

Town of South Bethany, DE

2016 Pavement Management Study

Prepared by:

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Project Scope

1. Performed a Condition Survey

- Visually inspect the surface for pavement distresses
 - Why?
 - Provides a “good indicator” of:
 - What is wrong with the pavement
 - What is the appropriate repair

2. Select Cost-Effective Treatments and Calculate Costs

- Based on pavement distresses
 - As distresses become more significant, the treatment is more significant (cost goes up drastically)

Condition Evaluation

A Visual Survey to Identify Surface Distresses

Pavement Distresses

- Two Primary Modes of Pavement Failure
 1. Structural Deterioration
 - Fatigue (Alligator) Cracking
 - Deteriorated Patches
 - Potholes
 2. Environmental Deterioration
 - Weathering/Raveling
 - Low-Temperature (Transverse) Cracking

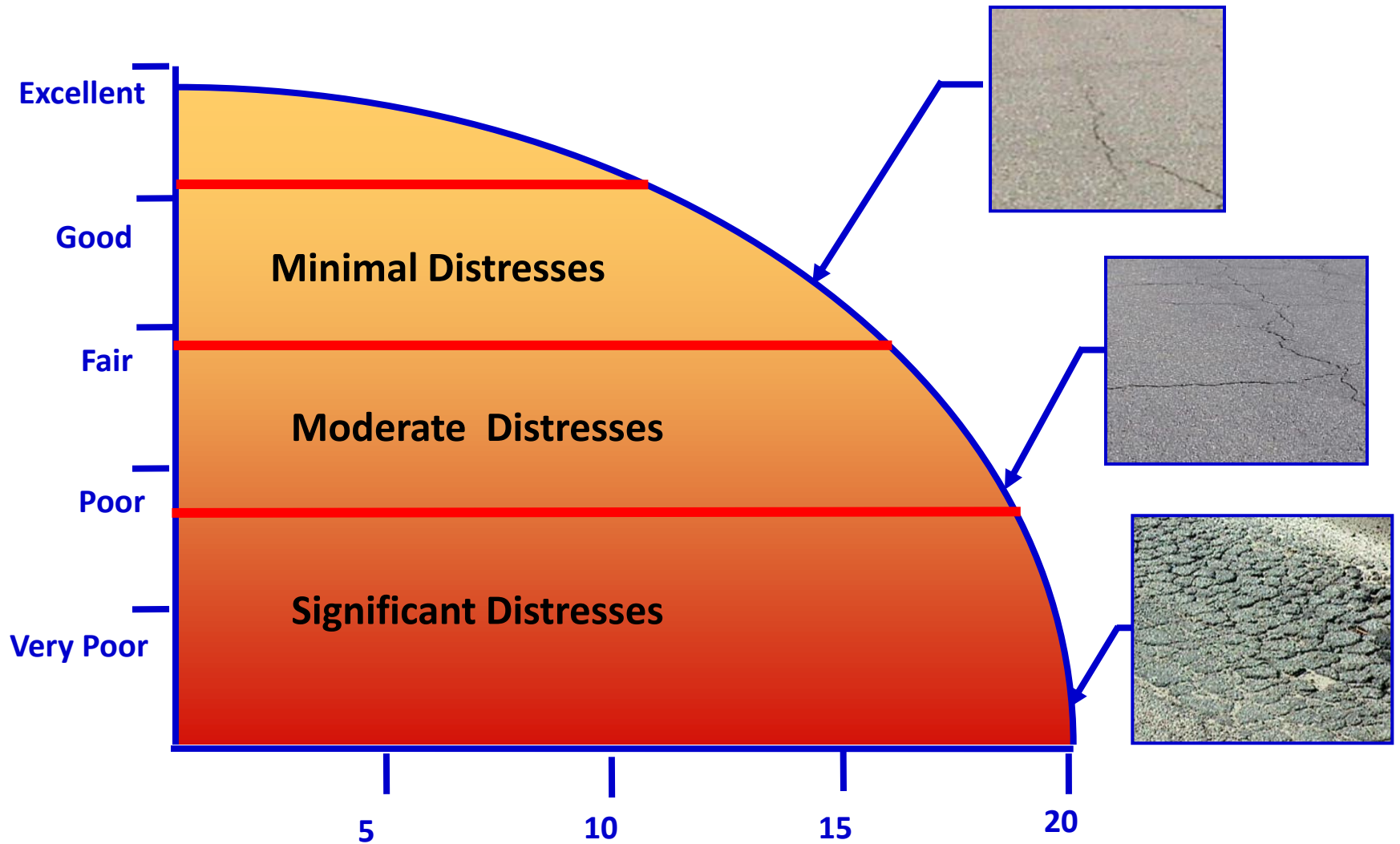
Pavement Distresses

- Condition Assessment
 - Identify Level of Severity
 - How bad is the distress?
 - Identify Level of Extent
 - Over how large of an area?
- Based on the level of severities and extents of distresses that are present, the proper treatment is selected

Selecting Cost-Effective Treatments

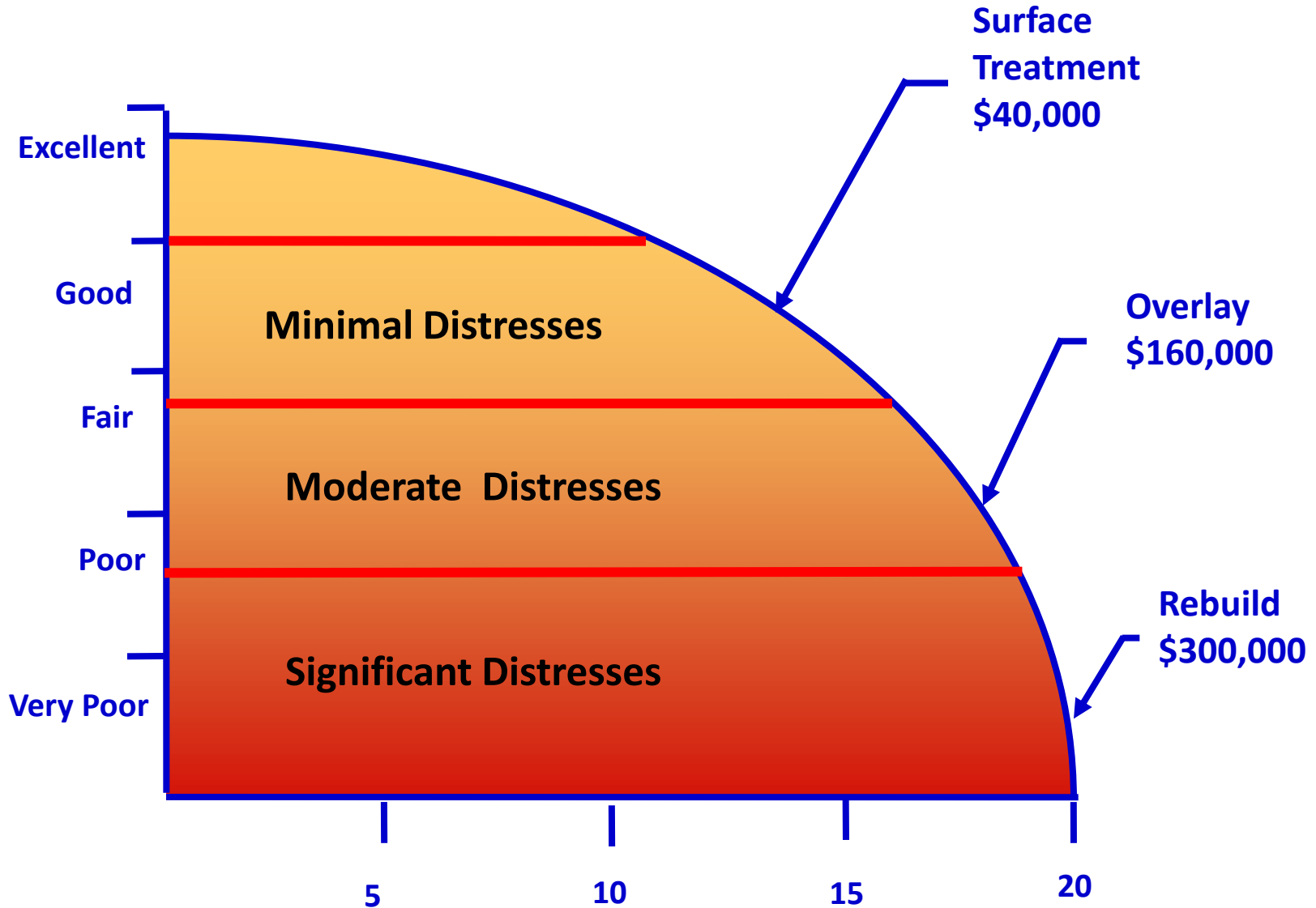
Based on Pavement Distresses

Pavement Deterioration Accelerates with Time



Timing of Treatments

(Approximate Cost per 2-Lane Mile)



Micro-Surfacing

A Preservation Treatment

Micro-surfacing

- A High-Tech Chip Seal
- Developed for the Autobahn in the late 60's
- Cost: Approximately \$3 per Sq. Yd.
- Locally:
 - Fenwick Island
 - Round 1: 1994
 - Round 2: 2005
 - Ocean View
 - Since 2005
 - Lewes
 - Since 2000 (±)

Micro-Surfacing

- Applied as a slurry mixture
 - Emulsified Asphalt Cement
 - Aggregates
 - Curing Agents
- No Traffic for One Hour
 - Emergency traffic after 10-15 minutes preferred



Micro-Surfacing

- Not as smooth as Hot Mix Asphalt
- Aesthetics Improve with Time
- Strongly Recommend a Community Outreach Program
 - Explain What It Is
 - Explain What to Expect
 - Explain Why (Save \$\$\$)
 - Extend Life Very Cost Effectively
 - Environmentally Friendly

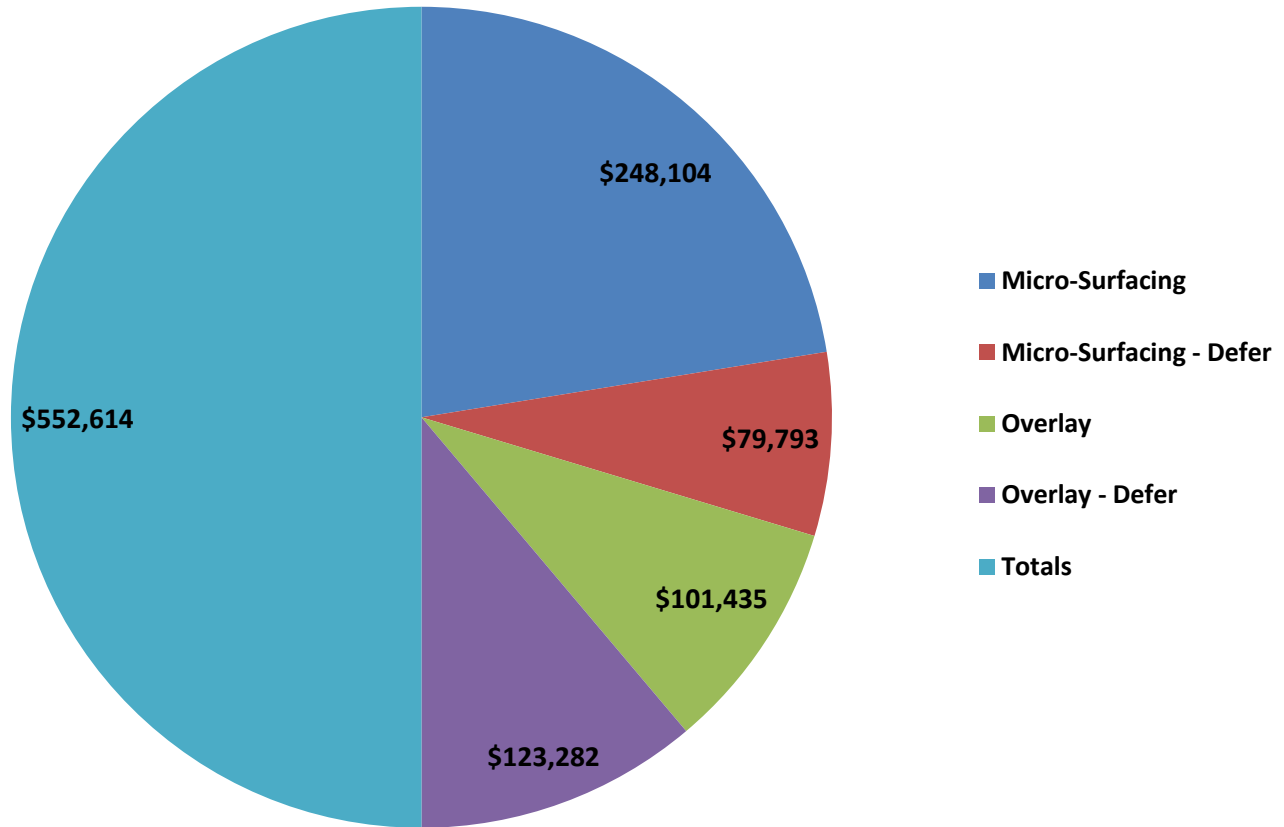
Results of the Condition Survey and Analysis

Summary of Results

Treatment	Cost	% of Total Cost	Length (miles)	% of Total Length
Micro-Surfacing	\$248,104	44.90%	6.32	64.69%
Micro-Surfacing - Defer	\$79,793	14.44%	2.01	20.57%
Overlay	\$101,435	18.36%	0.65	6.65%
Overlay - Defer	\$123,282	22.31%	0.79	8.09%
Totals	\$552,614		9.77	

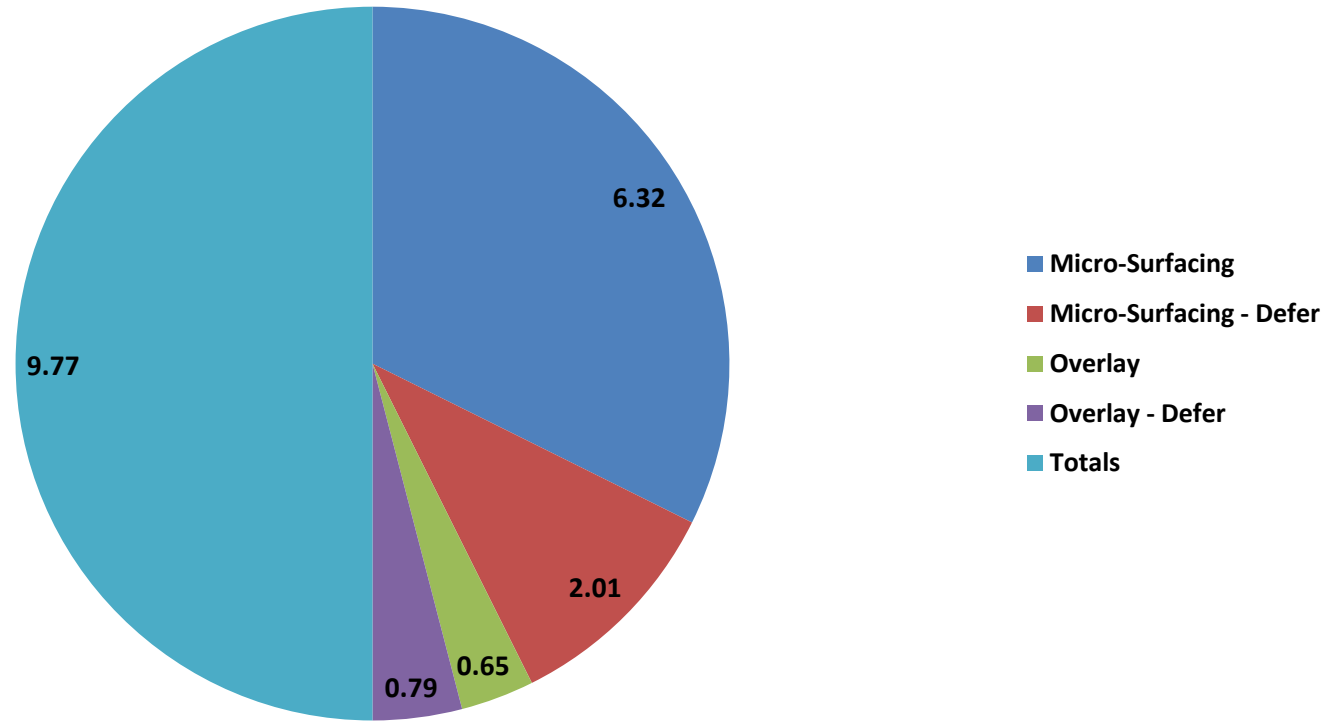
Cost of Repairs by Treatment Type

2016 - Cost of Repairs by Treatment Type



Length of Repairs in Mileage By Treatment Type

2016 - Length of Repairs by Treatment Type
(Mileage)



Possible Budget

(To Initiate Discussion)

	Available Funding	Cumulative Funding	Possible Budget
2017	\$250,000*	\$250,000	Micro - \$250,000 ±
2018	\$50,000	\$50,000	Defer
2019	\$50,000	\$100,000	Overlays - \$100,000 ±
2020	\$50,000	\$50,000	Defer
2021	\$50,000	\$100,000	Micro - \$80,000 ±
2022	\$50,000	\$70,000**	Overlays - \$125,000 ±

*- \$50,000 held in reserve

** - Possibly find \$55,000 in the Budget???

Notes:

1. Inflation was not considered.
2. Costs are based on Network Level Assessment. Actual Project Costs may vary.



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