

**Vision and Goals**  
**Multimodal Performance Measures**





**Alameda County Transportation Commission and  
Metropolitan Transportation Commission**

April 10, 2014

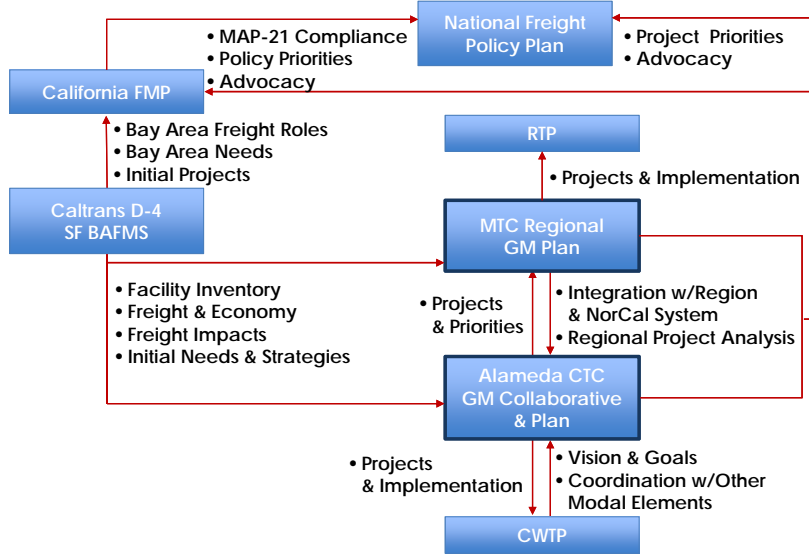
Project Overview and Update

GOODS MOVEMENT COLLABORATIVE AND GOODS MOVEMENT PLAN



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# Freight Studies and Plans



GOODS MOVEMENT COLLABORATIVE AND GOODS MOVEMENT PLAN



METROPOLITAN  
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# Project Approach



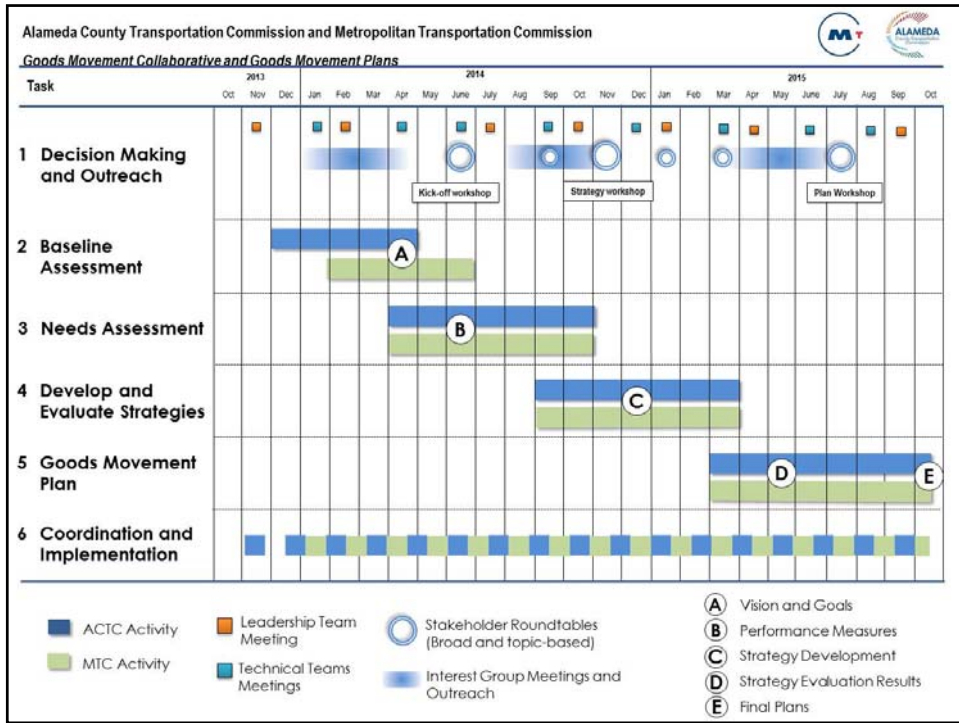
GOODS MOVEMENT COLLABORATIVE AND GOODS MOVEMENT PLAN



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## Goods Movement Vision and Goals

## Goods Movement Vision and Goals

- Provide focus to overall project approach and outreach
- Reflect issues and opportunities identified through early outreach
- Align common issues in Alameda County and regional plans
- Organize strategy evaluation using performance measures



## Goods Movement Vision and Goals

- Draw from previous plans:
  - *Alameda Countywide Transportation Plan (CWTP)*
  - *Metropolitan Transportation Commission's (MTC) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)*
  - *California Freight Advisory Committee (CFAC) and California Freight Mobility Plan (FMP)*
  - *Other relevant plans and policies*



## Goods Movement Issues

- a. Rail capacity
- b. Roadway capacity
- c. Truck Access
- d. Truck parking
- e. Supply Chain (JIT, ecommerce)
- f. Economic - keep pace with trends and changes
- g. Economic - attract investment and partners
- h. Coordination (planning)
- i. Industrial land capacity and land use conflicts
- j. Last-Mile Connections
- k. Port of Oakland - competition
- l. Information technology
- m. Port of Oakland - increase capacity
- n. Funding
- o. Monitoring
- p. Pavement condition and maintenance
- q. Safety / crashes
- r. Air quality and public health
- s. Noise
- t. Pollution
- u. Climate change effect on available infrastructure and land use



## Goods Movement Vision and Goals

### Vision

The Goods Movement system will be safe and efficient, provide seamless connections to international and domestic markets to enhance economic competitiveness, and promote innovation while reducing environmental impacts and improving local communities' quality of life.



## Goods Movement Vision and Goals

### Goals (part 1)



(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.



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



(3) Increase economic growth and prosperity that supports communities and businesses.

## Goods Movement Vision and Goals

### Goals (part 2)



(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.



(5) Promote innovative technology strategies to improve the efficiency of the goods movement system.

# Goods Movement Performance Measures



## Performance Measures – Where we are

- Beginning process to identify performance measures to support decision-making
- Needs assessment, strategy identification and evaluation, monitoring plan
- Measures and methodologies under development
- Draft performance measures, June 2014



## Performance Measures in Goods Movement Plans

- Assessment of system and trends
  - Identify gaps and opportunities
- } Existing conditions (not forecasts)
- Identify and evaluate strategies that best meet goods movement goals
  - Monitor ongoing performance

## Performance Measure – Important Considerations

- Qualitative and quantitative measures
  - *Choose metrics suited to stage of evaluation and data availability*
- Data availability
  - *Some data available assess current conditions but forecast methodologies are limited*
  - *Proprietary data*
- Unique issues in Bay Area
  - *Public health and environment*
  - *Major international gateways – Port of Oakland, airports*
  - *Balancing industrial, commercial and residential land use*



## Freight Performance Measures History

- Prior to MAP-21, freight performance measures not widely used, in part due to shared public- and private-sector roles.
- MAP-21, signed on July 2012:
  - *Requires U.S. DOT to develop National freight strategic plan*
  - *Requires U.S. DOT to develop biennial report on freight conditions and performance*
  - *Encourages states to develop performance-driven comprehensive statewide freight plans*
  - *Encourages states to establish State Freight Advisory Committees*

## U.S. DOT Freight Conditions and Performance Report

- Draft measures for internal review by April 1, 2014
  - *Economic Efficiency, productivity and competitiveness*
    - Total cost of moving freight, productivity indexes
  - *Reducing congestion*
    - Free flow/optimal flow, fluidity index
  - *Safety, security, and resilience*
    - Fatalities, reduction in security risks
  - *State of good repair*
    - Reduction in costs, highway/bridge conditions index
  - *Using advanced technology and innovation*
    - Adoption of ITS technologies
  - *Reducing adverse environmental and community impacts*
    - GHG emissions, energy usage

## California Freight Mobility Plan Performance (CFMP) Measures

- Developed by Caltrans and discussed with the California Freight Advisory Committee (CFAC)
- Measures organized under six goals with multiple objectives
  1. *Economic Contribution*
  2. *Congestion Relief*
  3. *Safety and Security*
  4. *System Infrastructure and Preservation*
  5. *Innovative Technology and Innovation Practices*
  6. *Environmental Stewardship*

## Performance Measure Examples From Other Plans

## San Joaquin Valley Interregional Goods Movement Plan Metrics

- **Mobility** Performance Measure:
  - *Valleywide model – delay reduction*
  - *Last mile connectors – connect to key facilities*
  - *Reinforcing prior goods movement investments*
  - *Non-highway improvements in travel times*
- **Economic** Performance Measure
  - *Value of mobility improvements and multiplier effects*
  - *Jobs created or retained and multiplier effects*
- **Environmental/Community** Performance Measure
  - *Highway emissions improvements from model*
  - *Historic accident data*

## San Joaquin Valley Qualitative Analysis and Packaging

- Long-term, vision projects and policies
  - *Regional significance*
  - *Addressing critical issues not adequately addressed by conventional projects*
- Portfolio approach
  - *Projects ranked highly on all criteria and mix of highly ranked projects on each individual criteria*
  - *Mix of:*
    - projects and policies
    - near-term and long-term strategies
    - modes
    - Geography

## Example Economic Metric

*Jobs and economic output related to goods movement dependent industries*

**What:** This measures the total economic impact (jobs, output, value-added) of investments based on benefits or costs in goods movement dependent industries.

**Why:** This measure reflects the contribution of goods movement investments on the regional and/or county economy.

**Project Prioritization:** This measure could help assess the impacts of investment portfolios, and could be disaggregated to individual projects.

**Data:** Annual data commercially available through IMPLAN or other economic modeling software. Proxies can be calculated using U.S. Bureau of Economic Analysis data (publicly available).

**Users:** Widely used at State and regional levels.

### Output in Goods Movement-Dependent Industries, 2011

Goods-Movement Related Industries	Output (\$m)
Agriculture and Natural Resources	131.79
Construction	6,108.73
Manufacturing	37,549.06
Whole-sale trade	7,615.67
Retail trade	6,629.13
Utilities	2,501.37
Rail transportation	243.46
Truck transportation	1,222.19
Water transportation	530.03
Air transportation	969.79
Other transportation	926.83
Warehousing and storage	368.34
Mining	198.57
Total	64,994.97

Source: IMPLAN 2011



## Example Mobility Metric

*Travel time delay and reliability*

**What:** Travel time delay is typically measured as the sum of recurring and/or non-recurring vehicle delay from a regional travel demand model. Can also be measured for locomotives traveling at speeds below a selected delay threshold.

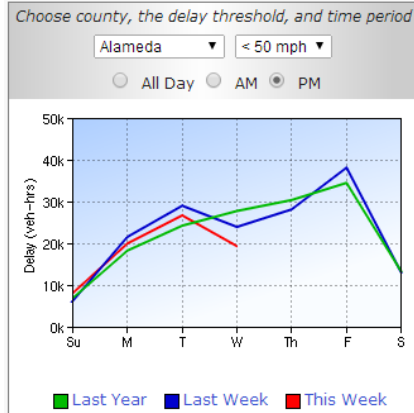
**Why:** Travel delay is one of the most critical transportation issues facing the county, and is one way to measure project benefits.

**Project Prioritization:** This measure can be used to calculate changes in delay through changes in VMT and VHT for a new project using the county truck model.

**Data:** Delay is available through the Caltrans PeMS database or the Alameda CTC and MTC travel demand models.

**Users:** Used in major corridors in California, Washington, and Portland, OR.

### Example: Total Hours of Vehicle Delay in Alameda County



Source: pems.dot.ca.gov



## Example Safety Metric

### *Number of truck-involved fatalities and crashes*

**What:** This measure calculates the number of truck-involved crashes and fatalities.

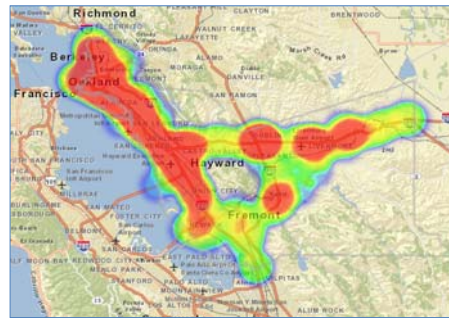
**Why:** This is the most direct measure of safety, and a similar measure is also used in the CWTP.

**Project Prioritization:** Changes in number of fatalities and crashes can be estimated quantitatively using modeling techniques.

**Data:** Baseline data is readily available from SWITRS. Also, GIS visualization is available through TIMS developed by UC Berkeley.

**Users:** NHTSA tracks and produces state reports on large truck crashes.

**Heat Map of Truck Involved Crashes in Alameda County, 2011**



Source: <http://tims.berkeley.edu/tools/gismap/index.php#>

## Next Steps

- Develop strategy identification and evaluation plan (to support Tasks 3 and 4)
  - *Steps required to inform the decision-making process*
  - *Describe performance measures, specific metrics, data sources, methodologies as needed*
- Feedback from Technical Teams, Executive Team and ACTC and MTC Commissions

## Discussion

- Did we touch on all key issues for which we need performance measures?
- What are the most important performance areas to evaluate?
- What is the appropriate balance of quantitative and qualitative performance measures?
- Are there measures you recommend?