SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS TRANSIT FEASIBILITY STUDY

Final Screening and Methodology Report

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Any changes to this document will be re-submitted for review and approval by San Gabriel Valley Council of Governments (SGVCOG).

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1 INTRODUCTION

In order to tackle the mobility constraints faced within the San Gabriel Valley (SGV), improvements should be tailored to address the specific goals, objectives, and needs of the study area. This report summarizes the methodology for evaluating such improvements and outlines the criteria to be used to assess and compare concepts and alternatives. The report will provide the framework for evaluating a set of initial concepts with the goal of screening the number of concepts down to a refined set of alternatives which will be carried forward for further evaluation.

1.1 Study Background

The purpose of the SGV Transit Feasibility Study (Study) is to assess the feasibility of potential transit mobility solutions, which will provide high-quality transit service to the SGV's residents, commuters, and visitors. The Study will examine east/west and north/south connections with transit services, while considering short-term projects and long-term visions for the SGV.

A Mobility Problem Definition Report was prepared to analyze the existing and future conditions in the study area. This report highlighted four key mobility issues faced within the SGV, in the context of land use, demographics, traffic congestion, and transit needs. The mobility problems are further discussed in Section 2.1. The Mobility Problem Definition Report also identified goals and objectives that are linked to the mobility needs in order to provide a guideline for developing potential solutions.

The study area includes the 31 cities located within the San Gabriel Valley Council of Governments' (SGVCOG) jurisdiction:

1. Alhambra
2. Arcadia
3. Azusa
4. Baldwin Park
5. Bradbury
6. Claremont
7. Covina
8. Diamond Bar
9. Duarte
10. El Monte
11. Glendora
12. Industry
13. Irwindale
14. La Canada Flintridge
15. La Puente
16. La Verne
17. Monrovia
18. Montebello
19. Monterey Park
20. Pasadena
21. Pomona
22. Rosemead
23. San Dimas
24. San Gabriel
25. San Marino
26. Sierra Madre
27. South El Monte
28. South Pasadena
29. Temple City
30. Walnut
31. West Covina

The study area also includes SGV unincorporated communities that are located in Los Angeles County (LA County) Supervisorial Districts 1, 4, and 5.

As defined in the Study Area Definition Report, the Study identifies two different focus areas within the study area boundaries. The *Focus Area for Integration of Services* leverages existing assets such as the Metro L (Gold) Line to integrate with connecting services. The *Focus Area*

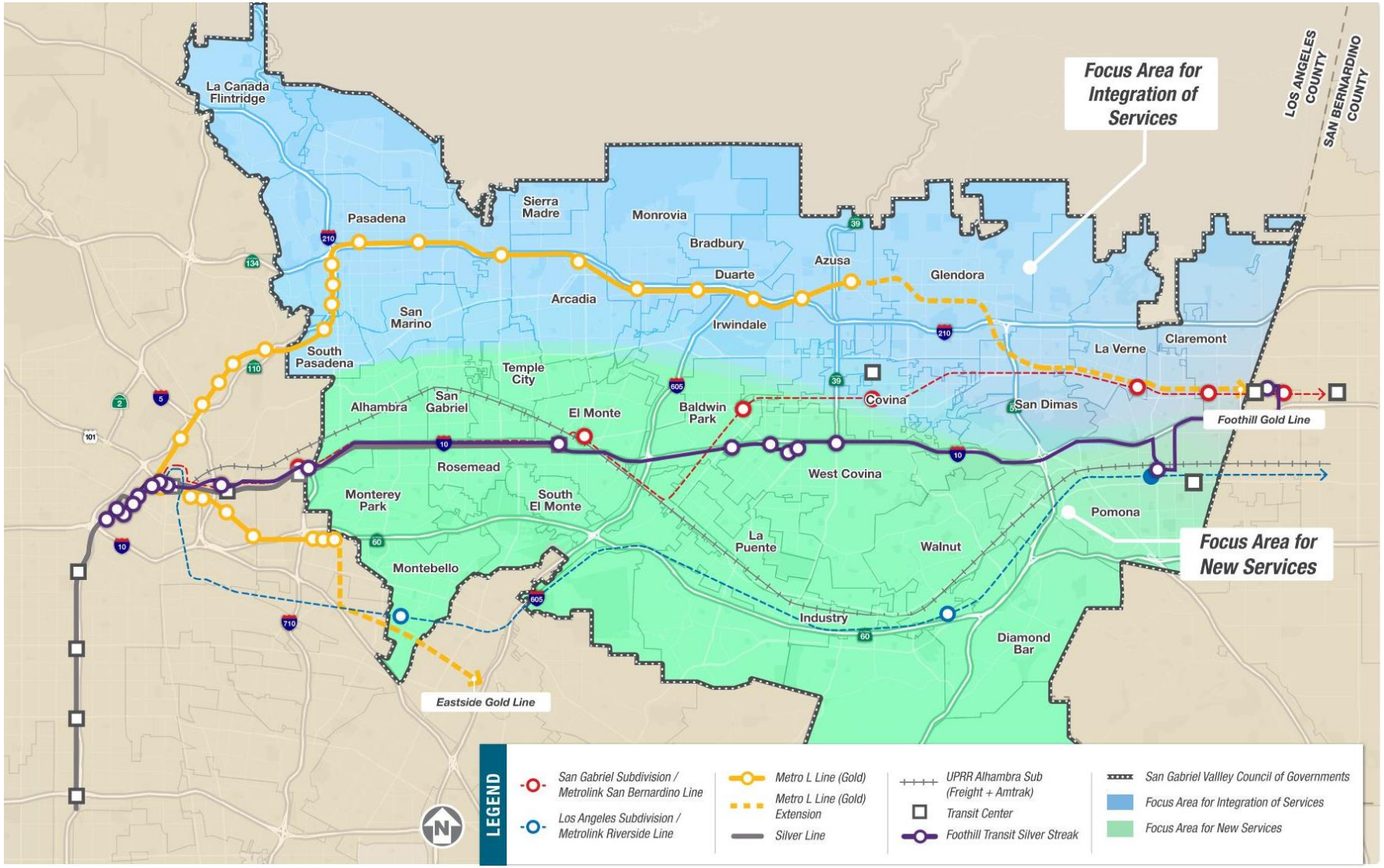
for New Services **targets areas that are currently underserved and lacking quality transit service.**

Figure 1-1 Illustrates the study area boundaries and the two focus areas.

1.2 Report Purpose and Structure

The purpose of this report is to define the methodology and a set of criteria that will be used to evaluate and refine the Study's concepts and alternatives. The evaluation criteria are based on the goals and objectives that were created in response to mobility problems within the study area. Section 2 describes the methodology and process to conduct the evaluation, including an initial screening of transit scenarios and a refined assessment of Study alternatives. Section 3 describes the initial screening criteria to evaluate the full list of proposed concepts. Section 4 describes the goals, objectives and criteria to assess alternatives identified for further development. Section 0 summarizes the next steps in developing alternatives.

Figure 1-1. Map of Study Area



2 EVALUATION METHODOLOGY

2.1 Mobility Problem

All concepts and alternatives will be assessed based on their response to four prominent mobility issues identified in the Mobility Problem Definition Report. These primary mobility issues will provide stakeholders a framework to support concepts that best align with their community needs.

- **Land use:** The predominant zoning within the SGV is low-density residential. Per SCAG's Connect SoCal (2020-2045 RTP/SCS), the region's housing supply has not kept up with population growth and the number of households throughout the SCAG region is anticipated to grow from 6 million to 7.6 million by 2045. To accommodate further anticipated growth, there is a need to encourage higher land use densities.
- **Demographics:** Despite the land use being predominantly low-density residential, population and employment densities are on average two to four times that of LA County. The SGV population density is approximately 5,330 persons per square mile, compared to 2,150 persons per square mile in LA County as a whole, and within the SGV there are approximately 4,750 jobs per square mile, compared to 1,030 jobs per square mile in LA County[1]. The SGV also has a large transit dependent population, with 23 percent of total households considered low-income and 16 percent of households without access to a vehicle. There is an opportunity to introduce more and better mobility options.
- **Transportation Issues:** Traffic congestion throughout the SGV constrains the mobility of residents, workers, and visitors. Current east/west rail services via Metrolink and Metro's L (Gold) Line are limited by their service capture area or infrequency of service. The north/south corridors lack quality transit service as the existing local and limited/express bus routes generally do not provide continuous, dedicated north/south travel. In particular, the Equity Focused Communities (EFCs) that are located more remotely, including communities near Covina, Industry and Pomona, have limited local connections to high-quality transit. There is also a lack of connectivity and active transportation infrastructure to facilitate transit connections throughout the focus areas. While there are several city specific bicycle and active transportation plans within the SGV, vehicle centered design and high traffic volumes have created barriers to non-vehicular travel.[2] Connectivity and accessibility will be considered during the alternatives screening process. Additionally, goods movement comprises a significant usage of the transportation network within the SGV, given the number of freight routes from the greater Los Angeles Area to/from the Inland Empire and points east. Potential

[1] U.S. Census Bureau, American Fact Finder 2015-2019 ACS 5-year data profiles. Note: SGV has a total of 375 square miles and LA County has a total of 4,750 square miles. Density calculation includes vacant, recreational, and open space uses within SGV and LA County.
[2] San Gabriel Valley Pedestrian and Bicycle Master Plan: https://www.activesgv.com/

connectivity and operational conflicts will need to be considered to address the existing and growing goods movement industry.

- **Travel Markets:** There are a large number of activity centers, including cultural, educational institutions, employment centers, entertainment centers, commercial centers, and recreational areas, within the SGV that contribute to decentralized and irregular travel patterns. Approximately 61% of the study area's vehicle trips occur entirely within the SGV. With over 40 transit routes in the study area, transit ridership is 3.6% compared to 5.8% in all of Los Angeles County[3]. Given current travel patterns, it is important to provide transit options that would help address these travel markets.

2.2 Definition of Terms

To address the mobility needs identified for the study area, this report defines the goals, objectives, performance measures, and evaluation criteria to evaluate alternatives. These terms are defined as follows:

- **Goals:** High-level themes which guide the overall purpose of a project. They are responsive to major mobility needs identified.
- **Objectives:** Specific action item to achieve each goal.
- **Evaluation Criteria:** Measurable qualitative or quantitative assessments for each objective to determine how well alternatives perform.
- **Method:** Category of evaluation criteria identified, whether it is qualitative or quantitative. This depends on goals and objectives identified, and the availability of data.
- **Source:** The origin of data used, including date and naming of the resource.
- **Quantitative:** Quantitative assessments can be measured and assigned a numerical value. Example: the cost of an alternative.
- **Qualitative:** Qualitative assessments are based on value judgments and observations and allow for nuanced understandings. Example: transit customer experience or consistency with current planning efforts.

2.3 Evaluation Process

The evaluation process consists of two steps:

2.3.1 Initial Screening

The first step in the Study is to provide stakeholders with a wide range of ideas and concepts to be considered. The purpose of the initial screening is to conduct a high-level assessment of the full list of transit concepts developed in Task 4.2. The assessment considers the extent to which the transit concepts will meet the study's goals and objectives defined in the Mobility Problem Definition Report and outlined in Section 4 below, as well as identify any clear fatal flaws or major constraints. Results of the initial screening will be used to refine the transit concepts to three primary alternatives that will be carried forward into more detailed analyses in the Alternatives Evaluation described in the following Section 2.3.2.

[3] U.S. Census Bureau, American Fact Finder 2015-2019 ACS 5-year data profiles

2.3.2 Alternatives Evaluation

The three primary alternatives carried forward from the initial screening will be evaluated based on specific criteria tied to the goals and objectives of the study. The evaluation criteria define potential performance of goals and objectives in qualitative and quantitative measures. A rating system of “high,” “medium,” or “low” is assigned based on the alternative’s ability to meet the Study’s goals and objectives. The rating system of performance will be defined once the data and information is processed (e.g., what constitutes as high vs. medium vs. low). Each alternative will first be evaluated under each evaluation criterion, then the results of all the evaluation criteria will be summarized by goal to produce an overall rating for the alternative. The final results will be compared across alternatives, to provide a clear understanding of benefits and tradeoffs. Table 2.1 provides an example of the rating methodology.

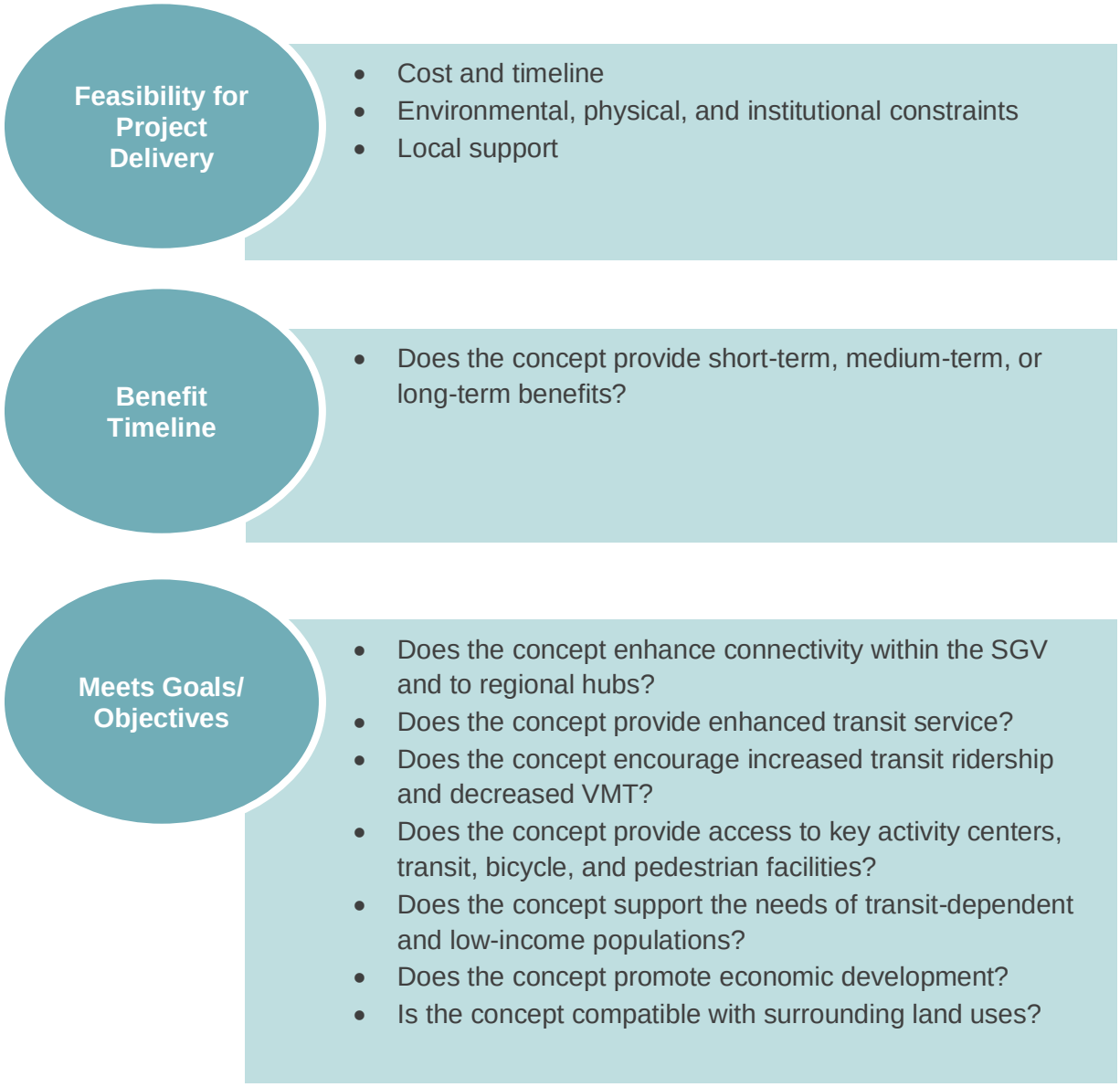
Table 2.1. Rating Methodology

Rating	Description
● High	A high rating indicates the alternative highly supports and satisfies the criterion, or has a low potential for negative impacts.
◑ Medium	A medium rating indicates the alternative moderately supports the criterion, or has a moderate potential for negative impacts.
○ Low	A low rating indicates that an alternative does not support or conflicts with the criterion, or has a high potential for negative impacts.

3 INITIAL SCREENING CRITERIA

Figure 3-1 below outlines the screening criteria to assess the full list of proposed transit concepts. Concepts with obvious flaws, tradeoffs or without direct mobility benefits could be screened out during this process. The objective is to provide a high-level qualitative assessment of each concept in order to create a refined list of alternatives for further consideration.

Figure 3-1. Initial Screening Criteria



4 ALTERNATIVES EVALUATION CRITERIA

The results of the initial screening will inform the concepts selected for further development. These alternatives will be analyzed for performance using evaluation criteria developed for the six Study goals.

4.1 Develop Near-Term and Long-Term Mobility Options for the San Gabriel Valley

Goal – Develop near-term and long-term mobility options for the SGV by packaging near term cost-effective projects (e.g. shorter segments) with a larger capital improvements or long-term projects (e.g. increased headways, fixed guideway such as LRT, HRT, or other fixed guideway transit, extension of near term-project).

Table 4.1. Objectives and Corresponding Evaluation Criteria – Develop Near-Term and Long-Term Mobility Options for the SGV

Goal	Objective	Evaluation Criteria	Method	Source
Develop Near-Term and Long-Term Mobility Options for the SGV	Propose transit alternatives that fulfill near-term needs, while also establishing long-term visionary solutions.	• Capital cost • O&M cost • Meets near-term or long-term needs, or both	Qualitative/ Quantitative	Capital & O&M cost estimates, alternative descriptions/ plans, regional plans

4.2 Provide All-Day Transit Service for Peak and Off-Peak Trips

Goal – Provide all-day transit service for peak and off-peak trips by addressing peak commute time periods (7-9AM) and (4-6PM) as well as accommodating riders that may need to travel outside of the peak and on weekends, including service workers, students, families, and those with early morning or late-night shifts. Providing reliable and accessible all-day and weekend service will be important in meeting varying transit needs within the SGV.

Table 4.2. Objectives and Corresponding Evaluation Criteria – Provide All-Day Transit Service for Peak and Off-Peak Trips

Goal	Objective	Evaluation Criteria	Method	Source
Provide All-Day Transit Service for Peak and Off-Peak Trips	Establish/improve local transit connections with existing transit assets, such as the Metro L (Gold) Line, Metrolink, and Foothill Transit's Silver Streak.	• Number of new connections with local and regional transit	Quantitative	Existing local and regional transit network
	Create reliable east/west service during off-peak time periods (midday, late night, and early morning).	• Serve east/west travel need • Travel speeds • Travel time/route length • Serve off-peak periods • Transit headways • Number of transit-dependent populations served	Quantitative/ Qualitative	Alternative descriptions/ plans
	Address peak period demand while aiming for convenient service all day long	• Capacity • Time periods served • Ridership • Stop amenities and real time information	Quantitative/ Qualitative	Alternative descriptions/ plans

4.3 Address Unmet Mobility Needs for Trips Within the SGV

Goal – Address unmet mobility needs for trips within the SGV by improving access throughout the SGV and providing connections to key destinations.

Table 4.3. Objectives and Corresponding Evaluation Criteria – Address Unmet Mobility Needs for Trips Within the SGV

Goal	Objective	Evaluation Criteria	Method	Source
Address Unmet Mobility Needs for Trips Within the SGV	Develop direct and convenient connections between key origins and destinations within the SGV.	• Number of major employment centers, activity centers, high-density residential, and local projects served	Quantitative	Zoning and land use data
	Support north/south connectivity and access throughout the SGV.	• Number of new north / south origin-destination connections	Quantitative	Alternative descriptions/ plans
	Identify programs that can help close first/last mile gaps, such as Metro Micro, other on-demand rideshare service, active transportation and public/private partnerships for shuttle services.	• Number of connections to existing and future transit stations and facilities	Quantitative	Existing local and regional bicycle and pedestrian network

4.4 Create Accessible Transit Service for SGV Communities

Goal – Create accessible transit service for the SGV by focusing on communities that rely on transit, including Metro's Equity Focus Communities (EFCs) defined as minority, low-income, and zero-vehicle households, seniors and youth.

Table 4.4. Objectives and Corresponding Evaluation Criteria – Create Accessible Transit Service for SGV Communities.

Goal	Objective	Evaluation Criteria	Method	Source
Create Accessible Transit Service for SGV Communities	Emphasize focused, frequent, and reliable services in areas with high concentrations of Metro EFCs (zero-vehicle, low-income, and minority households).	• Number of EFCs served • Number of existing affordable housing units within ½ mile of stations • Potential adverse effects to environmental justice communities • Community and stakeholder support	Quantitative/ Quantitative	Census data, alternative descriptions,
	Identify and plan routes that are accessible for youth, seniors and other populations that rely on transit for mobility.	• Number of transit-dependent populations served • Number of seniors and youth served • Quality of service to meet senior travel patterns and safe routes to school	Quantitative/ Qualitative	Census data

4.5 Balance the Needs of Goods Movement and Transit When Selecting Routes for New Services

Goal – Balance the needs of goods movement and transit when selecting the new route for new service by identifying potential conflicts with transit and freight needs. Considering the critical goods movement routes throughout the SGV, it is important to identify which corridors may be considered for freight improvements while concomitantly developing transit improvements.

Table 4.5. Objectives and Corresponding Evaluation Criteria – Balance the Needs of Goods Movement and Transit When Selecting Routes for New Services

Goal	Objective	Evaluation Criteria	Method	Source
Balance the Needs of Goods Movement and Transit	Identify freight conflicts to avoid with transit projects.	• Impacts to roadway travel lanes, parking, and truck movements	Qualitative	Alternative descriptions/ plans
	Develop transit alternatives that do not preclude long-term solutions to goods movement.	• Conflicts with goods movement routes	Qualitative	Alternative descriptions/ plans
	Minimize conflicts with rail freight by staggering rail service times and separating facilities.	• Shared or dedicated ROW	Qualitative	Alternative descriptions/ plans

4.6 Develop Transit Service That Is Compatible with Surrounding Land Use

Goal – Develop transit service that is compatible with surrounding land use by supporting transit hubs and transit-oriented communities, while considering the geographic constraints of the SGV's varying topography and the relationships between transit and land use.

Table 4.6. Objectives and Corresponding Evaluation Criteria – Develop Transit Service That Is Compatible with Surrounding Land Use

Goal	Objective	Evaluation Criteria	Method	Source
Develop Transit Service That is Compatible with Surrounding Land Use	Increase the quality and quantity of transit service at principal transit hubs	• Access to number of major employment centers • Access to number of major activity centers • Number of connections to existing transit network • Employment density within ½ mile of stations • Population density within ½ mile of stations	Qualitative/ Quantitative	Zoning and land use data, regional transit network
	Develop services that can support future development of transit-oriented communities (TOC) to create housing density and promote ridership.	• Consistency with development patterns and land uses (scale/intensity of development) • Consistency with ongoing planning efforts that update zoning/development standards	Qualitative	Zoning and land use data, regional plans
	Develop transit that considers physical and environmental constraints when identifying routes	• Number of physical and environmental constraints	Qualitative	Zoning and land use data

5 NEXT STEPS

This methodology report provides guidance on how the evaluation of concepts and alternatives will be conducted. The methodology focuses on screening and evaluation efforts that will best address the mobility needs identified within the SGV. In parallel, the development of concepts will be initiated with input from impacted communities, stakeholders, SGVCOG, Metro staff, and the project team. Additionally, this methodology report supports the forthcoming tasks and reports:

- Screening of Concepts (Task 4.2) – This task will describe the criteria to screen the initial benefits and constraints and provide the evaluation of each transit concept. The report will summarize findings in order to develop a smaller set of three alternatives for detailed analysis.
- Feasibility Analysis of up to Three (3) Alternatives (Task 7) – This task will provide the detailed methodology and evaluation criteria to assess each alternative for performance and fulfilment of the Study's goals and objectives. The report will summarize findings by showing a comparative assessment of the three refined alternatives.