



# Residential Street Rebuild Program Matrix Revision



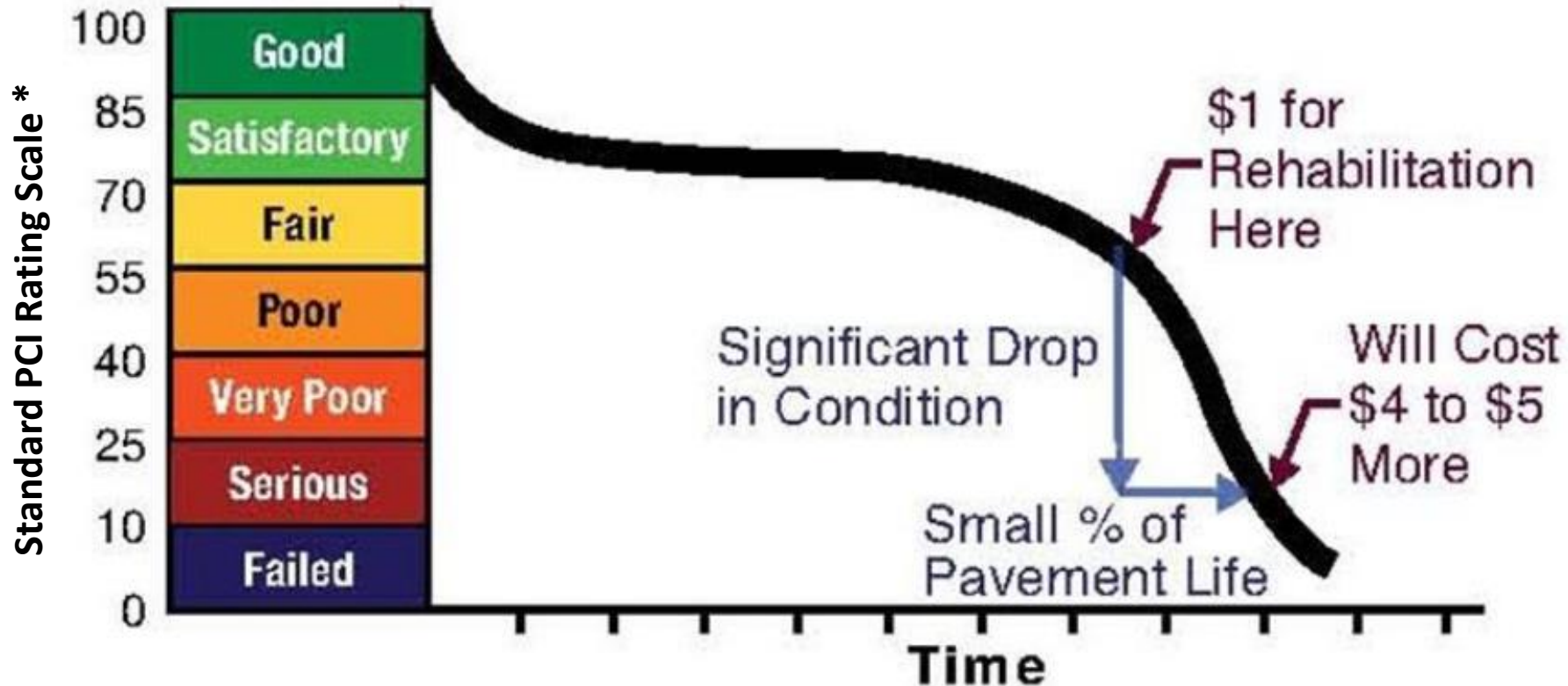
Update to Council  
December 17, 2019



# Standard Pavement Deterioration Curve



**Pavements should be managed, not simply maintained.**

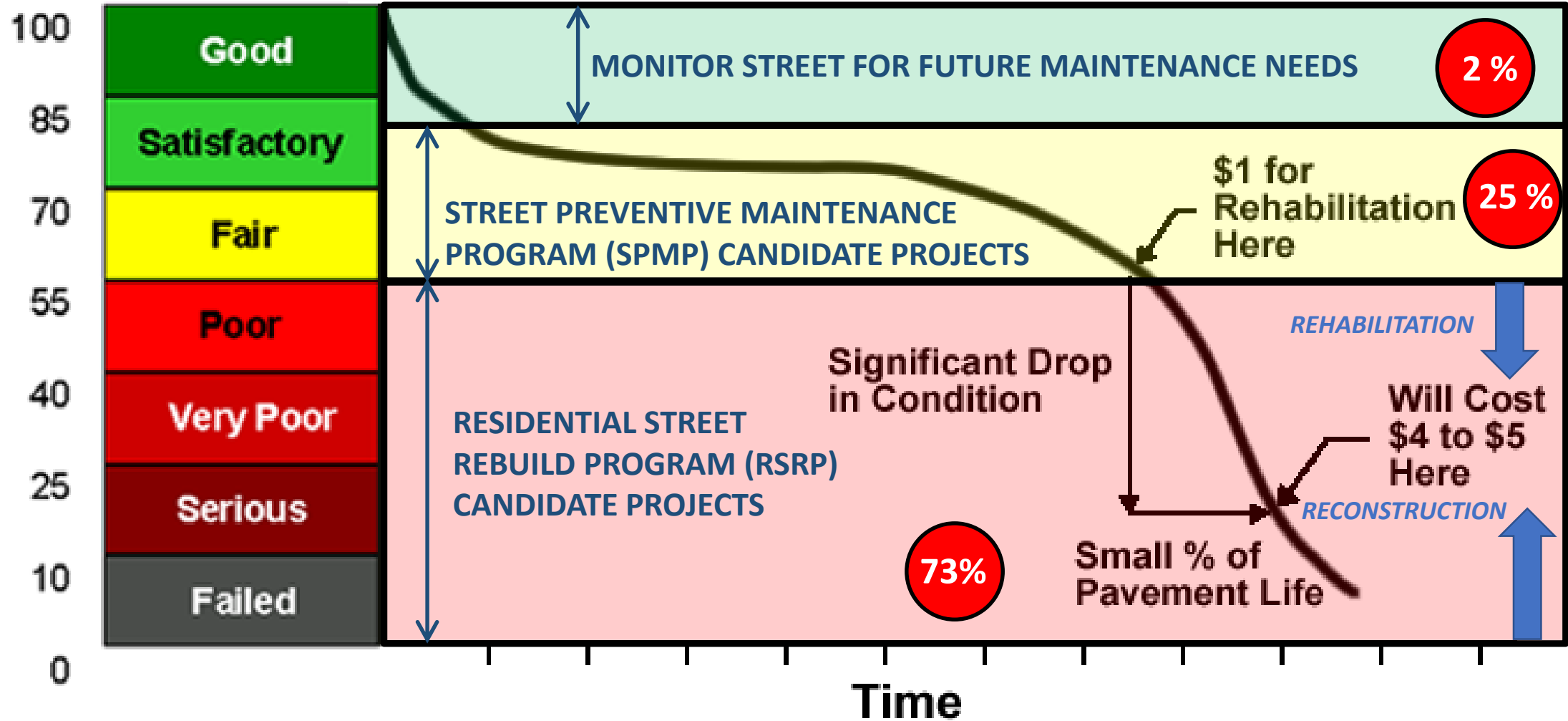


\* PCI = Pavement Condition Index

Chart from NAPA report: A New Transportation Commitment for America (2007)

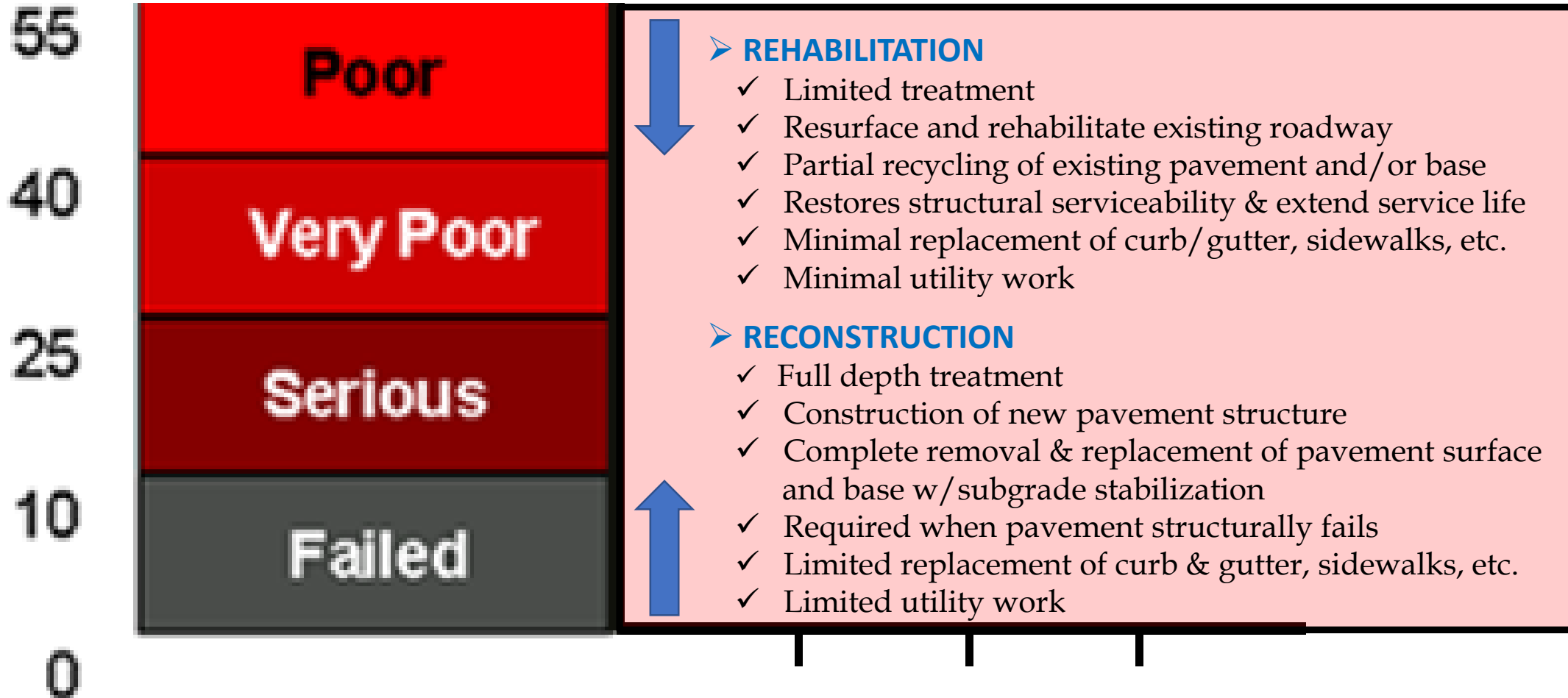


# Standard Pavement Deterioration Curve





# Ad Hoc Residential Street Infrastructure Advisory Committee Guidance





## Ad Hoc Residential Street Infrastructure Advisory Committee Criteria



RESIDENTIAL STREET REBUILD PRIORITIZATION MATRIX	
Criterion	High Rank Characteristic
Rideability	International Roughness Index (IRI)
Safety (Road Hazard)	Conditions causing vehicular damage
Proximity to Schools	Closeness to a school
Developed Frontage	Population count or number of improved lots (proximity)
Utility Conflicts	Utility Department rank based on known conditions & costs
Street Functionality	Volume of traffic
Concrete Work	Extent to which concrete work is required



## WEIGHTED VALUES USED IN BOND 2016 PRESENTATION



CRITERIA		PRIORITIZATION ELEMENTS		
Description	Weight	Low	Medium	High
		1	2	3
Rideability [International Roughness Index (IRI)]	<b>10%</b>	< 3.47 (m/km)	3.47 to 6.00 (m/km)	>6.00 (m/km)
Safety (Road Hazard)	<b>10 %</b>	No conditions that cause vehicular damage	One or two conditions that cause vehicular damage	Multiple conditions that cause vehicular damage
Proximity to Schools	<b>10 %</b>	More than ¼ mile	1/10 <sup>th</sup> to ¼ mile	<= 1/10 <sup>th</sup> mile
Developed Frontage	<b>10 %</b>	Less than 20 % developed	20 % to 60 % developed	More than 60 % developed
Utility Conflicts	<b>25 %</b>	Significant utility work	Minor utility work	No utility work
Street Functionality	<b>10 %</b>	Low volume traffic (i.e. dead-end streets)	Moderate traffic volume	High volume traffic
Concrete Work	<b>25 %</b>	Significant concrete work	Moderate concrete work	Minor concrete work
Total	<b>100 %</b>	<b>10</b>	<b>20</b>	<b>30</b>

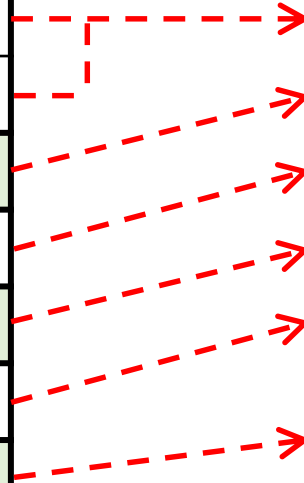


# CRITERIA DESCRIPTION AND WEIGHT



ORIGINAL CRITERIA	
Description	Weight
Rideability (IRI)*	10%
Safety (Road Hazard)	10 %
Proximity to Schools	10 %
Developed Frontage	10 %
Utility Conflicts	25 %
Street Functionality	10 %
Concrete Work	25 %
Total	100 %

REVISED CRITERIA	
Description	Weight
PCI**	40 %
Proximity to Schools	5 %
Adjacent Development	5 %
Drainage Needs (Incl C & G & Pipes)	15 %
Pavement Width	20 %
Accessibility Needs (Ramps, Driveways, Sidewalks)	15 %
Total	100 %

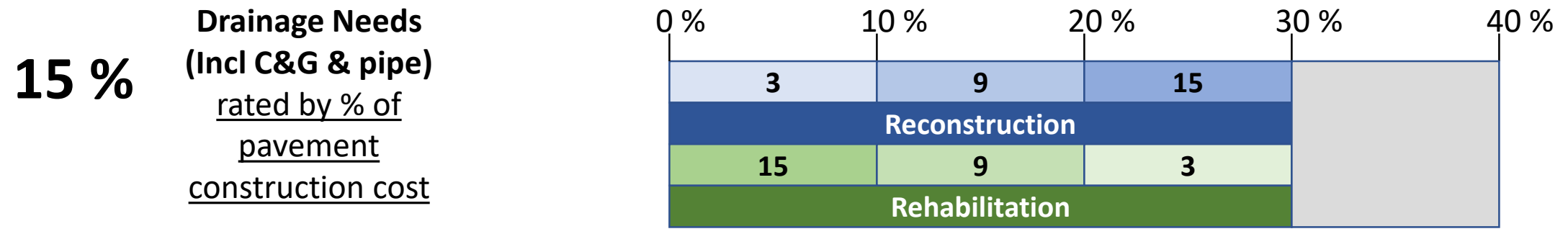
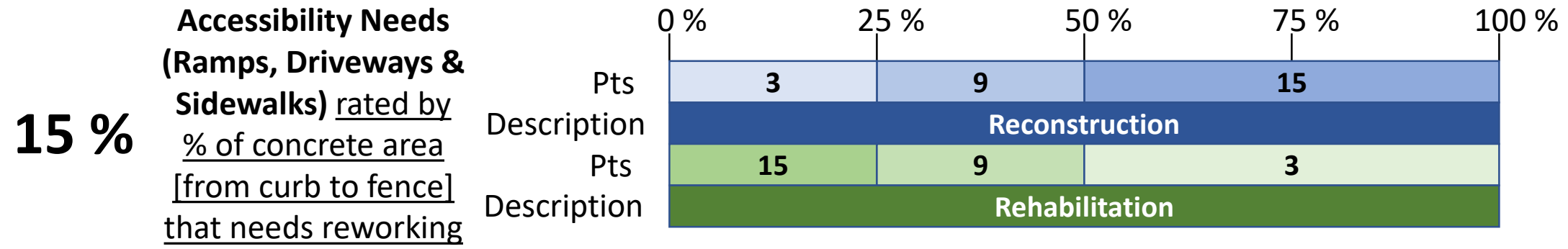
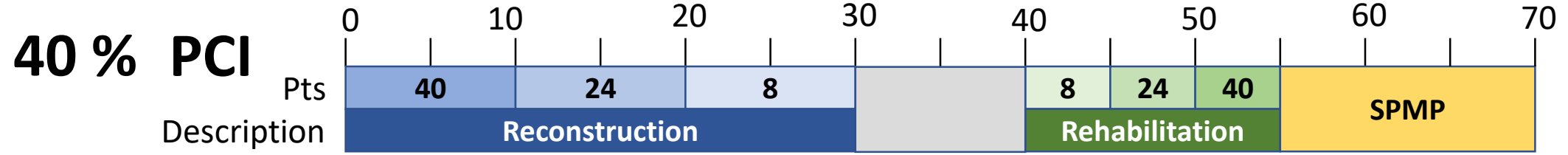


\* IRI - International Roughness Index

\*\* PCI - Pavement Condition Index



# REVISED MATRIX



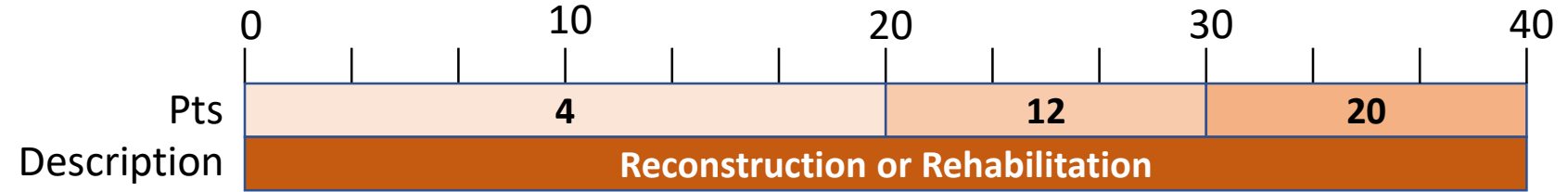




# REVISED MATRIX

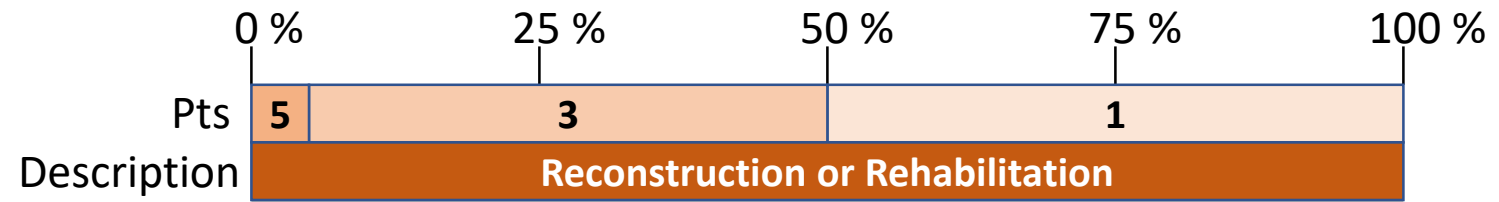


**20 %** Pavement Width



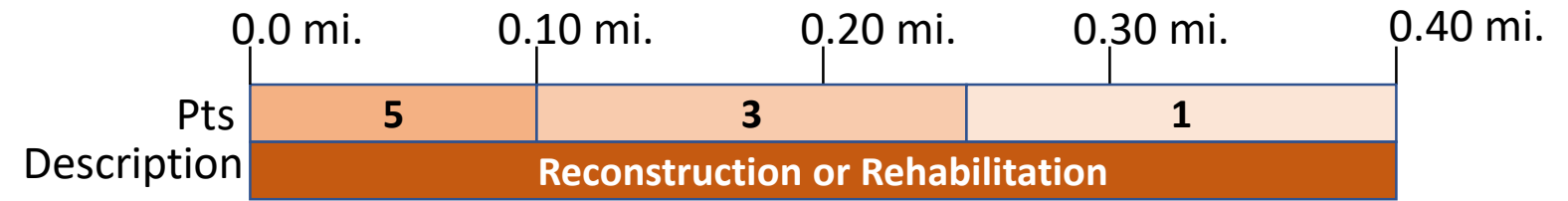
**5 %**

Adjacent Development  
rated by % of abutting undeveloped lots



**5 %**

Proximity to Schools  
rated by closet point of street pavement in miles





## REVISED MATRIX IMPACTS - TRIAL RUN



CATEGORY	Pavement Surface Area (SY)	ORIGINAL MATRIX		REVISED MATRIX	
		Avg PCI	Pavement wider than 28 ft. - % SY	Avg PCI	Pavement wider than 28 ft. - % SY
Reconstruction	64,481	15	27%	24	74%
Rehabilitation	90,600	43	24%	42	23%
Combined	155,081	31	25%	34	46%



# Pavement Guidance (Original vs Revised)



## ➤ REHABILITATION

- ✓ Limited treatment
- ✓ Resurface and rehabilitate existing roadway
- ✓ Partial recycling of existing pavement and/or base
- ✓ Restores structural serviceability & extend service life
- ✓ Minimal replacement of curb/gutter, sidewalks, etc.
- ✓ Minimal ~~utility work~~ **drainage work**
- ✓ **Focus on wider streets that normally have more traffic**

## ➤ RECONSTRUCTION

- ✓ Full depth treatment
- ✓ Construction of new pavement structure
- ✓ Complete removal & replacement of pavement surface and base w/subgrade stabilization
- ✓ Required when pavement structurally fails
- ✓ Limited replacement of curb & gutter, sidewalks, etc. **as needed**
- ✓ **Limited utility work **Drainage improvements as needed****
- ✓ **Focus on wider streets that normally have more traffic**



# RSRP Matrix Revisions



## Next Steps & Questions