area.

Current Status

The PSR/PDS phase for this project is underway and the environmental phase is expected to begin in February of 2016.



Project N
Anticipated Completion: 2014-2041
Project Cost
Estimate (2014-2020): \$ 35,700,000
Estimate (2021-2040): \$ 157,500,000

Project Description

Currently Freeway Service Patrol (FSP) is available on Orange County freeways Monday through Friday during peak commuting hours. This project assures that this basic level of service will be continued through 2041. As demand and congestion levels increase, this project would also permit service hours to be extended throughout the day and into the weekend.

Benefits

The Freeway Service Patrol provides competitively bid, privately contracted tow truck service for motorists with disabled vehicles on the freeway system. This service helps stranded motorists and quickly clears disabled vehicles out of the freeway lanes to minimize congestion caused by vehicles blocking traffic and passing motorists rubbernecking.



LEGEND
 FSP Limits



SECTION 3: _____ REFERENCES

The following documents and resources were used in the development of the Measure M2 Freeway Plan. Data was provided by OCTA, RCTC, Caltrans District 12, Caltrans District 8 and other agencies.

PROJECT A: I-5 Widening between SR-55 and SR-57

1. Project Study Report/Project Development Support “Add second HOV lane on I-5 between SR-55 and SR-57”, November 2010
2. Project Study Report “On Interstate 5 between Fourth Street and Newport Avenue, On State Route 55 between Fourth Street and Edinger Avenue”, October 2005
3. Project Report and Environmental Document ““Add second HOV lane on I-5 between SR-55 and SR-57”, October 2013

PROJECT B: I-5 Widening between SR-55 and I-405

4. Project Study Report/Project Development Support (Working Draft) “I-5 Widening between I-405 and SR-55”, December, 2011

PROJECT C: I-5 Widening between South County Line and I-405

5. Project Report “Extend I-5 HOV lane between 0.1 mile south of Avenida Pico UC and 0.1 mile south of San Juan Creek Rd UC, reconstruct La Paz and Avery Parkway interchanges”, December 2013

PROJECT D: I-5 South County Interchange Improvements

6. Allotment Plus Landscaping Costs. City of San Juan Capistrano at Ortega Highway (SR-74) Interchange”, March 2013
7. Project Study Report/Project Development Support “I-5/El Toro Interchange Improvements”, July 2014

PROJECT F: SR-55 Widening between I-405 and I-5

8. Project Study Report/Project Development Support “On State Route 55 between Interstate 405 and Interstate 5”, April 2008

PROJECT G: SR-57 Northbound Widening between I-5 and County Line

9. Construction Contract “Northbound Widening On State Route 57 between 0.5-km South of Katella Avenue and 0.5-km North of Lincoln Avenue”, March 2014
10. Construction Contract “SR-57 Northbound Widening between Orangethorpe Avenue and Yorba Linda Boulevard”, March 2014
11. Construction Contract “SR-57 Northbound Widening between Yorba Linda Boulevard and Lambert Road”, March 2014
12. Project Study Report “SR-57 Northbound Climbing Lane Widening between Lambert Road Undercrossing and 1 km North of Orange County/Los Angeles County Line”, September 2001



PROJECT H: SR-91 Westbound Widening between I-5 and SR-57

13. Construction Contract “SR-91 Westbound Widening between I-5 and SR-57”, March 2013

PROJECT I: SR-91 Widening between SR-55 and SR-57

14. Project Study Report/Project Development Support (Working Draft) “SR-91 Widening between SR-55 and SR-57”, December 2011
15. Project Report “On Westbound State Route 91 Auxiliary Lane from NB SR-55/WB SR-91 Connector to the Tustin Avenue Interchange”, May 2011
16. State Route 91 Implementation Plan, June 2013

PROJECT J: SR-91 Widening between SR-55 and Orange/Riverside County Line

17. PS&E & Construction Contract “On Eastbound SR-91 between SR-241 in Orange County and SR-71 in Riverside County”, July 2011
18. Project Report “On State Route 91 between SR-55 and SR-241”, July 2011
19. Draft Project Report (Working Draft) “SR-91 Corridor Improvement Project”, September 2008
20. State Route 91 Implementation Plan, June 2013

PROJECT K: I-405 Widening between SR-55 and I-605

21. Draft Project Report “On Interstate 405 between State Route 73 and Interstate 605”, May 2012.

MISCELLANEOUS

22. Orange County Transportation Authority M2020, September 2012
23. OCTA Project Status Reports (CAP), March 2013





A Baker Company

14725 Alton Parkway
Irvine, CA 92618-2027
949.472.3505
fax 949.472.8373

www.RBF.com
www.mbakertntl.com

139591 • 20361 MAS

