

# Pavement Management Program (PMP)



Harris & Associates.



## What We Heard From You...

“We need a **cost-effective method** we are comfortable with to **quantify and legitimize the reality** of our current road conditions as a way to **build future support from policy makers and the public, regardless of what repair method** we prefer to use in the future.”

# Agenda

- Introduction
  - The Harris Team
  - Experience
- What is PMP?
- Why Utilize PMP?
- PMP Implementation
- Action Plan





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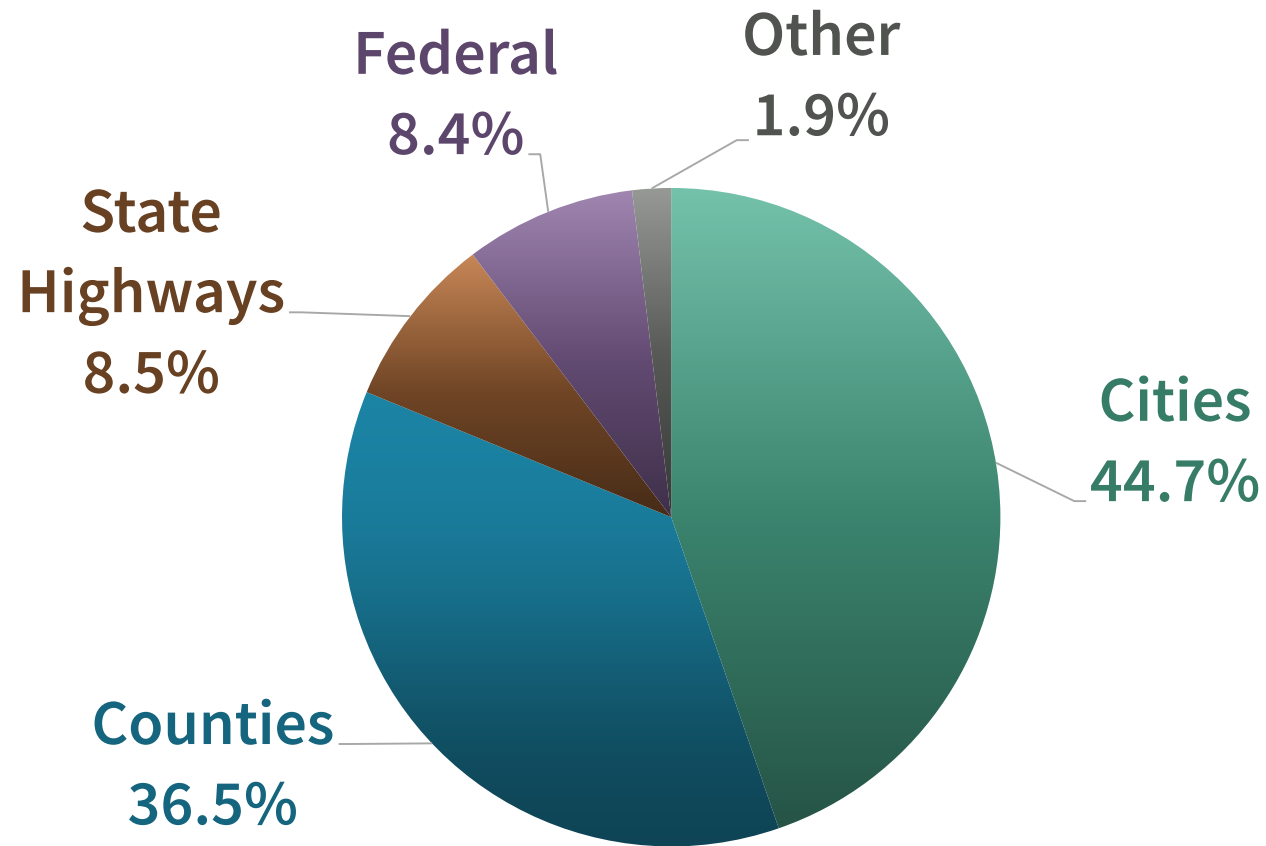


# The Harris Team Experience

- Harris is one of the leading provider of Pavement Management Program in the region.
- Over 300 PMP projects for 159 agencies in last 26 years.
- MTC trained/certified as a MTC P-TAP consultant (all 18 rounds).

Harris' Asset Management Experience	
MTC StreetSaver	92 agencies (224 projects)
CartêGraph	15 agencies (23 projects)
MicroPaver	9 agencies (19 projects)
Proprietary Software Experience	2 agencies (2 projects)
PMi	41 Agencies (41 projects)
Total	159 Agencies (309 projects)

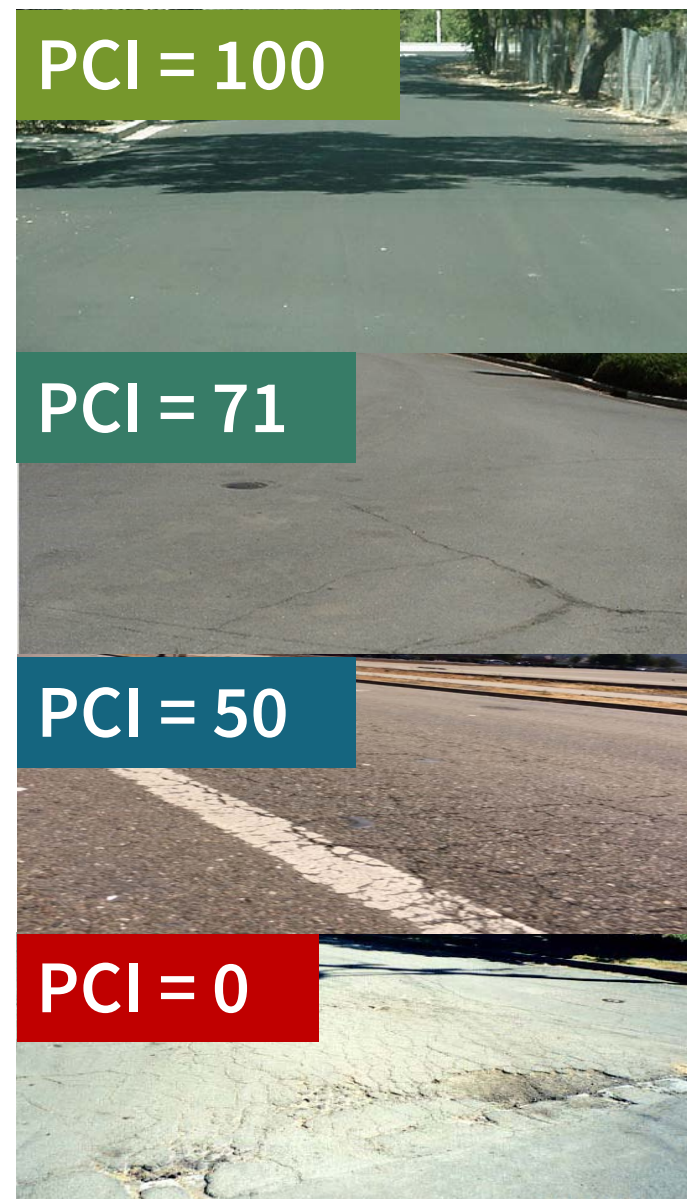
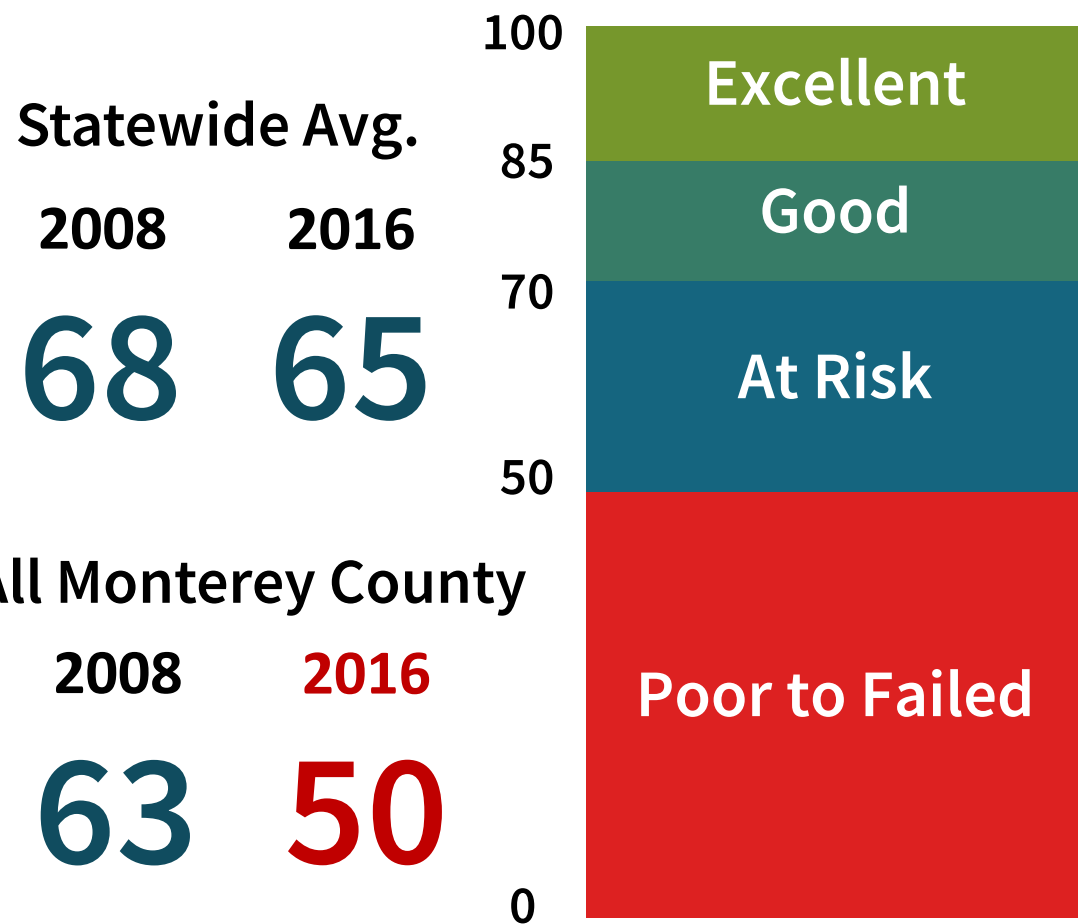
# Local Roads Are A Huge Part of California's Network



More than 81% of California's roads are owned by cities & counties!

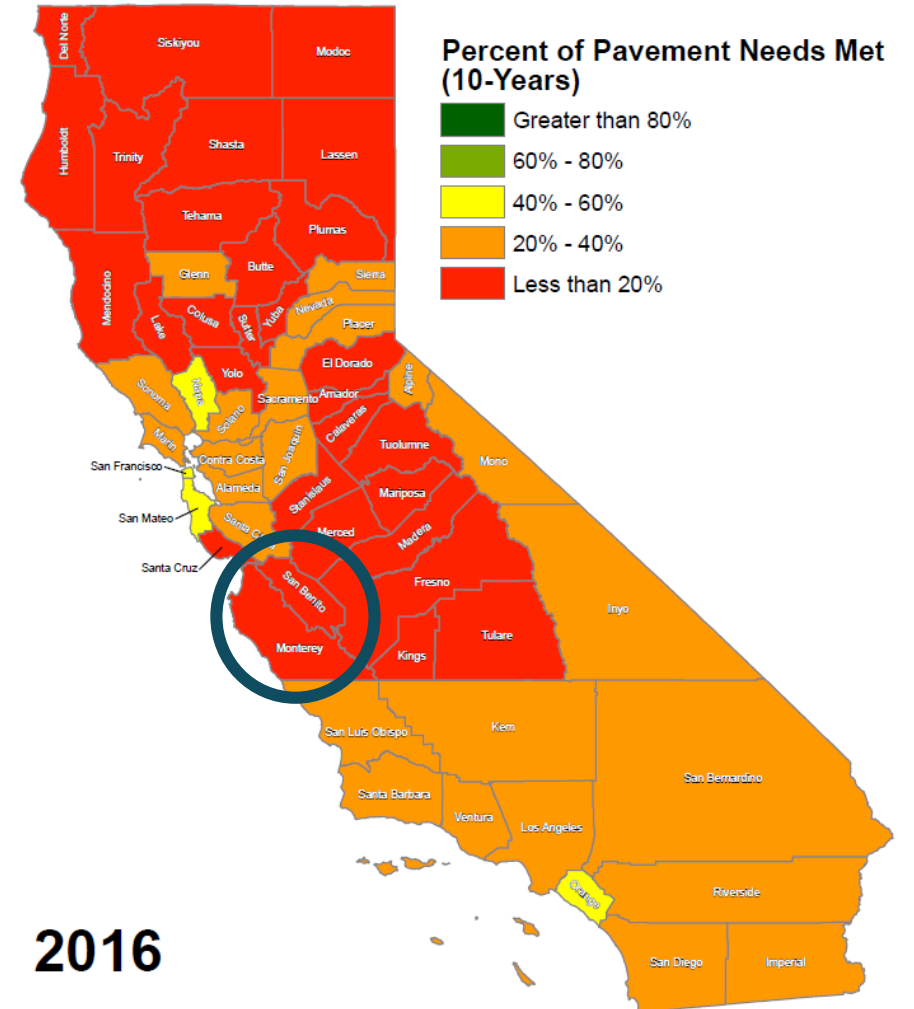
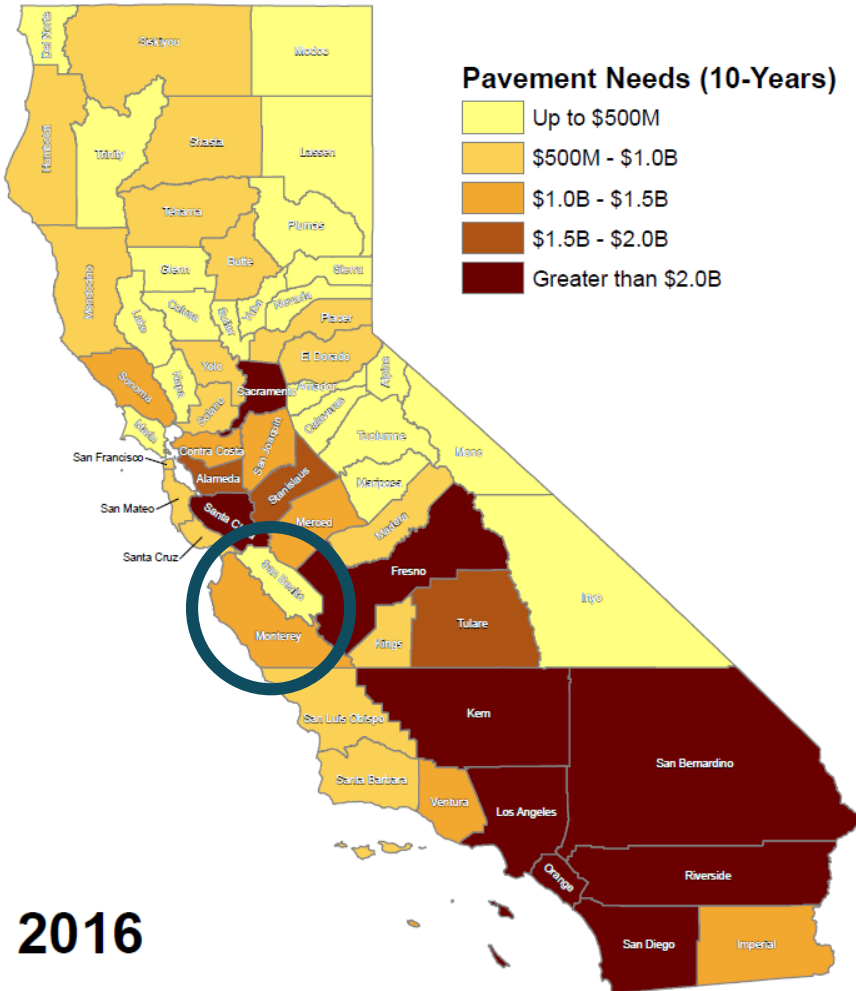
*\*Source: California Statewide Local Streets and Roads Needs Assessment Report*

# Average Statewide PCI



*\*Source: California Statewide Local Streets and Roads Needs Assessment Report*

# Statewide Needs

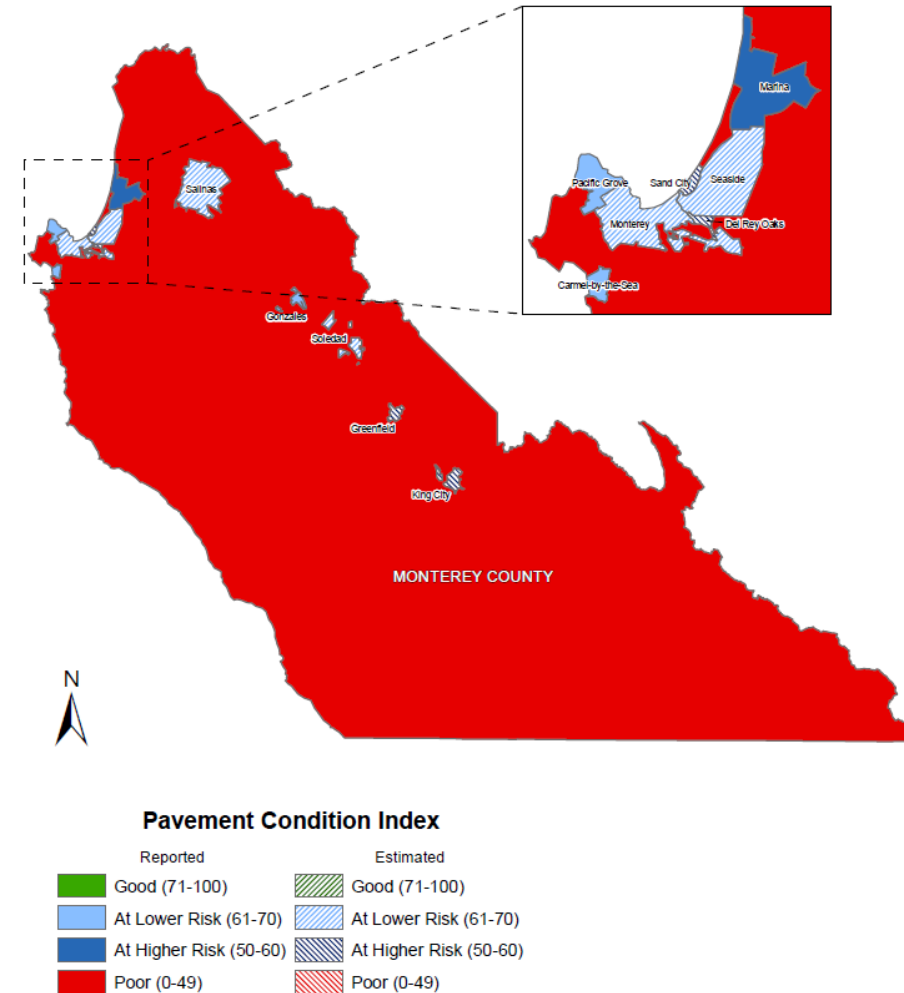


*\*Source: California Statewide Local Streets and Roads Needs Assessment Report*



# Monterey County Pavement Needs

Jurisdiction	Centerline Miles (2013)	2016 PCI	10 Year Needs (2016)
Carmel by the Sea	29.69	<b>50-Poor</b>	<b>\$1.296B</b>
Del Rey Oaks	15.666		
Gonzales	9.37		
Greenfield	23.39		
King City	28.05		
Marina	57.64		
Monterey	113.27		
Pacific Grove	64.87		
Salinas	257.73		
Sand City	5.37		
Seaside	86.64		
Soledad	37.97		
Monterey County	1,245.17		



\*Source: California Statewide Local Streets and Roads Needs Assessment Report



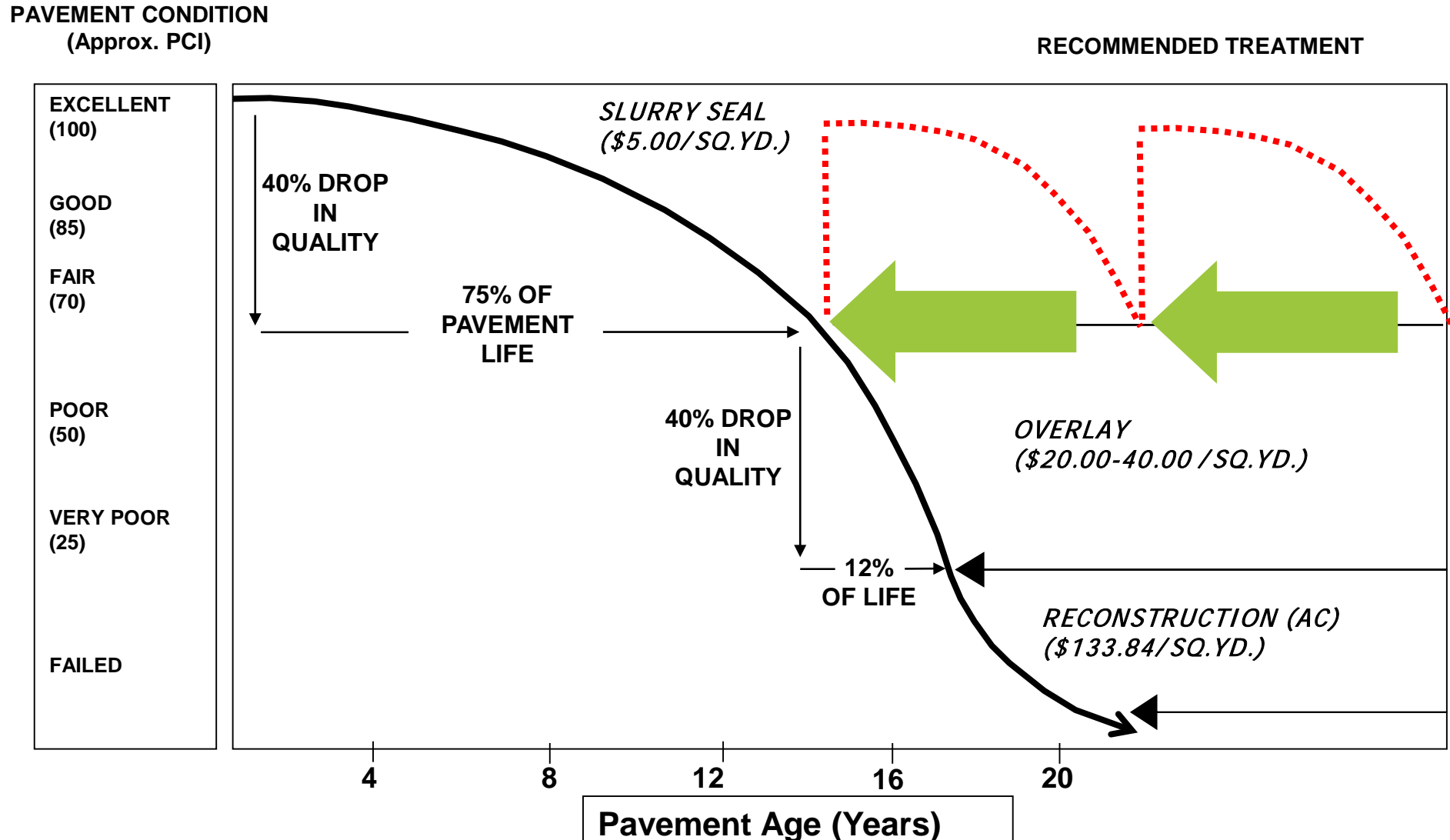
# What is Pavement Management Program (PMP)?

Pavement Management Program (PMP) is:

*“Computer assisted method of organizing and analyzing information about pavement conditions.”*

# Why PMP?

## More Cost-Effective to Treat Before Steep Decline



# Why PMP?

- Inventory Management — organizes, stores, and retrieves data
- Pavement Condition Tracking
- Determine impacts of funding alternatives
- Objective decision making based on data
- The ability to justify funding needs



*“It has proven to be a very useful tool, both operationally, as well as politically.”*

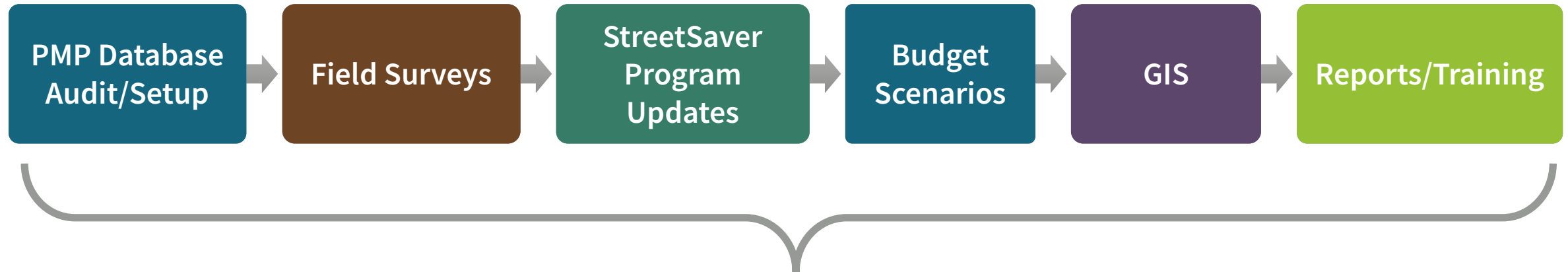
*–Brendan Ottoboni, Public Works Director*

*Chico, CA*

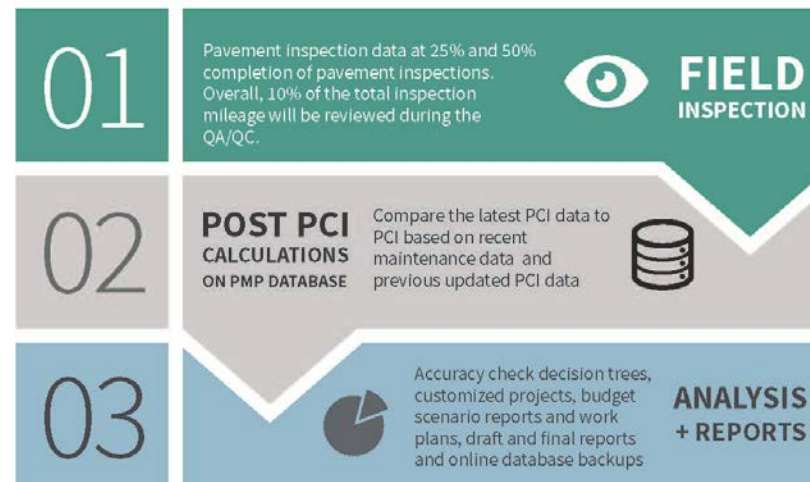




# PMP Implementation



## QA/QC PROGRAM OVERVIEW



# PMP Implementation — PMP Data Audit/Setup

- StreetSaver Procurement
- Data Migration
- Add Streets/Roads
- Populate Street/Road Information
- Kickoff Meeting

The screenshot shows the 'Create Section' window with the following details:

- File: Sections: ABBOCR 10
- Management Section Information:
- Street ID: ABBOCR, Begin Location: BURGESS LN, End Point:
- Section ID: 10, End Location: WINDHAM WAY, End Point:
- Street Name: ABBOTT CIR - ABBOCR, # of Lanes: 2
- Functional Class: R - Residential/Local, Length (ft): 1235.00, Width (ft): 22.00, Area (sq ft): 27170.00
- Surface Type: A - AC, Parking Lot Type: , Slab Length: , Slab Width: , # of Slabs:
- Fund Source: , Effective Date: , Constructed: 07/01/1967, NHS: ☐
- General Code: , Originally Constructed: 07/01/1967, Curbcut: ☐ Exclude from Centerline: ☐
- Area ID: 7 - Zone 7, Shoulder Width: , Traffic Index: , ADT:
- Comments:
- User1 through User10 input fields.

Network Summary Statistics				
Printed: 03/22/2017				
	Total Sections	Total Center Miles	Total Lane Miles	PCI
Arterial	38	8.26	16.52	59
Rural Interstate (1)	1	0.46	0.92	0
Collector	394	79.33	158.67	56
Residential/Local	1,363	187.45	375.66	59
Minor Arterial (4)	3	0.97	1.93	39
Local (7)	20	3.13	6.26	74
Total	1,819	279.60	559.96	
Overall Network PCI as of 3/22/2017:				58
***Combined	6	1.45	2.90	N/A
Collector	1	1.09	2.18	N/A
Residential/Local	5	0.36	0.73	N/A

PMP Database  
Audit/Setup

Field Surveys

StreetSaver  
Program  
Updates

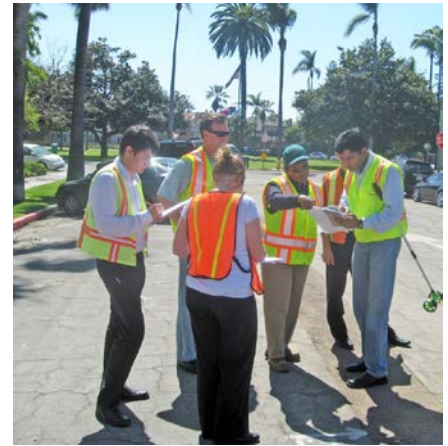
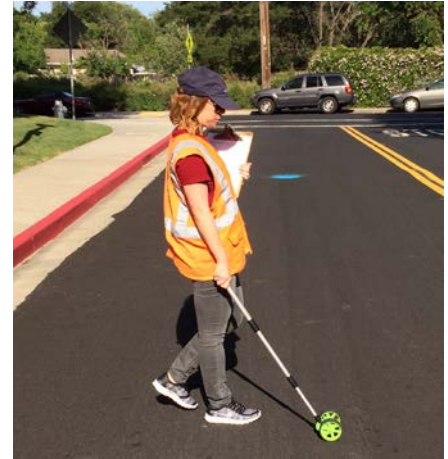
Budget  
Scenarios

GIS

Reports/Training

# PMP Implementation — Field Survey

- Condition Survey (Manual/Walking Surveys)
  - MTC Methodology
  - Safety Trained/MTC Certified Inspectors
  - Notes/Verify Street Attributes
- Hands-on Field Survey Training of Your Staff



PMP Database  
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# PMP Implementation — StreetSaver Program Updates

- Distress Survey Data Entry
- Incorporate Field Notes
- Recommend Splits or Re-segmentation of Sections Based on Field Work
- Verify/Add Recent Work

Street ID	Section ID	Street Name	Beg Location	End Location	Begin Point	End Point	Lane	Functional Class
ABBOCR	10	ABBOTT CIR - ABBOCR	BURGESS LN	WINDHAM WAY			2	R - Residential/Local
ABBOCR	20	ABBOTT CIR - ABBOCR	ABBOTT CIR	EAST END			2	R - Residential/Local
ACACLN	10	ACACIA LN - ACACLN	HOOKER OAK AVE	CUL-DE-SAC			2	C - Collector
ACORCR	10	ACORN CIR - ACORCR	WHITE AVE	END			2	R - Residential/Local
ADHIDR	10	AMBROSE HILL DR - ADHIDR	WEYMOUTH WAY	END			2	R - Residential/Local
ADMILN	10	ADMIRAL LN - ADMILN	MARIPOSA AVE	LACEWING CT			2	R - Residential/Local
ADMILN	20	ADMIRAL LN - ADMILN		DR			2	R - Residential/Local
AIRPBL	10	AIRPARK BLVD - AIRPBL		T RD			2	R - Residential/Local
AISERD	10	AIRPORT SERVICE RD - AISERD					2	R - Residential/Local
ALAMAV	10	ALAMO AVE - ALAMAV		T W/S			2	R - Residential/Local
ALAMAV	20	ALAMO AVE - ALAMAV		DN WY			2	C - Collector
ALAMAV	30	ALAMO AVE - ALAMAV		UL-DE-SAC			2	R - Residential/Local
ALAMAV	40	ALAMO AVE - ALAMAV		D HENSHAW...			2	C - Collector
ALAMAV	50	ALAMO AVE - ALAMAV		/ AVE			2	R - Residential/Local
ALANLN	10	ALAN LN - ALANLN		AC			2	C - Collector
ALBAAV	10	ALBA AVE - ALBAAV					2	R - Residential/Local
ALBICT	10	ALBION CT - ALBICT					2	R - Residential/Local
ALDECT	10	ALDEN CT - ALDECT		AC			2	R - Residential/Local
ALDEST	10	ALDER ST - ALDEST					2	R - Residential/Local
ALDEST	20	ALDER ST - ALDEST		IT AVE			2	R - Residential/Local
ALDRCT	10	ALDRIN CT - ALDRCT		AC			2	R - Residential/Local
ALGOAV	10	ALGONKIN AVE - ALGOAV		VE			2	R - Residential/Local
ALGOAV	20	ALGONKIN AVE - ALGOAV					2	R - Residential/Local

Inspection Date	Inspection Number	Information	No Distresses	Special	InspectionLength
09/04/2015	1		<input type="checkbox"/>	<input type="checkbox"/>	100.00

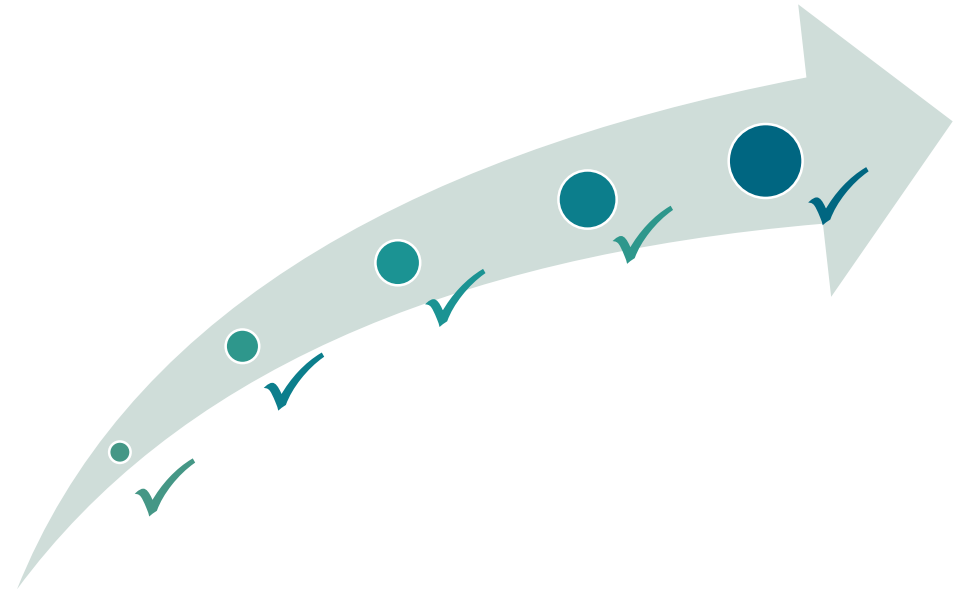
Distress Type	Severity	Deduct Size	Last Modified
4-Long. & Trans...	L-Low	110.00	10/05/2015
7-Weathering &...	L-Low	2520.00	10/05/2015



# PMP Implementation — Quality Control

- Data Collection Quality Control
  - Owned by PM
  - 5% of Network Re-surveyed
  - Quality Management Report (QMR)
  - Post Survey Meeting with Agency

**BENEFIT: Quality Data**





# PMP Implementation — Budget Scenarios

- Decision Tree
  - Update Treatments
  - Unit Costs (Bid Tabs)
- Budget Needs
  - Brings Sections to Optimal Condition
  - 5-30 Year Analysis

Projected Treatments				
Year	PCI Untreated	PCI Treated	Treatment	Treatment Cost
2017	70	70	DO NOTHING	\$0
2018	67	76	CAPE SEAL	\$41,769
2019	64	74	DO NOTHING	\$0
2020	61	72	DO NOTHING	\$0
2021	58	78	CAPE SEAL	\$45,642
2022	54	76	DO NOTHING	\$0
2023	51	73	DO NOTHING	\$0
2024	47	71	DO NOTHING	\$0
2025	43	77	CAPE SEAL	\$51,370
2026	38	75	DO NOTHING	\$0
2027	34	72	DO NOTHING	\$0
2028	28	70	DO NOTHING	\$0

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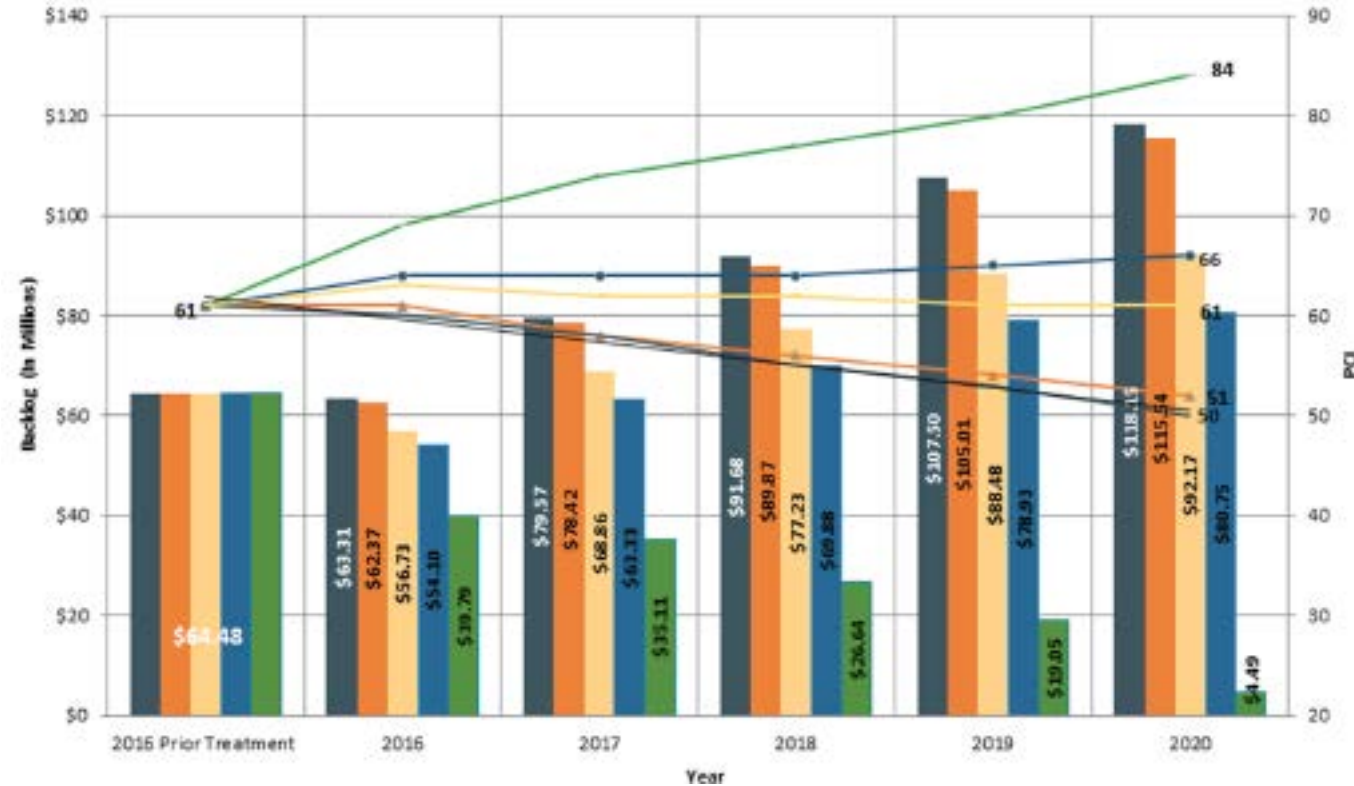
GIS

Reports/Training

# PMP Implementation — Budget Scenarios

- Budget Scenarios:
  - Budget Needs Average — \$24.7M
  - 5 Point Increase in PCI — \$10M
  - Maintain PCI — \$7M
  - Expected Annual Budget — \$1M
  - No Funds (Do Nothing) — \$0

**BENEFIT: Cost Effective**



PMP Database  
Audit/Setup

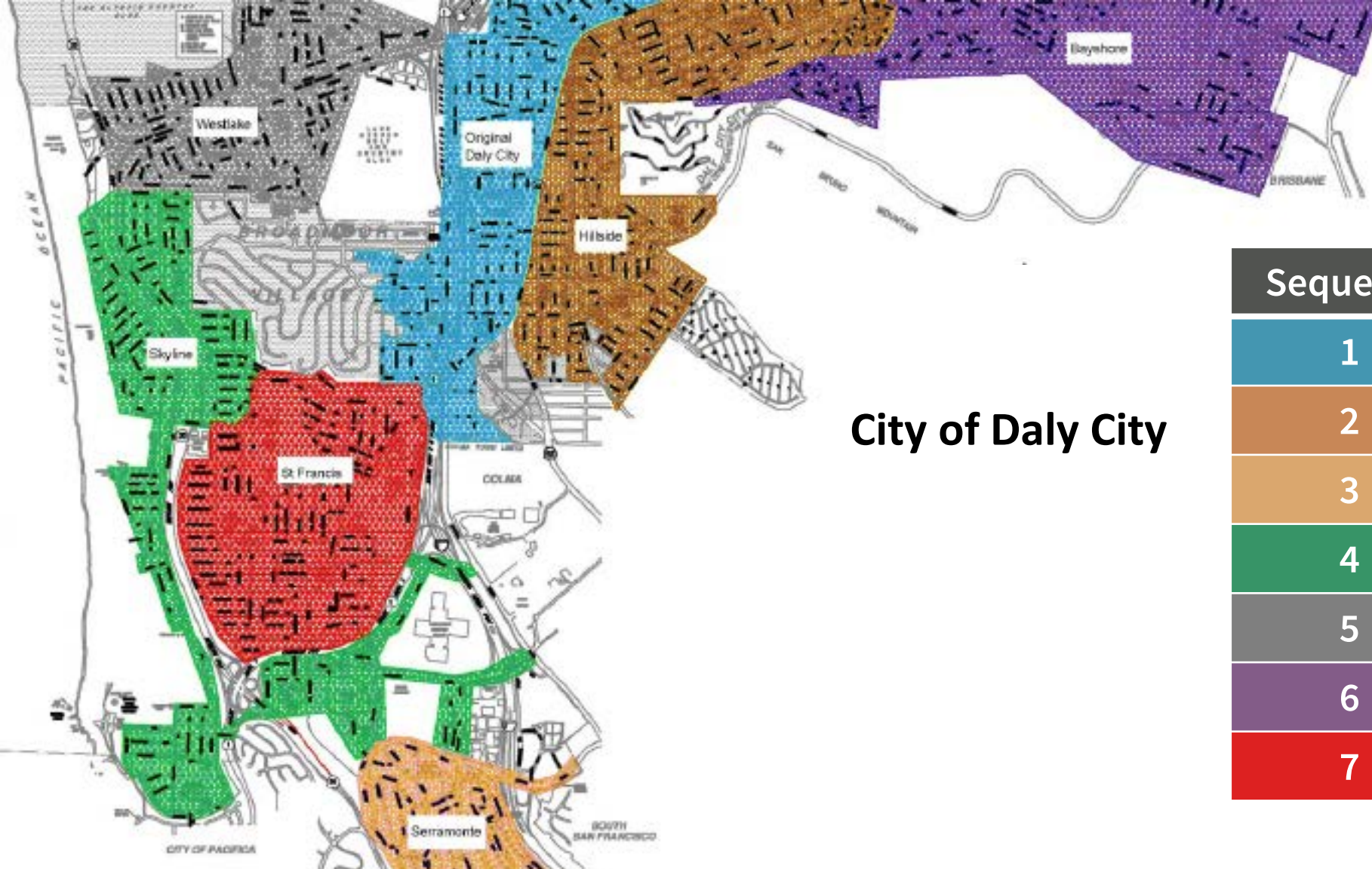
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**City of Daly City**

Sequence	Neighborhood
1	Original Daly City
2	Hillside
3	Serramonte
4	Skyline/Palisades
5	Westlake
6	Bayshore
7	St Francis

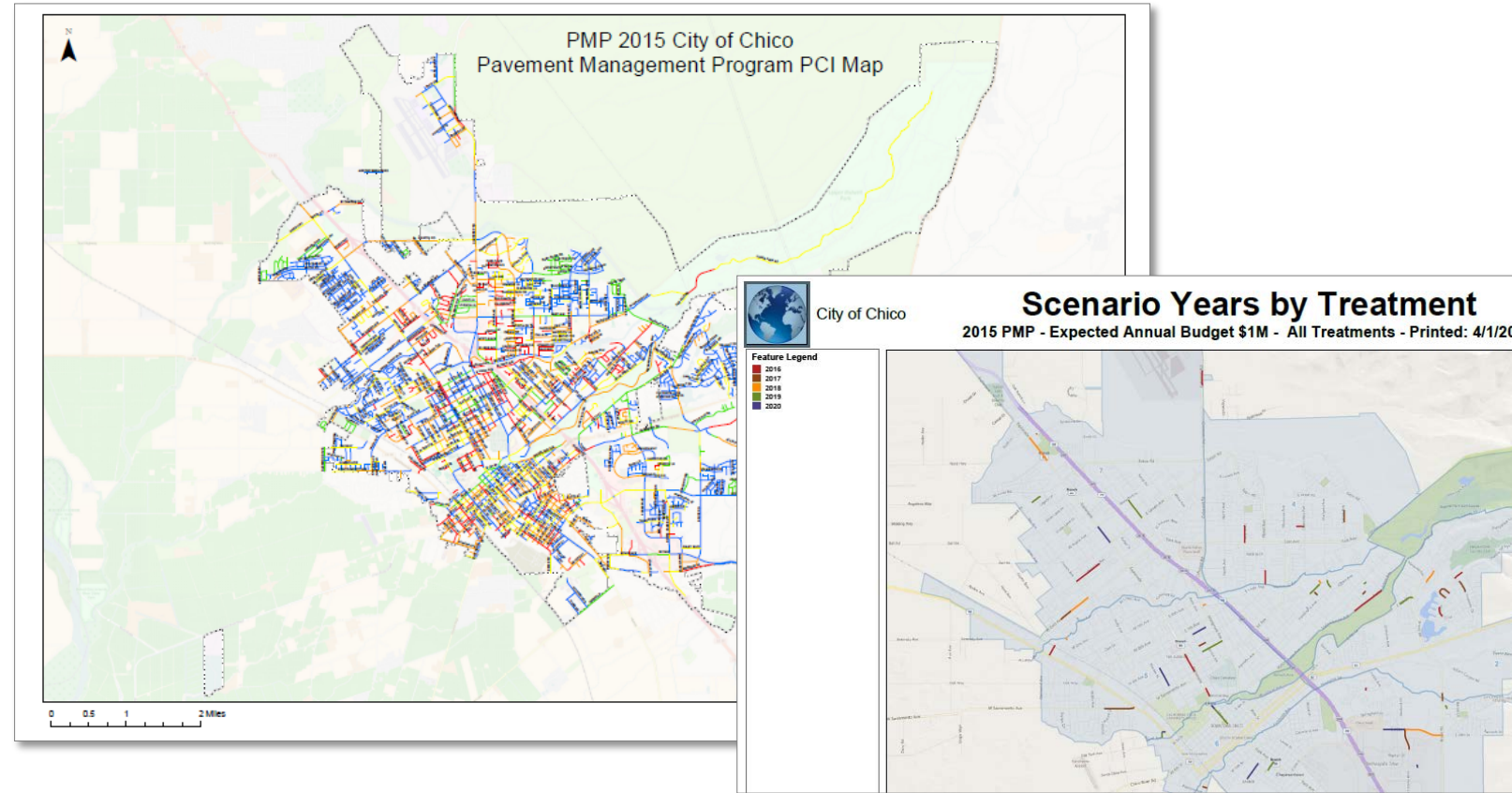




# PMP Implementation — GIS

- Established GIS with Pavement Management
- PCI & Work Plan Maps
- Export GIS Shapefiles

**BENEFIT: Easier access to road information**



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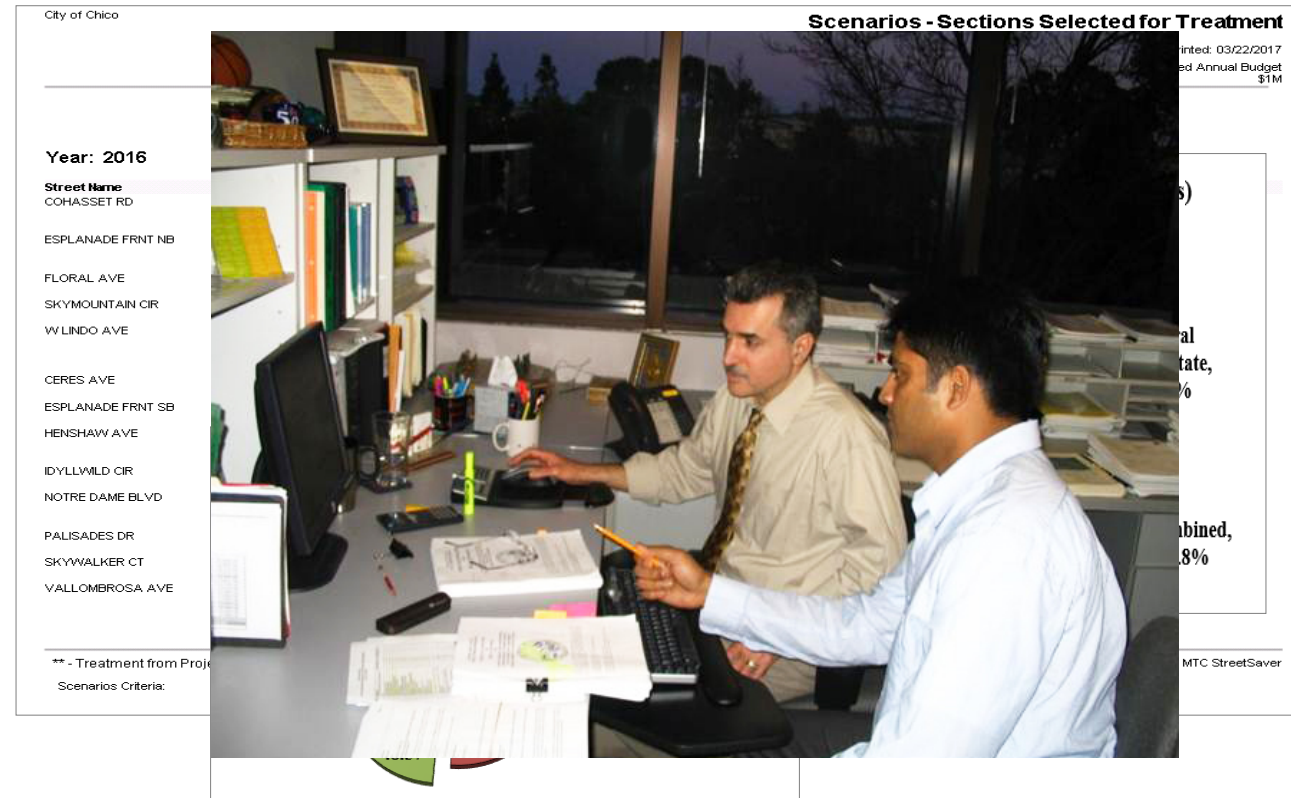
Budget  
Scenarios

GIS

Reports/Training

# PMP Implementation — Reports/Training

- **Harris Final Report**
  - Budget Planning (Work Plans)
    - Maintenance
    - Rehabilitation
  - PCI Listing Report
  - GIS Maps
  - Distress Data
- **PowerPoint Presentation for Agency**
- **StreetSaver Program Training**



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# Additional Benefits of StreetSaver PMP

- **Convenience:** Anywhere, anytime multiple user access
- **Security:** Database storage, recovery and backup
- **Value:** Program upgrades and enhancements
- **Support:** Real-time technical support





## Next Steps

- Step 1 – Consultant selection
  - Step 2 – Program implementation
  - Step 3 – PMP update for all Agencies  
(Survey, analysis and reports/training)
  - Step 4 – Annually update 1/6<sup>th</sup> of each agency's network
- 