

A Regional Asset Management Program for Local Streets & Roads

San Francisco Bay Area Case Study



**Metropolitan
Transportation
Commission**

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Boise, ID
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Presentation Focus

**Regional Agencies can Implement an
Asset Management Program and
Performance Policies to Affect the
Conditions on Local Streets and Roads**

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

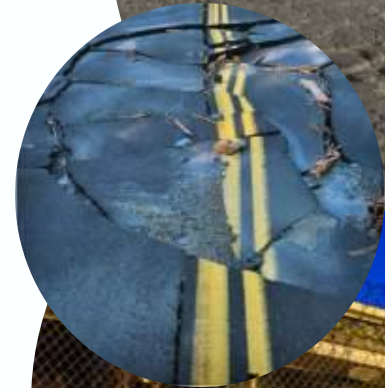
- **Population = 7.3 Mil**
- **Nine Counties**
- **109 Jurisdictions**
- **42,500 Lane-Miles**
- **1,500 Miles of Highway**
- **23 Transit Agencies**
- **Seven Toll Bridges**
- **One MPO: MTC**





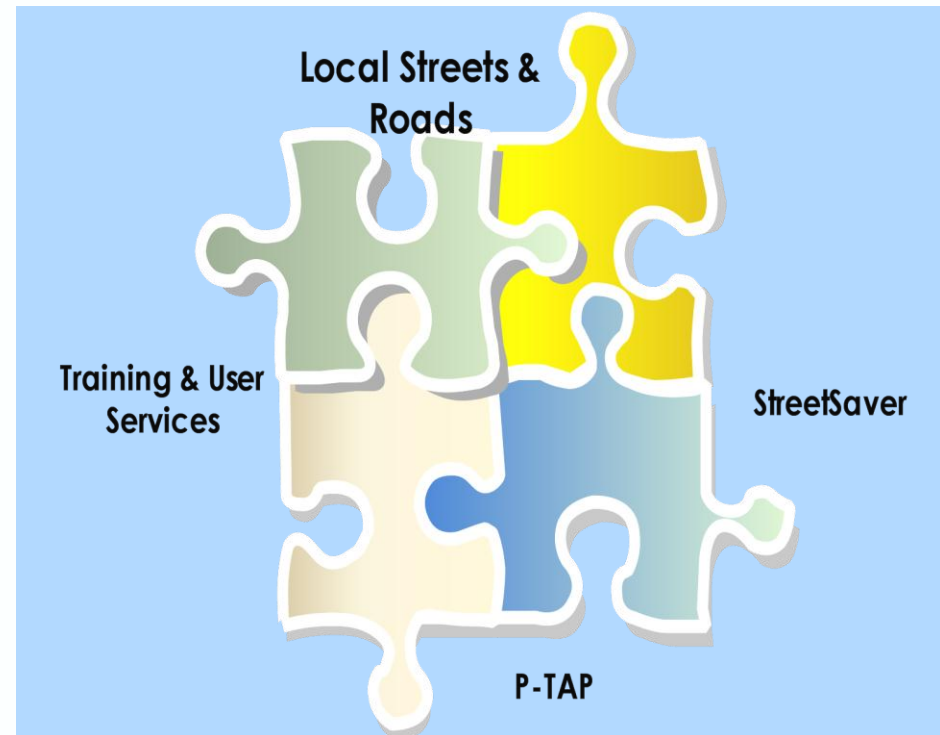
Why are Local Streets and Roads a Regional Concern?

- Supports *All* Modes of Transportation
- \$40 - \$50 billion replacement value
- Conditions are Facing Steep Decline
- Escalating Deferred Maintenance Jeopardizes Funding for *All* Transportation Priorities



MTC's Regional Streets & Roads Program

- **Purpose:**
 - Promote cost-effectiveness and sustainability
 - Improve conditions
- **Four Main Components:**
 - Software (StreetSaver®)
 - Training & User Support
 - Federal Grant Program –PTAP
 - Policy – LSR Committee
- **Each Component Essential to Program's Success**



MTC's StreetSaver®

- Network Level System
- Used by all 109 Bay Area Jurisdiction; 250 nationwide
- Developed 25 Years Ago
- Designed Specifically for Local Agencies
- Cost Effectiveness vs. “Worst First”
- Purpose:
 - Document Needs & Conditions
 - What Do I Fix First?



MTC's StreetSaver[®]



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



Pavement Technical Assistance Program (PTAP)

- **Federal Grant Program (STP)**
- **\$1.5 M Annually**
- **50 Re-Inspections/ Updates Per Year**
- **Ensures MTC Access to Quality Data**
- **Obtains 100% PMS Certification**

Policy

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

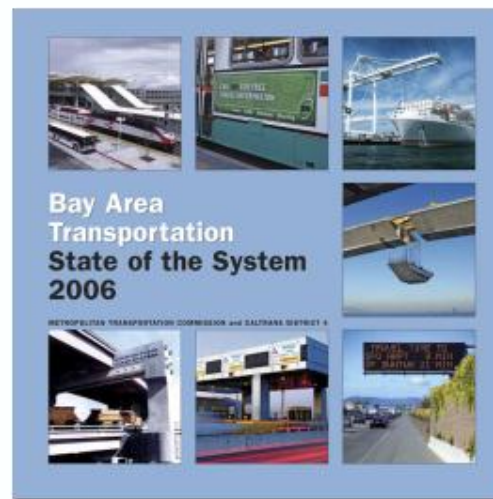


Regional Condition Summaries

Bay Area Pavement Condition									
City	EM	VCL	GI	F	D	VD	ND	TE	AE
KE	90	79	64	49	34	94			
NI	44	17	36	54	36	32	32	47	64
RM	1%	3%	0%	8%	2%	9%	1%	0%	

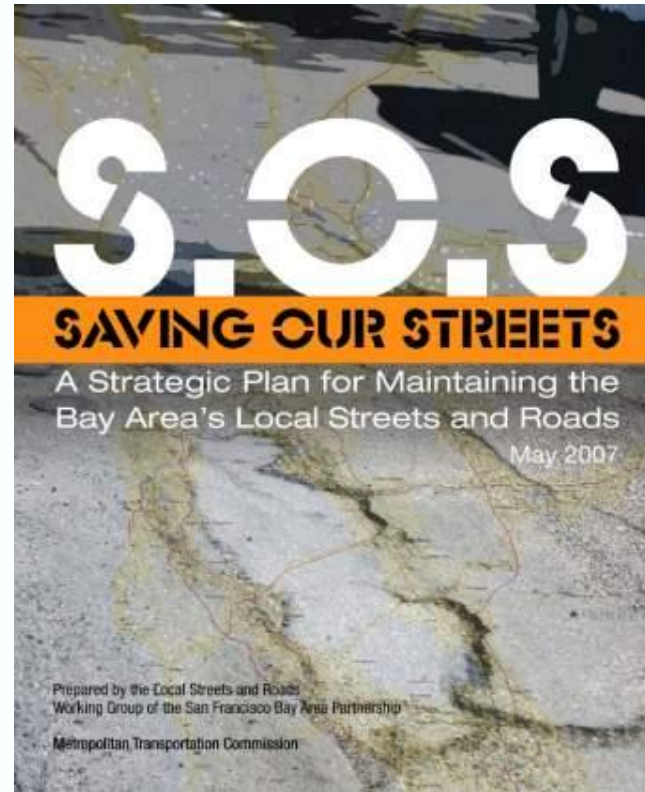
BEST AND WORST BAY AREA PAVEMENTS

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 County	82	Marin County	48
Dublin	82	Rio Vista	48
Gilroy	82	Suisun City	50
Cloverdale	80	Napa County	51
Vacaville	80	St. Helena	51



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**



Local Streets & Roads Needs Assessment

- **How Much Do We Need to Spend?**
 - Pavement
 - Non-Pavement
 - Bridges
- **Regional “What-If?” Scenarios**
- **Exclusive Use of StreetSaver® Makes This Easy**

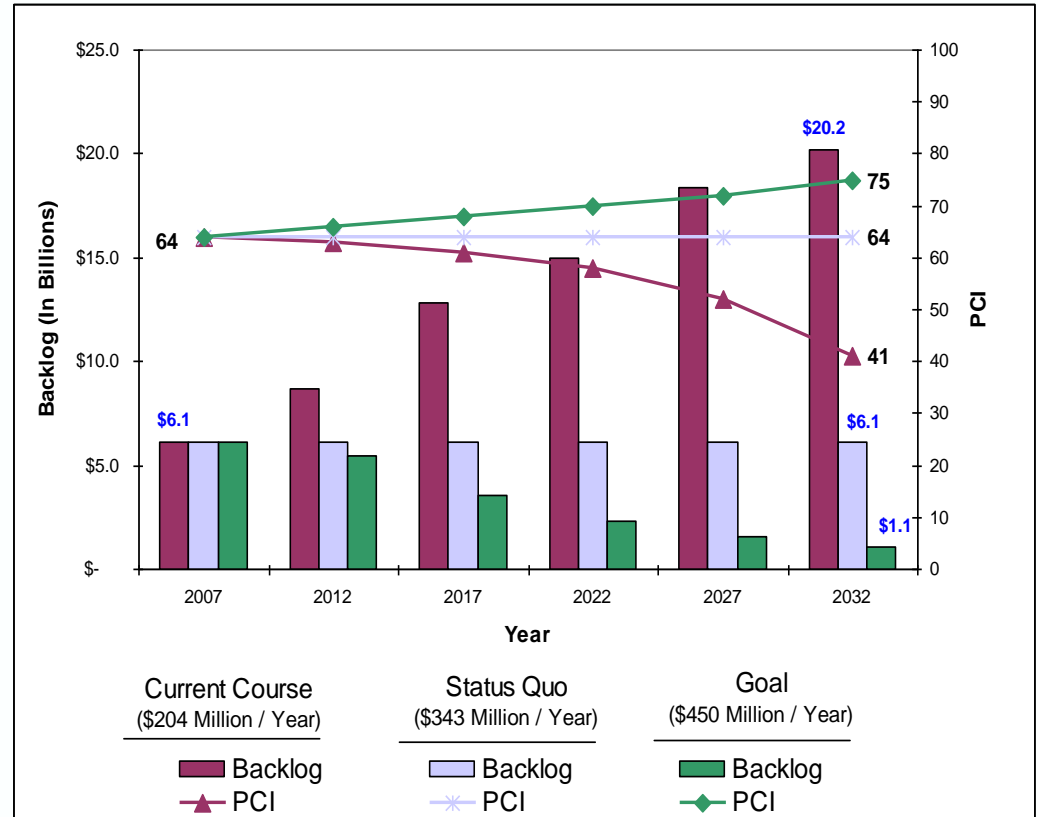
Local Streets & Roads Needs Assessment

25-Year Local Street & Road Shortfalls

Jurisdiction	Total Need	Revenue	Shortfalls
Alameda	\$ 321,497,666	\$ 183,683,171	\$ 137,814,495
Contra Costa	\$ 255,502,231	\$ 125,503,979	\$ 129,998,252
Marin	\$ 119,630,529	\$ 46,827,532	\$ 72,802,997
Napa	\$ 86,252,240	\$ 31,247,354	\$ 55,004,886
San Francisco	\$ 228,882,679	\$ 105,156,075	\$ 123,726,604
San Mateo	\$ 232,103,049	\$ 108,589,012	\$ 123,514,038
Santa Clara	\$ 437,399,488	\$ 239,317,434	\$ 198,082,054
Solano	\$ 1,387,724,521	\$ 369,749,349	\$ 1,017,975,172
Sonoma	\$ 224,831,687	\$ 64,751,336	\$ 1,583,080,351
Total	\$ 2,391,830,980	\$ 947,741,301	\$ 1,444,089,680

The 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
- **Benefit to Cost ratio of maintenance investment is 5:1**

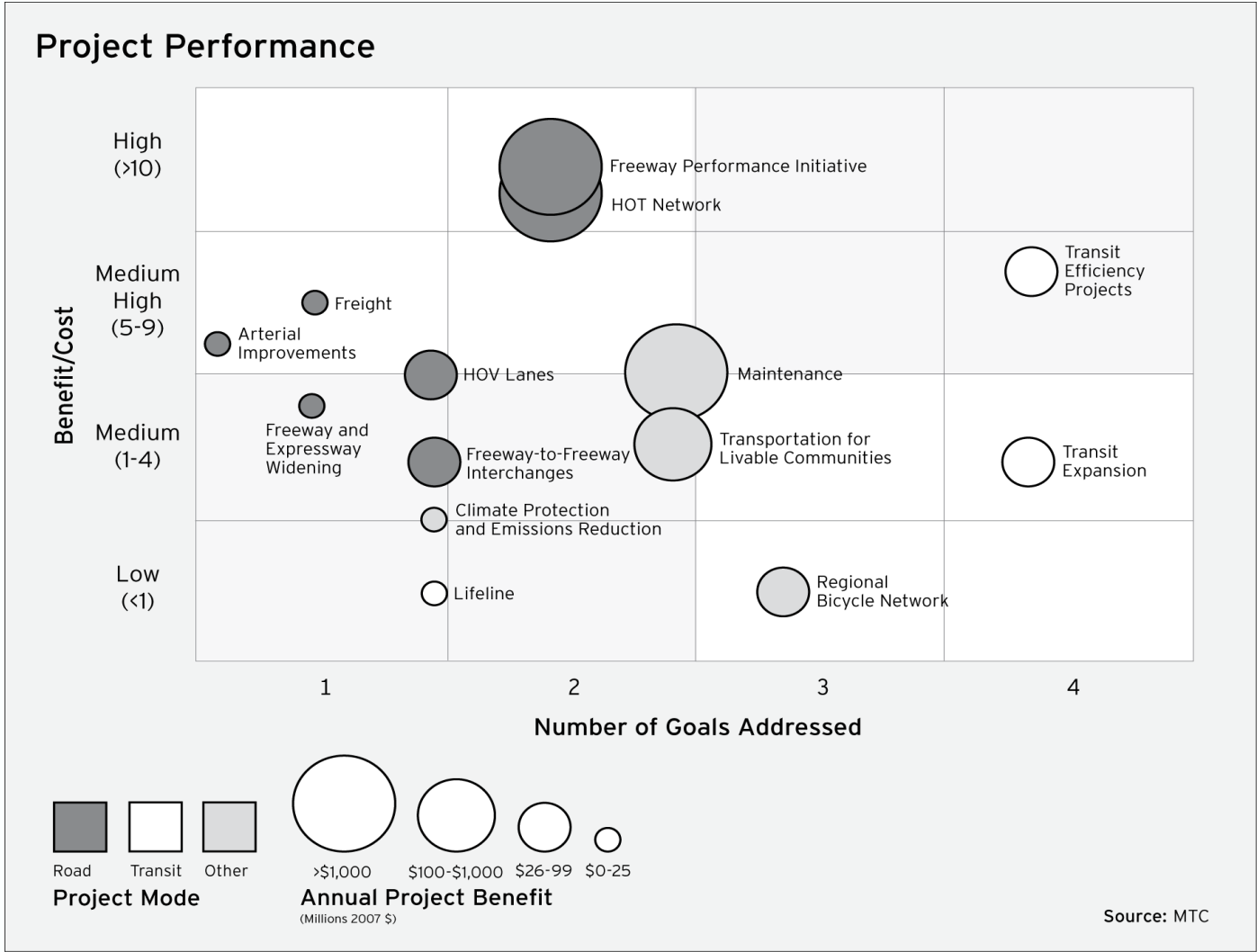


Impact of Data on Regional Policy

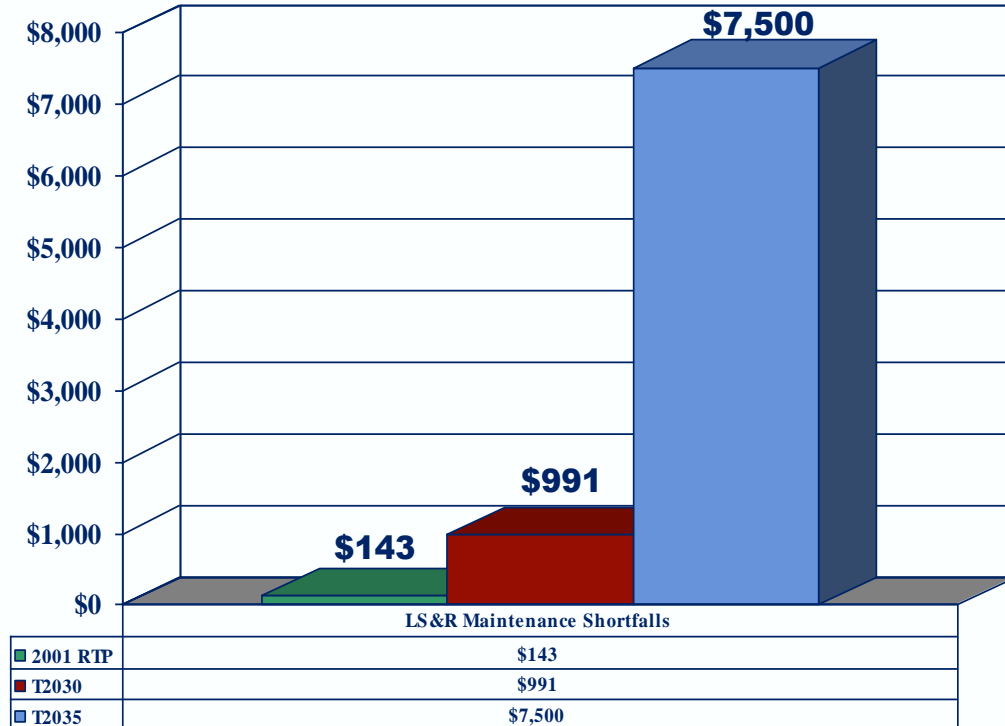
- **Regional Policy = “Fix it First”**
- **Recognition of Benefit / Costs**
- **New Approach to Funding – Performance Based**



Benefit Cost Analysis



Impact of Data on Regional Policy

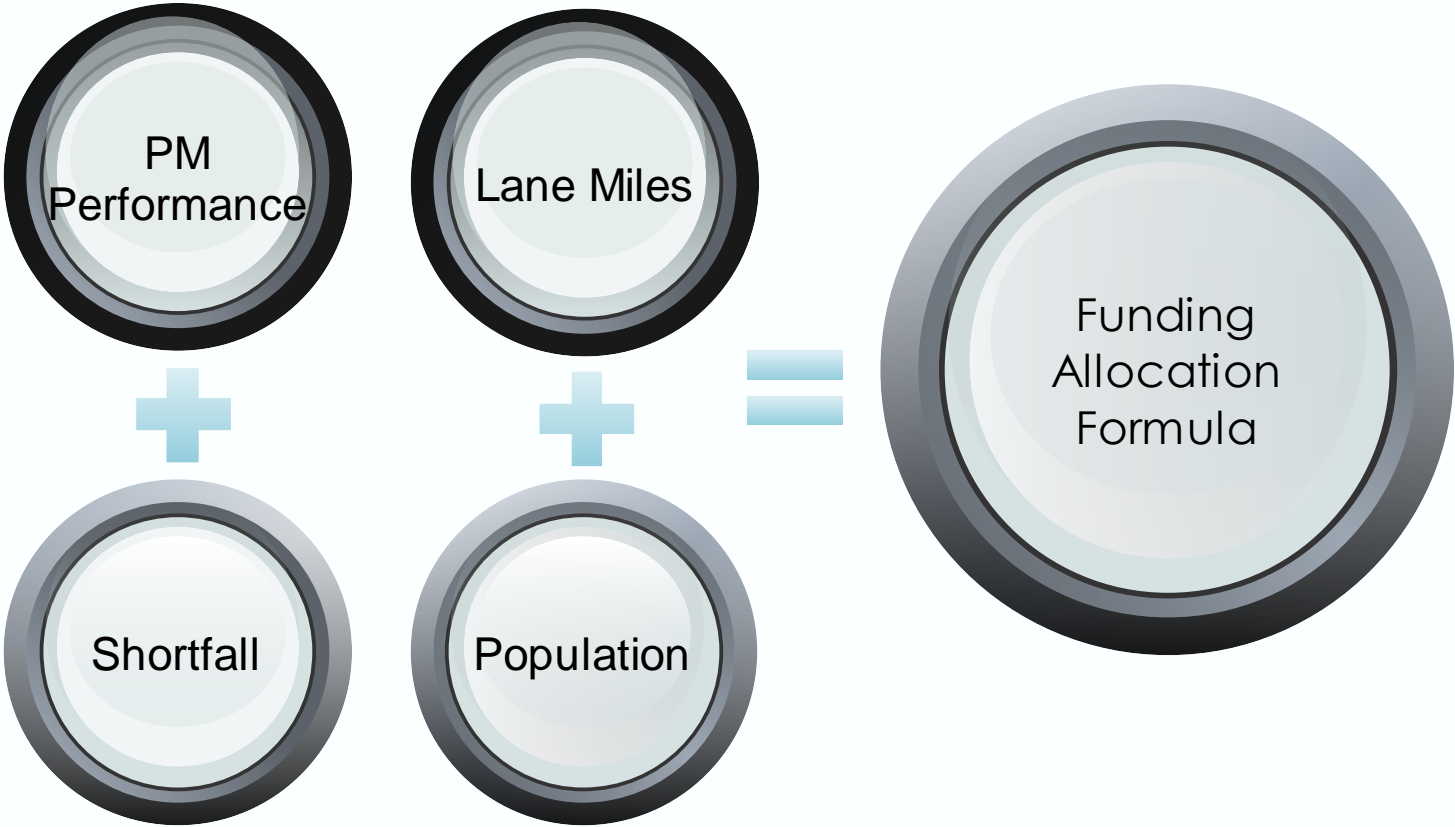


- **Six-Fold Increases in Regional Investments in LSR**

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



Performance Measure

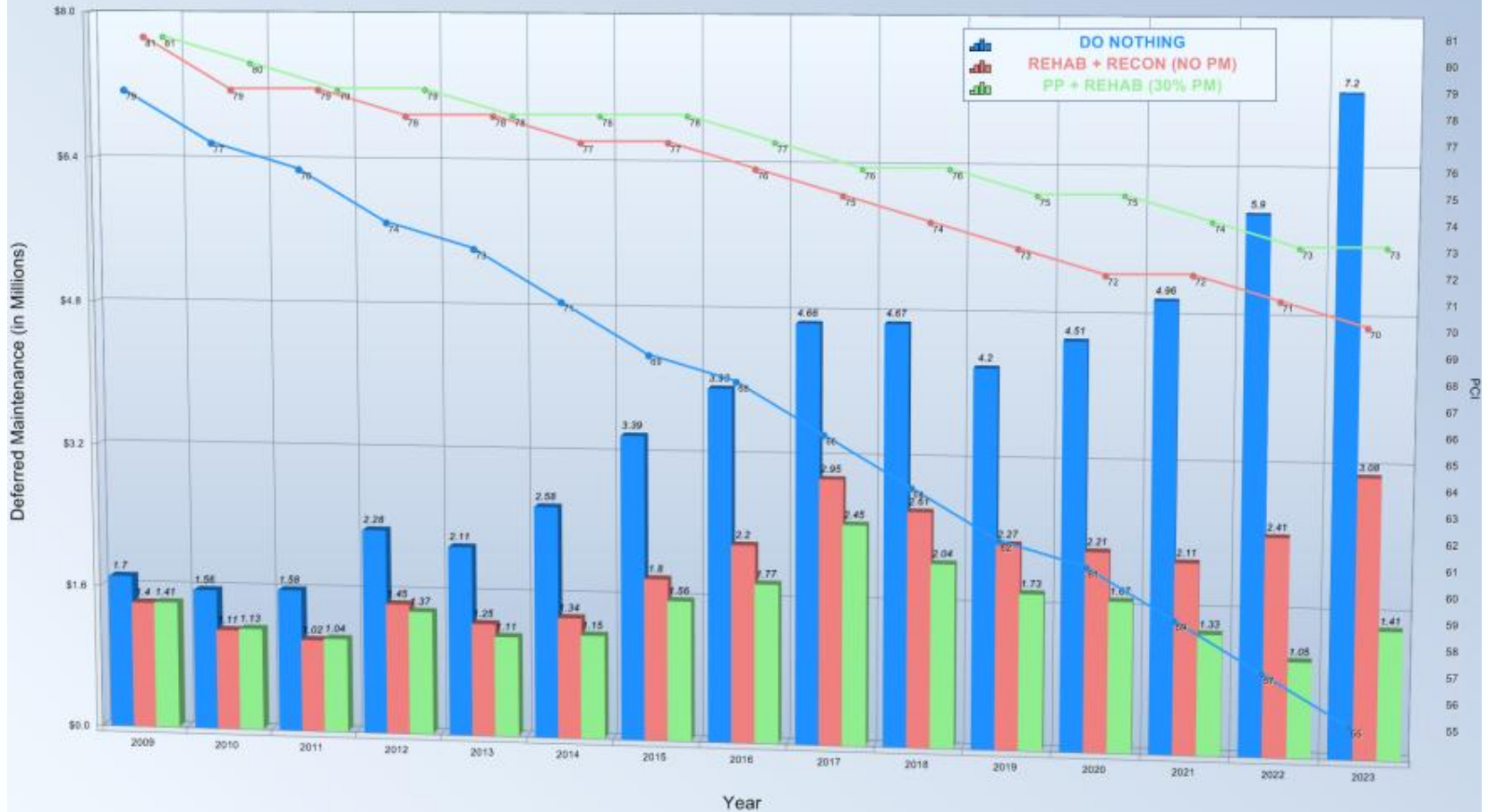
- **Difficult to Find a “One Size Fits All” Performance Measure**
- **Performance Measure Criteria**
 - Measurable
 - Objective as Possible
 - Can be fairly applied
 - Utilizes data widely available
 - Meaningful

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 comes Directly from StreetSaver[®]
 - Can be Weighted by Jurisdiction Size
 - Promotes Pavement Preservation Principles

Importance of Preventive Maintenance

Scenario Comparison - Deferred Maintenance and PCI



Defining Preventive Maintenance

- **Arterial and Collector Roadways**
 - PCI of 70 or Above
- **Residential / Local Roadways**
 - PCI of 60 or Above
 - If Below 70, Must Extend Life by 5 Years

Setting the Benchmark

- **Actual / Recommended % of Budget Spent on Preventive Maintenance**
- **Recommended – Determined by StreetSaver[®]**
 - % Varies by Jurisdiction
- **Actual – Determined by Jurisdictions' StreetSaver[®] Maintenance History**
 - 2-Year Historical Average
 - Countywide Avg. Treatment Costs

Sample Calculation

Street / Section Name	Length	Width	Area (sq/ft)	PCI Before Treatment	Treatment Name	Date
ALPINE CT	158	33	5214	85	SLURRY SEAL	10/1/2007
AMBERWOOD CIR	1077	32	34464	89	SLURRY SEAL	10/1/2007
KINGSWOOD CT	211	33	6963	83	SLURRY SEAL	10/1/2007
LAKEVIEW CIR	2658	33	87714	73	SLURRY SEAL	10/1/2007
LAKEVIEW CT	192	32	6144	73	SLURRY SEAL	10/1/2007
LYNBROOK DR	853	32	27296	60	SLURRY SEAL	10/1/2007
MARIETTA CT	400	33	13200	63	SLURRY SEAL	10/1/2007
MARKELEY LN	2632	30	78960	17	MILL AND THIN OVI	10/1/2007
MCKINLEY ST	1521	33	50193	43	MILL AND THICK OV	10/1/2007
MEADOWS CT	370	33	12210	89	SLURRY SEAL	10/1/2007
MISSION CIR	1089	33	35937	50	SLURRY SEAL	10/1/2007
MONTANA ST	350	33	11550	44	MILL AND THICK OV	10/1/2007
NEBRASKA ST	422	33	13926	81	MILL AND THICK OV	10/1/2007
OAKBROOK CIR	1918	33	63294	87	SLURRY SEAL	10/1/2007
OAKBROOK CT	264	33	8712	80	SLURRY SEAL	10/1/2007
OAKBROOK DR	6385	40	255400	51	SLURRY SEAL	10/1/2007
ORINDA CT	211	33	6963	89	SLURRY SEAL	10/1/2007
ORINDA WAY	739	36	26604	87	SLURRY SEAL	10/1/2007
PHOENIX DR	2083	33	68739	73	CHIP SEAL AND SLU	10/1/2007
POLK ST	528	30	15840	58	MILL AND THICK OV	10/1/2007
RAINIER CT	370	33	12210	90	SLURRY SEAL	10/1/2007
RAMSGATE CT	211	34	7174	83	SLURRY SEAL	10/1/2007
REGENCY PL	264	33	8712	83	SLURRY SEAL	10/1/2007
RIALTO AVE	1320	33	43560	82	SLURRY SEAL	10/1/2007
RIALTO CT	317	33	10461	82	SLURRY SEAL	10/1/2007
RIDGECREST CT	634	33	20922	76	SLURRY SEAL	10/1/2007

Sample Calculation

Jurisdiction	County of Napa	American Canyon	Calistoga
Recommended percent PM	16%	43%	20%
Actual PM Arterials & Collector	\$71,304	\$486,373	\$187,729
Actual PM Residential	-	\$1,010,649	\$98,813
Actual Total PM	\$71,304	\$1,497,022	\$286,542
Actual Total Maintenance	\$14,657,343	\$4,953,711	\$1,776,620
Actual percent PM	0%	30%	16%
Performance Score	3%	70%	81%

Conclusions

- **Investment in asset management will yield large benefits**
 - Asset management programs provide the means for ensuring accountability and tracking progress
 - Ability to respond quickly to federal stimulus funding call for projects
 - Successful Advocacy Efforts Gain Local Buy-In
- **Emphasis on Performance Yielding Gains**
 - Conditions Improving Despite Declining Funds
 - Agencies champion use of PMS & Pavement Preservation
 - Demonstrate Cost-Effectiveness to Taxpayers

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THANK YOU!