Regional Asset Management & Performance-Based Approach to Local Street & Road Maintenance

San Francisco Bay Area

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CCSA Pavement Preservation Workshop
February 10, 2012
Presentation Focus

- Regional asset management program
- Performance-based funding policy affects the conditions on local streets and roads
- Work has gained national attention and is being modeled by FHWA in the new transportation bill.
Better Pavement Management in Bay Area

MTC is recognized by the FHWA as “one of the first regions in the country to implement a pavement management system”— FHWA Office of Asset Management
San Francisco Metropolitan Region

- Population = 7.3 mil
- 9 counties
- 100 cities
- 42,500 lane-miles
- 1,500 miles of highway
- 23 transit agencies
- 7 toll bridges
- One MPO: MTC
Bay Area Local Street and Road Conditions?

- Pavement Condition Index (PCI) - 0 to 100 point scale
- Bay Area’s Average PCI = 66
- Conditions have stable over the last few years
- Still too close to the “tipping point”
Why are Local Streets and Roads a Regional Concern?

- Supports *All* modes of transportation
- $50 billion replacement value
- Conditions are facing steep decline
- Escalating deferred maintenance jeopardizes funding for *All* transportation priorities
MTC’s StreetSaver®

- Network-level planning tool
- Used by all 109 Bay Area jurisdictions; 300 nationwide
- Developed 25 years ago
- Designed specifically for local agencies
- Minimize costs - maximize benefits

Purpose:
- Document conditions & needs
- Promote pavement preservation
Regional Condition Summaries

Bay Area Lane Miles of Local Street & Road Pavement

<table>
<thead>
<tr>
<th>Category:</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>Very Poor</th>
<th>No Data</th>
<th>Totals</th>
<th>Avg. PCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI:</td>
<td>90-100</td>
<td>75-89</td>
<td>60-74</td>
<td>45-59</td>
<td>25-44</td>
<td>0-24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miles:</td>
<td>4794</td>
<td>13927</td>
<td>8226</td>
<td>5871</td>
<td>4856</td>
<td>3672</td>
<td>372</td>
<td>41717</td>
<td>64</td>
</tr>
<tr>
<td>Percent</td>
<td>11%</td>
<td>33%</td>
<td>20%</td>
<td>14%</td>
<td>12%</td>
<td>9%</td>
<td>1%</td>
<td>100%</td>
<td></td>
</tr>
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</table>

BEST AND WORST BAY AREA PAVEMENTS

<table>
<thead>
<tr>
<th>BEST STREETS</th>
<th>WORST STREETS</th>
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<tbody>
<tr>
<td>Brentwood</td>
<td>Sonoma County</td>
</tr>
<tr>
<td>Foster City</td>
<td>Orinda</td>
</tr>
<tr>
<td>Los Altos</td>
<td>Richmond</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>El Cerrito</td>
</tr>
<tr>
<td>Sonoma</td>
<td>Larkspur</td>
</tr>
<tr>
<td>Contra Costa Count</td>
<td>Marin County</td>
</tr>
<tr>
<td>Dublin</td>
<td>Rio Vista</td>
</tr>
<tr>
<td>Gilroy</td>
<td>Suisun City</td>
</tr>
<tr>
<td>Cloverdale</td>
<td>Napa County</td>
</tr>
<tr>
<td>Vacaville</td>
<td>St. Helena</td>
</tr>
</tbody>
</table>
Local Streets & Roads Needs Assessment

- How much do we need to invest?
  - Pavement
  - Non-pavement
  - Bridges
- Regional “What-If?” scenarios
- Exclusive use of StreetSaver makes this easy
# Local Streets & Roads Needs Assessment

## 25-Year Local Street & Road Shortfalls

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Total Need</th>
<th>Revenue</th>
<th>Shortfalls</th>
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</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>$3,211,497,606</td>
<td>$1,837,608,171</td>
<td>$1,373,889,435</td>
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<tr>
<td>Contra Costa</td>
<td>$2,575,509,231</td>
<td>$1,285,503,979</td>
<td>$1,290,005,252</td>
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<td>Marin</td>
<td>$1,169,630,529</td>
<td>$486,827,532</td>
<td>$682,802,997</td>
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<tr>
<td>Napa</td>
<td>$866,252,240</td>
<td>$317,247,354</td>
<td>$549,004,886</td>
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<tr>
<td>San Francisco</td>
<td>$2,268,882,679</td>
<td>$1,065,156,075</td>
<td>$1,203,726,604</td>
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<tr>
<td>San Mateo</td>
<td>$2,325,103,049</td>
<td>$1,081,589,012</td>
<td>$1,243,514,038</td>
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<tr>
<td>Santa Clara</td>
<td>$4,372,399,438</td>
<td>$2,391,317,434</td>
<td>$1,981,082,004</td>
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<tr>
<td>Solano</td>
<td>$1,387,724,521</td>
<td>$369,740,349</td>
<td>$1,017,984,172</td>
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<tr>
<td>Sonoma</td>
<td>$2,214,831,687</td>
<td>$642,751,396</td>
<td>$1,572,080,291</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$20,391,830,980</strong></td>
<td><strong>$9,477,741,301</strong></td>
<td><strong>$10,914,089,680</strong></td>
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</table>
Costs of Deferring Maintenance

- Bay Area PCI Goal = 75
- Current investment in maintenance insufficient:
  - 23-point reduction in PCI
  - 230% increase in repair backlog by 2032
Local Streets & Roads Committee

- Regional public works officials
- Advises MTC on policy
- Advocates for better funding
- Works to improve project delivery
- Encourages best practices among peers
Impact of Data on Regional Policy

- Six-fold increases in regional investments in LSR
Impact of Data on Regional Policy

- Regional Policy = “Fix it First”
- Recognition of Benefit / Costs
- New Approach to Funding – Performance Based
Making the Most of Scarce Resources

- Requests for funding coupled with accountability
- Regional LSR funds conditioned on performance
  - PMS certification
  - Projects recommended by StreetSaver
  - Performance-based allocation formula
Allocation Formula

- PM Performance
- Lane Miles
- Shortfall
- Population

= Funding Allocation Formula
Outcome-Driven Performance Measure

- Ratio of Actual to Recommended % of budget spent on Preventive Maintenance
  - No advantage or disadvantage due to existing network features or budget
  - Data from StreetSaver
  - Promotes pavement preservation principles
  - Shifts practice from “worst first” to preventive maintenance
  - Replaces “Maintenance of Effort”
Importance of Pavement Preservation

Scenario Comparison - Deferred Maintenance and PCI
Perspectives on a Performance-Based Federal-aid Highway Program

Jeffrey F. Paniati
Executive Director, Federal Highway Administration
January 12, 2010

Goals of Performance-Based Program

- Improve performance in key areas of national interest
  - Shift emphasis of Federal oversight from process to performance
  - Improve decision making and resource allocation
  - Improve accountability

Performance Areas

- What are the most appropriate areas to be managed for performance?
- Want a relatively few performance areas that broadly reflect national interests, e.g.,
  - Safety
  - Pavement and bridge condition
  - Congestion
  - Freight/economic competitiveness
  - Environment/climate change
  - Livability

Roles for the MPO’s?

- Implement Regional Pavement Management and Pavement Preservation Programs
  - Seek STP Funding for Data Collection/Evaluation similar to MTC through the FHWA Division Offices.
  - Assure the Use of Consistent, High-Quality Data for Regional Decision Making Processes!
  - Use Performance-Based Criteria within Allocation Formulas similar to MTC.
  - Assure Sustainability of all Transportation Assets!

- Possible Recommendations for FHWA
  - Focus on the Largest MPO’s - > 1 million = Only 52!
    - Capture data for 64% of the population in the USA
  - Assure Mobility and State of Good Repair in our urban areas through performance-based asset management!
Conclusions

- **Investment in asset management yielding large benefits**
  - Agencies champion use of PMS & pavement preservation
  - Successful advocacy efforts gain local buy-in
  - Ability to respond quickly to federal stimulus funding call for projects

- **Emphasis on performance yielding accountability**
  - Provide means for ensuring accountability and tracking progress
  - Conditions stable despite declining funds
  - Demonstrate cost-effectiveness to taxpayers
“I just want to say one word to you. Just one word…”

1967
“Plastics”

2012 & Beyond
“Performance”
Questions / Contact Information

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THANK YOU!