



# Town of Pembroke Department of Public Works

## PAVEMENT MANAGEMENT PROGRAM OVERVIEW AND SUMMARY OF FINDINGS



February 29, 2016

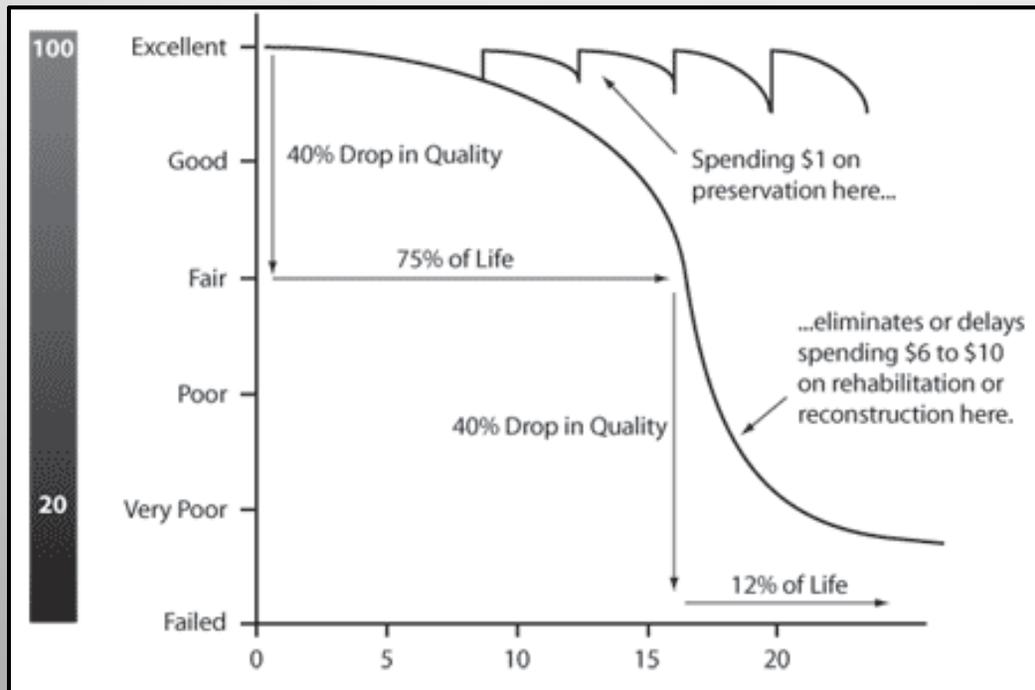
# Pavement Management



- 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 & Forecasting Tool
- It is more cost effective to keep good roads in good condition



# Pavement Management



## Maintenance

- *Crack Seal*
- *Pothole/Utility Patching*

## Surface Treatment

- *Chip Seal*
- *Microsurfacing*
- *Asphalt Overlay*

## Structural Repair

- *Mill and Overlay*
- *Reclamation*
- *Reconstruction*



# Road Surface Rating

## Pavement Inspection Form

Location		Status		RSR	
GIS ID:	326	Owner:	Town	RSR:	66
Street Search:	ACORN LANE	Acceptance Status:	Accepted	<a href="#">Refresh RSR</a>	
Segment Name:	ACORN LN-01	DOT Owner:	Town	<a href="#">Historic RSR</a>	
From Street:	MOUNTAIN AVE	DOT Acceptance Status:	Accepted		
To Street:	LAURA AVE	Inspection Area:	2		

Roadway Inspection		Other Data		Striping Data	
Inspector:	BETA	Utility Cuts:	No	Centerline:	No
Inspection Date:	6/30/2011	Existing Crack Seal:	No	Edgeline Odd:	No
Pavement Material:	BC	Delamination:	No	Edgeline Even:	No
Length Feet:	915.84	Longitudinal Joint:	No		
Length Miles:	0.17				
Width:	24.00				

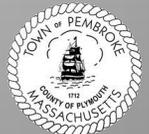
  

Distress Data		Curb Data		Sidewalk Data	
	Severity	Extent (%)	Odd Curb Type:	Exists Odd Side:	No
Linear Cracking:	Moderate	30	Even Curb Type:	Exists Even Side:	Yes
Alligator Cracking:	Moderate	30	Avg. Reveal:	Material Odd Side:	N/A
Potholes:	None	0		Material Even Side:	N/A
Edge Cracking:	None	0			
Patching:	Moderate	20			
Roughness:	Moderate	20			
Drainage:	None	0			
Rutting:	None	0			

Notes
0

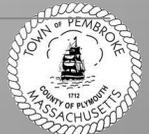
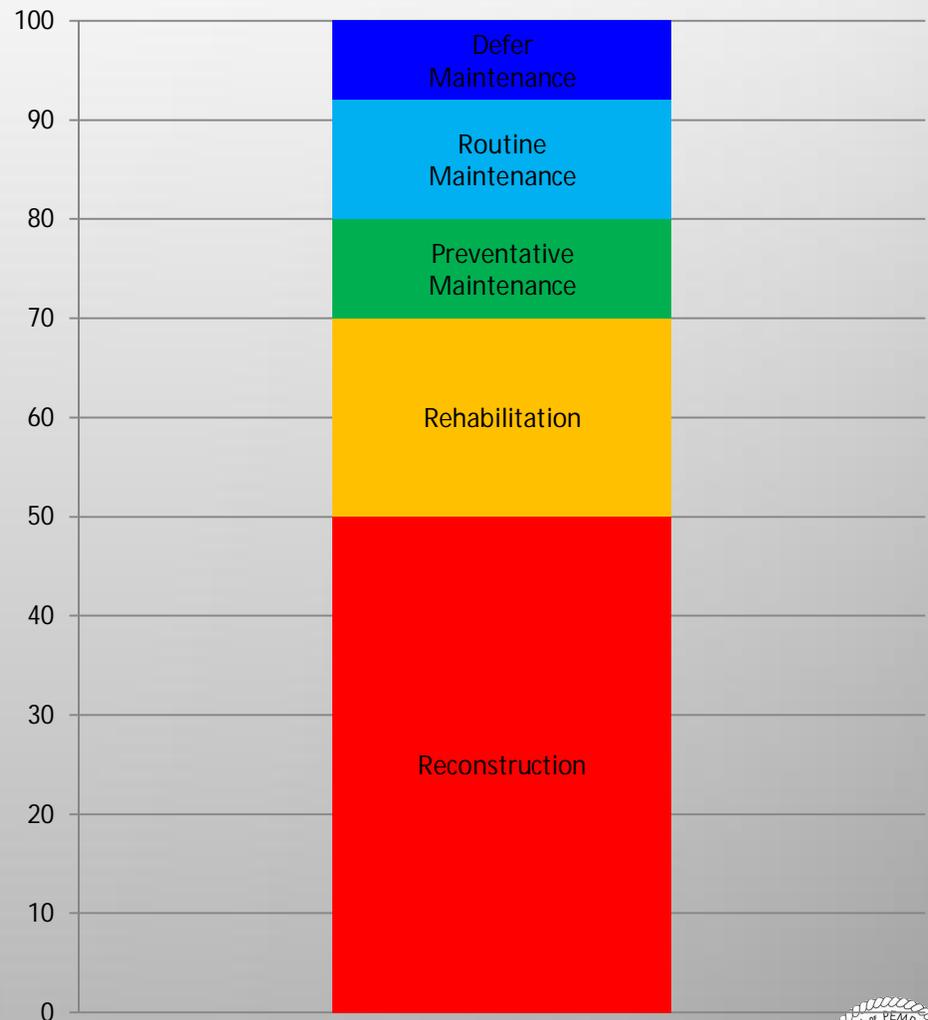
- Calculate Road Surface Rating (RSR) based on existing distresses
- Ratings are 0 to 100 (Worst to Best)
- Line striping and curb information identified



# Maintenance & Repair Methods

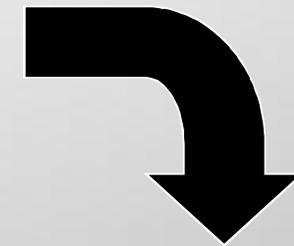
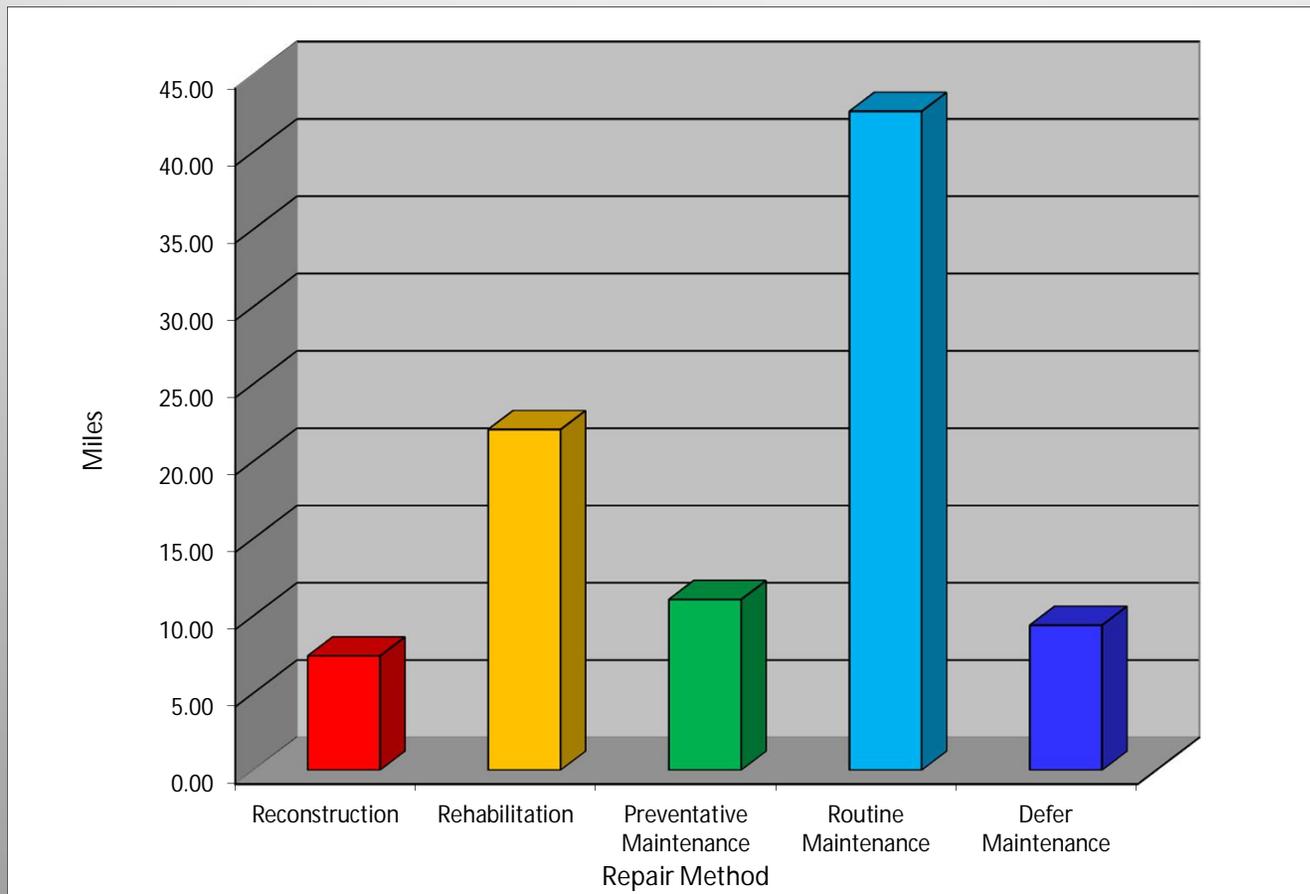
- Defer Maintenance - \$0 SY
- Routine Maintenance - \$0.50 SY
  - Crack Sealing
  - Patching
- Preventative Maintenance - \$6.00 SY
- Rehabilitation - \$14.00 SY
- Reconstruction - \$45.00 SY

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



# Existing Conditions Summary

## General Rating by Mile (Town Accepted Roadways)\*



Approx. 92.45  
Road Miles  
RSR = 78.78

\*Town Accepted Paved Roadways Only



# Existing Conditions Summary

## Breakdown by Repair Method (Town Accepted)\*

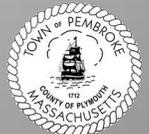
Repair Method	Length (Miles)	Est. Cost	% By Repair
Pavement Reconstruction	7.39	\$3,850,377	7.99
Pavement Rehabilitation	22.04	3,884,983.00	23.84
Preventative Maintenance	11.04	\$898,117	11.94
Routine Maintenance	42.61	\$276,274	46.08
No Maintenance Required	9.38	\$0	10.14
<b>TOTAL:</b>	<b>92.46</b>	<b>\$8,909,751</b>	<b>100.00</b>



Network RSR = 78.78

Backlog = Approx. \$9 Million

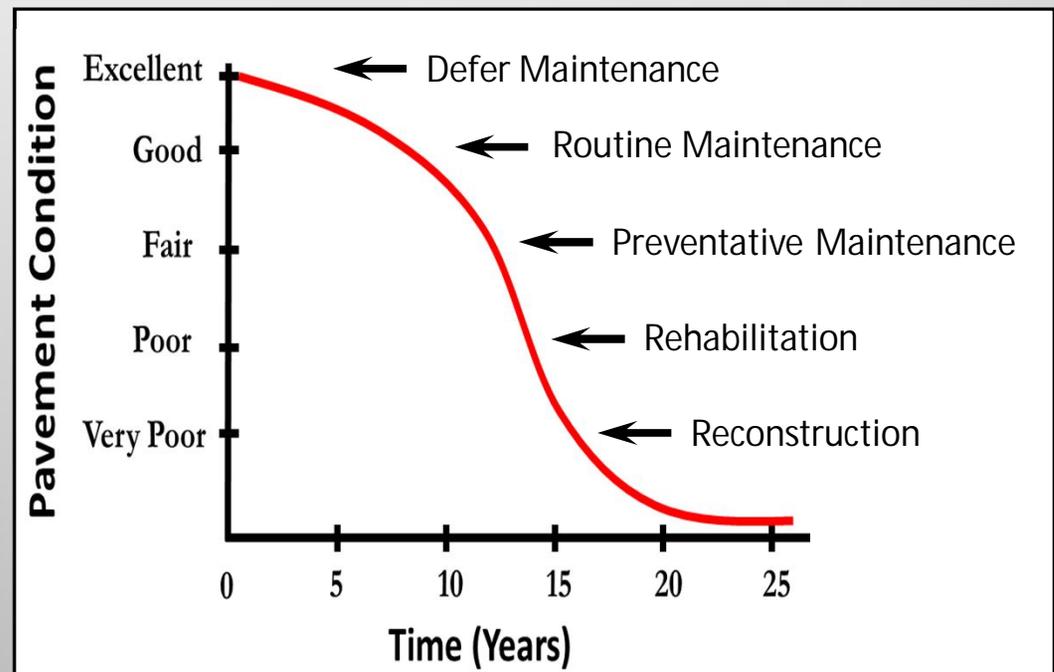
\*Curb to Curb Improvements Only  
Does Not Include Drainage, Sidewalks, Ramps



# CIP Development

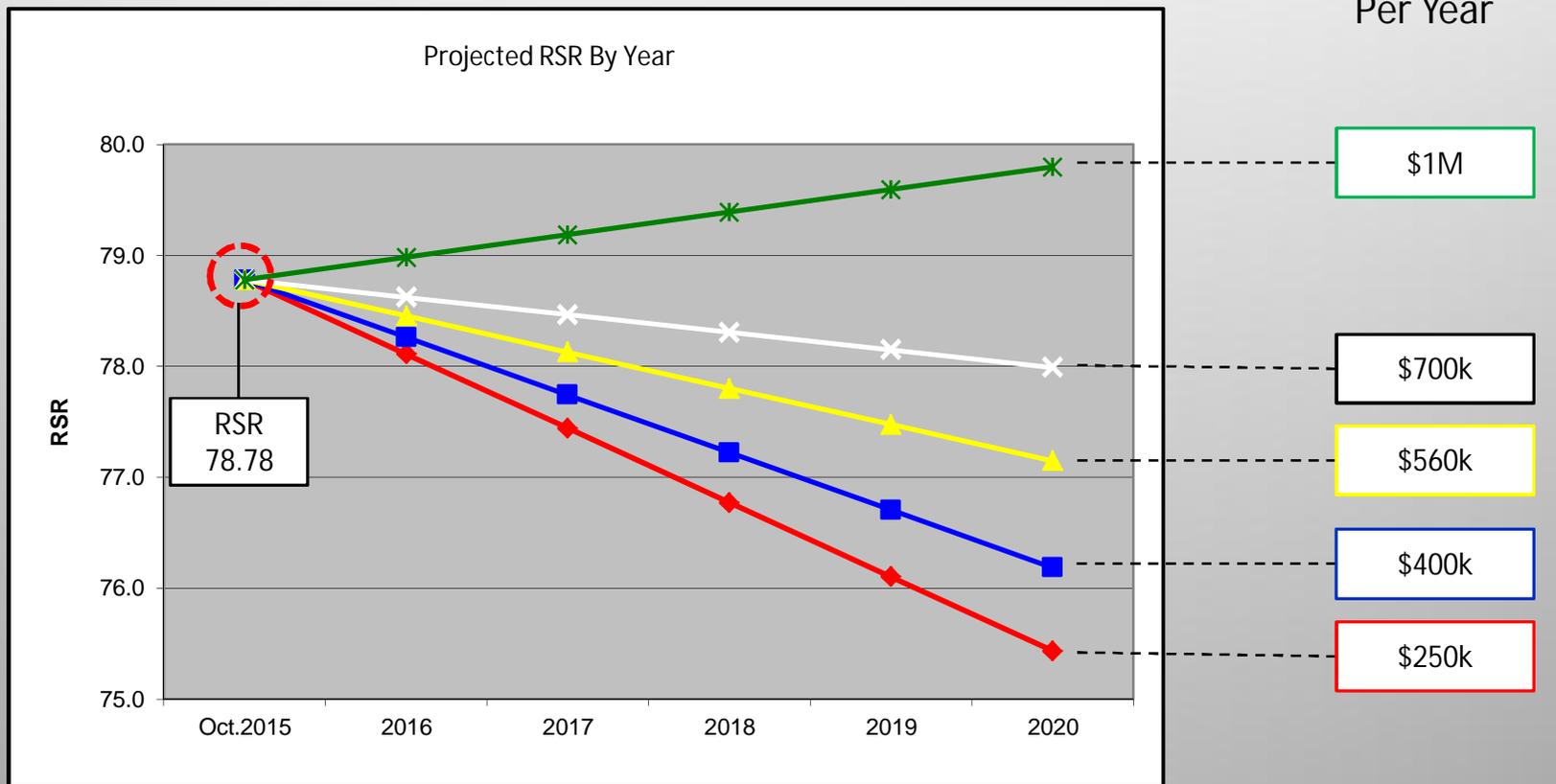
## Repair Methods and Forecasting

- Budget Requirements
- Refine Repair Methods  
Unit Costs
- Prioritization Strategies
- Utility Coordination
- Deterioration Rates



# CIP Development

## RSR Forecast (5 Years)

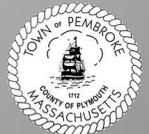


# CIP Development

## Cost Benefit Value – Top 10 Roadways

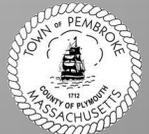
Street Name	Avg. RSR	Length (Miles)	Est. Cost*	Repair Type
HOBOMOCK STREET	69.77	1.05	\$173,041.54	Rehabilitation
PLEASANT STREET	66.47	1.8	\$295,162.25	Rehabilitation
MAQUAN STREET	72.60	0.38	\$27,822.40	Preventative Maintenance
LAKE STREET	72.66	0.9	\$69,817.80	Preventative Maintenance
MATTAKEESETT STREET	63.02	2.43	\$478,302.06	Rehabilitation
VALLEY STREET	50.41	1.49	\$221,012.46	Rehabilitation
MAYFLOWER ROAD	79.79	0.37	\$33,606.42	Preventative Maintenance
CRANBERRY LANE	79.32	0.27	\$21,817.77	Preventative Maintenance
HIGH STREET-NORTH	53.59	1.95	\$288,968.17	Rehabilitation
PILGRIM ROAD	79.48	0.75	\$89,670.65	Preventative Maintenance
<b>TOTAL:</b>	<b>N/A</b>	<b>11.39</b>	<b>\$1,699,222</b>	<b>N/A</b>

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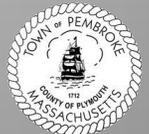
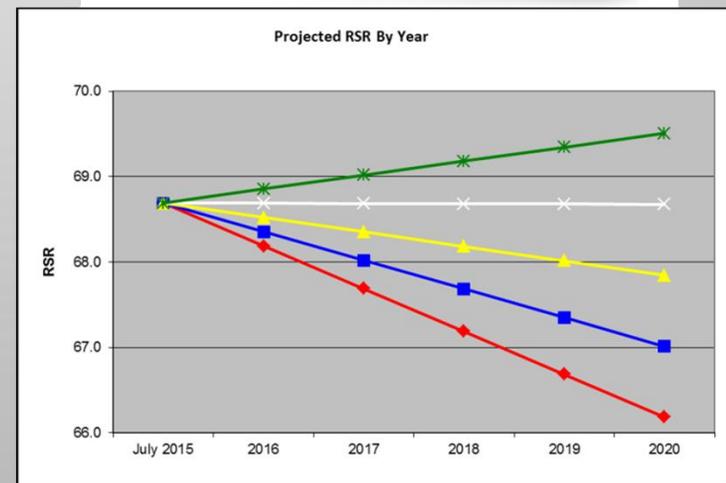
# System Maintenance

- Update data as improvements are completed
- Monitor and update actual costs
- Re-assess assets periodically
- Add new subdivisions and newly accepted roads to database



# Next Steps

- Determine target funding levels and funding sources
  - Chapter 90
  - Town Funding
  - Complete Streets
- Develop a 3 Year Plan
  - Allows Town to coordinate with utilities and to best use available funding
- Update program as work is completed





# Town of Pembroke Department of Public Works

## PAVEMENT MANAGEMENT PROGRAM OVERVIEW AND SUMMARY OF FINDINGS

Thank You

February 29, 2016

