



UTILITY PAVEMENT CUT & HEAVY CONSTRUCTION VEHICLE FEE STUDIES

SEPTEMBER 24, 2025



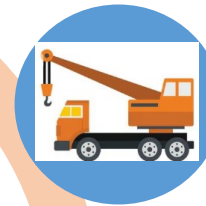
- Ordinance Establishing a Utility Pavement Cut Fee
- Ordinance Establishing a Heavy Construction Vehicle Fee
- Ordinance Establishing a Pavement Cut Moratorium

Street conditions continue to deteriorate



Impact of uncoordinated pavement cuts

Increased construction costs



Increased frequency of heavy vehicles

Background



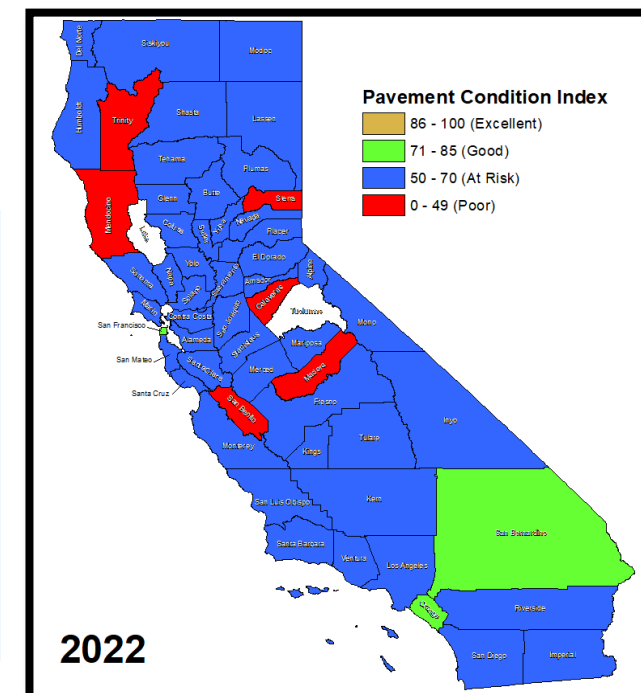
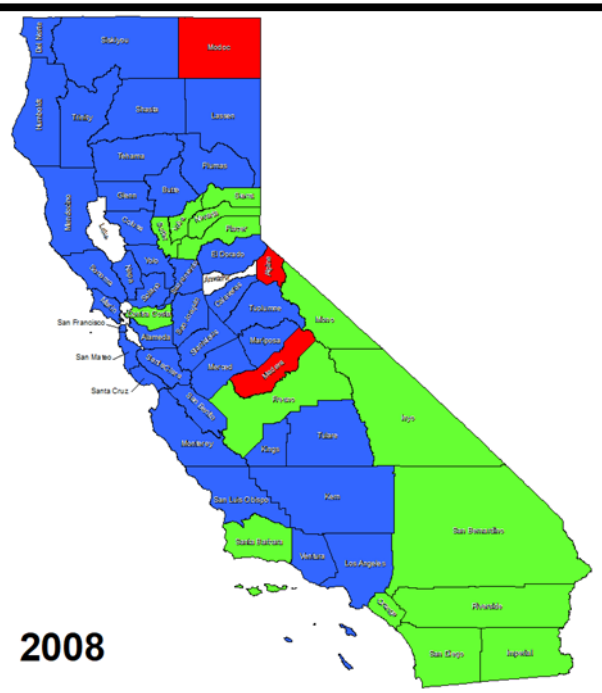
- Federal Funding



- State Funding



- Local Funding
- General Fund
- **Pavement Fees**



Study 1

Impact of Utility
Cuts on Pavements



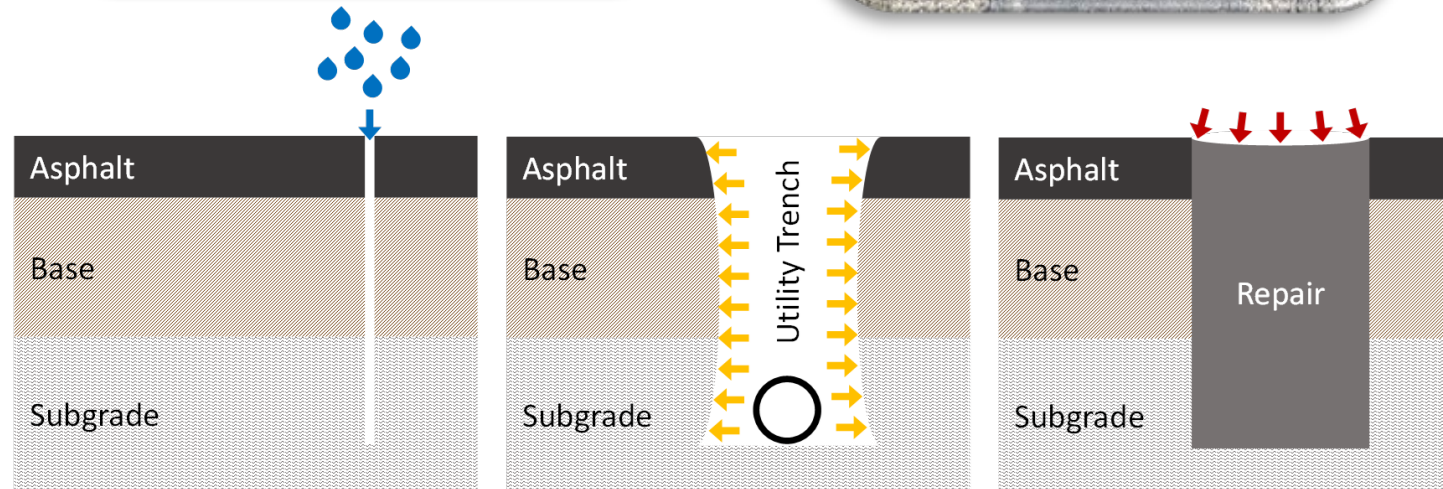
Study 2

Impact of
Construction
Vehicles on
Pavements



Two
Studies

Pavement Cuts



1. Increased Water Access to
Pavement Structure

2. Reduced Lateral Support

3. Increased Surface Roughness

Pavement Cut Recovery Fee- Data Collection



Section
with Cut



Section
without Cut



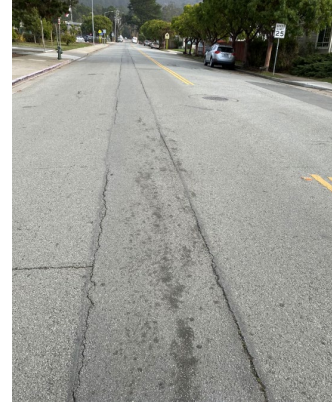
Pavement Cut Recovery Fee-Findings

- Pavements with cuts deteriorate faster
 - 96% percent of test sites showed damage
- Large cuts do more damage
 - Reduce PCI by 38%
- Utility cuts do more damage to pavements in good condition (PCI>70)

Functional Class	PCI Group	Percent Reduction in Pavement Service Life	
		Small Cut	Large Cut
Arterials/ Collectors	PCI \geq 70	5%	15%
	PCI < 70	3%	10%
Residentials	PCI \geq 70	4%	13%
	PCI < 70	3%	9%

Pavement Cut Recovery Fee-Free Schedule

Functional Class	PCI Group	Fee (\$/sf of cut)	
		Small Cuts	Large Cuts
Arterials/Collectors	PCI \geq 70	\$0.50	\$2.50
	PCI < 70	\$0.50	\$2.00
Residentials	PCI \geq 70	\$0.50	\$3.50
	PCI < 70	\$0.50	\$1.50



Small Cuts

Large Cuts

Pavement Cut Recovery Fee-**Typical Ranges**

Agency	Criteria	Fee, \$/SF
Anaheim	PCI	3.60-11.60
Davis	Functional Class and PCI	1.04-1.51
Pacifica	Functional Class, Age of the Pavement, Size of the Cut	1.00-4.00
Ukiah	Functional Class, Age of the Pavement, Size of the Cut	0.50-4.00
Santa Barbara County	Functional Class, PCI, Size of the Cut	0.25-4.00
Covina	Functional Class, PCI, Size of the Cut	0.50-6.00
Monterey Park	Functional Class, PCI, Size of the Cut	0.25-2.00
South San Francisco (Draft)	Functional Class, PCI, Size of the Cut	0.50-3.50
San Francisco (City & County)	Age of the Pavement	1.00-3.50
Los Angeles	Functional Class	8.24-19.44
Sacramento County, Elk Grove, Santa Cruz	Trench Depth, Functional Class, PCI, Type of Cut	1.80-11.82
Santa Ana	Functional Class, Age of the Pavement	10.00-36.00

Study 1

Impact of Utility
Cuts on Pavements



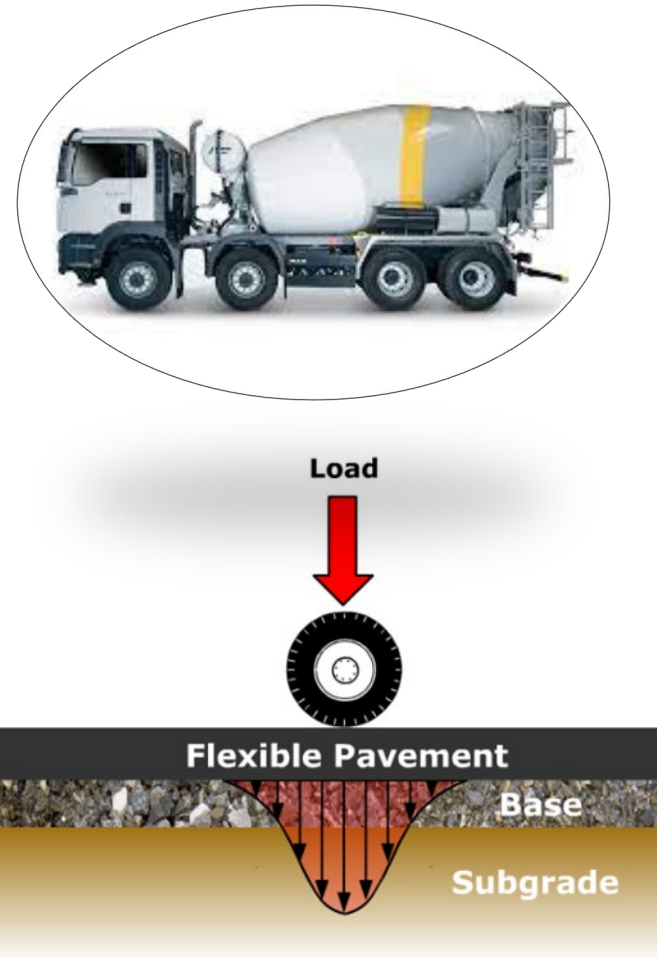
Study 2

Impact of
Construction
Vehicles on
Pavements



Two
Studies

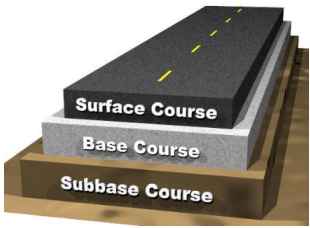
Heavy Vehicles



Factors



- ⇒ Vehicle Type/Weight
- ⇒ Trip Frequency



- ⇒ Layer thicknesses by functional class

Condition Category	PCI Range
Excellent	85-100
Very Good/Good	70-84
Fair	50-69
Poor	25-49
Failed	0-24

- ⇒ Pavement condition index by functional class
- ⇒ Percent network in each condition category



- ⇒ Funding needed to meet PCI goal

Results

Average damage cost per heavy vehicle-

- \$950 for residential
- \$66 for arterials/collectors

Criteria	
	\$/sf of structure
Residential Unit Fee	
Single Family	\$1.00
Non-Residential Unit Fee*	\$0.50

**Multi-Family/Commercial/Industrial*

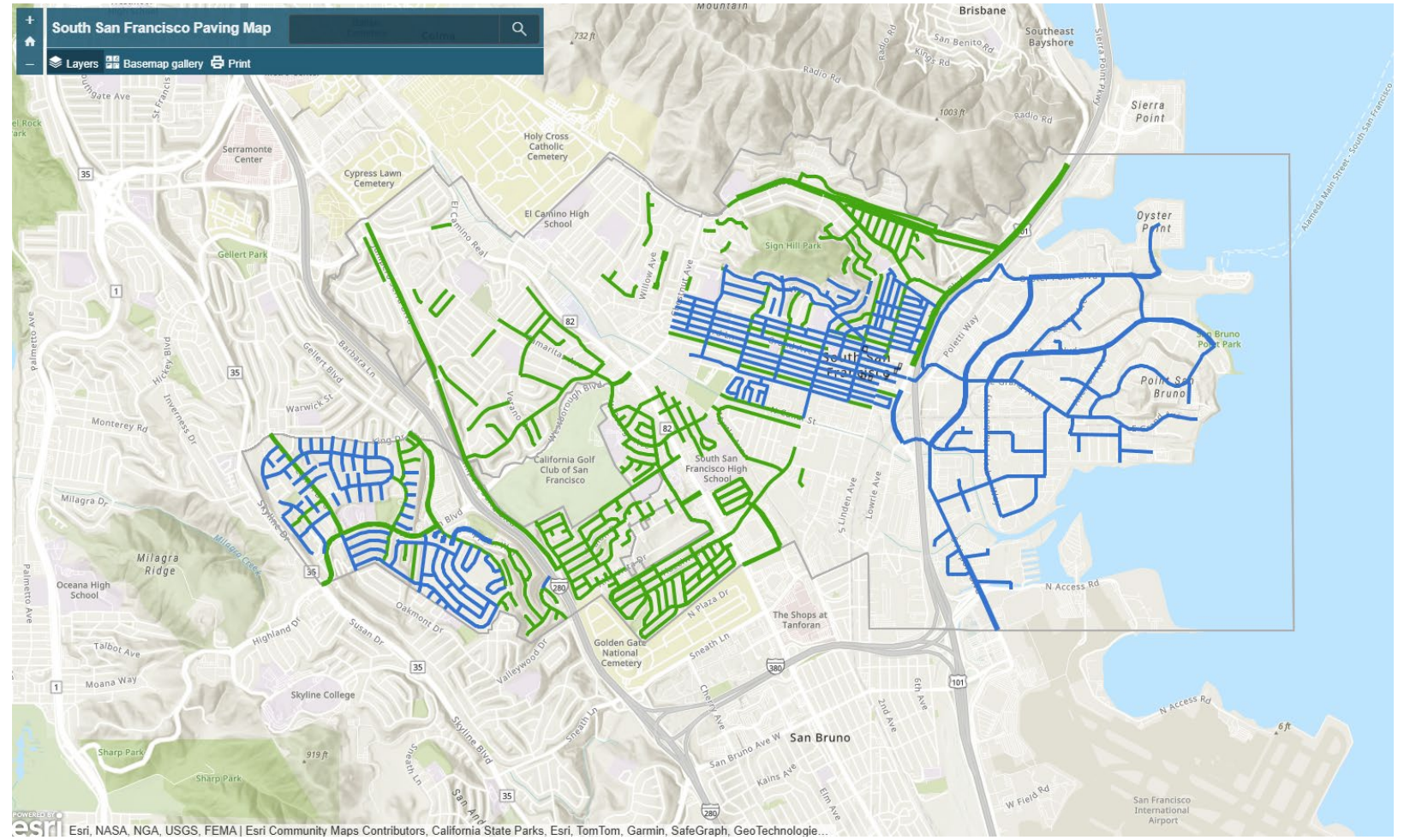
Heavy Vehicle Fee-Typical Ranges

Agency	Criteria	Fee
Anaheim	Single Family Unit	\$2,029 per unit
	Multi-Family	\$1,297 per unit
	Commercial/Industrial	-
Citrus Heights	Single Family Unit	\$1,434.12 per unit
	Multi-Family	\$1,312.74 per unit
	Commercial/Industrial	\$4.45 per sf
Pacifica	Single Family Unit	\$2,126 per unit
	Multi-family/Commercial/Industrial Unit	\$1.18 per sf
San Bruno	Single Family Unit	\$4,615 per unit
	Multi-Family	\$2610 per unit
	Commercial/Industrial	\$6.95 per sf
San Francisco	Single Family Unit	-
	Multi-Family	\$9.95 per sf
	Commercial/Industrial	\$19.48 per sf
San Mateo	Single Family Unit	\$5003.76 per unit
	Multi-Family	\$3,071.42 per unit
	Commercial/Industrial	\$5.40 per sf
Santa Cruz County	Single Family Unit	\$697 per mile
	Multi-Family	
	Commercial/Industrial	-
	Multi-Family	-
South San Francisco	Single Family Unit	\$1.00 per sf
	Multi-Family Unit	\$0.50 per sf
	Commercial Unit	
	Industrial Unit	



Local Bay Area Agencies with Moratorium Standards

- City of East Palo Alto
- City of San Mateo
- City of Millbrae





- Pavement Moratorium
- Support Pavement Program



Q & A

EXTRA SLIDES

Pavement Cut Recovery Fee-Historical Evaluation

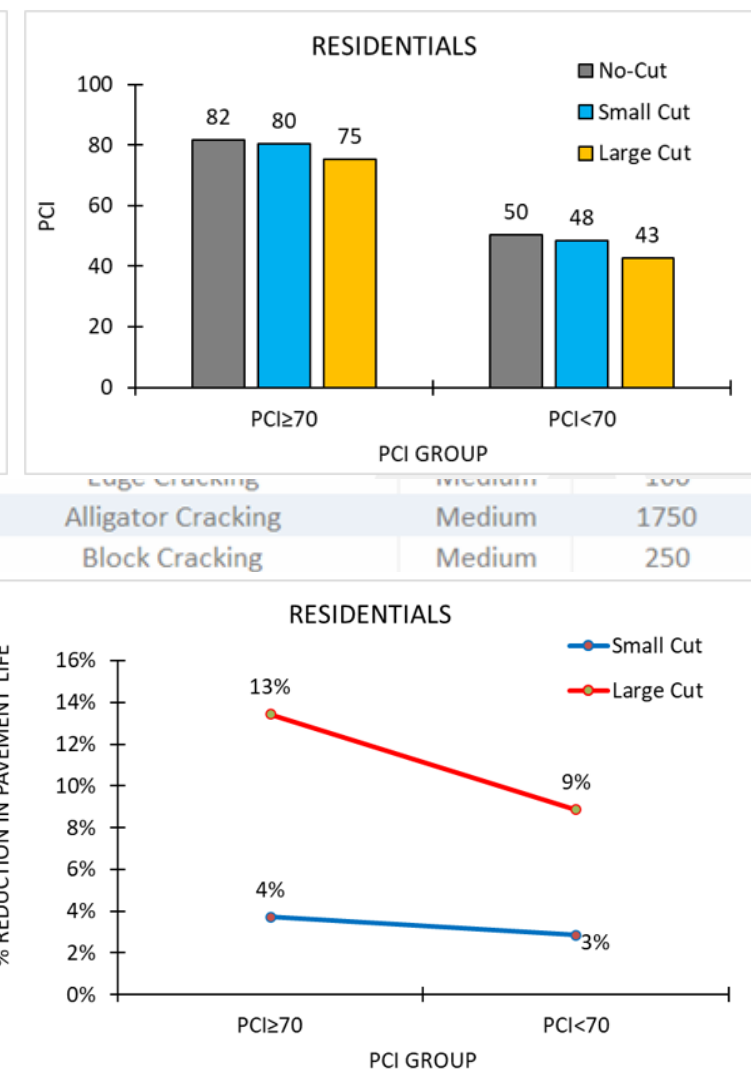
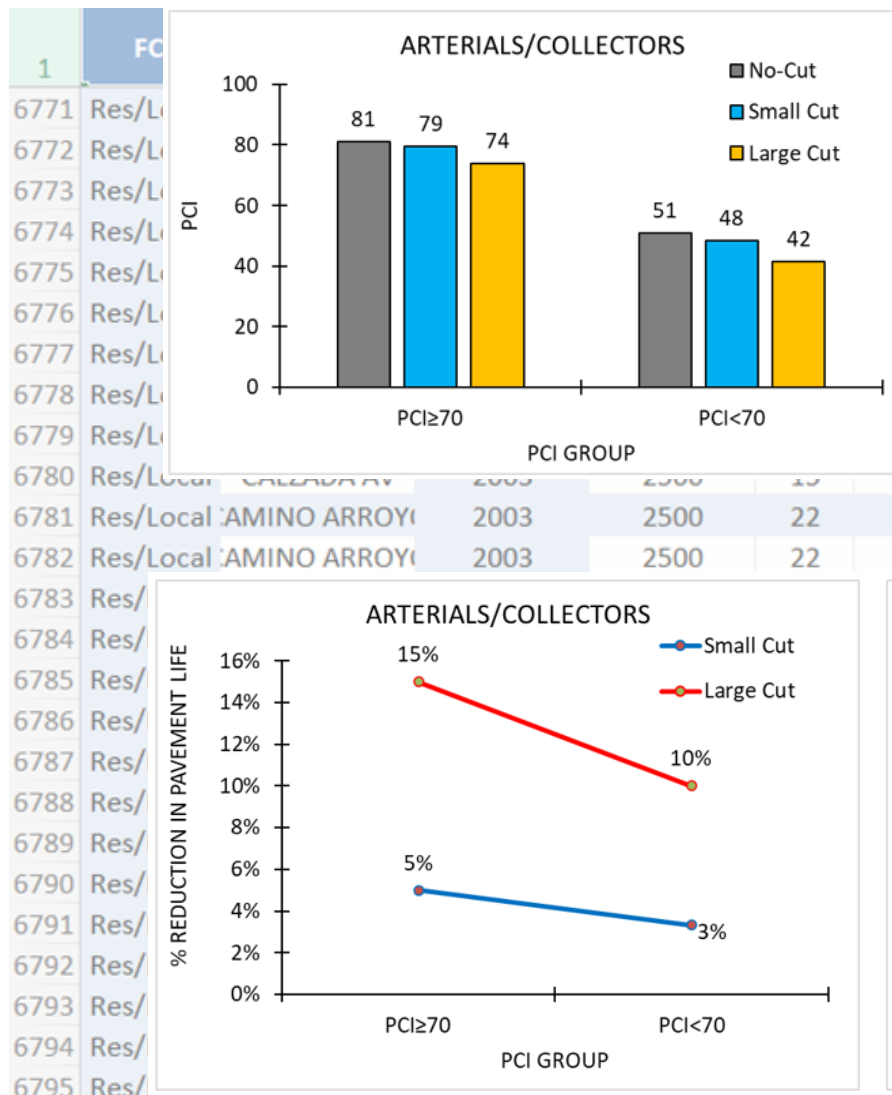
PMS Data



PCI Comparison



Pavement Life Reduction



Pavement Cut Recovery Fee-Field Evaluation

Site Selection

Distress Survey

Deflection Testing

Coring



Section with Cut



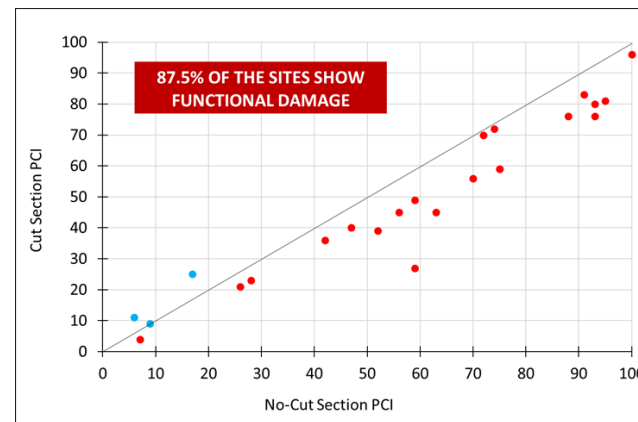
Section without Cut



Functional Evaluation

PCI Comparison

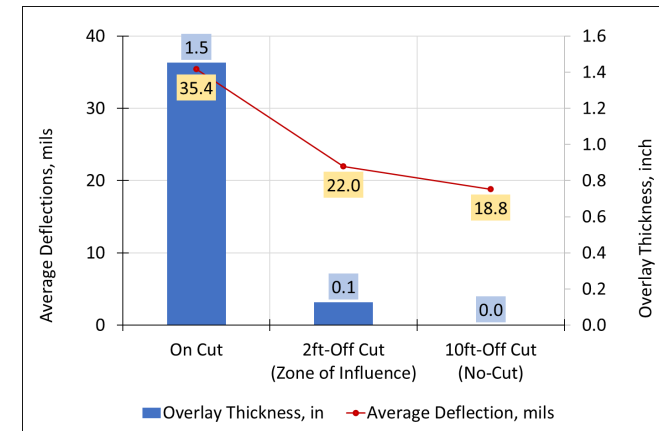
Pavement Life Reduction



Structural Evaluation

Deflection Comparison

Overlay Thickness Comparison



- Large cuts
 - Reduce PCI by 38%

Condition Category	PCI Range	Examples		
		PCI No-Cut	Cut Section PCI after 38% Reduction (≥ 10% Section Area)	
I- Excellent	85-100	93	58	Fair (50-69)
I- Very Good/Good	70-84	77	48	Poor (25-49)
II/III- Fair	50-69	60	38	Poor (25-49)
IV- Poor	25-49	37	23	Failed (0-24)
V- Failed	0-24	12	8	Failed (0-24)

- Pavement condition drops an entire condition category
- 93 to 58 means in practice going from slurry seal to thin overlay (costlier)

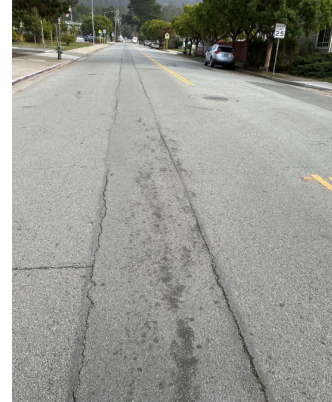


Pavement Cut Recovery Fee-Free Schedule

Functional Class	PCI Group	Fee (\$/Square Foot)	
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Small Cuts

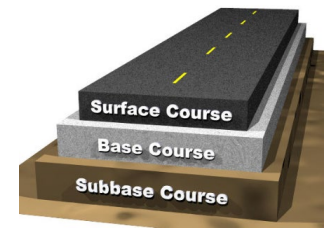


Large Cuts

Inputs



- ⇒ Vehicle Type/Weight
- ⇒ Trip Frequency



- ⇒ Layer thicknesses by functional class

Condition Category	PCI Range
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- ⇒ Funding needed to meet PCI goal

Process

- Calculate the average waste vehicle traffic demand (ESALs) (*Equivalent Single Axle Load*)
- Calculate the average pavement structural capacity (ESALs)

$$\text{Impact} = \frac{\text{Traffic Demand}}{\text{Structural Capacity}}$$

- Perform budget analysis using Pavement Management software over an analysis period
- Obtain condition category breakdown for each year
- Calculate impact in each condition category for each year

Output

Calculate equivalent cost /year:
Impact * Annual Budget

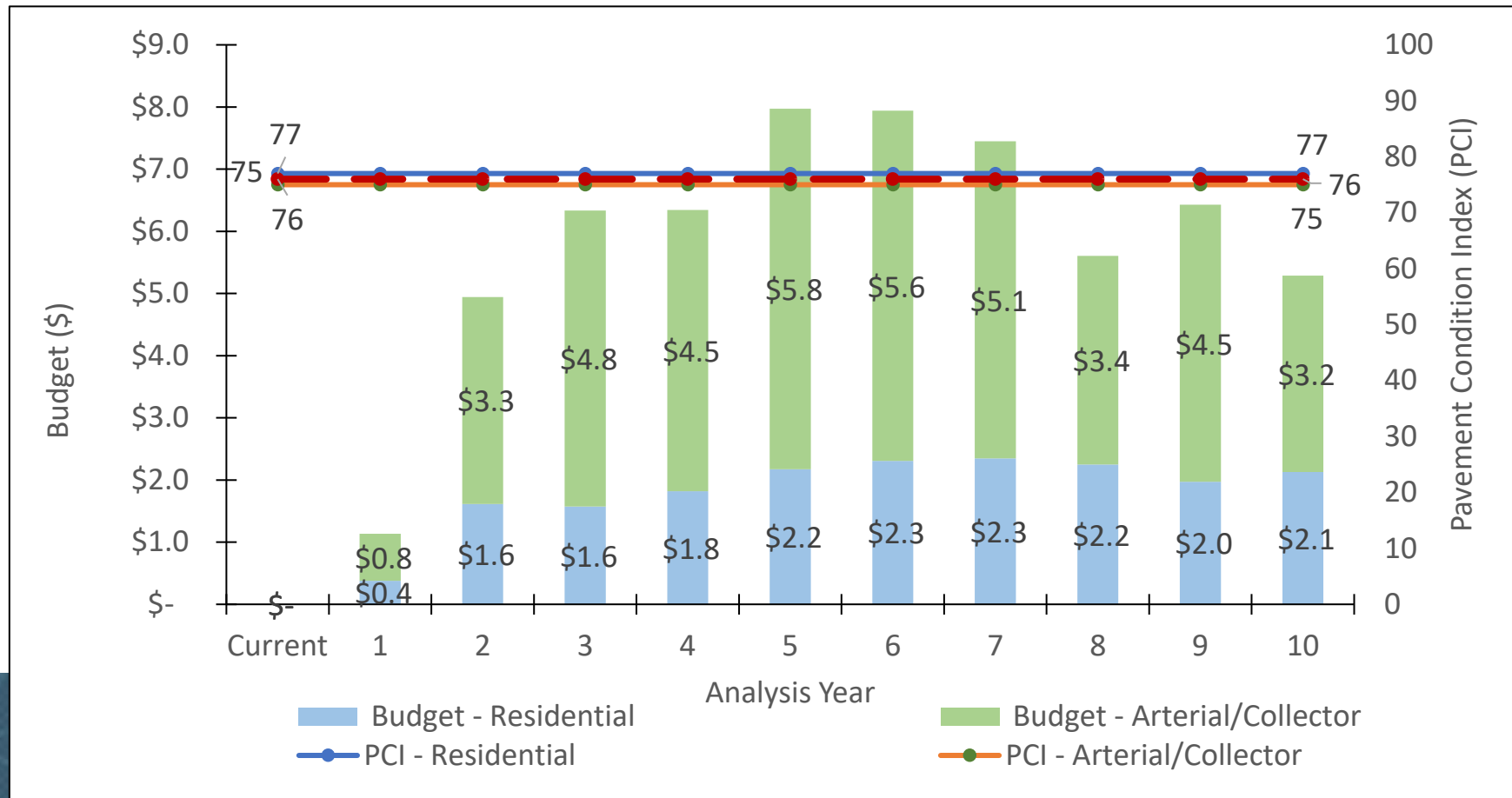
Vehicle Impact Fee-Financial Analysis

Maintain PCI by Functional Class- \$6 Million/Year

- Residential (PCI 77)
- Arterial and Collector (PCI 75)
- Overall network PCI 76

Total Budget for Residential~ \$1.9M/ Year

Total Budget for Arterial/Collector ~ \$4.1M/ Year



Local Bay Area Agencies with Moratorium Standards



- City of Anaheim
- City of Commerce
- City of Encinitas
- City of Los Angeles
- County of Los Angeles
- City of Oakland
- County of Sacramento
- City of San Diego
- County of San Diego
- City & Co. of San Francisco