File #: 2017-0097, **File Type:** Informational Report **Agenda Number:** 29

REVISED
AD-HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE
MAY 17, 2017

SUBJECT: SR 710 NORTH PROJECT UPDATE

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE **status update on the State Route 710 (SR 710) North Project environmental process** including explanation of the performance measures/scoring and methodology used to compare and contrast various alternatives studied in the environmental process leading to recommendation of the Preferred Alternative.

ISSUE

The current SR 710 environmental process started in 2011 to address the significant traffic congestion and the resulting community impacts along the missing segment of the 710 freeway between I-10 and I-210. The Study Area, as depicted in Attachment A of this report, extended more than 100 square miles and encompassed east/northeast Los Angeles and western San Gabriel Valley. This study was continuation of prior efforts dating back to the 1970s.

After comparing and weighing the benefits and impacts of a range of multi-modal alternatives, reviewing the comments received during the public circulation of the State Route 710 North Draft Environmental Impact Report/ Environmental Impact Statement (SR 710 North Draft EIR/EIS), and completing the performance evaluation for each of the alternatives (Attachment B), the technical studies completed over the past few years clearly capture the mobility benefits included in the Single Bore Freeway Tunnel (SBFT), with tolls and truck restrictions (no heavy trucks over 33,000 **lbs** ~~**tons**~~) . This alternative reduces regional and local congestion associated with north-south travel demand within the study area, and delivers the best transportation performance and benefits with the least environmental impacts.

Caltrans is the lead agency responsible for compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Under CEQA, Caltrans will certify that the SR 710 North Project complies with the requirements of CEQA, prepare Facts and Findings, and if necessary, prepare a Statement of Overriding Considerations (SOC) for impacts that cannot be

mitigated below a level of significance; and certify that the Findings and SOC have been considered prior to project approval. Caltrans will then file a CEQA Notice of Determination (NOD) with the State Clearinghouse that will identify whether the SR 710 North Project will have significant impacts, if mitigation measures were included as conditions of project approval, Findings were made, and an SOC was adopted.

Under NEPA assignment, Caltrans, as lead agency, will document and explain its decision regarding the selected Preferred Alternative, the project impacts, and mitigation measures in a Record of Decision (ROD).

BACKGROUND

In 2008, upon passage of Measure R, funds in the amount of $780,000,000 were earmarked for the SR 710 North project.

In 2011, Metro, in partnership with Caltrans, initiated project scoping, a robust public outreach program, alternative analyses and other technical work leading to the preparation of the SR 710 North environmental document.

In 2012, five alternatives were advanced to the Draft EIR/EIS for further study - (1) No Build, (2) Transportation System Management/Transportation Demand Management (TSM/TDM) operational improvements, (3) Bus Rapid Transit (BRT), (4) Light Rail Transit (LRT), and (5) a Freeway Tunnel with design and operational variations.

Also in 2012, two advisory committees, the SR 710 North Technical Advisory Committee and the SR 710 North Stakeholder Outreach Advisory Committee, were established to ensure stakeholder input on a wide range of planning and technical issues during the development of the environmental document. The SR 710 North Advisory Committee members represented technical staff and elected officials from local agencies within the study area.

On March 6, 2015, Caltrans approved the release and circulation of the Draft EIR/EIS for public comments. Five public hearings were convened.

In June 2015, an analysis of cost and benefits (CBA) for the SR 710 North study alternatives was made available to the public.

Approximately, 8000 comments including written comments, formal letters, emails, speaker/comment cards, verbal testimonies, and online submittals were received on the Draft EIR/EIS by Caltrans prior to the close of the public comment period on August 5, 2015. Of the public comments received, 1328 comments supported and 237 comments opposed the freeway tunnel alternative. All comments received during the public comment period will be addressed in the SR 710 North Final EIR/EIS.

More than 300 meetings and/or briefings with community groups/organizations, members of the public and elected officials (state and federal representatives) have been held since the initiation of the SR 710 North Study.

The following summarizes the SBFT design and key features.

Single Bore Freeway Tunnel

As described in the SBFT fact sheet (Attachment C), the freeway tunnel connects the existing southern stub of State Route 710 in Alhambra to the existing northern stub of Route 710 in Pasadena. The tunnel design consists of a single two-level bored tunnel with two lanes on each level - one in each direction - for a total of four travel lanes. The tunnel will have an inside diameter of 53.5 feet (and outside diameter of 58.5 feet) and will be from 40 feet to 250 feet below the surface. While the majority of the tunnel is expected to be constructed using a tunnel boring machine (TBM), the end segments of the tunnel are expected to be constructed using the cut-and-cover construction method. Ventilation structures will be constructed at both ends of the tunnel. There will be no intermediate interchanges or ventilation structures along the tunnel alignment. The preliminary construction cost estimate is $3.15 billion (in 2014 dollars) of which approximately $50 million is earmarked for TSM/TDM improvements related to the freeway tunnel alternative.

In general, the SBFT design reflects state-of-the-art tunnel systems and incorporates the latest ground control and monitoring techniques (used in conjunction with the TBMs) to minimize the potential for settlement and vibration. Innovative traffic and traveler information systems are proposed for the SBFT to protect and inform motorists and enhance the driving experience. Incident response teams will be stationed at both ends of the tunnel in the Operations and Maintenance Center to respond immediately in the event of an incident in the tunnel.

The TSM/TDM component of the freeway alternative consists of strategies and improvements that increase the efficiency and capacity of the existing transportation system. As described in TSM/TDM fact sheet (Attachment D), the TSM strategies include Intelligent Transportation Systems (ITS) improvements, local street and intersection improvements, and active traffic management. The TDM strategies include new and expanded bus service, bus service improvements and active transportation improvements. Two TSM projects (e.g. Valley Boulevard to Mission Road Connector and the extension of St. John Avenue between Del Mar Boulevard and California Boulevard) with potential conflict with major future investments in this corridor were excluded from the list of improvements in Attachment D.

The following summarizes the results of the performance evaluation that was conducted for the No Build, TSM/TDM, BRT, LRT and Freeway Tunnel Alternatives. It is worth noting the Freeway Tunnel Alternative that was studied consisted of two design variations and six operational variations (three

for each design) as shown in the table below.

Single Bore	Dual Bore
Tolls (no vehicular restrictions)	
Tolls and Truck Restriction (no heavy trucks over 33,000 **lbs** ~~ons~~)	No Tolls and no vehicular restrictions
Tolls and Express Bus Service (no vehicular restrictions)	No Tolls and Truck Restriction (no heavy trucks over 33,000 **lbs** ~~tons~~)

*Vehicles carrying flammable or hazardous materials will be prohibited in the tunnel for all scenarios.

State Route 710 North Project Performance Evaluation Summary of Results

As shown in Attachment B, performance evaluation factors were established, in consultation with the SR 710 North advisory committees, to evaluate how well each alternative addresses the Project Purpose and Need. A scale from 1 to 10 was used to compare the alternatives with respect to the performance evaluation factors between the alternatives.

Performance evaluation results indicated that both tunnel alternatives:

- Showed above average performance compared to the other alternatives that reported below average performances when transportation objectives (e.g. minimize travel time; improve connectivity and mobility; and reduce congestion on local street system) and the corresponding performance measures were evaluated.
- Provided substantial benefits in terms of reducing congestion, particularly on local streets compared to the transit alternatives, which showed negligible operational improvements on the overall transportation network (freeway and local/arterial roadways).
- Showed considerable increase in transit ridership. The transit alternatives provided a better performance related to the increased transit ridership objective when compared to the other alternatives, with minimal benefits reported for the overall transportation network.
- Demonstrated positive effect on minimizing environmental (human and natural) impacts by avoidance, or practical and feasible mitigation measures to off-set impacts.
- Showed considerable advantage over the other alternatives when evaluating the remaining non-transportation related objectives (e.g. minimizing right of way impacts and maximizing cost efficiency of public investments).

FINANCIAL IMPACT

This is a status update report and required no action by the Board and, therefore, will have no financial impacts.

NEXT STEPS

With the SR 710 North Project environmental process nearing completion, emphasis will be placed on addressing all comments received during the public review process and completing the Final EIR/EIS in accordance with NEPA and CEQA guidelines and mandates. It is anticipated the Final EIR/EIS will be signed by the first quarter of 2018 and that Caltrans will certify the project by filing the NOD and ROD. This will conclude the environmental phase of the SR 710 North Project.

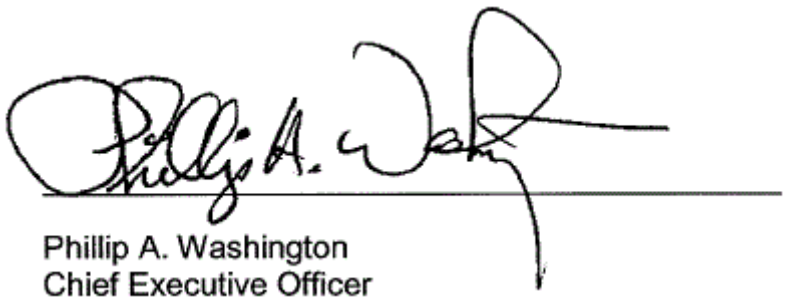
Staff will report back to the Metro Board of Directors in November/December 2017.

ATTACHMENTS

ATTACHMENT A - State Route 710 North Project Study Area
ATTACHMENT B - State Route 710 North Project Performance Evaluation Matrix
ATTACHMENT C - State Route 710 North Single Bore Freeway Tunnel Fact Sheet
ATTACHMENT D - State Route 710 North Transportation System Management/Transportation Demand Management (TSM/TDM) Alternative Fact Sheet

Prepared by: Michelle Smith, Sr. Director, (213) 922-3057
Abdollah Ansari, Sr. Executive Officer, (213) 922-4781
Bryan Pennington, Deputy Chief Program Management Officer, (213) 922-7449

Reviewed by: Richard F. Clarke, Chief Program Management Officer, (213) 922-7557

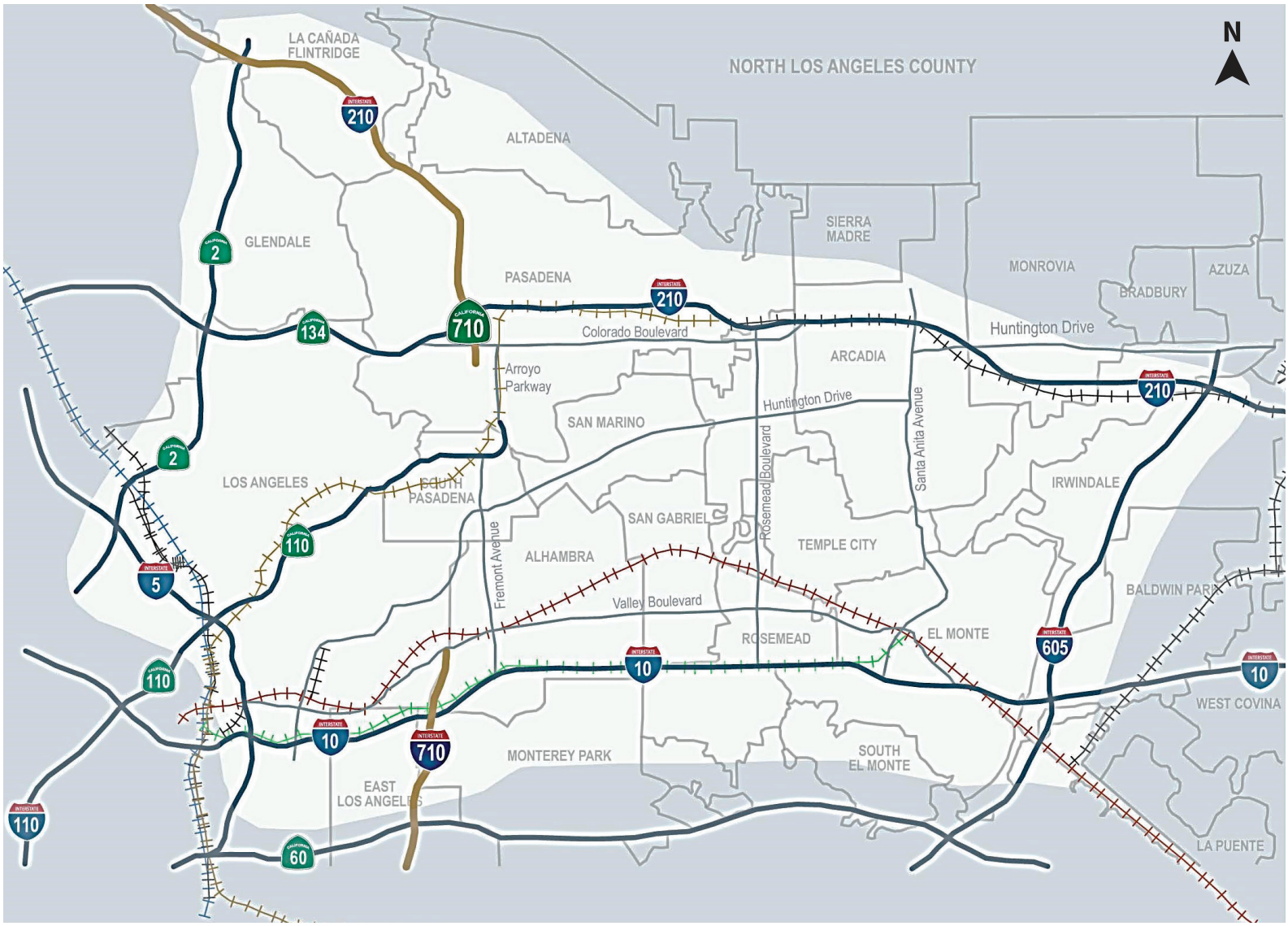


Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

State Route 710 North Project

STUDY AREA



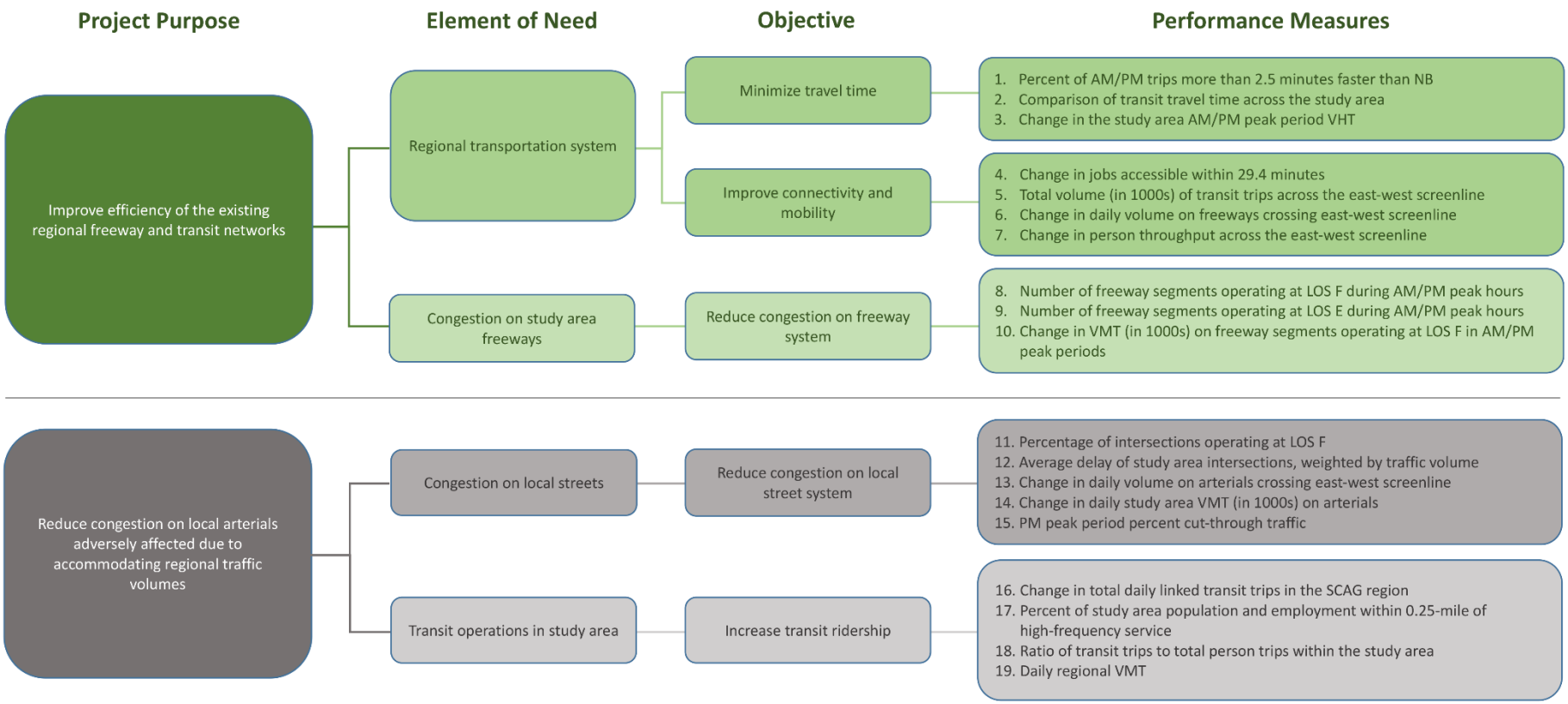
Not to Scale

Metro

Caltrans

ATTACHMENT B

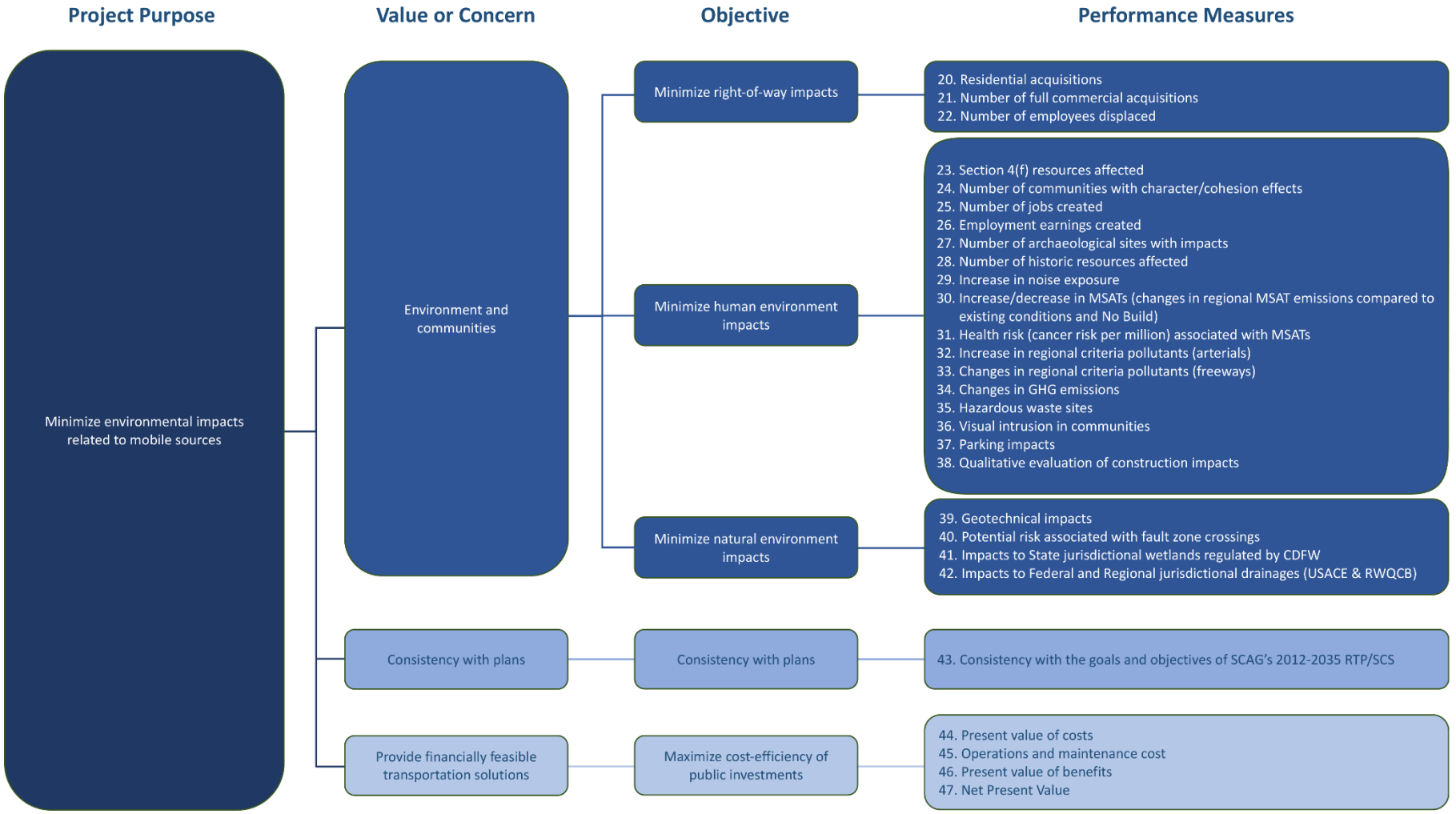
State Route 710 North Project Performance Evaluation Matrix



Metro

Caltrans

State Route 710 North Project Performance Evaluation Matrix (Cont'd)

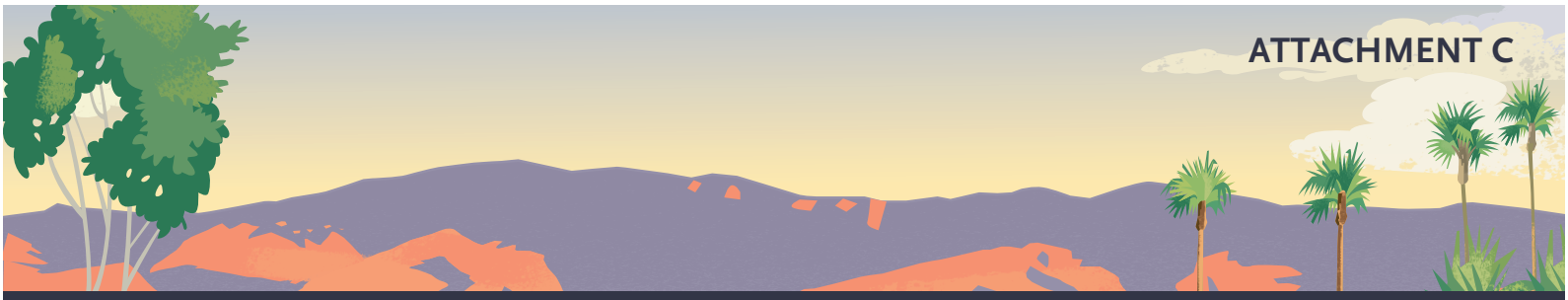


State Route 710 North Project Performance Evaluations Summarized by Objective

Element of Need	#	Objective	NB	TSM/ TDM	BRT	LRT	Single-Bore Tunnel Toll	Single-Bore Tunnel No Trucks	Single-Bore Tunnel Express Bus	Dual Bore Tunnel No Toll	Dual Bore Tunnel No Toll No Trucks	Dual Bore Tunnel Toll
		OVERALL AVERAGE	6	6	6	5	7	7	7	7	7	7
Regional Transportation System	1	*Minimize Travel Time*	1	2	3	4	6	7	7	7	7	8
	2	*Improve Connectivity and Mobility*	1	2	3	3	7	6	6	7	8	8
Congestion on Study Area Freeways	3	*Reduce Congestion on Freeway System*	5	4	5	4	4	5	4	5	5	5
Congestion on Local Streets	4	*Reduce Congestion on Local Street System*	1	1	1	1	6	6	6	10	10	9
Transit Operations in Study Area	5	*Increase Transit Ridership*	5	6	7	7	6	5	6	5	6	6
Environment and Communities	6	*Minimize Right-of-Way Impacts*	10	9	8	1	9	9	9	9	9	9
	7	*Minimize Human Environment Impacts*	7	5	5	5	7	7	7	7	7	7
	8	*Minimize Natural Environment Impacts*	10	10	10	9	6	6	6	5	5	5
Consistency with Plans	9	*Consistency with Plans*	10	10	10	10	10	10	10	10	10	10
Provide Financially Feasible Transportation Solutions	10	*Maximize Cost Efficiency*	6	6	5	3	7	7	7	4	5	3

Metro

Caltrans



ATTACHMENT C

State Route 710 North

SINGLE BORE FREEWAY TUNNEL FACT SHEET

Description

The Single Bore Freeway Tunnel (SBFT) connects the existing southern stub of State Route 710 in Alhambra, to the existing northern stub of Interstate Route 710, south of the Interstate 210/State Route 134 interchange in Pasadena. The alignment is approximately 6.3 miles long, and consists of a bored tunnel (4.2 miles), short (0.7 miles) cut-and-cover tunnel segments at the south and north termini, and at-grade (1.4 miles) segments; with no intermediate interchanges or vertical ventilation shafts.

The SBFT has the highest net present value at approximately $1.5 Billion. The preliminary construction cost estimate is $3.15 Billion (in 2014 $s) of which approximately $50 Million is earmarked for TSM/TDM improvements. The construction is expected to take between 4 and 5 years.

Continued local input and coordination with cities, state and local fire representatives, first responders, California Highway Patrol, Caltrans, power companies, railroads, the flood control district and other affected agencies, is expected throughout the remaining project development phases.

Transportation Benefits

The SBFT is expected to carry 90,000 vehicles per day, remove 42,000 vehicles per day from local streets within the study area and save motorists (using the tunnel) 13 minutes, in addition to providing the following benefits:

> Improves local and regional mobility

> Improves air quality for affected cities within the study area

> Reduce congestion and cut-through traffic on local streets- 42,000 fewer vehicles per day

> Travel time savings (and less delay) -4000 fewer vehicle hours traveled per day during peak period within the study

> Fewer vehicle miles traveled on local streets- reduce arterial travel by 280,000 vehicles miles travelled per day

> Improve connectivity and mobility - increase throughput by 66,000 vehicles per day on the freeway, and increase person throughput by 49,000 daily

> Create the greatest number of jobs- approximately 42,000 (only surpassed by the dual bore tunnel alternative potential jobs)

> Generates the highest employment earnings approximately $29 Million (in 2010 $s) per year (only surpassed by the dual bore tunnel alternative potential earnings)

Design Features

Portals are planned at the southern terminus, south of Valley Boulevard and at the northern terminus, north of Del Mar Boulevard. Ventilation structures will be located at both ends of the tunnel, (incorporated into the south portal building design at the south end, and situated near the 210 interchange at the north end). In addition to providing innovative traffic and traveler information systems, other supporting tunnel systems will include, but not be limited to:

> Air scrubbers, fans and longitudinal ventilation systems

> Fire suppression systems (sprinkler system)

> 24 hour communication and surveillance systems

Transportation System Management/ Transportation Demand Management (TSM/ TDM) Elements

The SBFT includes all of the proposed TSM/TDM operational improvements, except for the proposed connector between Valley Boulevard to Mission Road and the extension of St. John Avenue between Del Mar and California Boulevards, due to design conflicts.

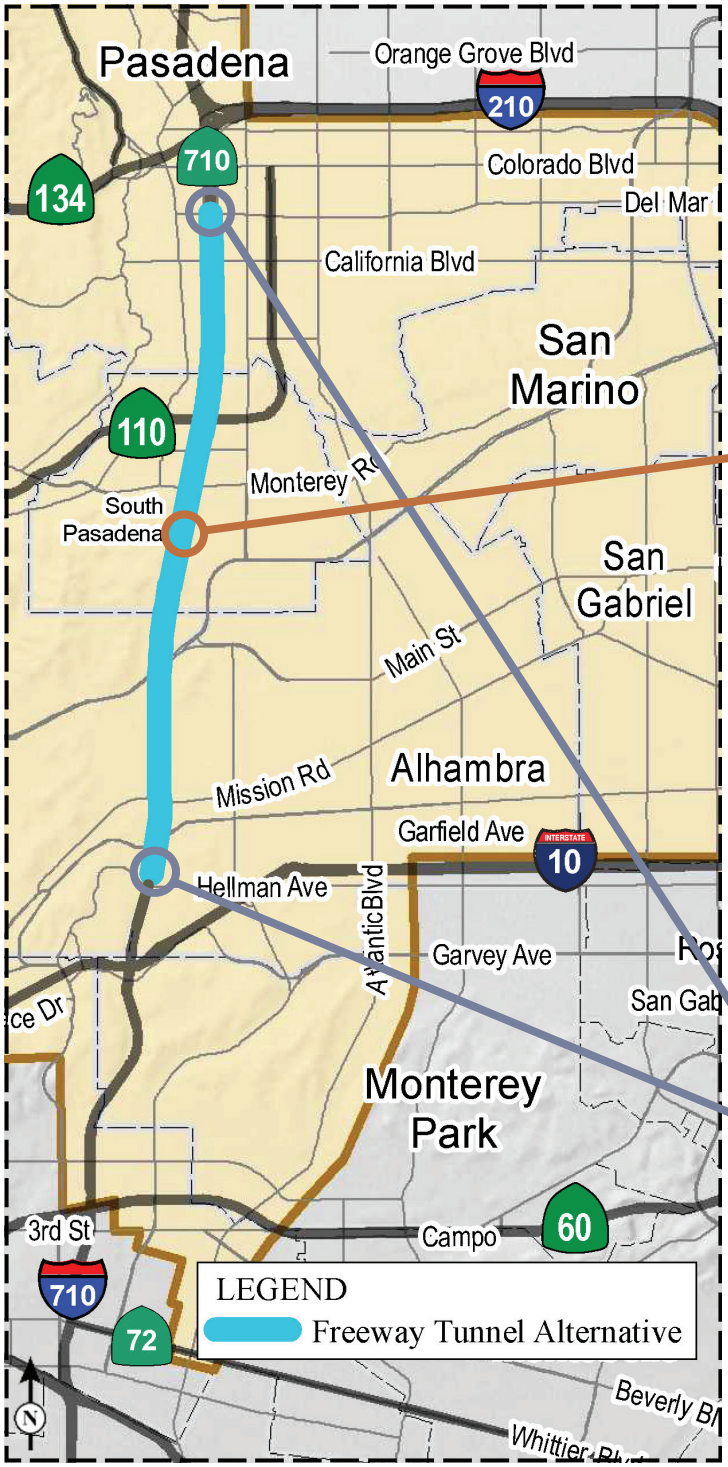
Operational Consideration

The SBFT with tolls would provide a potential revenue source and an opportunity to deliver a Public Private Partnership project. Restricting heavy trucks in excess of 33,000 tons, in addition to prohibiting vehicles carrying flammable or hazardous materials, will optimize traffic operations. Express bus service in the tunnel will have a negligible effect on improving system performance.

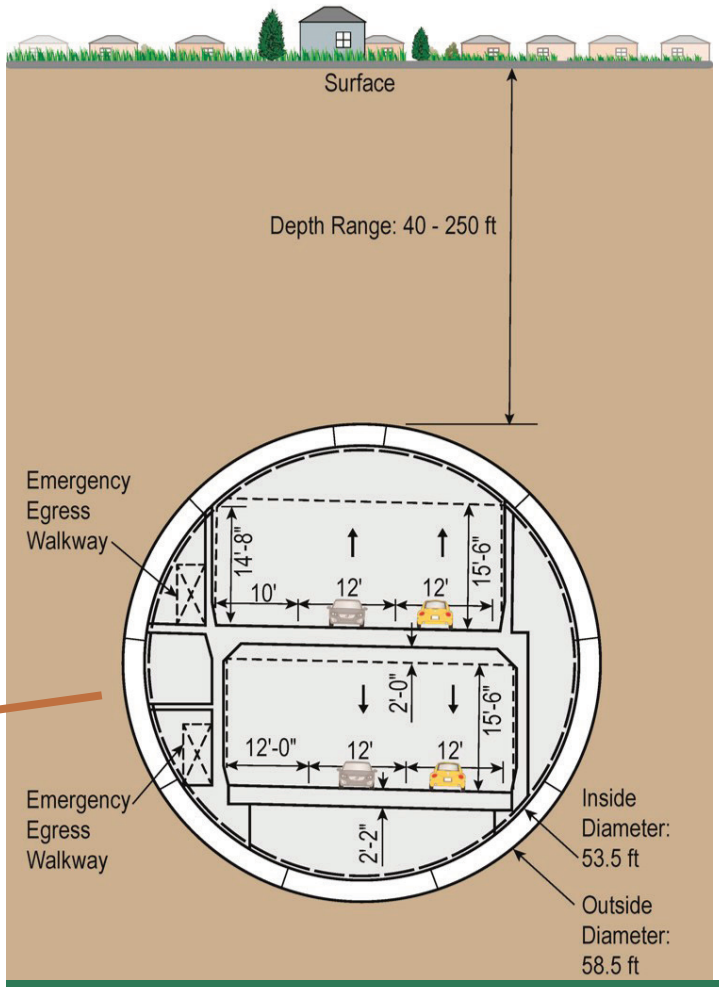
Metro

Caltrans

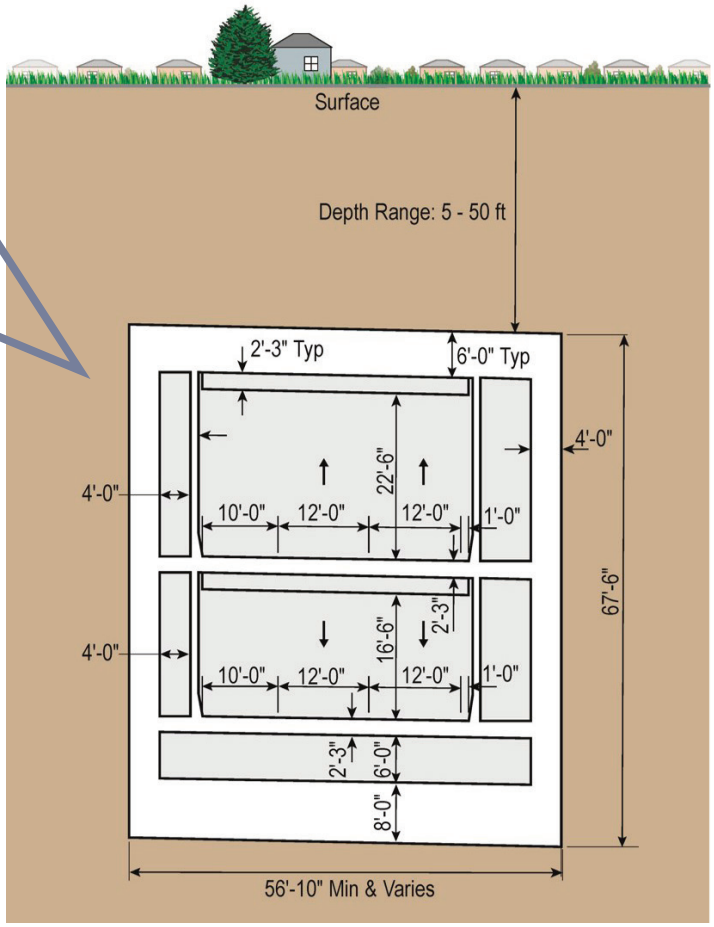
FREEWAY TUNNEL PROJECT AREA



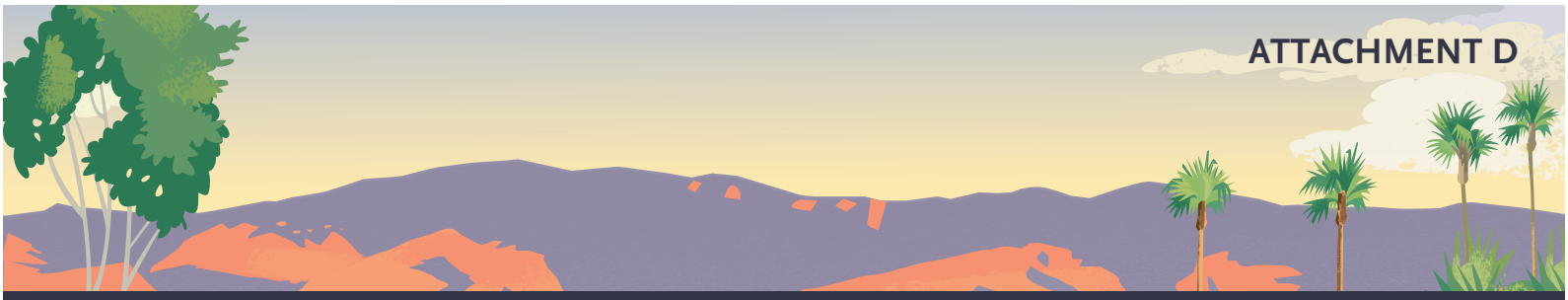
BORED TUNNEL SECTION



CUT AND COVER SECTION



Not to Scale



ATTACHMENT D

State Route 710 North

TRANSPORTATION SYSTEM MANAGEMENT/TRANSPORTATION DEMAND MANAGEMENT ALTERNATIVE

Description

The Transportation System Management/Transportation Demand Management (TSM/TDM) alternative is designed to maximize the efficiency of the existing transportation system by improving capacity on the local street system and reducing the effects of bottlenecks and chokepoints. These relatively low-cost, low-impact strategies are included to all of the State Route 710 Build alternatives to enhance performance.

TSM strategies include coordinated traffic signal timing to help relieve congestion, ramp metering to control the entry of vehicles onto a freeway, and minor street widening and intersection improvements to improve traffic circulation. TDM strategies promote carpooling, staggered work shifts and more transit use.

Further refinements with local input and coordination, prior to implementation will be crucial to optimize performance and minimize impacts to surrounding communities.

TSM Design Elements

The following TSM elements are being considered:

Intelligent Transportation Systems (ITS)

> Traffic signal upgrades and prioritization

> Transit signal priority

> Ramp metering

> Driver information system

> Local arterial changeable message signs

> Vehicle detection systems

> Variable speed control

Transit (Bus) Enhanced Service

> Adjust bus service operating plans and evaluate off board fare collection technologies to reduce delay and increase bus service during peak periods

> Results in bus frequencies reduced to as little as 2.5 minute headways during peak periods

Active Transportation Systems

> Provide pedestrian and bicycle amenities to support access to proposed transit alternatives

  o Requires coordination with local agencies

Intersection and Local Street Improvements

> Accommodate targeted capacity improvements throughout the study area

  o 27 local intersections, 7 local street segments, 2 street extensions, and one interchange

  o Requires coordination with local agencies

TDM Strategies

The following TDM strategies are being considered:

> Enhanced bus service

> Reduce the demand for travel during peak periods

> Encourage rideshare and transit use

> Eliminate trips (e.g. telecommuting)

> Improved transportation options

Metro®

Caltrans