Countwide Multimodal Arterial Plan
Improving multimodal mobility for better economic, health and environmental outcomes

Presentation Overview

• Arterial Plan Status Update
• Typology Framework and Modal Priorities
• Performance Objectives
• Requested Actions:
  ✓ Provide Input on Typology Framework and Modal Priorities
  ✓ Provide Input on Performance Objectives
Plan Progress Status Update

<table>
<thead>
<tr>
<th>Arterial Plan Component</th>
<th>In Progress</th>
<th>Submitted</th>
<th>Approved</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision and Goals</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>Approved by Commission 2/26/15</td>
</tr>
<tr>
<td>Performance Measures</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>Approved by Commission 2/26/15</td>
</tr>
<tr>
<td>Draft Typologies</td>
<td>✓</td>
<td></td>
<td></td>
<td>Requested approval – May 2015</td>
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<tr>
<td>Draft Performance Objectives</td>
<td>✓</td>
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<td>Requested approval – May 2015</td>
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<tr>
<td>Draft Arterial Network Criteria and Maps</td>
<td>✓</td>
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<td>Requested approval – June 2015</td>
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<tr>
<td>Planning Area Meetings</td>
<td>✓</td>
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<td>Meetings scheduled: North – 4/20/15 South – 4/21/15 East and Central – 4/22/15</td>
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<td>Non-Agency Stakeholder Meeting</td>
<td>✓</td>
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<td>Meeting scheduled 4/20/15</td>
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Arterial Plan Framework
Summary Scope – Milestone #1

**MILESTONE ONE**

- Create Vision and Goals
- Develop Performance Measures
- Identify Arterial Network
- Create Roadway Typologies

**ACTAC Meetings**

**Public Workshops**

**PPLC/Commission Meetings**

Meetings with Stakeholders by Planning Area
Streets Typology Development

Why Streets Typology?

• Creates Street classification system that reflects
  ✓ Multimodal function of streets
  ✓ Land use context fronting streets
• Offers more than the traditional street classification systems
  ✓ Provides detail for balancing modes within existing space of urban streets
  ✓ Defines an integrated modal network
  ✓ Based on more than vehicular traffic volumes
Typology Framework Components

- **Street Type** - based on travel and access characteristics of existing vehicle travel
- **Multimodal network overlays** - Emphasis given to goods movement, transit, bicycles, or pedestrians
- **Land use context** - The built and natural environments that the streets pass through
Using Typology Framework in MMAP Effort

- Informs modal priorities and how to balance them within street right of ways
- Informs appropriate design of key elements
  - Example: Pedestrian priority street in PDA should have a wider sidewalk than a residential street

Develop Street Types
Base Street Type Characteristics and Criteria

Four Base Street Types considered:

- **Throughways** - Focused on carrying traffic through an area
- **County Connectors** - Focused on trips crossing between multiple cities
- **City/Community Connectors** – Focused on trips crossing a city or to an adjacent city
- **Neighborhood/District Connectors** – Focused on trips crossing a neighborhood or district or connecting adjacent ones

A sensitivity analysis was applied to the Study Network using traffic volumes and trip length criteria to identify roads in each Base Street Type Category
Base Street Type
Characteristics and Criteria

• **Throughways** - Focused on carrying traffic through an area
  • Countywide – at least 10,000 ADT
  • South & East County – at least 55% of volume travels 8+ miles
  • North & Central County – at least 50% of volume travels 8+ miles

Hegenberger Road, Oakland
Auto Mall Parkway, Fremont
Stanley Boulevard, Livermore

Base Street Type
Characteristics and Criteria

• **County Connectors** - Focused on trips crossing between multiple cities
  • Countywide – at least 10,000 ADT
  • South & East County – at least 50% of volume travels 6+ miles
  • North & Central County – at least 45% of volume travels 6+ miles

Ashby Avenue, Berkeley
S. Vasco Road, Livermore
A Street, Hayward
Base Street Type Characteristics and Criteria

- **City/Community Connectors** - Focused on trips crossing a city or to an adjacent city
  - Countywide – at least 50% of volume travels 4+ miles

- **Neighborhood/District Connectors** - Focused on trips crossing a neighborhood or district or connecting adjacent ones
  - Countywide – at least 50% of volume travels less than 4 miles
Study Network – California Road System

Base Street Types Network
Typology Framework - Develop Transit Emphasis

IDENTIFY STUDY NETWORK
- Analyze and Collect (Caltrans, Road Systems, Network)

APPLY VOLUME & TRAVEL DISTANCE CRITERIA

IDENTIFY BASE STREET TYPES

APPLY MULTIMODAL TRANSPORTATION AND LAND USE OVERLAYS

LAYERING OF STREET TYPES AND MULTIMODAL EMPHASIS OVERLAYS

EVALUATION REVIEW

IDENTIFICATION OF ARTICULATION OF COUNTRYWIDE SIGNIFICANCE
- Identify model priorities
- Inhibit Arterial Network Development

Multimodal Overlays - Transit

- All Alameda County Operators
- Major Corridors – BRT or similar corridors
- Crosstown Routes – high capacity service
- Local Routes – other routes
Multimodal Overlays - Transit

Typology Framework – Bicycle Emphasis
Multimodal Overlays - Bicycle

- 2012 Countywide Bicycle Plan Vision Network
- 4 Regional Trails
- Other Existing Bicycle Facilities
- Total of five facility classes:
  - Class I – bicycle and multiuse paths
  - Class IV – cycle tracks and similar protected facilities
  - Class II – bicycle lanes, buffered bicycle lanes, and green bicycle lanes
  - Class III Enhanced – bike boulevards and similar enhanced bike routes
  - Class III – bike routes, sharrows, shoulders, and curb lanes
Typology Framework – Pedestrian Emphasis

Multimodal Overlays - Pedestrian

- **Area Based instead of Network**
- **Aggregate “scoring” of key characteristics**
  - Land Use/Demographic
    - ABAG PDA Place Types
    - Commercial and Mixed Use Areas
    - MTC Communities of Concern
    - ACTC 2012 CTP Employment Growth Opportunity Areas
    - Proximity to activity & education centers, and parks
  - Proximity to Transit Stations and Stops
    - BART
    - AC Transit Priority Corridor/LAVTA Rapid Route
    - Local Bus Stops
Multimodal Overlays - Pedestrian

- **Score assignment and emphasis identification**
  - Land use scores vary by intensity
    - Regional PDA Type scores higher than Sub-urban type
    - Downtown Mixed Use score higher than neighborhood commercial
  - Transit proximity score based on distance
    - Area within quarter-mile radius score higher than area within half-mile
- Overlaid all scoring categories and estimated cumulative scores indicate areas of **High**, **Significant** and **Moderate** Pedestrian Emphasis.
Typology Framework – Truck Emphasis

Multimodal Overlays – Truck Routes

- Tier 1 – all on freeways and not part of Study Network
- Tier 2 – intra-county and intercity connectivity
- Tier 3 – designated routes for local pickup and delivery
Multimodal Overlays – Truck Routes

Typology Framework – Land Use Context
Land Use Overlay

- Land use overlay informs appropriate contextual design of key elements in street cross section.
  - Example: Pedestrian priority street in PDA should have a wider sidewalk than a residential street.

- ABAG PDA Place Types
  - Regional Center
  - City Center
  - Suburban Center
  - Transit Town Center
  - Urban Neighborhood
  - Transit Neighborhood

- Alameda Countywide Transportation Plan SCS
  - Mixed Use
  - Commercial
  - Business Park/Industrial
  - Industrial
  - Education/Public/Semi-Public
  - Residential
  - Rural Residential & Open Space
  - Parks/Open Space
  - Agriculture/Resource Extraction
  - Other/Unknown
Layered Modal Emphasis

- Layering Base Street Types and all other modal layers identifies streets segments with multiple modal emphases
- These streets will require further evaluation to determine modal priorities for street segments with multiple modal designations
Typology Framework Next Steps

- Discussion at Planning Area and non-agency stakeholder meetings scheduled for April 20 – 22nd.
  - Identify modal priorities
  - Inform Arterial Network development
- All typology, modal emphases and modal overlays are available online for review and comment.
  - [http://gis.fehrandpeers.com/AlamedaCTC/ModalPriorities](http://gis.fehrandpeers.com/AlamedaCTC/ModalPriorities)
  - Username: AlamedaCMAP
  - Password: fpgis_Alameda
Questions?

Performance Objectives
Plan Components Overview – Role and Utility

<table>
<thead>
<tr>
<th>Plan Development Components</th>
<th>Utility</th>
<th>Approval Status</th>
</tr>
</thead>
</table>
| Vision and Goals            | • Vision lays out the strategic direction for the Plan  
                              • Goals describe the desired outcome of the Plan. | Approved |
| Performance Measures        | Assess the existing and future transportation conditions of the Study Network against the identified goals. Three types of measures.  
                              • Performance Measures – Measures that directly assess the segment built environment and planning level operations  
                              • Performance Indicators – Area-wide measures applied on recommended improvements to assess achieving vision and goals.  
                              • Network Connectivity Checks - Checks performed to evaluate consistency across the respective modal networks. | Approved |
| Performance Objectives      | Thresholds identified for the performance measures that directly assess the built environment and planning level operations at facility level | Being Discussed |
| Typologies                  | • Classify the Study Network roads based on their transportation and access functions, and land use characteristics.  
                              • Help identify the modal priorities along each Study Network segment. | Being Discussed |

Performance Measures Overview

• Performance Measures:
  ✓ Facility-specific, assess existing and future year transportation conditions

• Performance Indicators:
  ✓ Area-wide, evaluation to ensure that short- and long-term improvements meet the Plan’s vision and goals

• Network Connectivity Checks:
  ✓ Mapping exercise that evaluates transit, pedestrian, bicycle and truck network connectivity and continuity
Performance Objectives

• Thresholds applied to existing and future transportation conditions to identify Study Network multimodal needs

• Provide guidance in identifying short-term (year 2020) and long-term (year 2040) improvements

• Vary by modal priority

• Not applicable to performance indicators and network connectivity checks

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<tr>
<th>Performance Measure</th>
<th>Application</th>
<th>Modal Objectives</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>1.1A - Congested Speed</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>&gt; 40% of Posted Speed</td>
<td>&gt; 40% of Posted Speed</td>
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<tr>
<td>1.1B - Reliability</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Reliable</td>
<td>N/A</td>
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<tr>
<td>1.7 - Pavement Condition Index</td>
<td>Facility-Specific Measure, Existing Conditions</td>
<td>Good or Very Good</td>
<td>Good or Very Good</td>
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</table>
### Performance Objectives

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<tr>
<td>1.2A - Transit Travel Speed</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Autos: N/A, Transit: &gt; 50% of Auto Speed, Pedestrian: N/A, Bicycle: N/A, Trucks: N/A</td>
<td>Based on average CMP network PM peak hour vehicle speeds and average bus operating speeds</td>
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<tr>
<td>1.2B - Transit Reliability</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Autos: N/A, Transit: &gt; 0.4 PM peak hour-to-non-peak hour transit speed ratio, Pedestrian: N/A, Bicycle: N/A, Trucks: N/A</td>
<td>Based on performance objective for Auto Speed (measure 1.1A)</td>
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<td>1.2C - Transit Infrastructure Index</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Autos: N/A, Transit: Good or Very Good, Pedestrian: N/A, Bicycle: N/A, Trucks: N/A</td>
<td>Based on similar applications on other planning studies (e.g. ACBD Specific Plan, San Pablo Avenue Specific Plan)</td>
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<td>1.3 - Pedestrian Comfort Index</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Autos: N/A, Transit: Fair, Good or Very Good, Pedestrian: Good or Very Good, Bicycle: N/A, Trucks: N/A</td>
<td>Based on similar applications on other planning studies (e.g. ACBD Specific Plan, San Pablo Avenue Specific Plan)</td>
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<tr>
<td>1.4 - Bicycle Comfort Index</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Autos: N/A, Transit: N/A, Pedestrian: N/A, Bicycle: Good or Very Good, Trucks: N/A</td>
<td>Based on similar applications on other planning studies (e.g. ACBD Specific Plan, San Pablo Avenue Specific Plan)</td>
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<tr>
<td>1.5 - Truck Route Accommodation Index</td>
<td>Facility-Specific Measure, Existing and Future Conditions</td>
<td>Autos: N/A, Transit: N/A, Pedestrian: N/A, Bicycle: N/A, Trucks: Very Good</td>
<td>Based on AASHTO Green Book recommendations for minimizing truck off-tracking into adjacent lane</td>
</tr>
</tbody>
</table>
Next Steps

- Objectives will be presented at the Planning Area and non-agency stakeholder meetings for input.
- Based on input the Objectives will be finalized and taken for approval in June.
- The approved objectives in combination with the modal priority (from typology) will later inform the modal needs on the Study Network.

Summary Scope – Milestone #2
Summary Scope – Milestone #3

Questions?