

Pavement Management at the Regional Level

A San Francisco Bay Area Case Study

Southern California StreetSaver User Conference
Burbank, CA

METROPOLITAN TRANSPORTATION COMMISSION

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..."

Office of Asset Management

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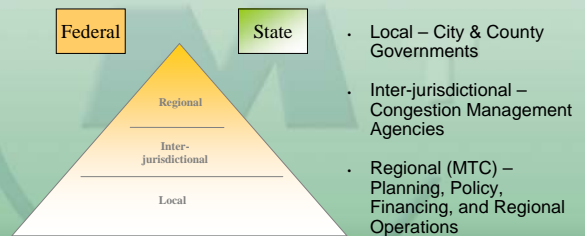
Setting: San Francisco Metropolitan Region

- Population = 7.1 Mil
- Nine Counties
- 109 Jurisdictions
- 42,000 Lane-Miles
- 1,500 Miles of Highway
- 23 Transit Agencies
- Seven Toll Bridges
- One MPO: MTC



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Setting: San Francisco Metropolitan Region



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Why are Local Streets and Roads a Regional Concern?

- Biggest & Most Expensive Piece of Transportation Infrastructure
 - **\$40 - \$50 billion replacement value**
- Supports *All* Modes of Transportation
- Roadway Conditions are Facing Steep Decline
- Escalating Deferred Maintenance Costs Jeopardize Funding for *All* Transportation Priorities

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San Francisco Bay Area Local Street and Road Conditions?

- Pavement Condition Index (PCI) is measured on a 0 to 100 point scale
- SF Bay Area's Average PCI = 64

Pavement Condition of Local Roadways



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MTC's Regional Streets & Roads Program

- Three Main Components:
 - Tools – Software, Training & User Support
 - Federal Grant Program — PTAP
 - Program Outreach & Policy
- Each Component Essential to Program's Success

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MTC's StreetSaver®

- Network Level System
- Used by all 109 Bay Area Jurisdiction; 250 nationwide
- Developed 20 Years Ago Specifically for Local Roads
- Cost Effectiveness vs. "Worst First"
- Emphasis on Preventive Maintenance
- Right Treatment, Right Road, Right Time
- Purpose:
 - Document Needs & Conditions
 - What Do I Fix First?



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Training & Support

- Technical (Software) Support
 - Virtual on-site, Hotline & e-mail
- Technology Transfers
- Training Program
 - Pavement management concepts
 - Software use
 - Setting up pavement network
 - Distress data collection
 - How to use data to influence decisions
- PMS Champion
 - Conduct statewide workshops to promote effective use of PMS

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Pavement Management Technical Assistance Program (PTAP)

- Federal Grant Program (STP)
- \$800K Annually
- 30 Re-Inspections/ Updates Per Year
- Ensures MTC Access to Quality Data
- Obtains 100% PMS Certification

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Program Outreach & Policy

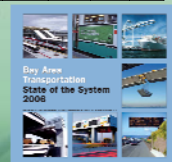
- Condition Summaries
- Needs / Shortfall Assessments
- Local Streets and Roads Committee
- Funding
 - Performance-Based Allocation of Funds
 - Accountability

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Regional Condition Summaries

Bay Area Lane Miles of Local Street & Road Pavement									
Category	Excellent	Very Good	Good	Fair	Poor	Very Poor	No Data	Totals	Avg. PCI
PCI	90-100	75-89	60-74	45-59	25-44	0-24			
Miles:	4794	13927	8226	5871	4856	3672	372	41717	64
Percent	11%	33%	20%	14%	12%	9%	1%	100%	

BEST AND WORST BAY AREA PAVEMENTS	
BEST STREETS	WORST STREETS
Brentwood 87	Sonoma County 43
Foster City 84	Orinda 44
Los Altos 84	Richmond 45
Santa Clara 83	El Cerrito 48
Sonoma 83	Larkspur 48
Contra Costa Count 82	Marin County 48
Dublin 82	Rio Vista 48
Gilroy 82	Salinas City 50
Cloverdale 80	Napa County 51
Vacaville 80	St. Helena 51



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Local Streets & Roads Needs Assessment

- How Much Do We Need to Spend to Maintain the Street and Road Network?
 - Pavement** – Reconstruction, rehabilitation and preventive maintenance of the street surface and/or sub-grade.
 - Non-Pavement** – All of the items in addition to pavement that are necessary for a functioning street & road network
- Exclusive Use of StreetSaver® in the Region Makes This Easy

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Local Streets & Roads Needs Assessment

25-Year Local Street & Road Shortfalls

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

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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



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Sweet Success at RTP

- 25-year Regional Transportation Plan – Every four years
- Funding for LS&R:
 - 2001 RTP = \$143 million
 - 2005 RTP = \$990 million
 - 2009 RTP = **\$7.0 billion !!!**

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Funding Policy

- Regional Policy -- “Fix it First”
- Regional Funds Conditioned on Performance
 - PMS Certification
 - Projects Recommended by StreetSaver®
 - Performance Based Allocation Formula

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Funding Policy

- Allocation Formula
 - 25% Population
 - 25% Miles
 - 25% Shortfall
 - 25% Preventive Maintenance Performance
- Performance Score Determined from StreetSaver® Data
 - PM Score = Recommended PM vs. Actual PM

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Accountability

- Account for taxpayers' money – 10 rounds of PTAP, \$6.2 million of STP funds
- Establish "maintenance of effort" for local agencies
- Use recommendations from StreetSaver® to drive STP funding guidelines
- Use a performance-based resource allocation approach
- Change local agencies' maintenance practices – from "worst-first" to preventive maintenance

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Conclusion

- Spending \$\$\$ on new construction is wasteful without ensuring that the asset will be properly maintained and preserved
- Investment in a comprehensive pavement management program for streets and roads will yield huge returns
- Pavement management programs provide the means for regulatory or financing agencies to ensure accountability and track progress

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