

Town of Franklin

Department of Public Works



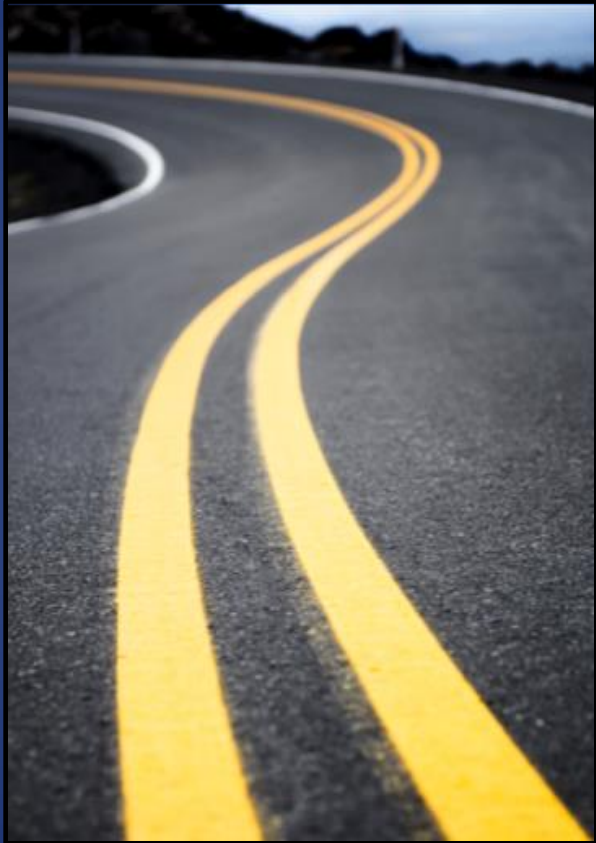
Pavement Management Program

Jeffrey Nutting – Town Administrator
Brutus Cantoreggi – Director of Public Works

October 10, 2018



Benefits of Pavement Management



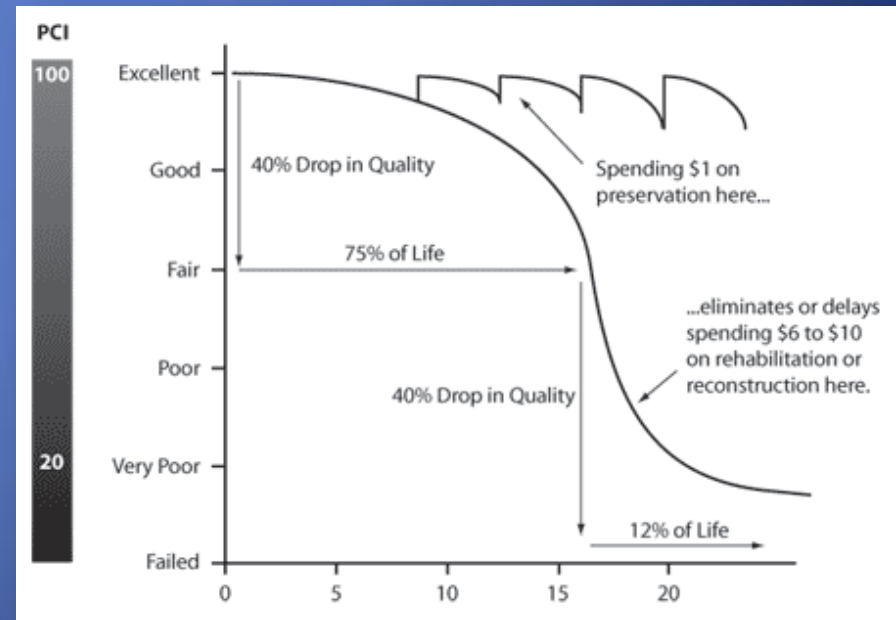
- The practice of planning for pavement maintenance and rehabilitation with the goal of maximizing the value and life of a pavement network
- It is more cost effective to keep good roads in good condition
- *Proactive* vs. *Reactive*

Program Goals & Objectives

1. Develop Inventory of Town Roadways
2. Conduct Pavement Condition Assessment
3. Evaluate Repair Strategies & Benefits

- *Preservation*
- *Rehabilitation*

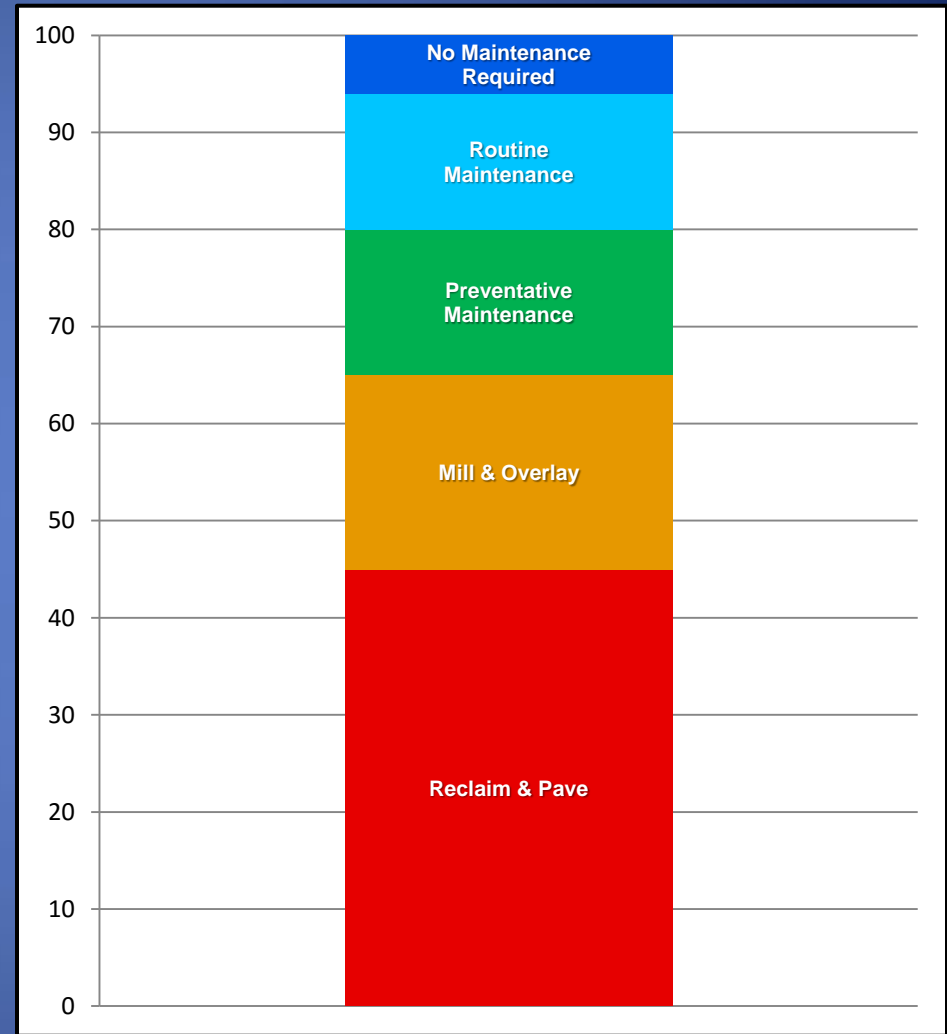
4. Establish Backlog
5. Develop Prioritized Plan
6. ***Foundation for Decision Making***



Database Design & Configuration

Define Repair Strategies and Banding

- No Maintenance Required
- Routine Maintenance
 - Crack Sealing
 - Mill and Fill
- Preventative Maintenance
 - Rubber Chip Seal
 - Microsurface
 - Overlay
 - Hot In-Place Recycling
- Mill & Overlay
- Reclaim & Pave



Database Design & Configuration

General Inventory Data and Roadside Features

✓	Feature ID
✓	Street Name
✓	Segment Description
✓	Length
✓	Width (Field Measurement)
✓	Curb Type/Reveal
✓	Sidewalks Side (Odd, Even, Both)
✓	Sidewalk Material
✓	Striping

Pavement Distress Data

✓	Edge Cracking
✓	Alligator Cracking
✓	Longitudinal Cracking
✓	Transverse Cracking
✓	Potholes
✓	Patching
✓	Rutting
✓	Depressions
✓	Roughness






Calculate RSR
Road Surface Rating
(0-100 Scale)

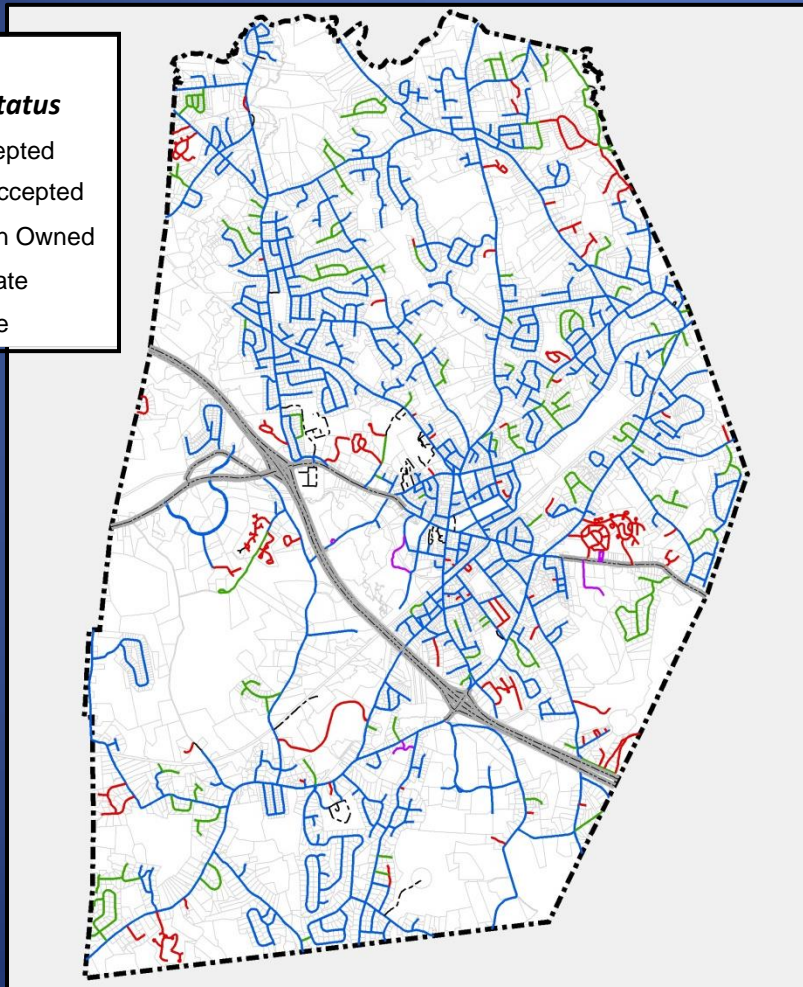
Pavement Inspection Program

Franklin Roadway Profile

Legend

Roadway Status

-  Accepted
-  Unaccepted
-  Town Owned
-  Private
-  State



Road Ownership	Miles
Town Accepted	138.06
Town Unaccepted	23.55
Town Total	161.62

Pavement Inspection Program

Segment Based Inspections

Street	Segment	Length (ft)	Width	Square Yards	Repair Method	RSR
PARTRIDGE STREET	PARTRIDGE ST-01	785.09	20	1,744.65	Reclaim and Pave	38
PARTRIDGE STREET	PARTRIDGE ST-02	1219.76	20	2,710.58	Reclaim and Pave	42
PARTRIDGE STREET	PARTRIDGE ST-03	694.11	20	1,542.46	Mill and Overlay	64
PARTRIDGE STREET	PARTRIDGE ST-04	397.79	20	883.98	Preventative Maintenance	66
PARTRIDGE STREET	PARTRIDGE ST-05	703.20	20	1,562.67	Mill and Overlay	55
PARTRIDGE STREET	PARTRIDGE ST-06	469.59	20	1,043.53	Mill and Overlay	63
		4,269.54		9,487.87		



Pavement Inspection Program

←

Paved Roadway Inspection Form

→

Location

GIS ID: 1110

Street Name: PARTRIDGE STREET

Segment Name: PARTRIDGE ST-04

From Street: HANCOCK RD

To Street: GINNY LN

Road Surface Rating (RSR)

Current RSR: 66

Sidewalk

Exists Odd Side: No

Exists Even Side: No

Material Odd Side: None

Material Even Side: None

Inspector Data

Inspector: BETA

Inspection Date: 7/20/2018

Inspection Area: 1

Roadway Profile

Pavement Material: BC

Width: 20.00

Feet: 397.79

Miles: 0.08

Muni. Acceptance: Accepted

Curb

Odd Curb Type: None

Even Curb Type: None

Avg. Reveal: 0

Roadway Inspection Criteria

Distress Type	Severity	Extent (%)
Linear Cracking:	Moderate	30
Alligator Cracking:	Moderate	10
Potholes:	Moderate	10
Edge Cracking:	High	20
Patching:	Moderate	10
Roughness:	Moderate	10
Drainage:	None	0
Rutting:	None	0

Striping

Centerline: Yes

Edgeline Odd: No

Edgeline Even: No

Pavement

Utility Patch: No


Existing Crack Seal: No

Delamination: No

Longitudinal Joint: No

Controls

Refresh RSR


(Search Tool)

Historic RSR

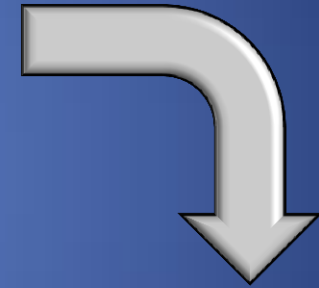
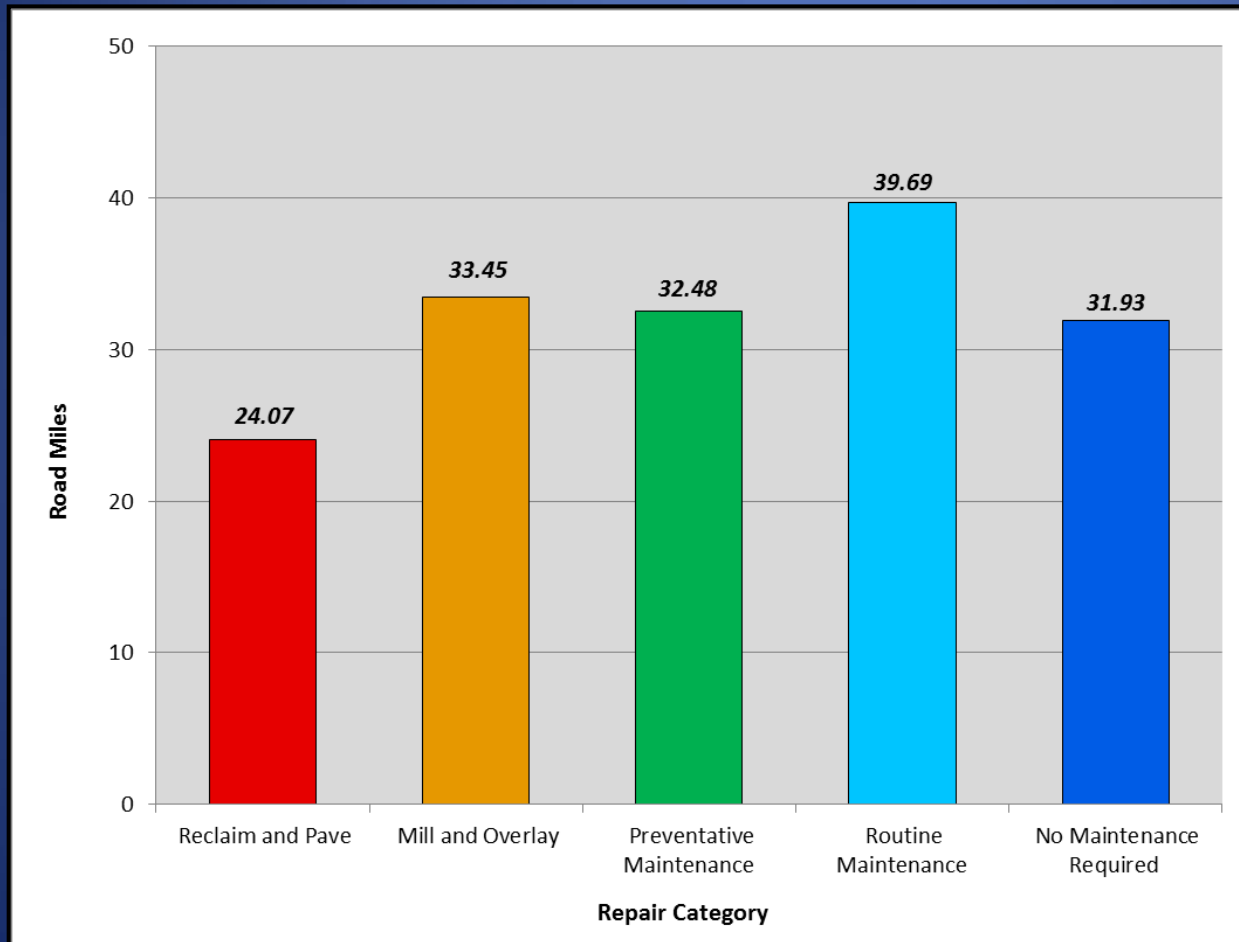
Notes

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Record: 14 1086 of 1604 Unfiltered Search

Existing Conditions Analysis

General Rating by Mile – Overall Network



**Approx. 161.62
Road Miles
RSR = 74**

Existing Conditions Analysis

Estimated Backlog of Repairs – Overall Network

Backlog Summary			
Repair Method	Length (Miles)	Estimated Cost with Contingency*	Percent Repair
Reclaim and Pave	24.07	\$22,964,592	14.9%
Mill and Overlay	33.45	\$11,581,872	20.7%
Preventative Maintenance	32.48	\$4,571,897	20.1%
Routine Maintenance	39.69	\$433,346	24.6%
No Maintenance Required	31.93	\$0	19.8%
Total	161.62	\$40 Million	100.0%

Estimated Backlog = \$40 Million

*40% Contingency Cost applied to account for
Police Details, Drainage, Sidewalks and Curb Ramp Improvements

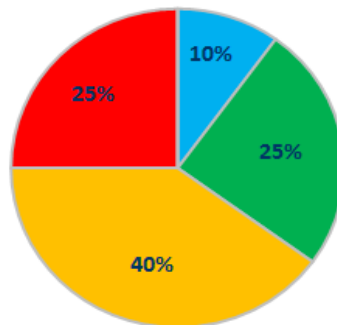
Forecasting & Budgetary Needs

Pavement Plus 40% Contingency Model*

Roadway Forecast Model Franklin, MA

ManageMyRoads by BETA

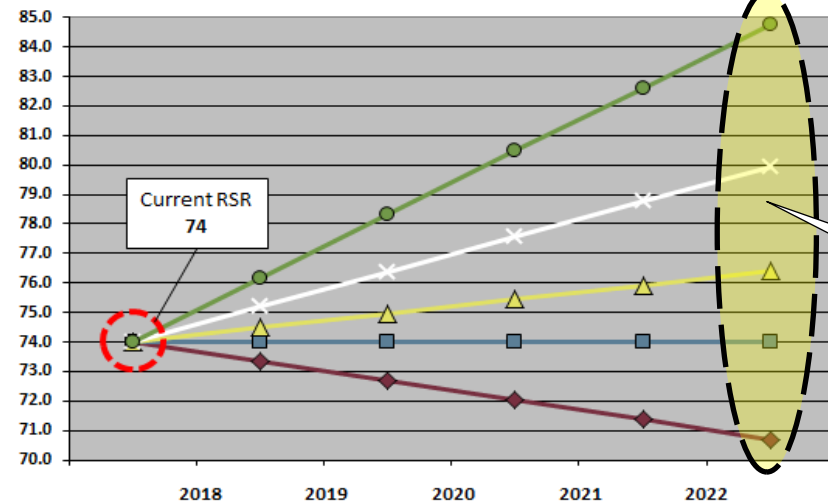
Funding Distribution by
Repair Type



— Routine Maintenance
— Preventative Maintenance
— Mill & Overlay
— Reclaim & Pave

Community Profile

Road Miles = 161.62
Ch. 90 Allotment = \$918,942
Population = 33,150



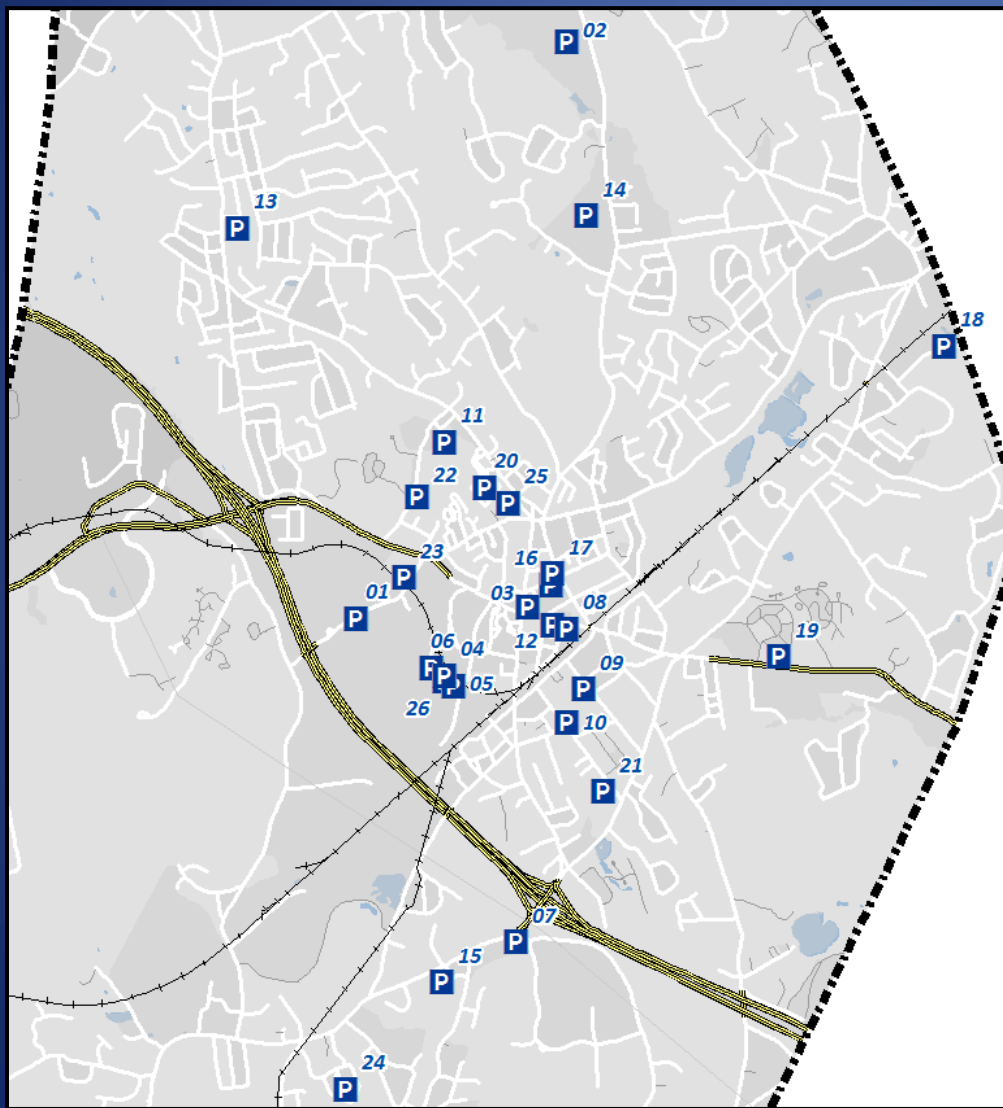
Funding Scenarios

Scenario 1*	\$918,942
Scenario 2	\$2,700,000
Scenario 3	\$4,000,000
Scenario 4	\$5,900,000
Scenario 5	\$8,500,000

*FY2019 Ch. 90 Allotment

*40% Contingency Cost applied to account for
Police Details, Drainage, Sidewalks and Curb Ramp Improvements

Parking Lot Inventory & Assessment



- Parking Lots Inspected: **26**
- Total Paved Area:
197,435 Square Yards
- Total Parking Spaces: **2,599**
- Average Parking Lot Rating:
81
- *Total Estimated Repair
Cost: **\$819,547**

*Includes 10% Contingency