

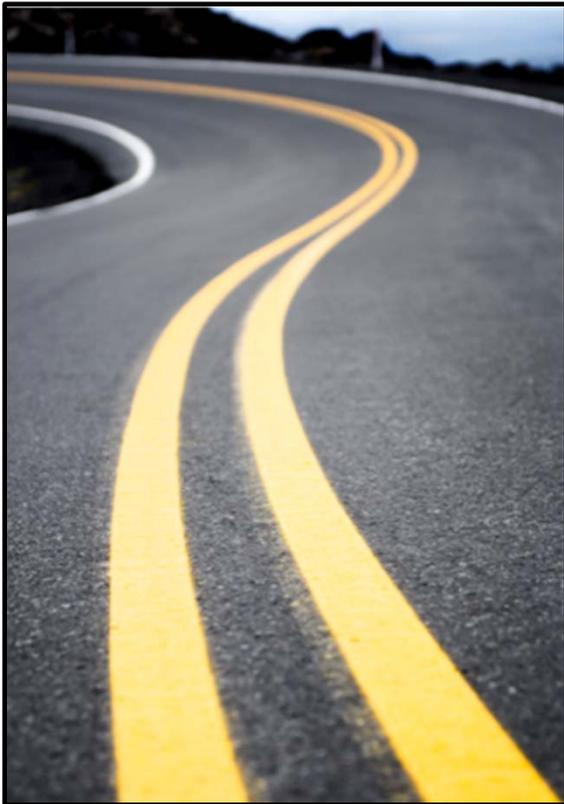
# Town of Middleborough Department of Public Works

## MUNICIPAL ASSET MANAGEMENT PROGRAM *Pavement & Sign Management System Overview*



October 28, 2013

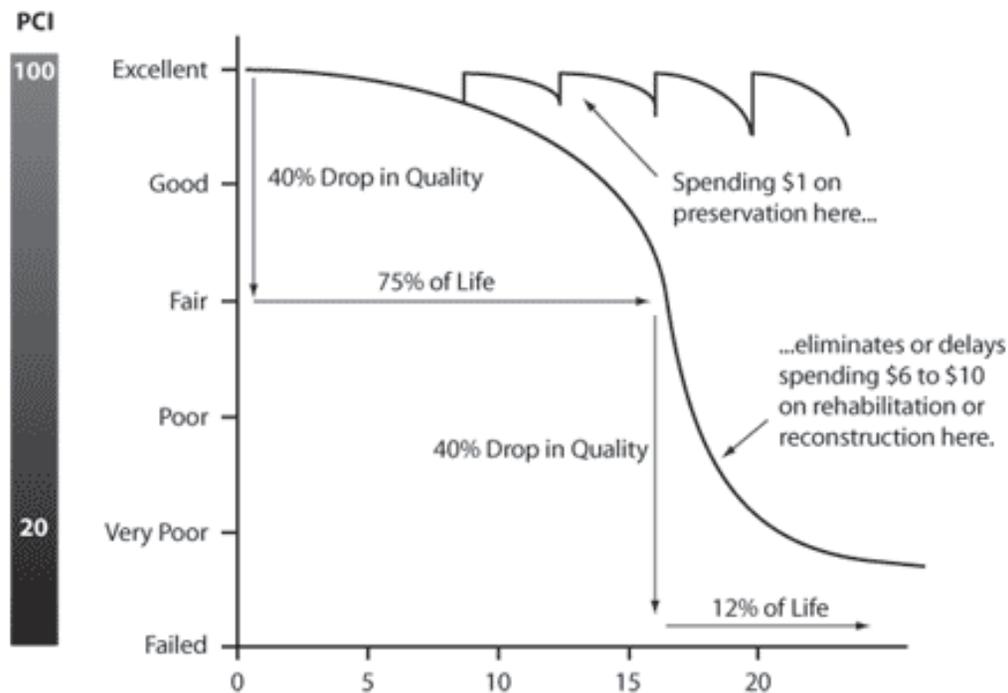
# Pavement Management...



- The practice of planning for pavement maintenance and rehabilitation with the goal of maximizing the value and life of a pavement network
- ***The right repair at the right time!***



# Pavement Management...



Source: Federal Highway Administration

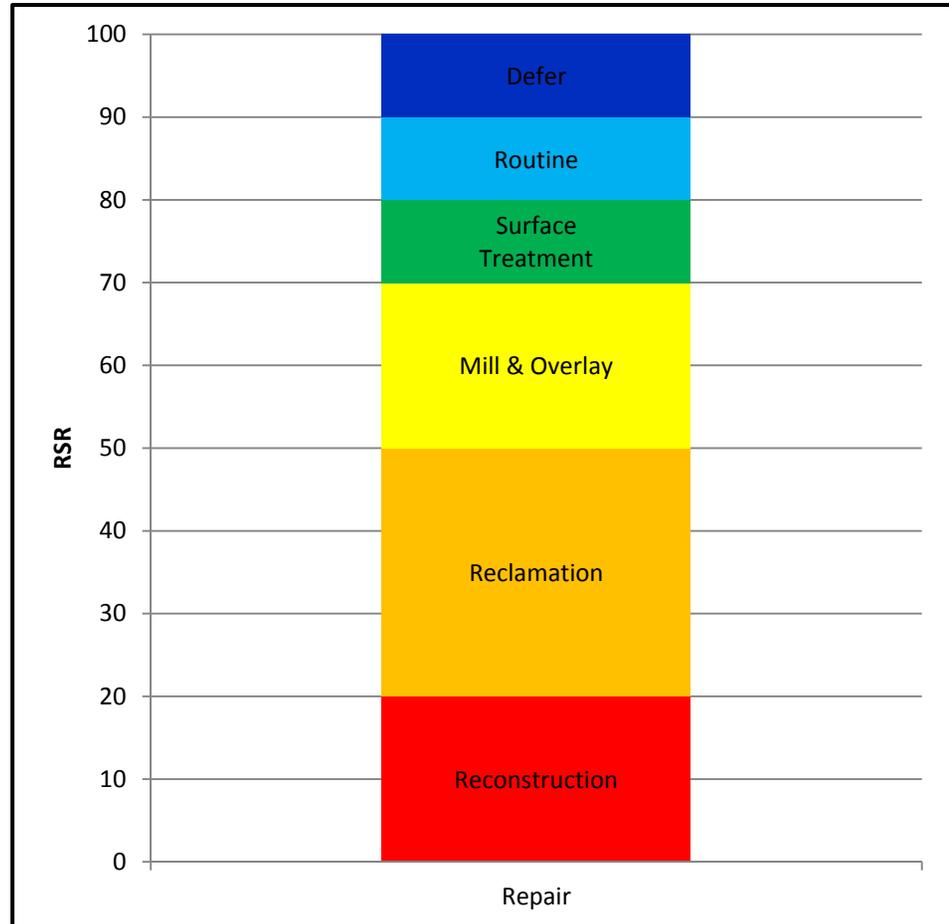
- Asset management tool
- It is more cost effective to keep good roads in good condition



# Typical Pavement Repair Methods

- Defer Maintenance - \$0 SY
- Routine Maintenance - \$0.50 SY
  - Crack Sealing
  - Patching
- Surface Treatment - \$8.00 SY
- Mill & Overlay - \$16.00 SY
- Reclamation - \$24.00 SY
- Reconstruction - \$38.00 SY

\* Please note that unit prices reflect curb to curb improvements only



# Typical Scope of Work

**Roadway Inventory & GIS**

**Field Data Collection Program**

**Existing Conditions Summary**

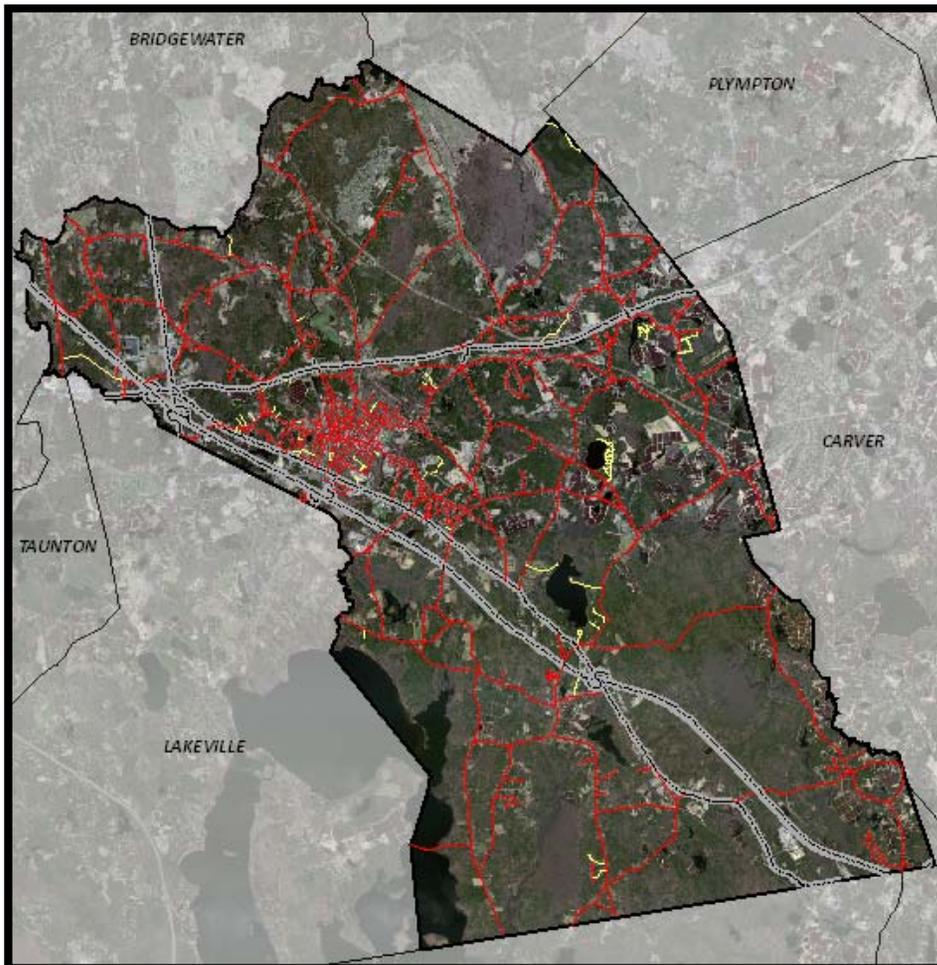
**Capital Improvement Planning**

**System Deployment & Training**



# Roadway Inventory and GIS

## Middleborough Roadway Profile



Type	Miles
Town Accepted	157.78
Town Unaccepted	12.98
<b>Subtotal</b>	<b>170.76</b>
State Roads	63.00
<b>Total</b>	<b>233.76</b>



# Establish Road Surface Rating

## Pavement Inspection Form

**Roadway Inventory**

### Inventory and Inspection Form

<b>Street Name</b> GIS ID: 2025 Street: DOVE AVENUE Segment Name: DOVE AVE-01 From Street: LAKE SHORE DR To Street: BLACKBIRD AVE	<b>Ownership</b> Town Owner: Town Town Owner: Accepted MassDOT Owner: MassDOT Accepted: Inspection Area:	<b>Existing Data</b> Linear Joint: N/A Existing Crack Seal: N/A																																				
<b>Inspection Data</b> Inspector: BETA Inspection Date: 8/19/2008 Pavement Material: BC Length Feet: 315.69 Length Miles: 0.06 Width: 24.00 RSR: 55 Refresh RSR	<b>Distress Data</b> <table border="1"><thead><tr><th>Distress</th><th>Severity</th><th>Extent (%)</th><th>Notes</th></tr></thead><tbody><tr><td>Edge Cracking:</td><td>High</td><td>40</td><td></td></tr><tr><td>Alligator Cracking:</td><td>Moderate</td><td>30</td><td></td></tr><tr><td>Linear Cracking:</td><td>Moderate</td><td>40</td><td></td></tr><tr><td>Potholes:</td><td></td><td>0</td><td></td></tr><tr><td>Patching:</td><td></td><td>0</td><td></td></tr><tr><td>Rutting:</td><td></td><td>0</td><td></td></tr><tr><td>Depressions:</td><td>High</td><td>30</td><td></td></tr><tr><td>Drainage:</td><td></td><td>0</td><td></td></tr></tbody></table> General Notes:	Distress	Severity	Extent (%)	Notes	Edge Cracking:	High	40		Alligator Cracking:	Moderate	30		Linear Cracking:	Moderate	40		Potholes:		0		Patching:		0		Rutting:		0		Depressions:	High	30		Drainage:		0		<b>Curb Data</b> Odd Curb Type: None Even Curb Type: None Avg. Reveal: 0
Distress	Severity	Extent (%)	Notes																																			
Edge Cracking:	High	40																																				
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Drainage:		0																																				
		<b>Sidewalk Data</b> Sidewalk Odd: No Sidewalk Even: No Sidewalk Material Odd: N/A Sidewalk Material Even: N/A																																				
		<b>Striping Data</b> Center Line: N/A Edge Line Odd: N/A Edge Line Even: N/A																																				
		<b>Functional Class</b> Class Number: 4 Class Short: LO Class Long: Local Adjusted ADT: 500																																				

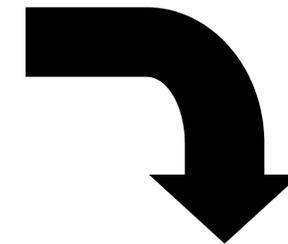
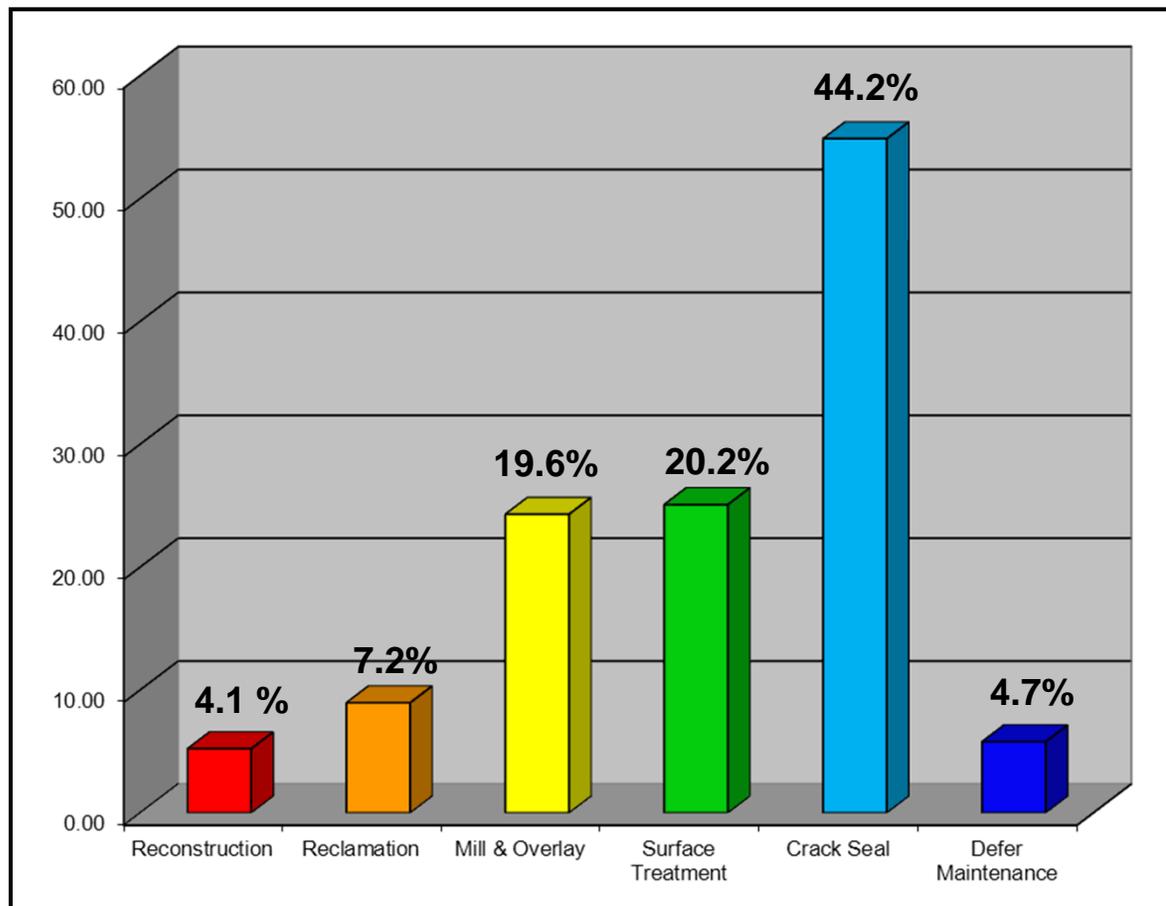
Record: 678 of 2514

- Calculate Road Surface Rating (RSR) based on existing distresses
- Ratings are 0 to 100 (Worst to Best)
- Add newly accepted streets accordingly



# Existing Conditions Summary

## General Rating by Mile



**Approx. 124  
Road Miles  
RSR = 76**

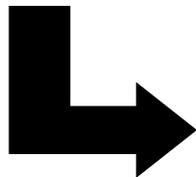
Town of Wareham Example



# Existing Conditions Summary

## Breakdown by Repair Method

Repair Method	Length (Miles)	Est. Cost	% By Repair
Reconstruction	5.22	\$2,102,486	4.2%
Reclamation	8.96	\$2,695,809	7.2%
Mill and Overlay	24.30	\$4,885,214	19.6%
Surface Treatment	25.09	\$4,546,654	20.2%
Crack Seal	54.87	\$359,978	44.2%
Defer Maintenance	5.79	\$0	4.7%
<b>TOTAL:</b>	<b>124.23</b>	<b>\$14,590,141</b>	<b>100.0%</b>



**Backlog = Approx. \$14.6 Million**

Town of Wareham Example



# MUTCD Compliance Program

- All communities must establish a sign asset management and maintenance program to address new minimum retroreflectivity requirements by June 13, 2014



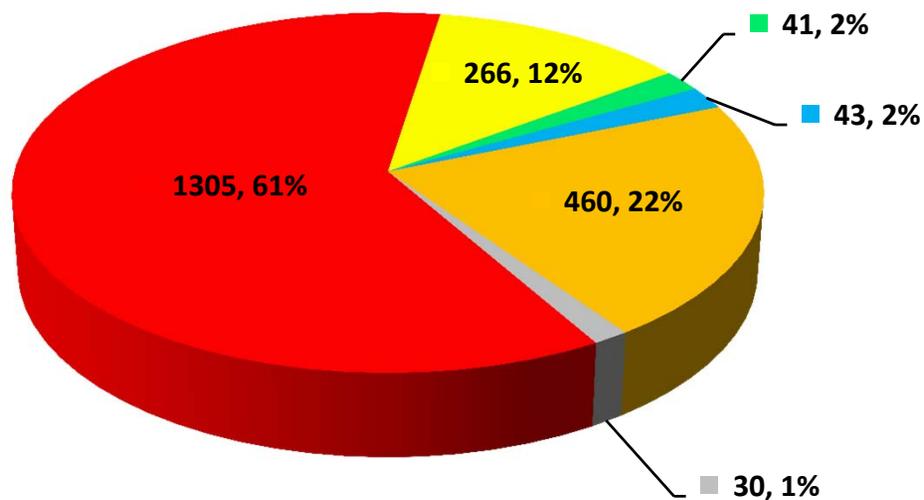
# Establish Inventory of Signs

- GIS-Based Approach
- Tablet Field Laptop
- Inventory Attributes
  - Sign Type
  - Sign Size
  - Sign Material
  - Sign Height
  - Sign Condition
  - Post Type and Condition
  - Retroreflectivity Rating
  - Stop Line Presence



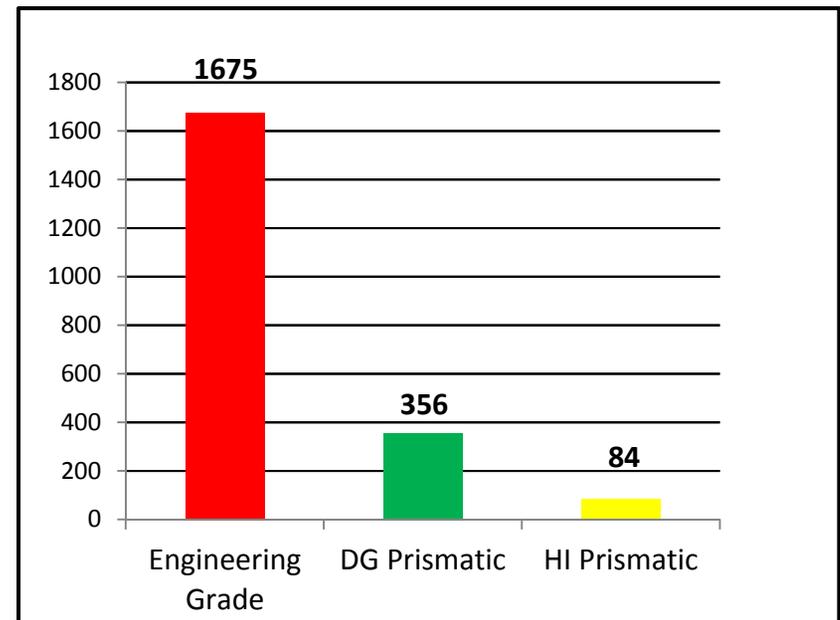
# Existing Conditions Summary

## Sign Type



- Regulatory Sign
- Warning Sign
- School Sign
- Guide Sign
- Unlisted Sign
- No Sign

## Sign Material

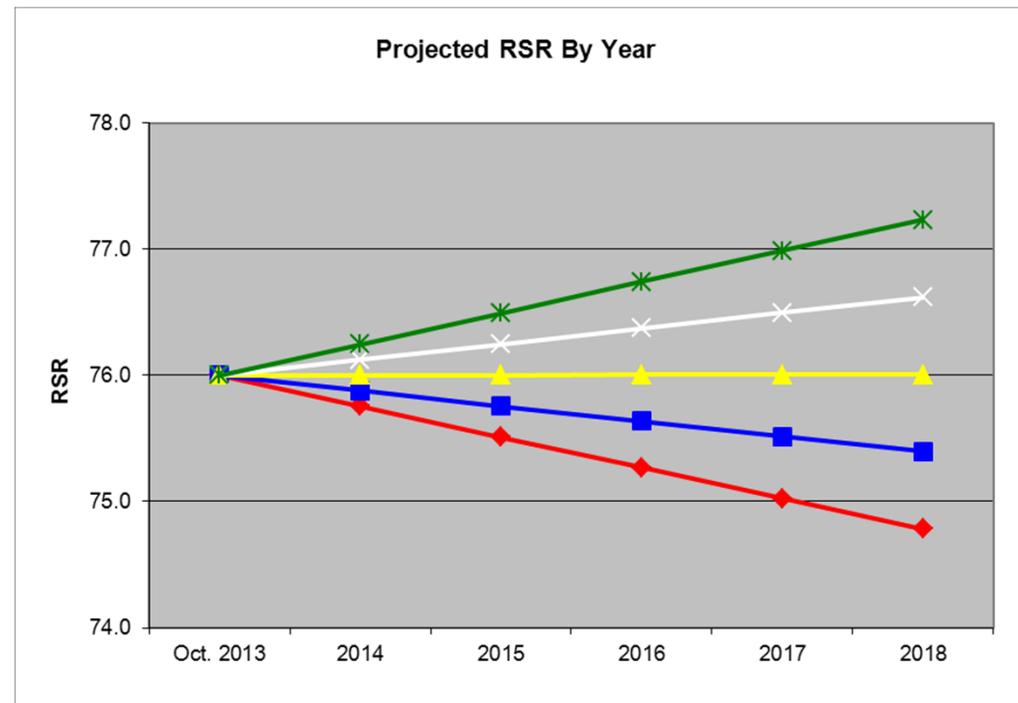


**Total Number of Signs Collected = 2,145**



# CIP Development Pavement & Signs

- Determine funding sources & target levels
- Refine Unit Costs Annually
- Prioritization Strategies
- Utility Coordination
- Deterioration Rates
- Compliance Deadlines



**Develop Multi-year Plan**

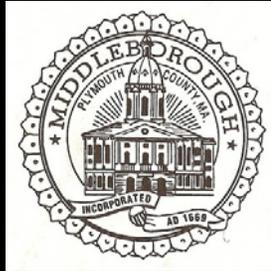


# System Deployment & Training

- Update data as repairs are completed
- Monitor and update actual repair costs
- Re-inspect roadways periodically
- Add new roads and newly accepted roads







# Town of Middleborough Department of Public Works

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Thank You

October 28, 2013

