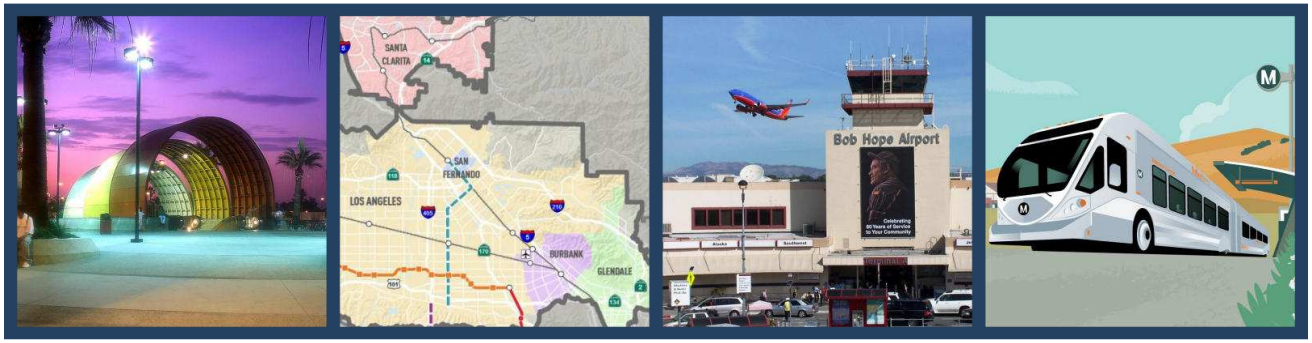

SUBREGIONAL MOBILITY MATRIX
SAN FERNANDO VALLEY

Project No. PS-4010-3041-YY-01-01

Executive Summary

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1.0 EXECUTIVE SUMMARY

1.1 Mobility Matrix Overview

In February 2014, the Los Angeles County Metropolitan Transportation Authority (Metro) Board approved the holistic, countywide approach for preparing Mobility Matrices for Central Los Angeles, the Las Virgenes/ Malibu Council of Governments (LVMCOG), North County Transportation Coalition (NCTC), San Fernando Valley Council of Governments (SFVCOG), San Gabriel Valley Council of Governments (SGVCOG), South Bay Cities Council of Governments (SBCCOG) and Westside Cities Council of Governments (WCCOG) (see Figure ES-1). The Gateway Cities COG is developing its own Strategic Transportation Plan which will serve as its Mobility Matrix.

For the purposes of the Mobility Matrix work, cities with membership in two subregions selected one in which to participate. The cities of La Cañada Flintridge, Pasadena, and South Pasadena chose the SGVCOG, and Burbank and Glendale chose the SFVCOG. The City of Santa Clarita opted to be included in the SFVCOG instead of the NCTC. Boundaries between the WCCOG and Central Los Angeles, and the WCCOG and SBCCOG, were modified based on Metro Board direction in January 2015.

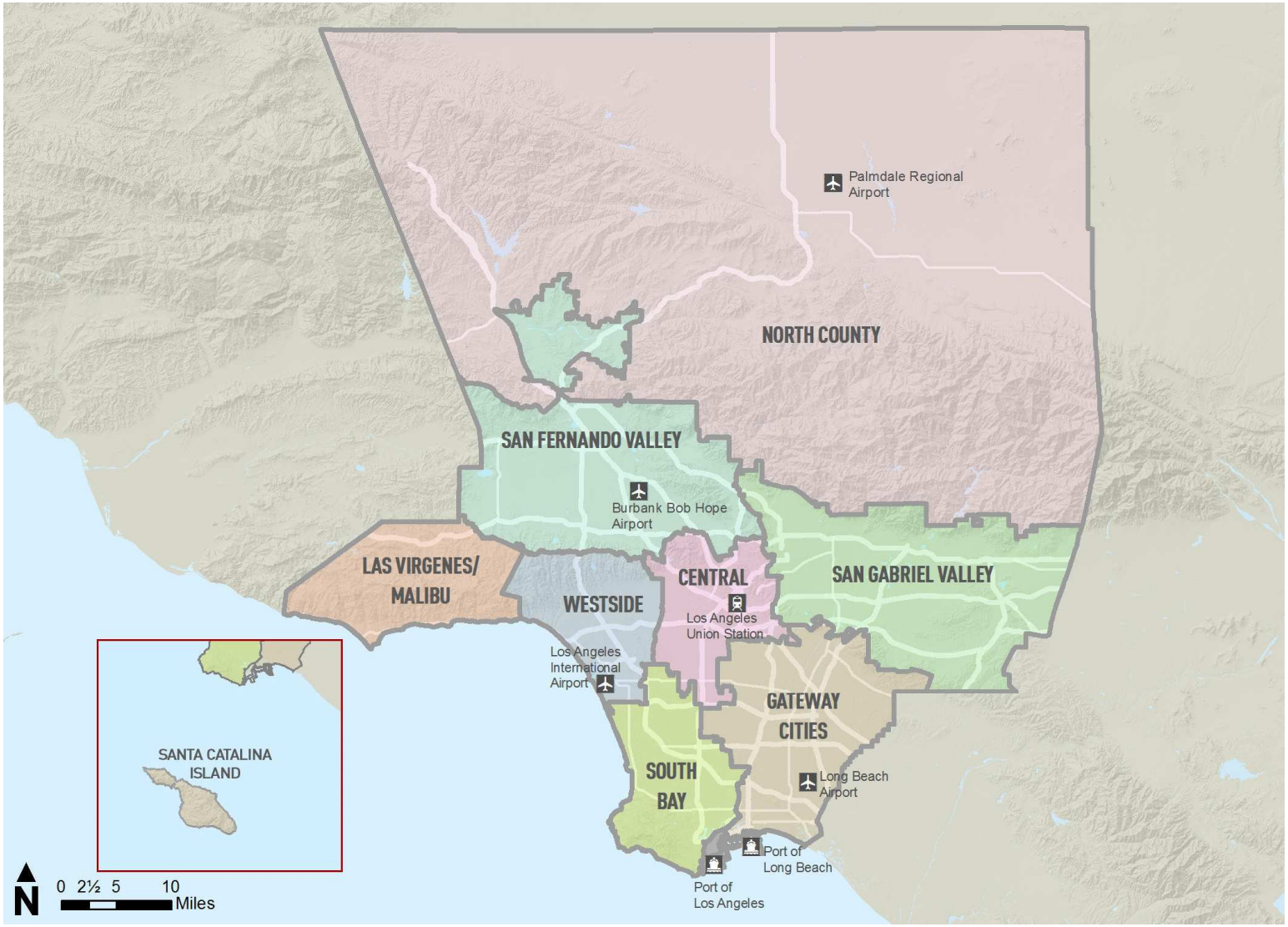
In January 2015, the Metro Board created the Regional Facilities category. Regional Facilities include projects and programs related to Los Angeles County's four commercial airports (Los Angeles International Airport, Burbank Bob Hope Airport, Long Beach Airport, and Palmdale Regional Airport), the two seaports (Port of Los Angeles and Port of Long Beach), and Union Station. The projects/programs related to Regional Facilities have been removed from the subregional Mobility Matrices.

1.2 Project Purpose

The Mobility Matrix will serve as a starting point for the update of the Metro Long-Range Transportation Plan (LRTP) currently scheduled for adoption in 2017. This San Fernando Valley Mobility Matrix, along with concurrent efforts in other Metro subregions, includes the development of subregional goals and objectives to guide future transportation investments, an assessment of baseline transportation system conditions to identify critical needs and deficiencies, and an initial screening of projects and programs based on their potential to address subregional objectives and countywide performance themes.

The Mobility Matrix includes a preliminary assessment of anticipated investment needs and project and program implementation over the short-term (0-10 years), mid-term (11-20 years) and long-term (20+ years) timeframes. The Mobility Matrix does not prioritize projects, but rather serves as a basis for further quantitative analysis to be performed during the Metro LRTP update, expected in 2017.

Figure ES-1. Los Angeles County Mobility Matrix Subregions



1.3 Process

To ensure proposed projects and programs reflect the needs and interests of the subregion, the Mobility Matrices followed a "bottoms-up" approach guided by a Project Development Team (PDT) selected by the subregion, consisting of city, stakeholder, and subregional representatives. The SFVCOG PDT consisted of representatives from the following jurisdictions and stakeholder agencies: SFVCOG, City of Burbank, City of Glendale, City of Los Angeles, City of Santa Clarita, City of San Fernando, Los Angeles County Department of Public Works, California Department of Transportation (Caltrans), Burbank Bob Hope Airport, and Metrolink. The PDT met six times over the eight-month study period to guide the creation of strategic goals and objectives, determine a subregional priority package of projects and programs, oversee the project and program evaluation process, and review and approve all work products associated with the Subregional Mobility Matrix.

1.4 Subregional Overview

The SFVCOG was formed in 2010 with the adoption of a Joint Powers Agreement by the City and County of Los Angeles along with the Cities of Burbank, Glendale, San Fernando and Santa Clarita. The main purpose of the SFVCOG is to develop and implement subregional policies and plans that are unique to the greater San Fernando Valley region, and to voluntarily and cooperatively resolve differences among the COG members.

The Baseline Conditions Report, included as Appendix B, identified several key findings regarding the SFVCOG Mobility Matrix Subregion, including but not limited to:

- Employment and residential growth will mostly be concentrated in Santa Clarita. Burbank's employment growth is expected to be twice that of population, while San Fernando has the inverse trend. Employment growth will concentrate around existing job centers, including Universal City and Warner Center.
- The study area features a larger population of at-risk residents compared to the County average, especially in communities around the major freeways.
- Most commute trips stay within the SFVCOG study area, indicating a high jobs/housing balance in the Mobility Matrix Subregion.
- An extensive bikeway system is planned for the study area, but currently there is only a limited network. Collisions involving pedestrians and bicyclists have been gradually rising over the past five years.
- The Mobility Matrix Subregion has many transit options, with multiple express and commuter lines, the Metro Orange and Red Lines, municipal/local services in the cities, and also two Metrolink lines. However, some areas have infrequent service and coverage.

1.5 Goals and Objectives

Members of the PDT helped define the goals and objectives for the SFVCOG Mobility Matrix Subregion. The goals are consistent with the county's overall framework, which consists of six broad themes common among all subregions (see Figure ES-2). The goals also reflect subregional priorities, and are based on recent studies, cities' general plans, and discussions with city staff. The SFV PDT developed goal statements intended to address transportation needs, to guide the evaluation of proposed projects/programs, and ultimately to inform Metro's forthcoming LRTP update.

SFVCOG Mobility Matrix Goal Statements

- Increase Multimodal Mobility Options for SFVCOG Residents, Visitors, and Businesses.
- Implement operational and capacity projects that improve safety and enhance connectivity.
- Ensure that investments balance mobility, environmental, and livability needs.
- Maintain and Preserve the Transportation System

Figure ES-2. Common Countywide Themes for All Mobility Matrices

1.6 Subregional Projects and Programs

An initial project and program list was compiled from Metro's December 2013 subregional project lists, which included unfunded LRTP projects; unfunded Measure R scope elements; and subregional needs submitted in response to requests by Directors Antonovich and Dubois. The project and program list was updated through the outreach process to incorporate input from the PDT members and other subregion stakeholders.

A total of 162 transportation improvement projects were identified for the SFVCOG Mobility Matrix subregion. Many of the smaller projects were combined or grouped into larger programs or consolidated improvements for ease of analysis and reporting. Some of the larger improvements were maintained as individual projects for evaluation purposes. Table ES-1 lists the number of transportation improvement projects included in each Mobility Matrix program.

Table ES-1. San Fernando Valley Transportation Programs

Mobility Matrix Program	Total Projects
Arterials Program	45
Goods Movement Program	3
Highway Program	47
Active Transportation Program	29
Transit Program	29
Regional Facilities	9

The SFVCOG project list includes transportation improvement priorities identified in countywide planning documents and by local jurisdictions. Arterial and highway projects compose the majority of the project list. Active transportation and transit projects together make up about one-third of the total list.

The SFVCOG Mobility Matrix includes improvements that address both existing deficiencies in the transportation system as well as anticipated future needs. The SFVCOG Mobility Matrix:

- Addresses subregional demand for greater travel time reliability and efficiency, including arterial and freeway interchange improvements; proposed enhancements on Metrolink lines; increased commuter and shuttle bus service; and expanded park-and-ride facilities.
- Facilitates more robust transportation system demand management through technology applications and multimodal improvements such as Intelligent Transportation Systems (ITS), park-and-ride facilities, circulation improvements for transit access, and expanded transit services.
- Improves subregional active transportation options through bicycle and pedestrian projects, including city bicycle master plans and pedestrian bridges, as well as promotes Complete Streets and first-last mile programs.
- Supports the subregional and countywide priority of maintaining a state of good repair for the transportation system.

These improvements are intended to keep the multimodal transportation system functioning smoothly in the future in order to retain and attract business and development in the subregion.

1.7 Evaluation

Each project or program was evaluated in an initial, high-level screening based on its potential to contribute to subregional goals and objectives under each of the six countywide Mobility Matrix themes identified in Figure ES-2. Due to the limited timeframe for the Mobility Matrix completion and incomplete or inconsistent project/program details and data, this evaluation was qualitative in nature. The evaluation serves not as a prioritization, but as a preliminary screening process to identify projects and programs with the potential to address subregional and countywide transportation goals. This merely serves as a starting point for more quantitative analysis during the Metro LRTP update process.

Projects or programs received a single score for each subregional goal, as outlined in Table ES-2. Generally speaking, projects or programs that contribute to subregional goals on a larger scale received a higher benefit rating. Note that cost effectiveness was not considered in the application of performance evaluation scores.

The preliminary performance evaluation shown in Table ES-3 represents a collaborative effort spanning many months, and incorporates input from Metro, consultants and the SFVCOG PDT. A full description of the evaluation methodology can be found in Appendix C.

Table ES-2. Evaluation Methodology

To Achieve the following score in a single theme:	Project must meet the corresponding criterion:
● HIGH BENEFIT	Significantly benefits one or more theme goals or metrics on a **subregional** scale
◑ MEDIUM BENEFIT	Significantly benefits one or more theme goals or metrics on a **corridor or activity center** scale
◔ LOW BENEFIT	Addresses one or more theme goals or metrics on a **limited/localized** scale (e.g., at a single intersection)
○ NEUTRAL BENEFIT	Has no cumulative positive or negative impact on theme goals or metrics
— NEGATIVE IMPACT	Results in cumulative negative impact on one or more theme goals or metrics

Table ES-3. Performance Evaluation – Summary by Subprogram

ID	# of Projects	Mobility •Reduce Travel Times •Increase Reliability •Improve System Connectivity	Safety •Improve Safety •Reduce Mode Conflicts •Improve Transit Safety/Security	Sustainability •Reduce GHG Emissions •Improve Quality of Life •Encourage Efficient Mode Share	Economy •Accommodate Goods Movement •Reduce Number and Length of Trips •Enhance Economic Output	Accessibility •Integrate Transit Hubs •Serve Transit Dependent Populations •Improve First/Last Mile Connections	State of Good Repair •Preserve Life of Facility or Equipment •Reduce Goods Movement Impact •Balance Maintenance & Rehabilitation
Arterials							
Tunnel Projects	2	◑	○	○	○	○	○
Grade Separation Projects	5	●	●	◑	◑	○	◔
Extension or New Road Projects	12	●	○	○	◔	○	○
Widening Programs/Projects	17	◑	○	—	○	○	◔
State of Good Repair/Safety Programs	1	◑	◑	◔	◔	○	●
TSM	8	◑	○	◔	○	○	○
Goods Movement							
Grade Crossing Safety Improvement Programs	1	○	●	○	●	◔	◑
Arterial Programs	1	○	◑	○	●	○	◑
Rail Programs	1	●	◔	◔	●	○	◔

ID	# of Projects	Mobility •Reduce Travel Times •Increase Reliability •Improve System Connectivity	Safety •Improve Safety •Reduce Mode Conflicts •Improve Transit Safety/Security	Sustainability •Reduce GHG Emissions •Improve Quality of Life •Encourage Efficient Mode Share	Economy •Accommodate Goods Movement •Reduce Number and Length of Trips •Enhance Economic Output	Accessibility •Integrate Transit Hubs •Serve Transit Dependent Populations •Improve First/Last Mile Connections	State of Good Repair •Preserve Life of Facility or Equipment •Reduce Goods Movement Impact •Balance Maintenance & Rehabilitation
Highways							
Arterial Interchange Programs/Projects	21	●	○	○	○	○	◔
Freeway Interchange Projects	6	●	◔	○	○	○	◔
Freeway Corridor Projects	13	●	○	—	○	○	○
Soundwall Projects	2	○	○	◑	○	○	○
State of Good Repair/Safety Programs	2	◑	◑	◔	◑	○	●
TSM	3	◑	◔	○	○	○	○
Active Transportation							
Bicycle/Pedestrian Programs/Projects	11	◑	◑	●	○	●	○
ADA Access	1	○	●	○	○	◑	○
Pedestrian Bridges	3	○	●	○	○	◑	○
Complete Streets Program	4	○	●	◑	●	●	○
Sustainability Programs	3	○	○	●	○	○	○
Park and Ride Projects/Programs	4	◔	○	◑	◑	◑	◔
TDM Program	1	◑	○	●	●	◑	○
Mobility Hubs/First-Last Mile Programs	2	●	○	●	○	●	○

SUBREGIONAL MOBILITY MATRIX – SAN FERNANDO VALLEY

ID	# of Projects	Mobility •Reduce Travel Times •Increase Reliability •Improve System Connectivity	Safety •Improve Safety •Reduce Mode Conflicts •Improve Transit Safety/Security	Sustainability •Reduce GHG Emissions •Improve Quality of Life •Encourage Efficient Mode Share	Economy •Accommodate Goods Movement •Reduce Number and Length of Trips •Enhance Economic Output	Accessibility •Integrate Transit Hubs •Serve Transit Dependent Populations •Improve First/Last Mile Connections	State of Good Repair •Preserve Life of Facility or Equipment •Reduce Goods Movement Impact •Balance Maintenance & Rehabilitation
Transit							
Bus Programs/Projects	15	●	○	◑	○	●	○
Commuter Rail Programs	2	●	◑	●	●	◔	◑
Real-Time Travel Information	1	◑	◔	◔	○	◑	○
State of Good Repair/Safety Programs	1	◑	●	◑	○	○	●
Transit Center	2	◔	◔	◑	◑	◑	○
BRT Projects	3						
Burbank to Hollywood BRT: Downtown Burbank to Hollywood		◑	○	◑	●	●	○
Pasadena to North Hollywood BRT: Via SR-134 through Glendale & Burbank		●	○	●	●	●	○
Metro Orange Line: Bus operational improvements (shorter headways, grade separations, crossing gates, etc)		●	◑	●	●	◑	○
Rail Projects	3						
Metro Red Line Extension: North Hollywood to Sylmar		●	○	●	●	●	○
Glendale Downtown Streetcar		●	○	●	●	●	○
Metro Orange Line conversion to LRT		●	○	●	●	◑	○
Rail or Bus Projects	2						
Sepulveda Pass Transit Corridor		●	◑	●	◑	●	○

ID	# of Projects	Mobility •Reduce Travel Times •Increase Reliability •Improve System Connectivity	Safety •Improve Safety •Reduce Mode Conflicts •Improve Transit Safety/Security	Sustainability •Reduce GHG Emissions •Improve Quality of Life •Encourage Efficient Mode Share	Economy •Accommodate Goods Movement •Reduce Number and Length of Trips •Enhance Economic Output	Accessibility •Integrate Transit Hubs •Serve Transit Dependent Populations •Improve First/Last Mile Connections	State of Good Repair •Preserve Life of Facility or Equipment •Reduce Goods Movement Impact •Balance Maintenance & Rehabilitation
East San Fernando Valley Transit Corridor		◑	◑	◑	◑	●	○
Regional							
Clybourn Ave: Grade separation at railroad tracks / Vanowen St / Empire Ave		●	●	◑	◑	○	◔
Hollywood Way: Widen to 6 lanes from Thornton Ave to Glenoaks Blvd		◑	○	○	○	○	◔
I-5/Buena Vista Ave: Reconfigure ramps and connect with Winona Ave		●	○	○	○	○	◔
Hollywood Way/San Fernando Rd Metrolink station pedestrian bridge		○	●	○	○	◑	○
Burbank Airport: CNG Refueling Station		○	○	●	○	○	○
Metro Orange Line Extension: North Hollywood to Bob Hope Airport		●	○	●	●	●	○
Burbank/Glendale LRT: From LA Union Station to Burbank Airport		●	◑	●	◑	●	○
Pasadena to Burbank Airport LRT: Via SR-134 / I-5 through Glendale & Burbank		◑	◔	◔	◔	◔	○
Metro Red Line Extension: North Hollywood to Burbank Airport		◔	◔	◔	◔	◔	○

1.8 Findings

Arterial and Highway projects perform well under the Mobility theme, as they primarily focus on improving system connectivity and travel time reliability. Their Safety ratings tend to be mixed; some projects, such as grade separations, have clear safety benefits, but projects such as road widenings may actually decrease safety. It was also difficult assigning a Sustainability rating for many roadway projects, due to a lack of traffic and GHG emissions modeling. A few road widening projects address known hot spots, but many of these types of projects received a Negative Impact rating, due to anticipated induced demand and increased emissions.

The Active Transportation projects score highly under the Safety, Sustainability, and Accessibility themes. The projects involving bicycle and pedestrian improvements accomplish several goals in multiple themes; this seems to reinforce the PDT's commitment to improving active transportation facilities. Park-and-ride projects also score moderately well in almost all of the themes.

The Transit projects score highly for Mobility, Sustainability, and Accessibility. The Transit category also contains several high-profile projects, such as Metro Orange and Red Line extensions, new LRT lines, the Sepulveda Pass Transit Corridor, and the East San Fernando Valley Transit Corridor.

Finally, the project/program list contains a few programs which address state of good repair specifically, while some of the roadway projects would entail resurfacing. However, most of the projects score Neutral/No Benefit under the theme of State of Good Repair, since the majority of projects involve new infrastructure or have no need for or impact on maintenance or rehabilitation.

Overall, most projects perform very well under one or two Mobility Matrix themes, while also providing some secondary benefits in other themes. When looking at the scores for all six Mobility Matrix themes, the Active Transportation and Transit projects appear to achieve more subregional goals. This is not surprising since the subregional goals emphasize safety, travel by fuel-efficient modes, and first-mile/last-mile connections. However, the Arterial, Goods Movement, and Highway projects are also important in increasing the reliability of the roadway network, and have State of Good Repair benefits.

The full list of the project ratings can be found in Appendix D.

1.9 Implementation Timeframes and Cost Estimates

The Mobility Matrix included the development of high-level, rough order-of-magnitude planning-cost ranges for short-, mid-, and long-term subregional funding needs. Table ES-4 indicates anticipated Mobility Matrix cost estimate ranges by project type and implementation timeframe.

Due to variations in project scope and available cost data, costs estimated for use in the Mobility Matrix are not intended to be used for future project-level planning.

Rather, the cost ranges developed via this process constitute a high-level, rough order-of-magnitude planning estimate range for short-, mid-, and long-term subregional funding needs for the Mobility Matrix effort only. For the most part, these estimates do not include vehicles, operating, maintenance and financing costs. More detailed analysis will be conducted in the Metro LRTP update process, which may necessitate refinement of project/program details and associated cost estimates. A full description of the cost estimation methodology can be found in Appendix C.

Projects or programs that cross subregional boundaries may be included in multiple subregional project lists. Where the same projects or programs are included in multiple subregions, the cost estimates include the total estimated project cost, not the cost share for each subregion. The cost sharing will be determined as part of future efforts.

Finally, due to lack of available data and the short timeframe of the Mobility Matrix effort, some of the projects and programs have missing cost estimates or do not include operations and maintenance (O&M) costs. Where O&M costs were available, they were included for the applicable timeframes. O&M costs will be revisited as part of the Metro LRTP update.

1.10 What's Next

The Mobility Matrix is the first step in identifying SFVCOG transportation projects and programs that require funding. This important work effort serves as a "bottoms-up" approach towards updating Metro's LRTP in the future. Three major next steps should arise out of the Mobility Matrix process:

- **SFVCOG Prioritization of Projects.** This Mobility Matrix study does not prioritize projects. Instead, it provides some of the information needed for decision makers to prioritize projects/programs in the next phase of work, and an unconstrained list of all potential transportation projects/programs in the region. In preparation for a potential ballot measure and LRTP update (as described further below), the SFVCOG should decide how it wants to prioritize these projects/programs assuming a constrained funding scenario.

- **Metro Ballot Measure Preparations.** Metro will continue working with the PDTs of all the Subregions, as it starts developing a potential ballot measure. Part of the ballot measure work would involve geographic equity determination, as well as determining the amount of funding available for each category of projects/programs and subregion of the County.

- **Metro LRTP Update.** The potential ballot measure would then feed into a future Metro LRTP update and be integrated into the LRTP Finance Plan. If additional funding becomes available through a ballot measure or other new funding sources or initiatives, the list of projects developed through the Mobility Matrix and any subsequent list developed by the subregion could be used to update the constrained project list for the LRTP moving forward.

Table ES-4. Rough Order-of-Magnitude Project Cost Estimates and Categorizations (2015 dollars)

Type / Category	Arterial	Goods Movement	Highway	Active Transport.	Transit	Total
Short-Term (0-10 yrs)	18 Projects $270M - $410M	3 Projects $50M - $75M	12 Projects $140M - $220M	24 Projects $120M - $210M	18 Projects $980M - $1.5B	75 Projects $1.6B - $2.4B
Mid-Term (11-20 yrs)	31 Projects $500M - $910M	3 Projects $50M - $75M	29 Projects $2.4B - $3.7B	21 Projects $150M - $240M	19 Projects $5.3B - $9B	103 Projects $8.4B - $14B
Long-Term (>20 yrs)	22 Projects $390M - $760M	3 Projects $50M - $75M	32 Projects $ 4.8B - $7.3B	7 Projects $10M - $26M	13 Projects $5.2B - $8.9B	77 Projects $10B - $17B
Total	45 Projects $1.2B - $2.1B	3 Projects $150M - $230M	47 Projects $7.3B - $11B	29 Projects $280M - $480M	29 Projects $11B - $20B	153 Projects $20B - $33B

Note: Some individual projects within the subprogram have missing costs, but they are not expected to greatly increase the overall cost of the program.

Regional Facilities projects and programs at Bob Hope Airport are not included in the table.

Some highway and transit projects are counted in multiple timeframes, thus total project counts for those types will not match totals row. Estimates under-represent operations and maintenance costs due to limited project data availability. Costs also may be underestimated where cost estimate ranges are still under development.

Projects or programs that cross subregional boundaries may be included in multiple subregional project lists. Where the same projects or programs are included in multiple subregions, the cost estimates include the total estimated project cost, not the cost share for each subregion. Any subregional cost-sharing agreements will be determined through future planning efforts.