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, create jobs, and promote innovation while reducing environmental impacts and improving local communities’ quality of life.
Purpose of Needs Assessment

**Evaluate** the existing and future conditions of freight assets against goals and performance measures (established in prior tasks)

**Identify** gaps, issues and opportunities for each functional element based on performance measure ratings

Help **develop** strategies to meet performance goals

- Strategies will be evaluated against all performance measures and all goals should be met through “balanced portfolio” of strategies
Needs Assessment Overview

Global Gateways Issues
- Global gateways handle international trade, and cover entry and exit points that are essential to moving imports/exports.
- These issues are associated with ports, airports, and other intermodal assets.

Interregional and Intraregional Corridors Issues
- Interregional corridors link Alameda County and the Bay Area with the rest of the U.S.
- Issues along major highway and rail corridors.

Local Streets and Roads Issues
- Local streets and roads link global gateways and the interregional and intraregional corridors.
- These issues include issues on city truck routes and local streets, and last-mile connectors.

Cross-Cutting Issues
- Air quality and public health
- Industrial land supply
- Crude by rail
- Sea level rise

Higher level regional analysis coordinated with detailed Alameda County Analysis
Needs Assessment Summary: Local Streets and Roads Issues
Role of Local Streets and Roads in Goods Movement

- Economic driver
  - Almost 50% of goods in the Bay Area are entirely local
  - Local delivery and pick up
  - Critical last-mile connectivity needed to/from freight hubs

Source: FAF 3.5 Provisional Data and Forecasts.
Summary of Local Street and Roads Needs

- Truck routes connectivity
  - Access, land use and modal conflicts
- Truck route performance
  - Congestion, safety
- Truck Parking
- Pavement Conditions
Connectivity and Land Use Conflicts

Source: MTC Land Use Data; Cambridge Systematics
Focus on Alameda County Congestion and Delay – AM Peak

Legend
LOS (AM, 2014)
D
E
F
Truck Routes
Tier 1
Tier 2
Tier 3
Truck Prohibition Routes

Focus on Alameda County Congestion and Delay – PM Peak

Legend
LOS (PM, 2014)
- D
- E
- F

Truck Routes
- Tier 1
- Tier 2
- Tier 3
- Truck Prohibition Routes

Truck Parking Issues

Port-related parking in West Oakland

Corridor parking for long haul

Urban delivery parking

Needs Assessment Summary
Interregional and Intra-regional Corridor Issues - Highways
Importance of Highway Corridors – Regional View

Freight Flows by Tonnage
- Truck: 326,198; 72%
- Other and unknown: 7,651; 2%
- No domestic mode: 15,456; 3%
- Multiple modes & mail: 27,606; 6%
- Air (include truck-air): 688; 0%
- Water: 12,740; 3%
- Rail: 14,634; 3%
- Pipeline: 49,174; 11%

Total = 454,146 Ktons

Freight Flows by Value
- Truck: 390,975; 61%
- Other and unknown: 121,015; 19%
- No domestic mode: 13,616; 2%
- Multiple modes & mail: 27,606; 6%
- Air (include truck-air): 68,177; 11%
- Water: 3,283; 0%
- Rail: 13,616; 2%
- Pipeline: 30,613; 5%
- Air (include truck-air): 68,177; 11%

Total = $643,836 Million

Source: Cambridge Systematics FAF3 2012 Disaggregated Database.
### Summary of Inter-Regional and Intra-Regional Highway Needs

#### Congestion and Mobility
- Highest levels of truck delay on I-880, I-80 (Oakland to Berkeley), U.S.101 in San Jose, SR 4 at Port Chicago

#### Freeway Travel Time Reliability
- Worst truck reliability on I-80, I-580, and I-880

#### East-West Connectivity
- SR12/SR37 needs, SR 4 connectivity to SJV, SR 152 future potential

#### I-80/I-680/SR 12 Interchange and WB Truck Scales

#### Truck-Involved Crashes

#### Pavement and Bridge Conditions
Focus on Alameda County - Top 10 Truck Delay Locations in 2010 - AM

Source: INRIX 2014 Speed Data; Alameda County Truck Travel Demand Model; PeMS time of day distribution, Cambridge Systematics analysis.
Focus on Alameda County - Top 10 Truck Delay Locations in 2010 - PM

Legend
- Top Delay Points
- PM Peak Delay (Trucks*Hours / Mile)
- Truck Restricted

Source: INRIX 2014 Speed Data; Alameda County Truck Travel Demand Model; PeMS time of day distribution, Cambridge Systematics analysis.
Needs Assessment Summary
Interregional and Intraregional Corridor Issues - Rail
Summary of Inter-regional Rail Corridor Issues

- **Congestion and capacity**
- **Changing nature and use of Northern CA Rail System**
  - Bulk unit trains and manifest traffic to ports
  - Growth in domestic and international container traffic
- **Passenger and Freight Conflicts**
- **Industrial Rail Spur Funding Needs**
- **Grade Crossing Improvements**
  - Grade separations, signal improvements
  - Quiet zones to reduce community impacts
Focus on Alameda County – Train Volumes
### Congestion/Capacity Needs – V/C Ratio on Bay Area Rail Lines

<table>
<thead>
<tr>
<th>Parallel Highway Corridor</th>
<th>Subdivision</th>
<th>From:</th>
<th>To:</th>
<th><strong>Existing</strong></th>
<th><strong>2020</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Freight Daily Trains</td>
<td>Total Daily Trains</td>
</tr>
<tr>
<td>I-880</td>
<td>UP Coast</td>
<td>San Jose</td>
<td>Newark</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>UP Coast</td>
<td>Newark</td>
<td>Oakland</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>UP Niles</td>
<td>Niles</td>
<td>Oakland</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>UP Oakland</td>
<td>Niles</td>
<td>Melrose</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>I-80</td>
<td>UP Martinez</td>
<td>Sacramento</td>
<td>Martinez</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Martinez</td>
<td>Richmond</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Richmond</td>
<td>Emeryville</td>
<td>17</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emeryville</td>
<td>Oakland</td>
<td>17</td>
<td>57</td>
</tr>
<tr>
<td>I-580</td>
<td>UP Oakland</td>
<td>Niles</td>
<td>Stockton</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>US 101</td>
<td>UP Coast</td>
<td>Gilroy</td>
<td>San Jose</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Caltrain</td>
<td>San Jose</td>
<td>San Francisco</td>
<td>6</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>BNSF Stockton</td>
<td>Stockton</td>
<td>Port Chicago</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>SR 4</td>
<td>UP Tracy</td>
<td>Martinez</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UP Tracy</td>
<td>Port Chicago</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Needs Assessment Summary
Global Gateway Issues
Importance of Global Gateways in the Bay Area

**Freight Flows by Tonnage, 2012**
- Total = 454,146 Ktons
- Domestic: 388,334; 85%
- Exports: 25,154; 6%
- Imports: 40,658; 9%

**Freight Flows by Value, 2012**
- Total = $643,836 Million
- Domestic: 487,078; 76%
- Exports: 58,304; 9%
- Imports: 98,454; 15%

Source: Cambridge Systematics FAF3 2012 Disaggregated Database.
Summary of Global Gateway Needs

**Seaports**
- Operations issues at Port of Oakland – Gate queueing issues, handling big ships
- Rail operations and access
- Bulk export opportunities
- Land use and access constraints

**Airports**
- Sufficient capacity for growth
- SFO may experience constraints if international markets come back stronger in the future
- Highway congestion
Focus on Alameda County – Port of Oakland Needs

- Terminal Capacity
- Neighborhood Impacts
- Gate Queues
- 7th Street Grade Crossing
- Bike and Pedestrian Access
Needs Assessment Summary
Cross-Cutting Issues
Summary of Cross-Cutting Needs

Regional Air Quality Impacts and Localized Public Health Effects

Sea-level Rise Vulnerability and Risk

Industrial Land Supply

Crude by Rail
Air Quality and Environmental Impacts - Emissions from Freight

Significant reductions but still major public health issue

Source: Improving Air Quality and Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective and Path Forward (2004 – 2013), BAAQMD, April 2014.
Air Quality and Environmental Impacts – Localized Health Effects

Source: Bay Area Air Quality Management District.
Opportunities and Strategies
Context - Setting Opportunities

- **Goods Movement to Support Emerging Industries** (biotech, artisanal foods, clean energy & transportation, advanced manufacturing, recycled materials)
- **E-Commerce and Advanced Retail Distribution** – capture value-added economic activity; neighborhood & commercial center impacts
- **Goods Movement Workforce Development** – key source of job diversity; need to focus on access to jobs for impacted communities
- **Bulk Exports and Expanded Rail Services** – growth in bulk exports at seaports; increased demand on rail corridors
- **New Technologies** – ITS, equipment technology
- **Integrated Planning** – coordinated land use, transportation and economic development; integration of complete streets concepts
## Examples of Strategies

| **Projects** | Whipple Road widening and truck route designation from Central to Mission Boulevard in Union City  
|             | Construct I-580 eastbound truck climbing lane at the Altamont Summit  
|             | Port of Oakland Rail Access Improvements |
| **Programs** | Cross-jurisdictional Truck Route management program  
|             | Countywide Grade Separation program  
|             | Hour-peak delivery policy guidance and demonstration program |
| **Policies/Partnerships** | Policy guidance on insulating residential areas from health impacts of goods movement  
|                      | Incorporation of sea level rise considerations during infrastructure rehab |