Goods Movement Collaborative and Plan Development Technical Team Meeting Agenda

Thursday, July 10, 2014, 11:30 to 1:00 p.m.
Alameda County Transportation Commission
1111 Broadway, Suite 800, Oakland, CA 94607

Staff Liaisons: Tess Lengyel, Alameda CTC; Carolyn Clevenger, MTC;
Technical Team Members: Alameda CTC Alameda County Technical Advisory Committee
Consultant: Michael Fischer, Cambridge Systematics
Public Meeting Coordinator: Angie Ayers

		Page	A/I
1.	**Welcome and Introductions**		
2.	**June 5, 2014 Meeting Minutes** Recommendation: Approve the June 5, 2014 meeting minutes.	1	A
3.	**Work Update** Staff will present a project recap and an updated project schedule incorporating MTC's regional goods movement plan, and discuss deliverables review process.	5	I
4.	**Revised Draft Performance Measures (Task 3a)** Staff will present a revised strategy evaluation process and set of performance measures to reflect the plan's vision and goals. Recommendation: Approve the Draft Performance Measures Technical Memorandum and recommend approval to the Policy, Planning, and Legislation Committee.	7	A
5.	**Next Steps/Next Meeting**		
6.	**Adjournment**		

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Goods Movement Collaborative and Plan Development
Technical Team Meeting Minutes
Thursday, June 5, 2014, 11:30 a.m. 2.0

1. **Welcome and Introductions**
   Tess Lengyel called the meeting to order at 11:30 a.m. The meeting began with introductions. Tess provided a brief overview on meeting outcomes. She reiterated that Alameda CTC and MTC are working together to develop a Regional Goods Movement Plan and a Countywide Goods Movement Plan. Tess requested staff to provide feedback and adopt the draft vision and goals that will be discussed.

   Tess invited the committee to attend the first Goods Movement Roundtable on Wednesday, July 23, 2014 from 12:30 to 4:30 p.m. at Alameda CTC offices.

2. **April 10, 2014 Meeting Minutes**
   Keith Cooke (San Leandro) moved to approve the April 10, 2014 meeting minutes as written. Ruben Izon (Alameda County) seconded the motion. The motion passed.

3. **Work Update**
   Michael Fischer of Cambridge Systematics, the project manager of the Goods Movement Collaborative and Plan, gave an overview of the project approach and the progress to date. He discussed some of the deliverables that are complete and/or in progress. Michael mentioned that one of the deliverables in progress is a draft goods movement white paper and advocacy piece that will be shared at the Roundtable in July to provide the stakeholders and interested parties with information on what goods movement is about in Alameda County, the region and mega-region.

   The committee members inquired if the 5-year goods movement project list will be shared with ACTAC. Tess stated that a goods movement project list that is not sorted into near-term/long-term was presented to the Commission in 2013 and was submitted to the California Freight Mobility Plan, and that this list can be shared, but that the 5-year list is not ready to be shared.

   The committee wanted to know who are the stakeholders and interest groups that the Goods Movement Team has met with. Michael gave a list of a few groups that the team has met with:
   - Alameda Labor Council and some of the labor groups such as ILWU
   - Trucking company owners who represent a wide variety of trucking
   - Ditching Dirty Diesel Collaborative
   - East Bay EDA (Included folks from Pacific Maritime and groups around the Port of Oakland
   - A group that is involved with Chamber of Commerce's
   - Alameda CTC Commissioners and Board of Supervisors
   - Currently, setting up a meeting with a group of maritime related businesses

4. **Revised Draft Vision and Goals (Task 2a)**
   Michael Fischer informed the committee that the vision and goals in the packet are revised based on the feedback received from the committee at the April 10, 2014 meeting. He reminded the committee why the vision and goals are being created and

it's important that they are aligned with the both the region and countywide plan. Michael pointed out that the items listed under Goods Movement Issues and Opportunities were mostly generated from meetings with the Stakeholders. He also summarized the information that was received from the cities via the ACTAC survey. Michael reviewed the vision and goals statements and requested feedback from the committee.

Questions/feedback from the committee on the vision and goals statements:

- Will goal #4 include safety? Michael stated that safety is covered in goal #2 and the committee agreed that this is sufficient.
- What does resilient mean? Michael stated that we are focusing on that the system is being able to respond quickly to any type of disruptions.
- Suggestions to include "community" or "health" in the vision statement. After some discussion, it was agreed that the best way to incorporate this suggestion was to modify goal #4 from "create a healthy and clean environment" to "create healthy communities and a clean environment"
- Suggestion to make wording of goal #4 more concise by changing "support improved quality of life" to "improve quality of life"

Keith Cooke (San Leandro) moved to approve the vision and goals statements with the above changes to the goals. Ruben Izon (Alameda County) seconded the motion. The motion passed.

5. Draft Performance Measures (Task 3a)

Michael Fischer informed the committee that a draft performance measures technical memorandum is in the packet and requested feedback from the team today. He noted that the performance measures will be presented to the Commission for approval in July. The discussion included how the performance measures will be used in the development of the plan and a recommended set of performance measures are in the technical memorandum. Michael noted that the key building block to developing the performance measures is the vision and goals, needs, issues, and opportunities, and strategies.

Questions/feedback from the committee on the evaluation process/framework:

- City of Hayward inquired whether the plan would recommend truck routes or truck parking locations. Michael Fischer mentioned that the project team was award there could be jurisdictional issues and that the plan could flag problem spots and provide data to support local planning. He also mentioned that the plan could propose creating a truck route or truck parking program. Tess Lengyel further emphasized that the plan would not dictate what must be done at a local level, but at the same time would not lack implementation specificity. Carolyn Clevenger discussed truck parking at the regional level.
- Tracy Zhu asked whether the project team will look at co-benefits as part of prioritization. Michael Fischer responded that the prioritization would take this into account.
- Keith Cooke pointed out that there are issues with plans that propose a combination of projects and strategies, because cities often implement individual projects, not an overall strategy. Tess Lengyel mentioned that implementation of all of the projects and programs that comprise a strategy may happen over time.

She further pointed out that the team is working is attempting to develop an advocacy component with this goods movement plan that could help to increase funding available for implementing a strategy in totality. Michael Fischer mentioned that the evaluation would also include project-level evaluation, not just an evaluation of an overall strategy.

Questions/feedback from the committee on performance measures:

- Regarding travel time delay – Will the performance measures address trucks on the local roadway as well as truck routes? Michael said yes.
- How will the performance measures correlate with the Countywide Transportation Plan (CWTP)? Tess stated that the team is looking at establishing a linkage with the CWTP. The committee agreed that it would be great if the Goods Movement Plan performance measures will work for the CWTP. Tess mentioned that we are embarking on an Arterials Plan and a Transit Plan Tess said all plans are staggered and are looking at how to integrate with the CWTP.
- Will there be analysis through the performance measures of cumulative impacts from multiple projects? Michael said that the project team had discussed the need to analyze synergies, tradeoffs and other interactions between individual projects but also cautioned that a scenario-based analysis can make it difficult to disentangle the effects or contributions of individual projects.
- Will the different goals be weighted in project prioritization? Tess clarified that the plan is not a programming document and therefore weighting different goals is not appropriate. Carolyn Clevenger further clarified that for the regional goods movement plan, inclusion does not automatically guarantee inclusion in the next Regional Transportation Plan.

6. Next Steps/Next Meeting

Tess Lengyel requested that committee members review the technical memorandum in the packet and provide their feedback by June 19. She stated that Alameda CTC staff will email a reminder to the committee.

7. Adjournment

The meeting adjourned at 1:20 p.m. The next meeting is scheduled for July 10, 2014 at Alameda CTC offices.

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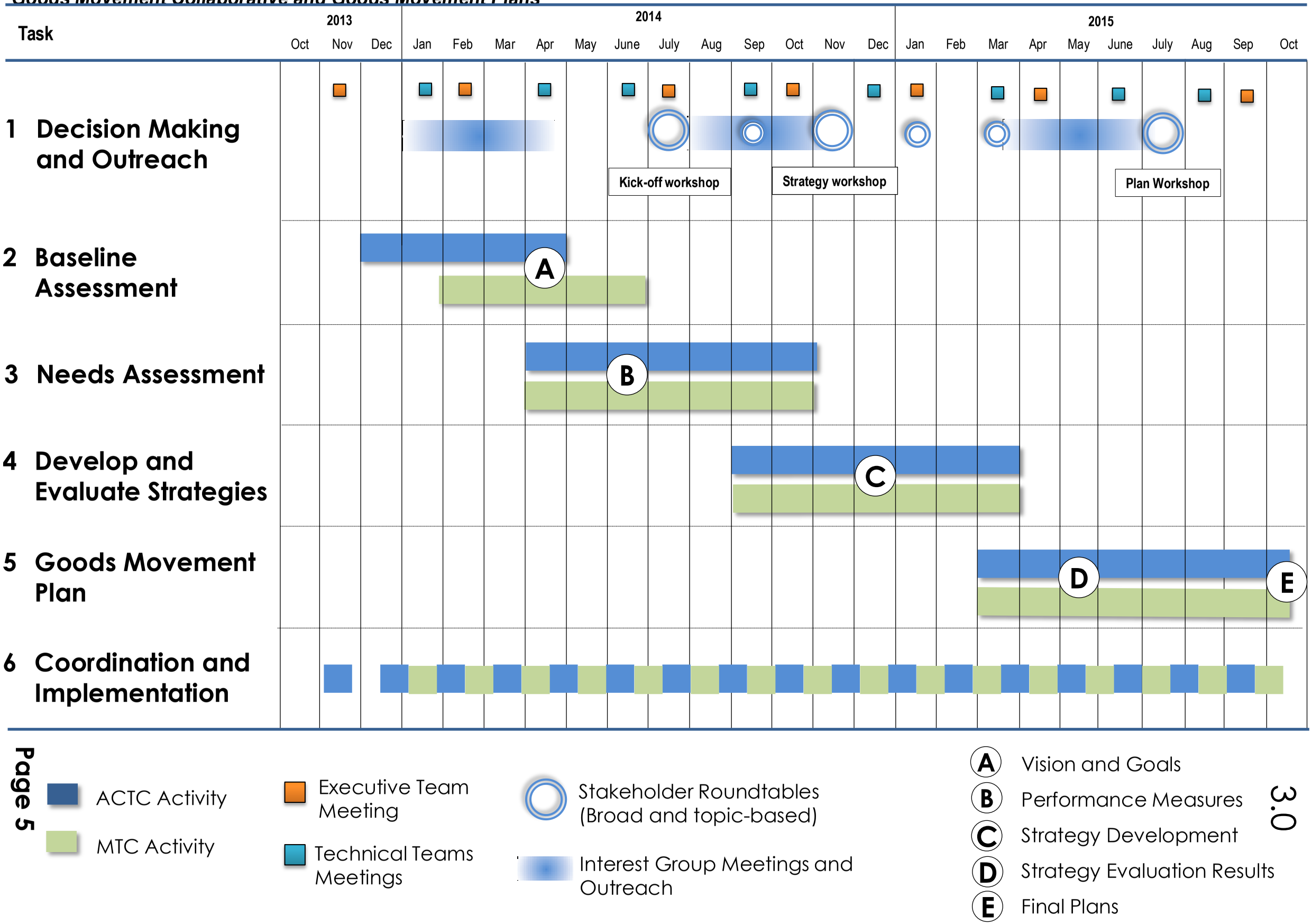
Alameda County Transportation Commission and Metropolitan Transportation Commission

Goods Movement Collaborative and Goods Movement Plans



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DATE:	July 7, 2014
SUBJECT:	Countywide Goods Movement Plan Performance Measures
RECOMMENDATION:	Approve the Countywide Goods Movement Plan Performance Measures

Summary

Goods movement is critical to a strong economy and a high quality of life in Alameda County. The central location of the county in the Bay Area, combined with significant freight transportation assets, such as major interstates, the Port of Oakland and two major rail lines, position it as a goods movement hub for Northern California. Alameda CTC is developing a Countywide Goods Movement Plan that will outline a long-range strategy for how to move goods efficiently, reliably, and sustainably within, to, from and through Alameda County by roads, rail, air and water. The performance measures support a number of aspects of plan development including the identification of gaps and needs in the goods movement system, the evaluation and prioritization of strategies to improve goods movement, and the ongoing monitoring of goods movement system performance.

Attachment A presents the Draft Countywide Goods Movement Plan multimodal performance measures. The memorandum presents both an overview of how performance measures will be used in the development of the plan as well as the recommended set of performance measures. The performance measures are designed to correspond to the vision and goals that is being concurrently considered for approval by the Alameda County Technical Team.

The performance measures are presented to ACTAC for initial review in June. In July, revised performance measures incorporating feedback from ACTAC will be presented with a recommendation for approval.

Fiscal Impact:

There is no fiscal impact.

Attachments:

A. Alameda County and MTC Goods Movement Plans – Performance Measures Technical Memorandum

Staff Contact

Tess Lengyel, Deputy Director of Planning and Policy

Matthew Bomberg, Assistant Transportation Planner

ALAMEDA COUNTY AND MTC REGIONAL GOODS MOVEMENT PLANS

Task 3a – Multimodal Performance Measures

Draft Technical Memorandum

prepared for

Alameda County Transportation Commission

and Metropolitan Transportation Commission

prepared by

Cambridge Systematics, Inc.

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1.0 INTRODUCTION

As part of Goods Movement Plan development for the Alameda County Transportation Commission (ACTC) and Metropolitan Transportation Commission (MTC), a robust set of performance measures will be implemented to evaluate the physical and operational performance of the multimodal goods movement system. These measures will support these agencies in gauging freight system condition and use, identifying freight system priorities, developing policy, and making strategic investments that align with the overarching goods movement system vision and goals. After Plan development is complete, the performance measures may be adapted for continued monitoring of system-level trends and progress towards goals.

The set of recommended performance measures presented in this technical memorandum will form one basis for evaluating projects, programs and policies identified through the Goods Movement Plan. A performance-based evaluation process will help stakeholders and decision makers understand the benefits of proposed goods movement actions through the analysis of objective qualitative and quantitative information. Consistent with Plan Bay Area and the Alameda Countywide Transportation Plan, this technical memorandum lays out a performance-based evaluation process, as well as specific performance measure categories and metrics that will be used in the Plan's Task 4 evaluation. This memorandum contains the following sections:

- **Section 2.0 – Overview of Performance Measures.** This section describes the purpose of performance measures, criteria that should be considered when selecting performance measures, and current performance measurement development at the Federal and state levels. Information in this section provides context and describes the basis for how the proposed performance measures were developed.

- **Section 3.0 – Performance-Based Evaluation Process.** This section details the process developed to evaluate the projects, programs and policies using performance measures as part of this Plan. This includes tying measures to Plan Vision and Goals, as well as to goods movement system issues, needs and opportunities. The process incorporates quantitative and qualitative data into evaluation, but does not rely exclusively on measures, in order to create a more flexible process.

  Section 4.0 – Performance Measure Development and Recommendations. This section presents recommended performance measures to align with the evaluation process described in Section 3.0, and includes identification of potential data sources and description of how they will be applied during the evaluation.

2.0 Overview of Performance Measures

In recent years, the use of performance measures in the public sector has matured and expanded significantly, yet nationally the use of freight-specific performance measures remains limited, and performance measures used vary significantly between states and regions. This is due in part to the shared public- and private-sector roles in the freight system and the lack of data available to support measures. This section provides an overview of performance measures, describes current Federal guidance on the development and use of these measures, and highlights current efforts underway in California in terms of developing freight specific measures.

In this memorandum, the term "strategy" is used to describe an overall approach to addressing an issue, need or opportunity. A strategy includes projects, programs and policies. Projects typically represent individual and geographically specific capital investments. Programs represent funding pools that may be applied to similar types of small projects, but are typically open to jurisdictions across the county or region. Policies are incentives or restrictions for the Alameda CTC or MTC to oversee and implement, and typically require broad organizational partnerships and advocacy.

2.1 Purpose of Transportation System Performance Measures

Performance measures are data-driven tools that provide one way for agencies to assess the condition of the transportation system, identify gaps and opportunities for system improvement, identify and evaluate strategies to meet goods movement goals, and monitor ongoing performance. They can also be used to help decision makers allocate limited resources more effectively than would otherwise be possible. It is common for different performance measures to be applied to each of these unique purposes, situations and system needs. A variety of performance measure applications are described, below:

- **Linking Strategies to Vision and Goals.** Performance measures can be developed and applied to help link Plan strategies to the Vision and Goals of the Plan. **As Section 3.0 shows, linking performance measures to the Vision and Goals is central to developing a performance-based project evaluation process.**

- **Needs Assessment and Strategy Development.** Performance measures can be applied to assess condition, performance, and use of the transportation system. They also help identify system gaps where additional projects, programs or policies may be needed. **The "Round 1" evaluation of the performance-based evaluation process described in Section 3.0 is focused on this gap analysis application of performance measures.**

- **Project Evaluation and Prioritization.** Performance measures can provide information needed to know when and where to invest in projects and programs that provide the greatest

benefits. Performance measures can help determine which projects, programs, and policies should be included in high priority strategies and can also help in the analysis of tradeoffs and/or synergies between different projects, programs, and policies. **The "Round 2" evaluation of the performance-based evaluation process described in this memorandum is focused on this application of performance measures.**

- **Managing Performance.** Applying performance measures can improve the management and delivery of programs, projects and services. The right performance measures can highlight the technical, administrative, and financial issues critical to governing the fundamentals of any program or project.

- **Communicating Results.** Performance measures help communicate the value of public investments in transportation and provide a concrete way for stakeholders to see an agency's commitment to improving the transportation system and help build support for transportation investments.

- **Strengthening Accountability**. Performance measures promote accountability with respect to the use of taxpayer resources and reveal whether transportation investments are providing the expected performance or demonstrate the need for improvements.

2.2 Choosing Performance Measures

Performance measures should be carefully selected to align with transportation agency goals and the existing (or potential) data and resources available. When considering performance measures, questions related to how they will be applied and the availability of data should be considered. The most appropriate performance measures will also depend on regional and local characteristics and unique features. An example of a unique feature in Alameda County and the Bay Area is the presence of global gateways such as the Port of Oakland, the Oakland International Airport, San Francisco International Airport, and other smaller seaports. These gateways serve as major connectors to local and regional surface transportation systems and international destinations; they facilitate import and export activity, and are critical pieces of the region's economy. Performance measures should encapsulate the multimodal nature of the goods movement system and types of goods movement activities. Another example is the Bay Area's awareness and concern about public health and environmental quality. The high level of awareness and commitment of residents and businesses to environmentally sustainable values and policies suggests that these issues should also be reflected in recommended performance measures per adopted Vision and Goals.

While performance measures provide many benefits, a few pitfalls should be avoided when implementing performance measurement systems, including:

- **Selecting performance measures based only on available data, and not adequately fulfilling agency Vision and Goals.** High-quality data may not immediately be available to measure performance against overarching Vision and Goals. Although it is prudent to begin with measures for which data are available, it is also important to ensure that each of the measures implemented does in fact link to the Vision and Goals of the agency, and are not selected purely on the basis of data availability.

- **Avoiding performance measures based on availability of quantitative data and robust forecasting and analysis tools.** Similar to the previous point, while high-quality data are important to performance evaluation (and desired), qualitative information can also be applied and provide insight into system conditions and use. In addition, in some cases, there may be an inability of quantitative measures to adequately address all political and community value considerations and/or project types. Likewise, while robust tools such as travel demand and economic models can provide detailed evaluation of discrete projects, other lower-tech tools such as spreadsheets and sketch analyses can also be applied and provide useful results.

- **Too many, or too few, performance measures can undermine the agency's ability to utilize them effectively.** Too many performance measures may cause a lack of focus and foster wide-ranging data collection efforts that consume valuable resources. As states and regions progress in their efforts to incorporate performance measures they tend to reduce their number of measures to a "critical few." However, utilizing too few performance measures can leave agencies with gaps in critical areas, undermining the effectiveness of their performance measurement program. One solution to the "too many" or "too few" measures conundrum is the development of performance indices. The philosophy behind using performance indices is simple - consolidate a great deal of information into one number. When it is necessary to present information from several related areas simultaneously (e.g., demand and capacity), a performance index can be used as a management tool that allows these sets of information to be compiled into an overall measure.

2.3 National Performance Measure Development

Prior to the most recent transportation legislation, freight performance measures were not widely used, in part due to shared public- and private-sector roles. The signing of the Moving

Ahead for Progress in the 21st Century (MAP-21)[1] transportation legislation in July 2012, thrust performance measures into the spotlight. MAP-21 notes that State DOTs and MPOs will be required to establish and use a performance-based approach to transportation decision making and the development of short and long-range transportation plans.

Performance measures, to be established by U.S. DOT, will be developed to align with the seven National Goals established as part of the legislation, which include: safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. Several of these core goal areas can be directly tied to the freight system. At this time, national performance measures related to goods movement have not been formalized, however dialog on the subject indicates the need to include system condition and system performance (e.g., travel time, delay and travel time reliability) as meaningful freight system measures. Other categories of measures may also be applied to the freight system. The U.S. DOT is required to establish performance measures for States and MPOs to use to assess the Interstate and National Highway Systems. Once performance measures are set, States and MPOs must establish performance targets in coordination with other State and local transportation agencies.

2.3.1 Current Status of U.S. DOT Mandated MAP-21 Performance Measure Development

In March 2014, the U.S. DOT published a Notice of Proposed Rulemaking (NPRM) for State DOT and MPO performance measure development as part of the requirements to implement MAP-21 performance provisions. The Safety Performance Measures NPRM proposes safety performance measures and State DOT and MPO requirements for establishing and reporting specific annual targets for fatalities and serious injuries. Not yet released, a second set of performance-related NPRMs will focus on pavement, bridges, and asset management; a third will focus on congestion, emissions, system performance, freight, and public transportation.[2]

2.3.2 U.S. DOT Freight Condition and Performance Report

While states are required by MAP-21 to develop highway-focused performance measures, U.S. DOT is developing a multimodal freight system condition and performance report. Due for release in fall 2014, this report is expected to provide best practices for freight system condition and performance monitoring. Much like the best practice framework, U.S. DOT is in the process of identifying at least one measure to link to each of the National Freight Goals so that they can

[1] http://www.dot.gov/map21.

[2] https://www.fhwa.dot.gov/tpm/rule.cfm.

gauge how the Nation is achieving those goals. The draft measures, as of April 2014, include those in Table 2.1.

Table 2.1 U.S. DOT Freight Condition and Performance Report Draft Performance Measures

National Freight Goals	Draft Performance Measures
Improving the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness	Total cost of moving freight; productivity indices
Reducing congestion on the freight transportation system	Free-flow/optimal traffic volume congestion measures; fluidity index
Improving the safety, security, and resilience of the freight transportation system	Number and rate of fatalities and serious injuries; TSA/Coast Guard reduction in security risks; resilience measures
Improving the state of good repair of the freight transportation system	Reduction in long-term maintenance costs; reduction in user costs; highway/bridge conditions indices
Using advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system	Adoption of ITS technologies; other measures on adoptions of innovative technology (e.g., cold ironing)
Reducing adverse environmental and community impacts of the freight transportation system	GHG emissions from freight transportation; energy usage; hazmat releases; community impacts

Source: Jack Wells, U.S. DOT FHWA Talking Freight Webinar: MAP-21 Freight Provisions, January 22, 2014.

U.S. DOT has admitted that they are experiencing significant data challenges as part of this effort, and are working diligently to identify measures that are meaningful to the diverse group of public- and private sector stakeholders that have an interest in freight system condition and performance.

2.4 California Freight Mobility Plan Performance Measures

At the state level, the California Freight Advisory Committee was commissioned by Caltrans to advise on the development of state freight performance measures consistent with MAP-21. In November 2013 the Committee reviewed draft performance measures tied to six goals. While the goals have been solidified, the specific measures are still under review and have not been finalized. The six goals developed by Caltrans as part of that process are described below.

- **Economic Contribution Goal.** Improve the contribution of the California freight transportation system to economic efficiency, productivity, and competitiveness. The performance measures that are being developed to support this goal track factors related to the cost of moving goods, the state's market share and the value of international trade.

- **Congestion Relief Goal.** Manage congestion on the freight transportation system. Performance measures related to this goal track the extent of congestion and delay on the network; they measure cumulative delay and system reliability.

- **Safety and Security Goal.** Improve the safety, security, and resilience of the freight transportation system. Performance measures track the number of crashes, injuries and fatalities associated with different freight.

- **System Infrastructure and Preservation Goal.** Improve the state of good repair of the freight transportation system. Performance measures tied to this goal will track the condition of pavement, bridges, rail tracks, and channels.

- **Innovative Technology and Innovation Practices Goal.** Use technology and innovation to develop, operate, maintain, and optimize the efficiency of the freight transportation system and to reduce its environmental and community impacts. Performance measures within this category are tied to the rate of implementation of new technologies or practices that improve performance.

- **Environmental Stewardship Goal:** Reduce adverse environmental and community impacts of the freight transportation system. Performance measures in this category include reductions in criteria pollutants, noise impacts and impacts to threatened species.

3.0 Plan Development Process and How Performance Measures Will Be Used

The intent of employing a performance-based evaluation process is to provide an objective means of evaluating projects, programs and policies (i.e. strategies) relative to the Goods Movement Plan vision and goals. The performance measures should inform strategy development and advance key needs and issues. This section describes the Goods Movement Plan performance evaluation process and how it will be used to evaluate projects, programs and policies.

3.1 Goods Movement Plan Building Blocks

There are several critical building blocks for the development of the Plan. These include:

- **Vision and Goals**. The vision and goals are aspirational statements about what the Plan is intended to accomplish. It also hints at the types of benefits businesses and residents of the County will receive if the Plan is successful. The Vision and Goals were developed to align with higher-level goals developed for the Countywide Transportation Plan and the Regional Transportation Plan but they also reflect the need to address critical issues and opportunities focused specifically on the freight system as identified by stakeholders and prior studies.

- **Goods Movement Functions**. The goods movement functions describe, at a high level, what functions different elements of the goods movement system perform to serve all of the different goods movement needs of the County and the region. We have described the goods movement system in terms of the following functions:

  - **Global Gateways.** This function is the County's and region's conduit to international trade. The primary global gateways in Alameda County and in the region include the major maritime facilities at the Port of Oakland, and the Oakland International Airport and San Francisco International Airport. At the regional scale, there are also several smaller ports outside of Alameda County that contribute to the global gateway function.

  - **Interregional Corridors and the Intraregional Core System.** A number of highway routes and parallel rail routes in the County and region are classified as interregional corridors because their primary, though not exclusive, function is to move freight between regional economic centers. The intraregional core network serves areas with the highest concentration of population and subsequently highest share of demand for goods movement. This core network also provides primary access to major facilities such as the Port of Oakland, rail yards, warehouse/industrial districts, and connections to the interregional corridors. The intra- and interregional corridor functions are necessarily intertwined, as many intraregional movements occur on the interregional corridors.

- **Urban Goods Movement System and Last-Mile Connectors.** The urban goods movement system refers to networks of city streets that move freight to or from its origin or final destination. Last-mile connectors are local truck routes within the urban goods movement system and include connections between major freight facilities (such as seaports, airports, intermodal terminals, industrial parks, and major warehousing clusters) and the rest of the transportation system.

  The freight system in the county/region needs each of the functional elements to perform effectively. We will look at the goods movement needs, issues, and opportunities of each of the functional elements.

- **Needs, Issues, and Opportunities.** Needs generally refer to gaps or deficiencies in the system which, if corrected, will move the freight system closer to the Vision and Goals. Issues are similar to needs but they tend to be more cross-cutting, such as impacts on community livability and quality of life. Opportunities are ways that the system can be modified or transformed to deliver a higher level of benefits than the current system delivers.

- **Strategies**. The Plans will include a portfolio of strategies that will address the needs, issues, and opportunities of all the functional elements in combination. Strategies will be comprised of projects, programs, and policies grouped together for ease in communicating how individual elements, when taken together, achieve the Vision and Goals of the Plans. The number of strategies evaluated during this project will relate to the number of needs, issues and opportunities identified. Table 3.1 provides an example of how these elements are linked. As shown, the effect of interstate congestion on trucks and lack of truck parking could translate into a strategy for improved truck mobility, access, and parking. Projects, programs or policies that facilitate those improvements could be included within that strategy.

Table 3.1 Example Strategy Development

Needs, Issues, or Opportunities	Example Strategy	Example Projects, Programs, or Policies
Recurrent congestion on I-880 and I-580 truck corridors will increase	Improve Truck Mobility, Access, and Parking	Various projects including interchange improvements, lane additions, ramp metering, service patrols, etc.
No public truck stopping or parking locations in Alameda County		Reexamine STAA Designated Routes
		Additional Truck Rest Areas
		Truck Stop Electrification

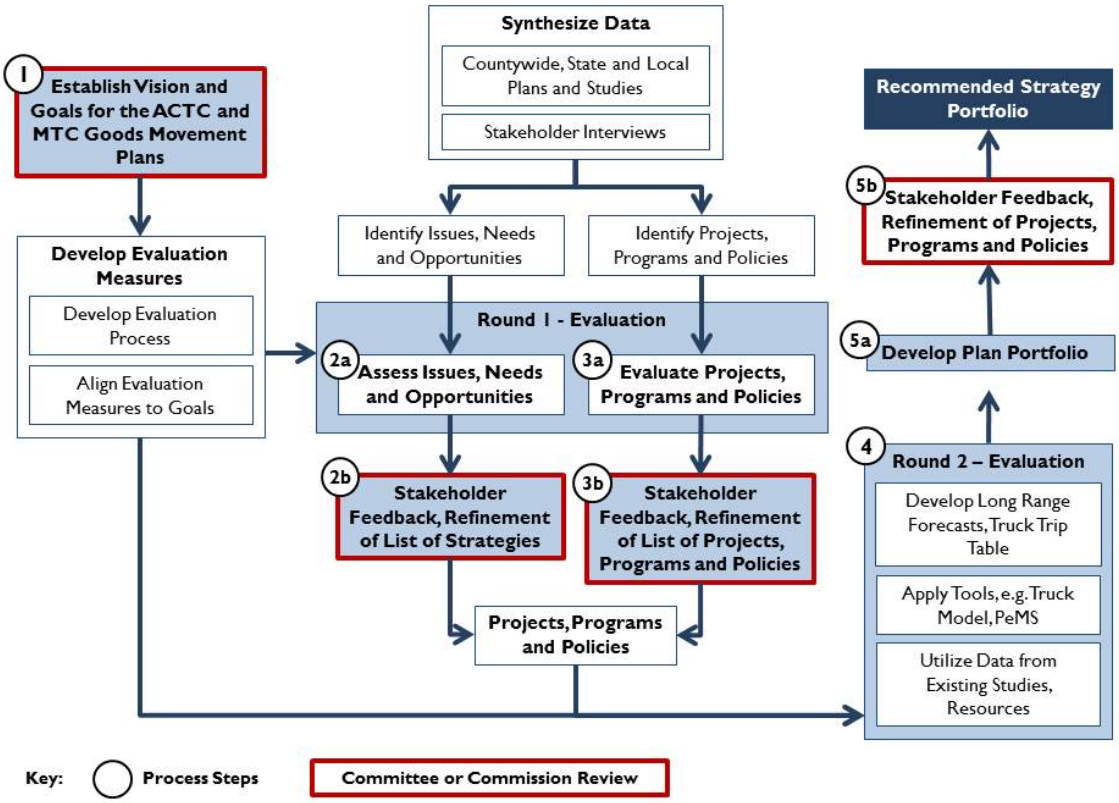
3.2 Performance-Based Evaluation Process Description

Figure 3.1 shows the overall performance-based evaluation framework, with the numbered steps below corresponding to the numbering on the figure.

- **Step 1 – Establish Vision and Goals.** As the Vision and Goals are a foundational element of the Plan, they will be reviewed with stakeholders, the Executive Team, and the Technical Teams before being presented to the Alameda CTC Commission for approval. Ultimately, strategies will be designed to ensure that there is progress towards the Vision and Goals and the effectiveness of the Plan will be measured against how well the Vision and Goals are being met.

- **Step 2a – Identify and Assess Issues, Needs and Opportunities.** The initial input on issues, needs and opportunities is taken from stakeholders and prior studies. A matrix will be developed to highlight how the "Issues, Needs, and Opportunities" relate to both the Plan Goals and Goods Movement Functions. The reason for this matrix is to show how addressing issues, needs and opportunities will contribute to achieving Goals as well as to show which particular Goods Movement Functions have needs and present opportunities so that strategies can be more effectively designed. In addition, if issues, needs, and opportunities cut across multiple Goods Movement Functions, they may deserve greater attention or higher priority in developing strategies. Ultimately, the Plan that will be developed in later stages of the process can be thought of as a "portfolio". For the portfolio to be "balanced" it needs to include strategies that address all of the issues, needs, and opportunities and all of the Goods Movement Functions. In some cases, improving the performance of the system to achieve a goal for a particular function (and addressing a particular need) could create the need to create a balancing strategy for a different Goods Movement Function. For example, expanding activity at the Port of Oakland (global gateway function) by improving rail service in order to meet economic/jobs goals could create community noise and at-grade crossing impacts on communities and reduce the efficiency of the urban goods movement. The matrix of issues, needs, and opportunities in this case would help indicate the need to develop balancing strategies such as grade separations or quiet zones.

Figure 3.1 Performance-Based Evaluation Framework



Performance measures can play a useful role in assessing the issues, needs, and opportunities at this stage of Plan development by corroborating the qualitative input provided by stakeholders. They can also play a useful role in targeting which specific components of the system exhibit the highest priority issues, needs, and opportunities by providing a measureable way of comparing, for example, the severity of a need in one part of the system with that of another. For example, safety may be a goal and stakeholders may have identified specific roadways or at-grade rail/roadway crossings that present safety issues. A performance measure such as number of crashes/incidents could be used to determine which locations present the highest priority safety problems.

It is important to note that performance measures are just an input to the assessment of issues, needs, and opportunities and will not always take precedence over stakeholder input or other policy considerations. This is because the data and tools available to assess performance measures may be insufficient to reach definitive conclusions and stakeholder perceptions are an important part of the assessment process. It is also important to note that some performance measures may be useful for assessing issues, needs, and opportunities based on current condition but tools may not be available to estimate

quantitatively the impact of projects, programs, and policies on this same performance measure. Thus, a mix of different performance measures will be needed for needs assessment and project evaluation.

- **Step 2b – Stakeholder Feedback.** After the issues, needs and opportunities are identified and assessed (both qualitatively and with quantitative performance measures) the results will be presented to stakeholders in a series of interest group meetings and at a Roundtable to receive their input on the results of the assessment. The assessment will also be presented to the Executive Team and the Technical Team for their input.

- **Step 3a – Initial Evaluation of Projects, Programs, and Policies.** As the consultant team is developing the needs assessment that comprises Step 2a, a parallel process will begin to develop potential strategies that can address issues, needs, and opportunities. The consultant team will compile as comprehensive a list of potential projects, programs, and policies as possible drawing from projects already incorporated in the Countywide Transportation Plan and Regional Transportation Plan, prior studies and plans, and best practices. In Step 3a, this list of potential projects, programs and policies will be evaluated to determine 1) if there are projects, programs, and policies that address each of the identified issues, needs, and opportunities for each Goods Movement Function (as appropriate); 2) to determine if projects, programs, and policies are likely to have sufficient goods movement benefits to be considered for more detailed analysis; and 3) to determine if there appear to be synergies or tradeoffs among particular projects, programs, and policies that will need to be considered in subsequent analysis.

  The strategies (projects, programs, and policies) will first be evaluated qualitatively to determine if there are at least some projects, programs, and policies that will address each of the issues, needs, and opportunities for each of the goods movement functions to which those issues, needs, and opportunities are applicable. While this will largely be a qualitative process, performance measures can be used to inform the evaluation. In this step the team will also identify "gaps" that need to be filled, and introduce new projects, programs or policies to address issues and needs.

  The consultant team will compile any existing data (e.g. from completed Project Study Reports, environmental documents, or from analyses of similar projects in similar contexts) on the expected performance improvements (performance measures) associated with the projects, programs, and policies to help determine if they will really result in freight benefits that help achieve the goals. We will also examine the degree to which the projects, programs, and policies address priority needs and opportunities as identified during the Step 2a needs assessment. While performance measures will not be a sole determinant of this evaluation, they will provide one valuable source of input. Some projects may be eliminated from further consideration within these Plans if they have minimal freight benefits or if they

do not address priority needs; this does not mean that these projects do not have merit, just that they are not expected to provide significant benefit to the freight system. Ultimately, the Plans will include projects, programs, and policies that address as many of the issues, needs, and opportunities for each of the goods movement functions as possible in order to develop a "balanced portfolio" of strategy recommendations.

Finally, this step will examine whether any of the strategies appear to have critical interdependencies or tradeoffs. For example, one strategy to reduce truck related congestion on a major freeway route would be to improve operations on truck routes on parallel arterial roadways. This strategy might represent a tradeoff when compared to a strategy to increase capacity on the freeway itself. At this stage, some projects that have critical interdependencies may be combined into larger mega projects for subsequent evaluation.

- **Step 3b – Stakeholder Feedback.** The results of the evaluation process will determine the final list of projects, programs, and policies that will be evaluated in the second round of evaluation. At the same Roundtable and the Executive and Technical Team meetings that are described at the conclusion of Task 2b, input will also be requested on the types of strategies that should be evaluated to address the needs, issues, and opportunities. The preliminary set of strategies identified in Step 3a will be presented to stakeholders, the Executive Team, and the Technical Team along with the initial evaluation along with the results of the needs assessment to get input before the list of strategies to be evaluated in more detail in subsequent phases is finalized. Once this input has been incorporated, the results of the assessment and the proposed list of strategies to be evaluated will be presented to the Commission for their concurrence prior to full evaluation of the strategies. Since the Regional Plan is scoped to develop strategies with less detailed analysis and less detailed scoping of projects than the Countywide Plan, the needs analysis conducted through Steps 2 and 3 will be sufficient to provide the necessary information to develop the proposed Regional Plan. Therefore, the analysis described in Step 4 will not be applied to the Regional Plan.

- **Step 4 – Evaluate Strategies (Projects, Programs, and Policies).** For the Alameda Countywide Goods Movement Plan, the projects, programs and policies developed in Step 3 will be subject to a more comprehensive evaluation that will use performance measures as a major organizing framework. Where possible the performance measures will apply quantitative data.

  The performance measures may need to be slightly different than those used in the needs assessment task to the extent that the data and tools that are available to evaluation future performance will not be the same as those used to measure existing conditions. Methods and data will be sought to assess all performance measures but for certain types of projects,

programs and policies there may not be any available data and tools with which to predict performance measure impacts and in these cases, the assessment of performance improvements will need to be qualitative.

Performance measure values for each of the strategies will provide an input to the evaluation process, providing information for stakeholders and decision makers. Quantitative performance measure evaluations and the qualitative assessments will be used to develop a performance rating of each strategy (e.g. "high", "medium", or "low") with respect to each of the five goals defined in the Vision and Goals statement. In addition, for the cases where project tradeoffs or synergies are expected, the projects may be evaluated in combination to examine synergistic benefits. A limited number of project combinations will be defined in consultation with Alameda CTC staff.

- **Step 5a – Develop Plan Portfolio.** As described previously, a project, program and policy portfolio will address the identified issues, needs, and opportunities for each of the goods movement functions. By selecting from amongst the strategies that are rated "high" for at least one of the evaluation categories and that address a critical issue, need, or opportunity for one or more of the goods movement functions, the portfolio will provide balance amongst all of the issues, needs, and opportunities and goods movement functions. In this way, the portfolio will ensure that that the highest priority strategies applied to the highest priority issues, needs, and opportunities will be selected and the Plan will achieve the Goals identified in Step 1.

- **Step 5b – Stakeholder Feedback.** To ensure that the application of the performance measure evaluation process is not a simple mechanical process, the results of the evaluation will be provided to the stakeholders in a final Plan Development Workshop/Roundtable. During this workshop, the stakeholders will have access to the evaluation results and recommended projects, programs and policies. The data and information associated with performance measures will also be provided. Participants can use this information and other information that they have about the strategies to recommend adjustments to the final set of strategies to be incorporated in the Plan. The results of this workshop will be reviewed by the Executive Team and the Technical Teams. Stakeholder input received through this process will be used to create the Goods Movement Plan. The Plan will also require review and approval recommendations from the Alameda CTC Technical Advisory Committee and the Planning, Policy and Legislation Committee. The Alameda CTC Commission has the authority to approve the final Goods Movement Plan. All of these meetings are open to the public and welcome comment and discussion.

The recommended performance measures, how they align with the Plan's Goals and the identified issues, needs, and opportunities, and whether the measures can be applied to needs

assessment (Steps 2 and 3), strategy evaluation (Step 4), or both is presented in the next section of this memorandum.

4.0 Performance Measure Development and Recommendations

In developing and selecting the performance measures, the key points raised in Section 2.0 of this memorandum were fully considered. Performance measures have been selected to reflect the Visions and Goals, as well as issues, needs and opportunities identified to date. Thus, the performance measures developed in this memorandum are clearly mapped to individual goals; they are also linked to the issues, needs and opportunities through "Round 1" of the evaluation process. The alignment with regional goods movement visions and goals also ensures that the measures will be consistent with the U.S. Department of Transportation's (DOT) MAP-21 guidance and consistent with the approaches that are being used by Caltrans to evaluate and prioritize projects for the Statewide Freight Mobility Plan.

4.1 Performance Measure Recommendations

In order to understand the recommendations in this memorandum, two terms must be explained; performance measures and performance metrics. Performance measures are broad categories of measures that address specific goal areas. Within these categories, specific performance metrics have been developed that are essentially the evaluation criteria that can be used to determine needs and benefits. Metrics can be evaluated using models, quantitative data from prior studies, or can be evaluated qualitatively.

Performance metrics have been selected based on a combination of factors including best practices, ability to be quantified, data availability and resource capability, and ease of understanding. Because the ability to quantify the metrics is important to ensure objective project evaluations, the metrics focus on the highway system, where the Alameda CTC travel demand model can be applied. For the non-highway modes, other data tools and methods will be employed, such as data from the State Rail Plan, data from prior studies (such as the Caltrans Corridor System Master Plans), data from prior health risk assessments, emissions impacts estimates using emissions factors from the Air Resources Board's EMFAC model, and the IMPLAN economic input-output model.

Table 4.1 contains the complete list of recommended performance measures and performance metrics under each goal area and identification of when they can be applied during the performance evaluation.

Table 4.1 Recommended Set of Performance Measures and Metrics, by Goal Area

Goals	Measures	Metrics	Application
Goal 1 – Preserve and strengthen an integrated and connected, multimodal goods movement system that supports freight mobility and access, and is coordinated with passenger transportation systems and local land use decisions.	Travel Time Delay	Travel time delay on key freight (truck) routes	Steps 2 and 3- Needs Assessment Step 4 – Strategy Evaluation
		Travel time delay on railways, terminals, ports, airports	Steps 2 and 3- Needs Assessment
	Multimodal Connectivity and Redundancy	Freight generator access to freight routes	Steps 2 and 3- Needs Assessment Step 4 – Strategy Evaluation
		Freight generator access to rail lines, terminals, ports, and airports	Steps 2 and 3- Needs Assessment Step 4 – Strategy Evaluation
	Coordinate with Passenger Systems	Freight system element shares use with passenger system – May also include an assessment of the degree that each of the shared modes contribute to travel delay and/or safety issues where data are available	Steps 2 and 3- Needs Assessment
	Compatibility with Land Use Decisions	Freight generator proximity to non-compatible land uses	Steps 2 and 3- Needs Assessment Step 4 – Strategy Evaluation
Goal 2 – Provide safe, reliable, efficient, resilient, and well-maintained goods movement facilities and corridors.	Travel Time Reliability	Buffer time index on key freight (truck) routes	Step 4 – Strategy Evaluation
	Freight-Related Crashes	Truck-involved crashes and crash rates	Steps 2 and 3- Needs Assessment
		Crashes at at-grade rail crossings	Steps 2 and 3- Needs Assessment
	Freight Infrastructure Conditions	Bridge conditions ratings	Steps 2 and 3- Needs Assessment
		Key freight (truck) highway and arterial routes pavement conditions ratings	Steps 2 and 3- Needs Assessment
	Freight Resiliency	Addresses freight system vulnerability to major service disruptions due to major natural or other events	Steps 2 and 3- Needs Assessment; Related to Goal 1 Multimodal Connectivity and Redundancy measure
Goal 3 – Increase jobs and economic opportunities that support residents and businesses.	Economic Contribution	Jobs and output generated	Step 4 – Strategy Evaluation

Goals	Measures	Metrics	Application
Goal 4 – Reduce and mitigate impacts from goods movement operations to create a healthy and clean environment, and support improved quality of life for those communities most burdened by goods movement. .	Emissions/Air Quality/Public Health	Tons of GHG emissions	Step 4 – Strategy Evaluation
		Tons of PM emissions	Step 4 – Strategy Evaluation
	Equity	Freight Impacts, such as light, noise pollution, air pollution and vehicle emissions, job creation, and freight encroachment, on adjacent communities	Steps 2 and 3- Needs Assessment Step 4 – Strategy Evaluation
Goal 5 – Promote innovative technology and policy strategies to improve the efficiency of the goods movement system.	Use of Innovative Technologies	Use of ITS and innovative technologies	Steps 2 and 3- Needs Assessment Step 4 – Strategy Evaluation

4.2 Recommended Performance Measure Descriptions

For each of the performance measures selected, a detailed discussion of what they are, why they are included, what metrics are included and how these metrics can be evaluated are included below under each goal area.

Goal 1. Preserve and strengthen an integrated and connected, multimodal goods movement system that supports freight mobility and access, and is coordinated with passenger transportation systems and local land use decisions.

- **Travel Time Delay**. Delay due to recurrent and non-recurrent congestion on the freight network is one of the most critical issues facing Alameda County, and significantly impedes mobility on the system. By quantifying the travel time delay on the freight links and nodes, projects can be evaluated based on how well they support and improve mobility. Two specific metrics can be developed for this measure that calculates the delay on key freight (truck) routes[3] and delay on rail lines and various freight nodes (terminals, ports, airports).

  Travel delay on key freight routes is measured as the sum of all of the extra time trucks experience due to speeds below the selected delay threshold. The Caltrans PeMS database contains existing delay data on all major highways that can serve as a standard for delay calculations. Changes in truck travel time delay can be calculated through changes in Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) using the Alameda CTC travel demand model for project evaluation.

[3] It is expected that as part of this project key freight routes that are important for truck movement in Alameda County will be selected.

The *delay on rail lines and terminals, ports, and airports* metric can be used for needs assessment. The delay data can be calculated using quantitative data obtained from individual sources such as railroads, the Port of Oakland, and various studies that have quantified these delays. However, it should be kept in mind that some of the delay in this metric will be hard to capture, and in such cases, qualitative evaluations may be used based on input from stakeholders or drawing from best practice examples in other locations.

- **Multimodal Connectivity and Redundancy**. To provide better access, projects should improve/support multimodal connectivity and redundancy. Redundancy of the system can also support system resiliency and emergency response goals by providing alternative routes of transport. By using GIS spatial tools, projects can be evaluated for providing access to freight generators (e.g., businesses, warehouses, etc.) both in terms of *highway access as well as access to rail line, terminals, ports and airports.*

- **Coordinate with Passenger Systems**. Freight projects should be coordinated with the passenger transportation system in such as way that the project should also be beneficial for passenger movement, or at the very least, not conflict with passenger movement. For instance, on shared-use rail tracks, freight improvements should be coordinated with passenger improvements so as to maximize project benefit. By evaluating whether a project has shared use with passenger service, we can determine how well it is coordinated with passenger service. In addition, data will be compiled that show the degree that each mode in a shared-use corridor or facility contributes to delay for all users and/or safety issues (e.g., crashes involving multiple modes or incidents at rail-road crossings).

- **Compatibility with Land Use Decisions**. Freight projects should be coordinated with land use decisions to ensure that projects are not introduced in close proximity to non-compatible land uses. To evaluate projects, GIS spatial tools can be used to determine the *proximity of the freight infrastructure to non-compatible land uses* with and without the project. In cases where there are non-compatible land uses in proximity to freight uses, strategies will be developed that move towards more effective buffers to offset impacts due to proximity to freight uses.

Goal 2. Provide safe, reliable, efficient and well-maintained goods movement facilities.

- **Travel Time Reliability**. Travel time reliability is one of the most commonly used performance measures and directly addresses the goal to provide a reliable and efficient goods movement facility. Reliability measures are used in the Countywide Transportation Plan as well for auto and transit trips. For freight, *buffer time index (BTI)* can be calculated on key freight routes for each project. BTI expresses the percentage of extra travel time for a typical trip needed to ensure an on-time arrival, and this is also calculated as part of the

Caltrans PeMS database. Travel times can be calculated using the Alameda CTC travel demand model.

- **Freight System Resiliency**. Freight projects will be evaluated as to whether they will introduce or expand infrastructure that is vulnerable to sea level rise. Data from the San Francisco Bay Conservation and Development Commission's Adapting to Rising Tides Project will be used to perform this assessment.

- **Freight-Related Crashes**. Understanding the safety benefits of projects is another essential performance measure for freight projects, the change in both the *number and rate of truck-related crashes* should be looked at. In the Countywide Transportation Plan, safety is measured similarly using annual injury and fatality crashes. Baseline crash data is readily available from the Statewide Integrated Traffic Records System (SWITRS). Also, GIS visualization is available through the Transportation Injury Mapping System (TIMS) developed by UC Berkeley. VMT data can be obtained from Caltrans to normalize the absolute number of crashes into a crash rate.

  In addition, the *number of crashes at at-grade crossings* is of particular importance from a freight perspective, as crashes at at-grade crossings demonstrates a key preventable source of crashes for which countermeasures can be deployed from both the rail and the roadside. The FHWA Office of Safety offers existing at-grade crossing crash data for which project-specific impacts can be estimated from.

  Crash data will be used to identify locations of existing safety issues. This data will be combined with a qualitative assessment of the degree to which projects, policies, or programs correct safety issues .

- **Freight Infrastructure Conditions**. *Bridge and pavement* conditions on key highway and arterial freight routes are two important metrics in understanding the County's maintenance goals. For example, estimates of MTC's StreetSaver Pavement Condition Index (PCI) are reported in both MTC's and Alameda CTC's monitoring reports. Highway and bridge condition data is also available through Caltrans.

Goal 3. Increase economic growth and prosperity that supports communities and businesses.

- **Economic Contribution**. *Jobs and output generated* by projects is the most direct way to measure whether a project supports economic growth and prosperity. Changes in employment and output can be modeling through IMPLAN and other economic modeling tool, or through quantitative calculations. While it will be beneficial to determine jobs generated for different income and skill levels, most of the available economic modeling tools do not provide this level of detail. However, it may be possible to examine the existing job and income profile of specific economic sectors in which job growth is anticipated as a

result of freight investments to get a general sense of the occupational impacts of freight investments.

Goal 4. Reduce environmental and community impacts from goods movement operations to create a healthy and clean environment, and support improved quality of life for those communities most burdened by goods movement.

- **Emissions/Air Quality/Public Health**. Consistent with Plan Bay Area and Countywide Transportation Plan's performance measures and targets, measuring air quality/health impacts can be focused on *GHG (CO_2) as well as Particulate Matter (PM) reduction*. Tracking GHG emissions will understand if projects help meet SB 375 goals to reduce greenhouse gas emissions. The Alameda CTC travel demand model and the CARB EMFAC model can be used to estimate changes in vehicle emissions. Local studies, such as those published by the BAAQMD can also provide useful data sources.

- **Equity**. *Freight impacts on adjacent communities* can be qualitatively discussed with the aid of visual tools including GIS maps. These impacts can include light, noise pollution, air pollution and emissions related to goods movement vehicles, job creation, and encroachment due to close proximity to freight sources. Projects that help reduce such impacts on communities most burdened by goods movement can support quality of life goals.

Goal 5: Promote innovative technology strategies to improve the efficiency of the goods movement system.

- **Use of Innovative Technologies**. Technological advances including vehicle technologies to reduce emissions, Intelligent Transportation System technologies to improve efficiency should be included as part of the project evaluation process. A simple qualitative method can be used to determine whether projects employ innovative technologies.