

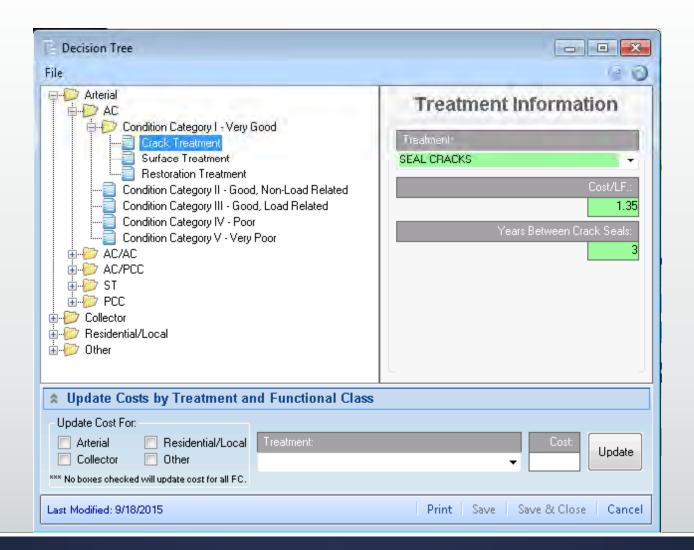
How to Integrate Pavement Preservation in StreetSaver (Part II)

Sui Tan, PE | MTC 2015 NWPMA Conference, October 21, 2015

Overview

- How to determine unit costs
- Life extension of treatment
- Decision tree options
 - Best management practices
 - Worst first
- Scenario comparisons
- Q&A

Unit Costs



What Are In the Unit Costs

- Costs to the agency
 - Engineering
 - Contract or
 - Labor, equipment & material
- Includes prudent preparation work
 - Crack sealing
 - Localized repairs

How to Set Treatment Strategies?

- Pavement Preservation Approach (Best Mgt)
- Right time, right place, right treatment
- Local Policies
- Worst first
- Hybrid

How to Set Unit Costs?

Use for network planning

Not for construction

Do include:

- Design cost
- labor and materials
- Incidental restriping, raising utility boxes, etc
- Construction administration

Where to Find Them?

- ✓ Bid prices
- ✓ Contractors
- ✓ Neighboring agencies
- ✓ Maintenance folks
- ✓ Engineering folks

- Design costs
- Construction administration
- ✓ Other incidental costs
- ✓ ADA Compliance
- ✓ NPDES Compliance

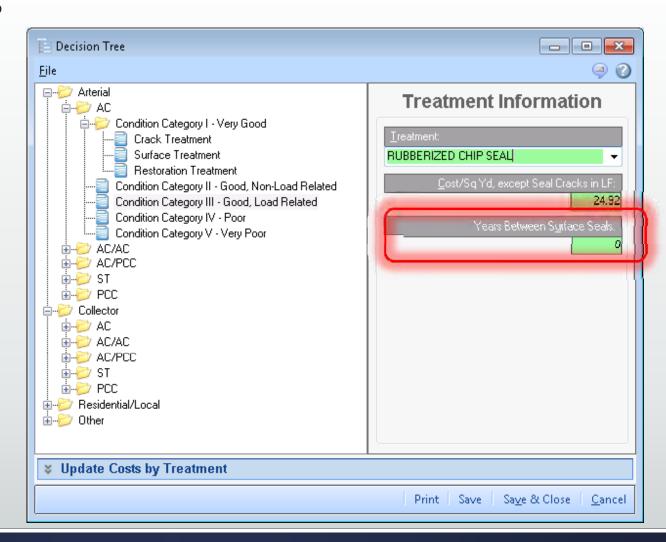
Feedback Activity

- At end of construction season
- Review treatments applied
 - Do you need to change decision tree treatment?
 - Was the treatment applied the appropriate treatment or "stop-gap" treatment?
- Review costs for treatments
 - Adjust costs to reflect those from the latest season

Maintenance Cycles

Life Extension:

- Rubberized ChipSeal = 10 years
- Slurry Seal = 5 years for arterials



Estimated Life of Treatments

Treatment	Good Condition (PCI=80)	Fair Condition (PCI=60)	Poor Condition (PCI=40)
Fog Seal	3 - 5	1 - 3	1 - 2
Chip Seal	7 - 10	3 - 5	1 - 3
Slurry Seal	7 - 10	3 - 5	1 - 3
Micro- surfacing	8 - 12	5 - 7	2 - 4
Thin HMA	10 12	5 7	2 4

Best Management Practice?



TOWN OF YOUNTVILLE - Test 6550 Yount St Yountville, CA 94599 (707) 944-8851

Decision Tree

Printed: 10/21/2015

Functional Class	Surface	Condition Category	Treatment Type	Treatment	Cost/Sq Yd, except Seal Cracks in LF:	Yrs Between Crack Seals	Yrs Between Surface Seals	#of Surface Seals before Overlay
Arterial AC	AC	I - Very Good	Crack Treatment	SEAL CRACKS	\$1.35	3		
			Surface Treatment	SLURRY SEAL	\$3.71		7	
			Restoration Treatment	LIGHT REHABILITATION	\$11.23			2
		II - Good, Non-Load Related		HEAVY MAINTENANCE	\$19.30		7	
		III - Good, Load Related		LIGHT REHABILITION III	\$33.77			
		IV - Poor		HEAVY REHABILITATION	\$56.50			
		V - Very Poor		RECONSTRUCT STRUCTURE (AC)	\$110.96			
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Best Management Practice?



CITY OF ANYWHERE 1232 Washington Street Calistoga, CA 94515

Decision Tree

Printed: 10/29/2014

Functional Class	Surface	Condition Category	Treatment Type	Treatment	Cost/Sq Yd, except Seal Cracks in LF:		Yrs Between Surface Seals	# of Surface Seals before Overlay
	AC	I - Very Good	Crack Treatment	SEAL CRACKS	\$1.62	3		
			Surface Treatment	SLURRY SEAL	\$4.40		7	
			Restoration Treatment	MILL AND 2 INCH OVERLAY	\$24.92			2
		II - Good, Non-Load Related		RUBBERIZED CHIP SEAL	\$10.23		9	
		III - Good, Load Related		MILL AND 2 INCH OVERLAY	\$24.92			
		IV - Poor		MILL AND 4 INCH OVERLAY	\$38.00			
		V - Very Poor		FULL DEPTH RECLAIMATION	\$65.00			
	AC/AC	AC I - Very Good	Crack Treatment	SEAL CRACKS	\$1.62	3		
			Surface Treatment	SLURRY SEAL	\$4.40		6	
			Restoration Treatment	THIN AC OVERLAY(1.5 INCHES)	\$15.48			2

Best Management Practice?

City of Anywhere

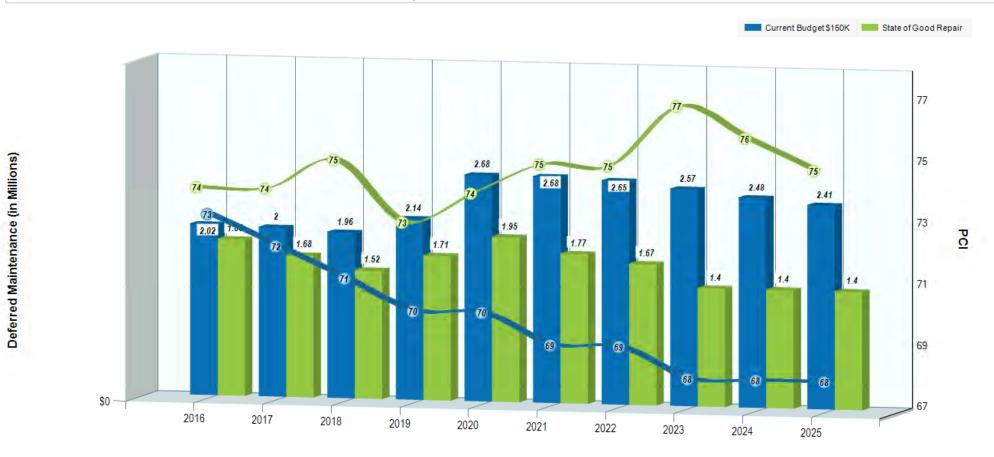
Decision Tree

Printed: 01/21/2015

Functional Class	Surface	Condition Category	Treatment Type	Treatment	Cost/Sq Yd, except Seal Cracks in LF:	Yrs Between Crack Seals	Yrs Between Surface Seals	#of Surface Seals before Overlay
Arterial	AC	I - Very Good	Crack Treatment	DO NOTHING	\$0.00	99		
			Surface Treatment	DO NOTHING	\$0.00			
			Restoration Treatment	DO NOTHING	\$0.00			100
		II - Good, Non-Load Related		DO NOTHING	\$0.00		99	
		III - Good, Load Related		DO NOTHING	\$0.00			
		IV - Poor		THICK AC OVERLAY (2 INCHES)	\$45.00			
		V - Very Poor		RECONSTRUCT STRUCTURE (AC)	\$128.00			
	ACIAC	I - Very Good	Crack Treatment	DO NOTHING	\$0.00	99		
			Surface Treatment	DO NOTHING	\$0.00			
			Restoration Treatment	DO NOTHING	\$0.00			100
		II - Good, Non-Load Related		DO NOTHING	\$0.00		99	
		III - Good, Load Related		OVERLAY W FABRIC	\$29.50			
		IV - Poor		THICK AC OVERLAY (2 INCHES)	\$47.50			
		V - Very Poor		RECONSTRUCT STRUCTURE (AC)	\$128.00			

BMP Decision Tree

Scenario Comparison - Deferred Maintenance and PCI



Year

Worst-First Decision Tree

Scenario Comparison - Deferred Maintenance and PCI



Question & Answer

 Everything you want to know about StreetSaver...