

San Francisco Bay Area Successes in Regional Pavement Management

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Metropolitan Transportation Commission

- 9 counties, 100 cities
- 25 transit agencies
- 42,000 lane miles of local roads
- Average PCI = 67
- LSR Capital Maintenance Need:
\$36 billion (2017- 2040)



MTC's Regional Pavement Management Program

- Purpose:
 - Promote cost-effectiveness and sustainability
- Four Main Components:
 - Software (StreetSaver®)
 - Training & User Support
 - Federal Grant Program –PTAP
 - Policy – LSR Working Group / Regional Planning & Financing

Pavement Management Successes

1. Conditioning Funding on Performance
2. Support for Sustainable Technologies
3. Quality Assurance / Control
4. Regional Investment in Pavements

Conditioning Funding on Performance

Preventive Maintenance

- Roadway repair is inevitable. The best way to limit emissions from pavement maintenance is to keep roads in good condition with preventive maintenance.

Conditioning Funding on Performance

- Allocation Formula
 - 25% Population
 - 25% Lane Miles
 - 25% Shortfall
 - **25% Preventive Maintenance Performance**
- Performance Score Determined with StreetSaver[®]
 - PM Score = Recommended vs. Actual % of Budget spent on preventive maintenance

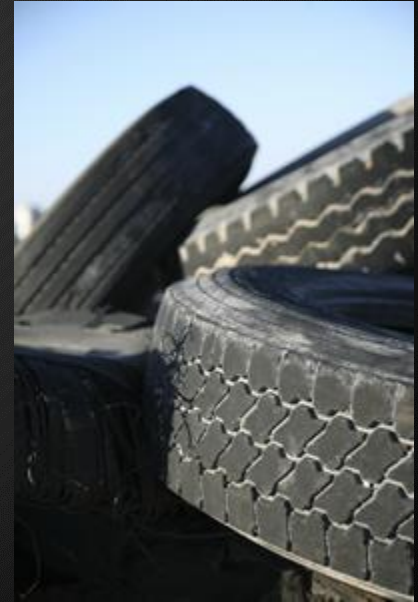
Performance Factor

- Treatments applied to pavements above PCI 65-70 qualified as PM
- Jurisdictions not penalized for existing network condition or budget size
- Score was weighted by jurisdictions' combined share of other three factors
- Weighted performance ratio determined jurisdiction's share for 25% of available funding

Support for Sustainable Technologies

Rubberized Asphalt Concrete (RAC)

- Utilizes recycled waste tires
 - On avg. 2,000 tires / lane mile
- Improved binder properties for better performance
 - Can be used at reduced thickness
 - Longer durability means less frequent maintenance
 - Claims to last 50% longer than traditional mixes
- There is no performance model for RAC!



Rubberized Asphalt Concrete (RAC)

- MTC partnered with Ca. Pavement Preservation Center and CalRecycle to:
 1. Quantify the benefits of using RAC
 2. Develop a performance model for pavement management systems
- Abundance of data from San Francisco Bay Area StreetSaver users made analysis possible

Rubberized Asphalt Concrete (RAC)

- Analysis showed superior performance of RAC over traditional HMA
- MTC is working to integrate an RAC overlay code with StreetSaver
- Other sustainable treatments will be studied and integrated as well

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Climate Initiatives Showcase Project: Cold In Place Recycling

- Sonoma Co. and City of Napa joint project
- \$2 M Climate Initiatives grant
- 13 miles of roadway
- Demonstration Project – Staff from 50+ agencies in attendance

https://www.youtube.com/watch?v=0ZXyt_oq6qg

Innovative Climate Programs



Cold in Place Recycling



Repaved two roadways in Napa using Cold in Place Recycling.

GHG Emissions Reduction:
493 tons/yr

Cost Effectiveness:
-\$2,477

Shore Power

Installed shore power technology at two berths at the Port of Oakland.

GHG Emissions Reduction:
534 tons/yr

Cost Effectiveness: \$849

fleet.

GHG Emissions Reduction:
not quantified

Cost Effectiveness: not quantified

Sustainable Paving Practices on the Rise

- Data from Statewide Needs Assessment
Sustainable Practices

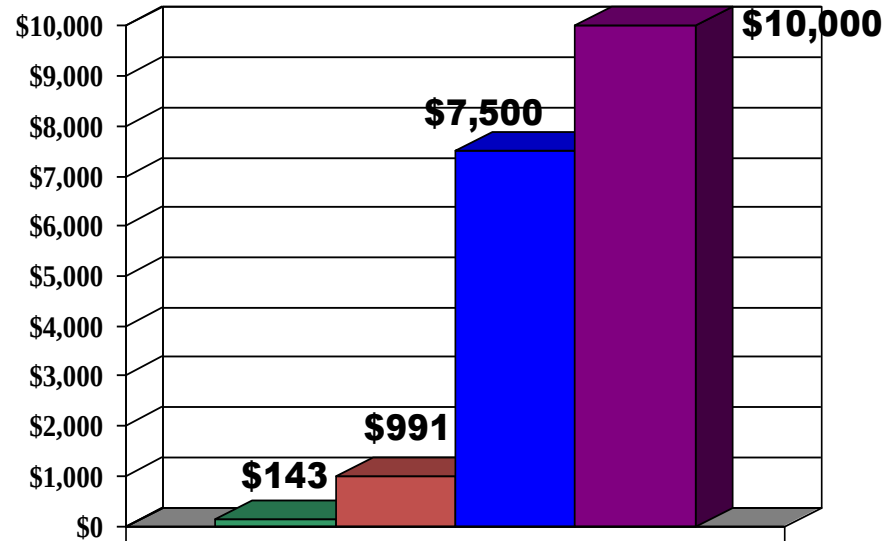
Quality Assurance / Control

Quality Assurance/Control

- Distress Survey Training Classes
- Inspector Certification
- QA/QC Plans
- Quality Assurance through 3rd Party (California Pavement Preservation Center, Chico)

Regional Investment in Pavement Maintenance

Growth in Regional Investment in Local Streets & Roads Over Consecutive Regional Transportation Plans



Regional Investment in LS&R (In Millions)

2001 RTP	\$143
T2030	\$991
T2035	\$7,500
PBA	\$10,000