

Street Maintenance Program Update

City Council Work Session
February 5, 2013

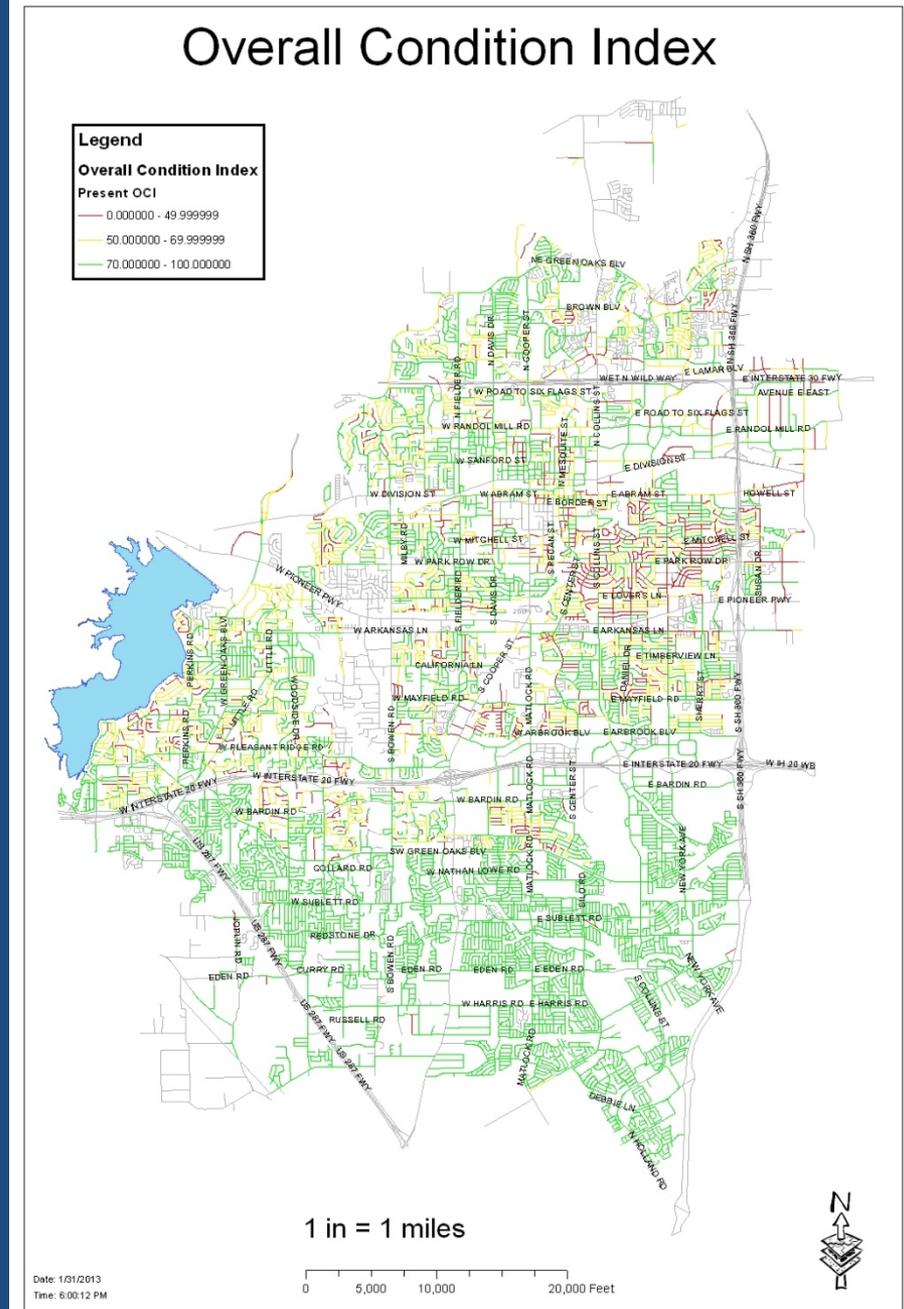
Department of Public Works & Transportation

Street Maintenance History

- Street Maintenance Fee implemented December 2000
- Quarter cent sales tax approved by voters in 2002, 2006, and 2010
- Applied Research Associates was contracted to survey the City of Arlington in June of 2005
- The Pavement Management System was implemented in 2006

Street Maintenance Responsibilities

- City Streets – 3,015 LM
- TxDOT – 427 LM
 - IH20 – 54 LM
 - IH30 – 42 LM
 - FM157 – 66 LM
 - SH287 – 97 LM
 - SH360 – 92 LM
 - SPUR303 – 38 LM
 - SH180 – 38 LM
- Private Streets – 257 LM



Current Resources

- Street Bonds
- Street Maintenance Sales Tax
- Street Maintenance General Fund
- Water Utilities
- Roadway Impact Fees
- CDBG Funds
- Tarrant County

Maintenance Techniques

	Cost per Lane Mile
• Crack Seal	\$ 16,000
• Microseal	\$ 21,000
• Concrete Panel Replacement	\$ 32 – 42,000
• Mill and Overlay	\$ 54,000
• Heater Repaver	\$ 96,000
• Reclamation	\$ 184,000
• Rebuild Asphalt	\$ 415,000
• Rebuild Concrete Residential	\$ 551,000
• Rebuild Concrete Arterial	\$1,000,000
• Water Utility Adjustments	\$ Varies

Maintenance Repair and Rehabilitation Plan

OCI	Pavement Type	Activity
0 – 49.99	AC (Asphalt)	Rebuild
50 – 64.99	AC (Asphalt)	Reclamation
65 – 79.99	AC (Asphalt)	Mill & Overlay
80 – 89.99	AC (Asphalt)	Crack Seal
90 – 100	AC (Asphalt)	DO NOTHING
0 – 49.99	PCC (concrete)	Rebuild
50 – 69.99	PCC (concrete)	10% Slab replacement
70 – 89.99	PCC (concrete)	Slab maintenance
90 – 100	PCC (concrete)	DO NOTHING

Previous Plan

Poor	0 – 69.99
Good	70 – 79.99
Excellent	80 - 100

Current Plan

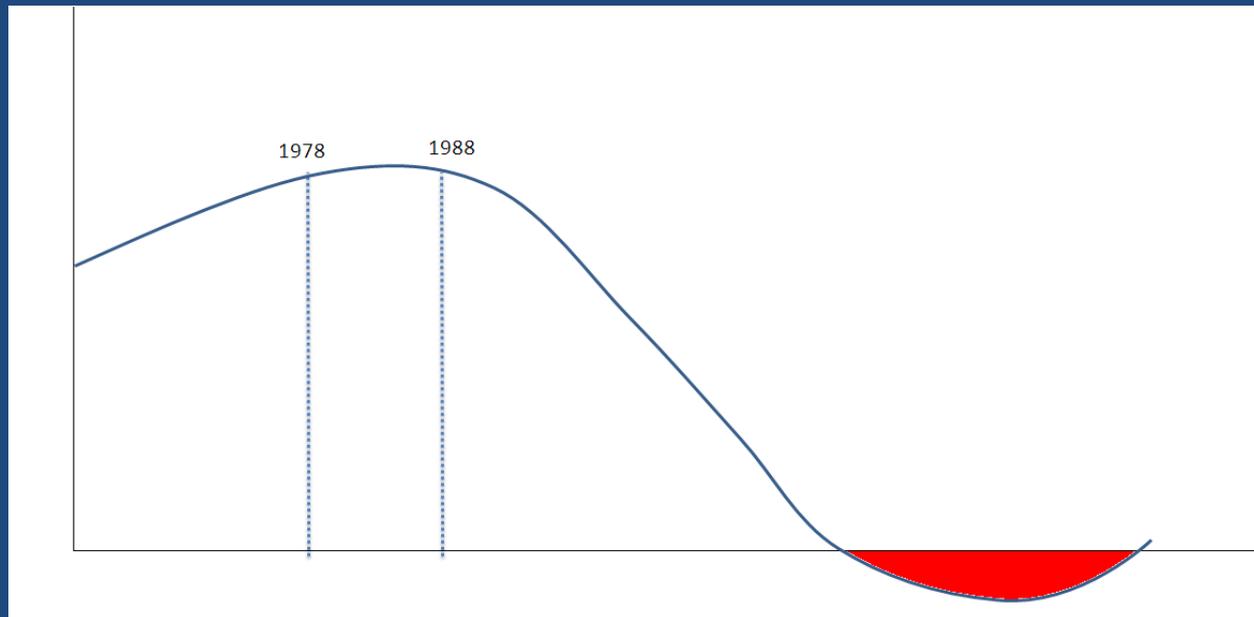
Poor	0 – 49.99
Good	50 – 69.99
Excellent	70 - 100

Current Assessment Process

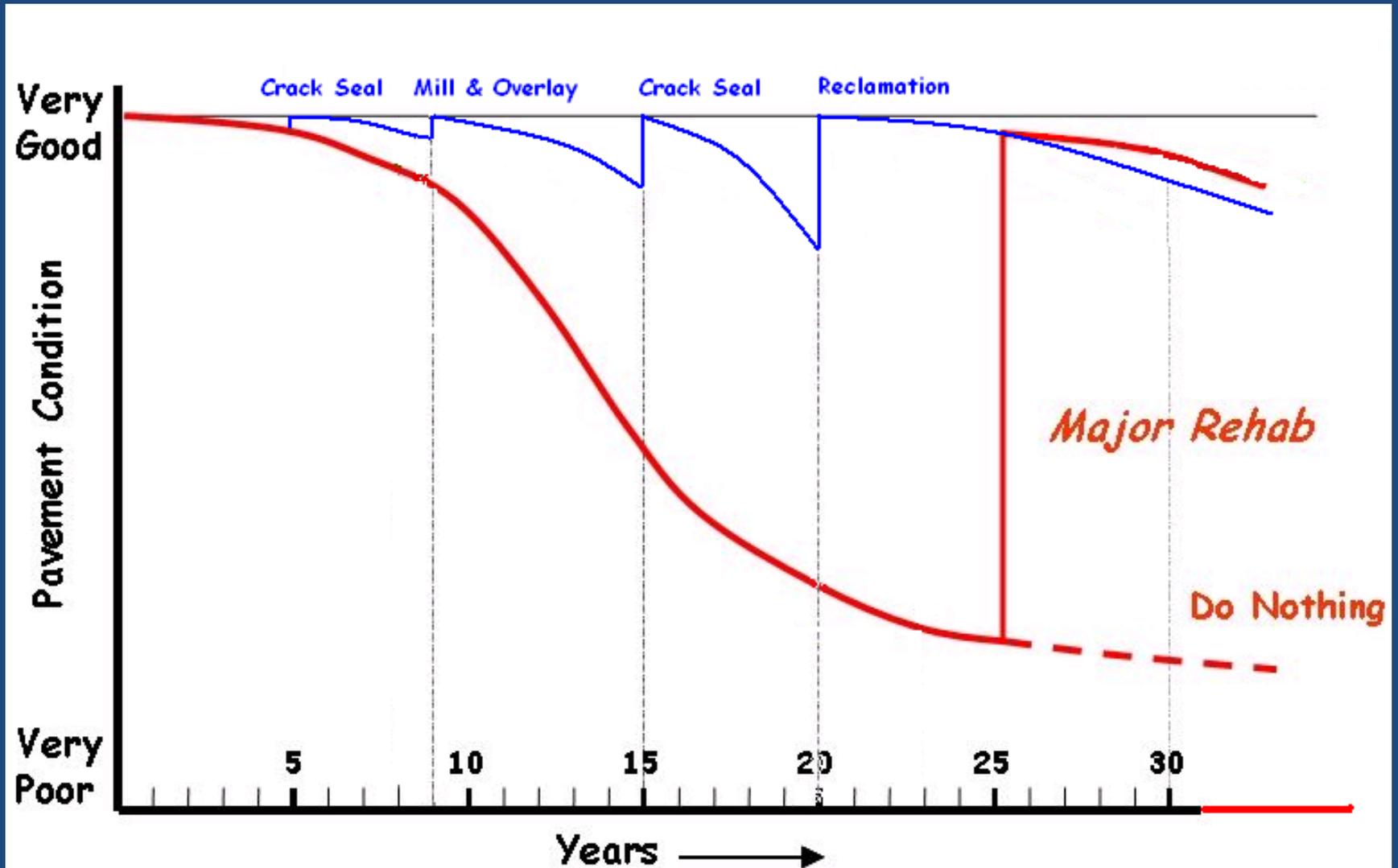
- 50 year design standard for new construction
- Pavement assessment every three years
- Ratings based on ride and pavement distress
- CarteGraph Pavement Management System

\$1.5 Billion Street Network

- 50 year design standard for new construction
 - old design life was 20 to 25 years
 - 50 year life requires a 2% maintenance
 - Investment each year - \$30,000,000
- Street Aging Model



Life Cycle of a Street



Network Assessment

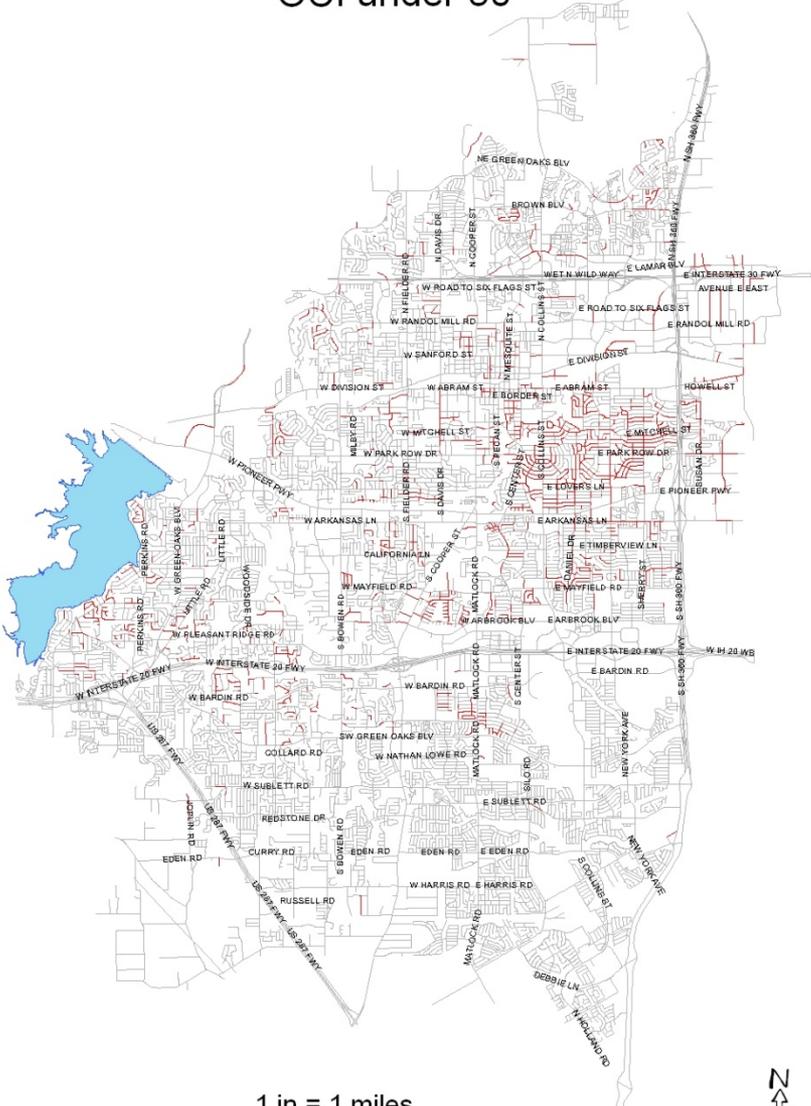
Network OCI 75.2

	0-49.99	50-69.99	70-100	Present OCI
Residential	220.56	418.93	1,336.34	75.20
TDP	99.90	201.92	736.95	77.40

3,015 Existing Lane Miles

- 1,039 lane miles on Thoroughfare Development Plan
- 1,976 lane miles of residential streets
- 243 thoroughfare lane miles to be constructed

Overall Condition Index OCI under 50



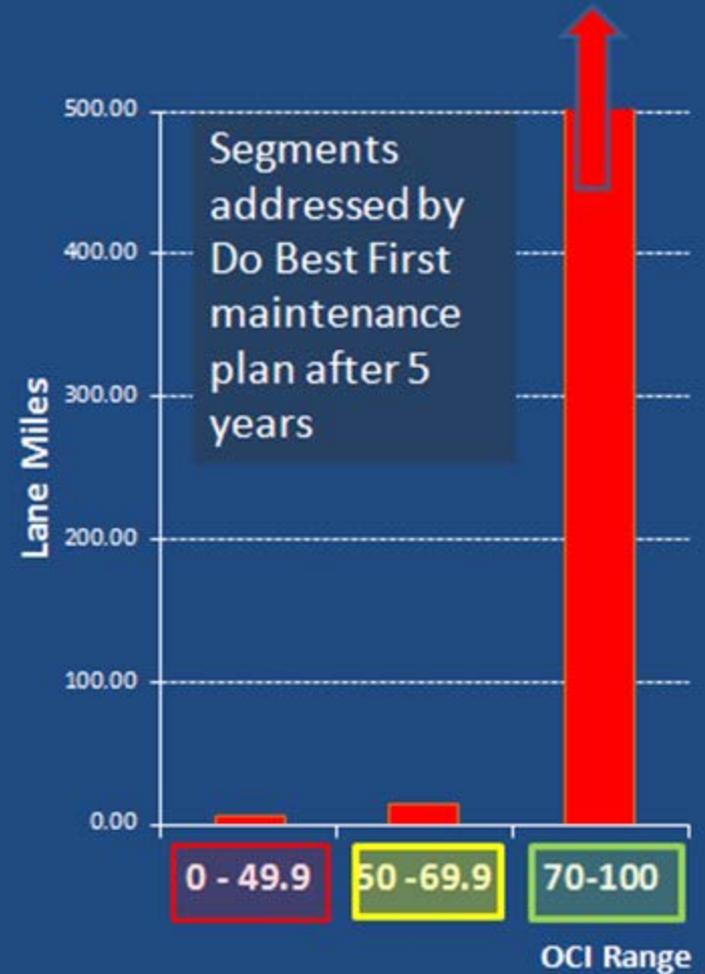
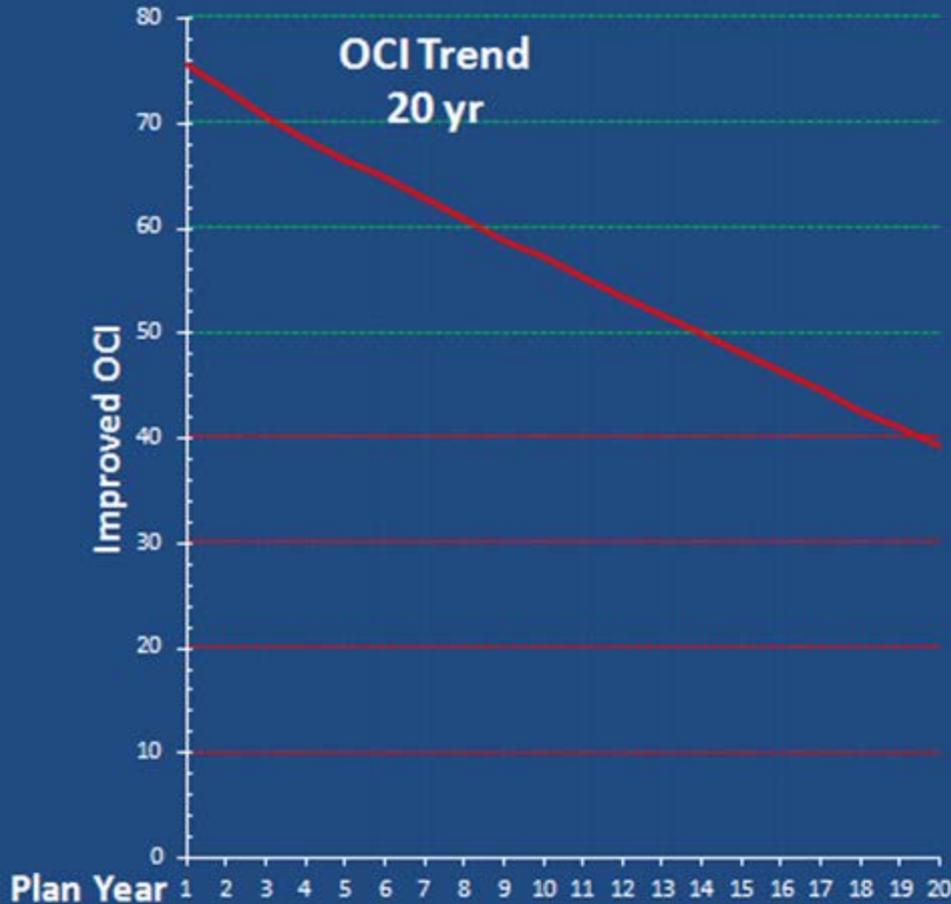
1 in = 1 miles



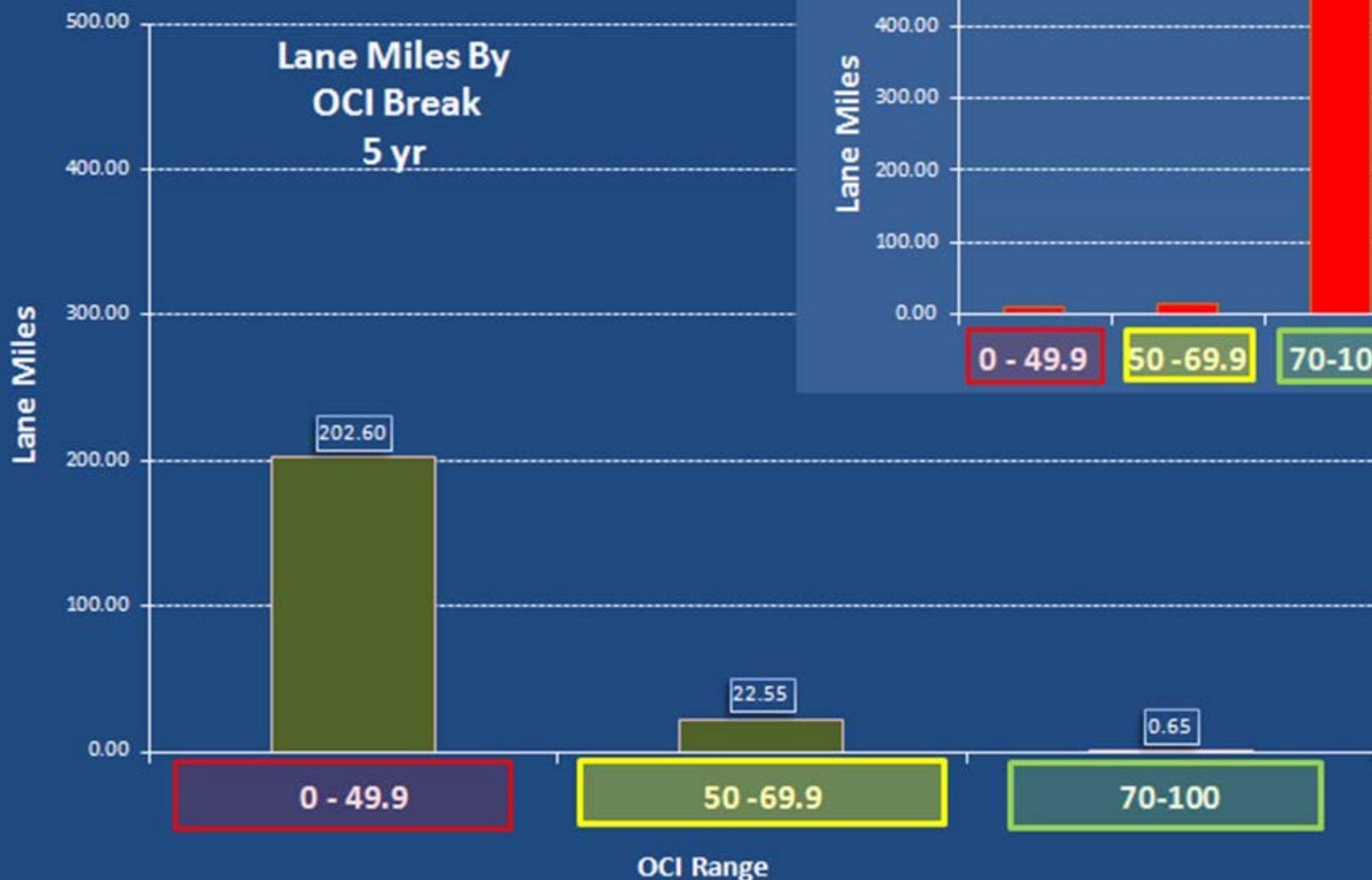
Original Plan "Do Best First"

Target OCI - 95 Rebuild - 70

Current Goal – Network Average OCI 70

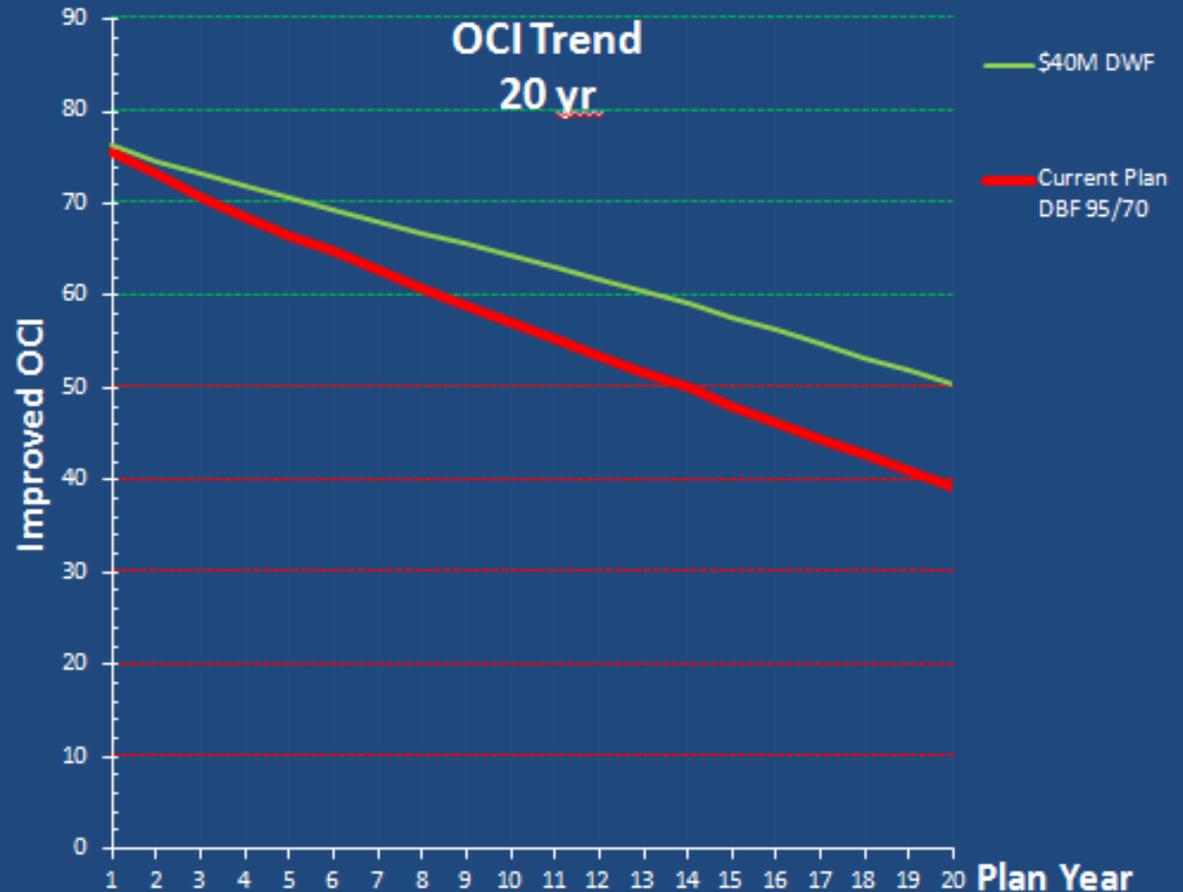


Do Worst First



Do Worst First vs Do Best First

- Do Best First
 - Keep the good streets good
- Do Worst First
 - Make a tangible impact on the City's worst streets



Reconstruct Failing Streets

- Start with reconstruction of poor streets and then move to good streets until budget is exhausted
- Focus on maintenance after eight years

Lane Miles Maintained To Achieve Target OCI

Current Lane Miles OCI

\$40M - One Budget 20 yr 70 / 50 Worst First BUDGET Driven	0.0 - 49.99	50 - 69.99	70.0 - 100	Overall Total
	POOR	GOOD	EXCELLENT	
	Lane Miles	Lane Miles	Lane Miles	Lane Miles
70/50 Yr 1 - 2013	28.59	0.42	0.00	29.01
70/50 Yr 2 - 2014	38.20	4.14	0.34	42.68
70/50 Yr 3 - 2015	49.19	3.80	0.12	53.11
70/50 Yr 4 - 2016	46.69	4.28	0.04	51.01
70/50 Yr 5 - 2017	39.92	9.91	0.16	49.98
70/50 Yr 6 - 2018	39.59	8.02	0.64	48.24
70/50 Yr 7 - 2019	23.70	22.85	0.73	47.27
70/50 Yr 8 - 2020	4.28	39.71	2.13	46.12
70/50 Yr 9 - 2021	5.29	38.71	1.05	45.05
	275.45	131.83	5.20	225.80

	0-49.99	50-69.99	70-100	Present OCI
Residential	220.56	418.93	1,336.34	75.20
TDP	99.90	201.92	736.95	77.40

Future Approach

- Adjust the MR&R plan from rebuild at 70 OCI to rebuild at 50 OCI
- Modify the Target Network OCI from 95 to 70
- Adopt a maintenance plan which focuses on failing streets: Do Worst First
- Adopt a budget which maintains a Network OCI of between 60 to 70 over 20 years: \$40M per year beginning 2015
- Rebuild versus capacity 2014 Bond Election
- Focus rebuild priority on TDP versus residential streets

	0-49.99	50-69.99	70-100	Present OCI
Residential	220.56	418.93	1,336.34	75.20
TDP	99.90	201.92	736.95	77.40

Questions

