

Town of Spencer FY2015 Pavement Management Findings



**PRINCIPAL ASSET MANAGEMENT SPECIALIST-
BILL SCARPATI**

**SUPERINTENDENT OF UTILITIES AND FACILITIES –
STEVEN TYLER**

MARCH 16, 2015



FY2015 Spencer Street Conditions

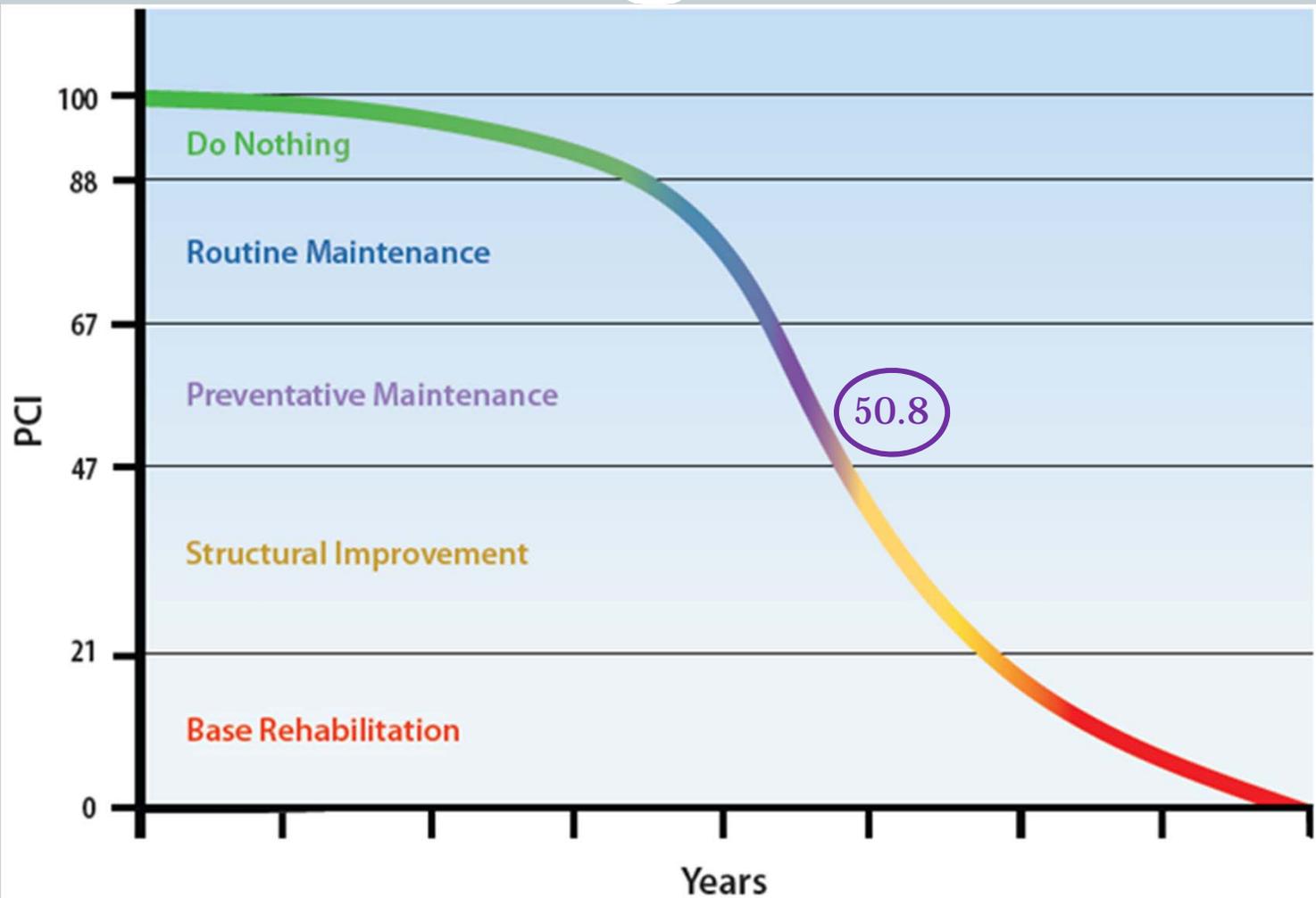


- **Network-Level Assessment**

- Maintaining Town's Pavement Management database since 2009. Conduct 33% update annually. Continue to monitor pavement condition metrics.
- Average pavement condition index (PCI) dropped to 51. Backlog has significantly increased to \$23.9M. Many miles are in need of expensive capital improvement repairs.
- Using PM software evaluate different funding scenarios to optimize Town's budget.
- Budget allocation strategy to ensure sufficient funding for a cost-effective long-term plan

Network-Level Methodology

PCI Treatment Bands



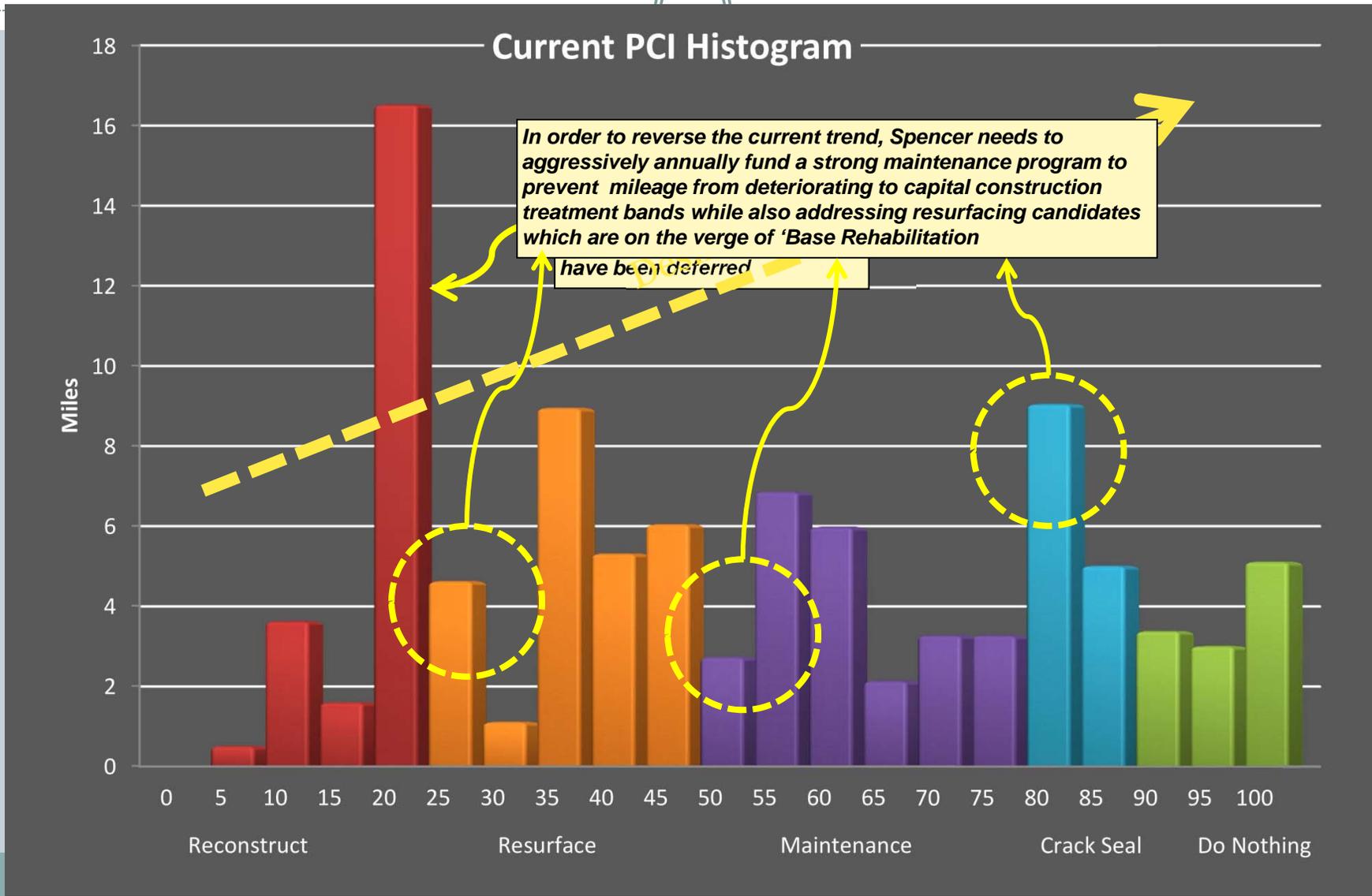
Network-Level Methodology



- **Collect condition ratings for all streets in network**
- **Optimize budget by selecting segments which are on the verge of deteriorating to more expensive treatment bands**
- **Allocate budget to ensure Town will be able to maintain sustainable backlog by managing treatment band distribution**

Town of Spencer

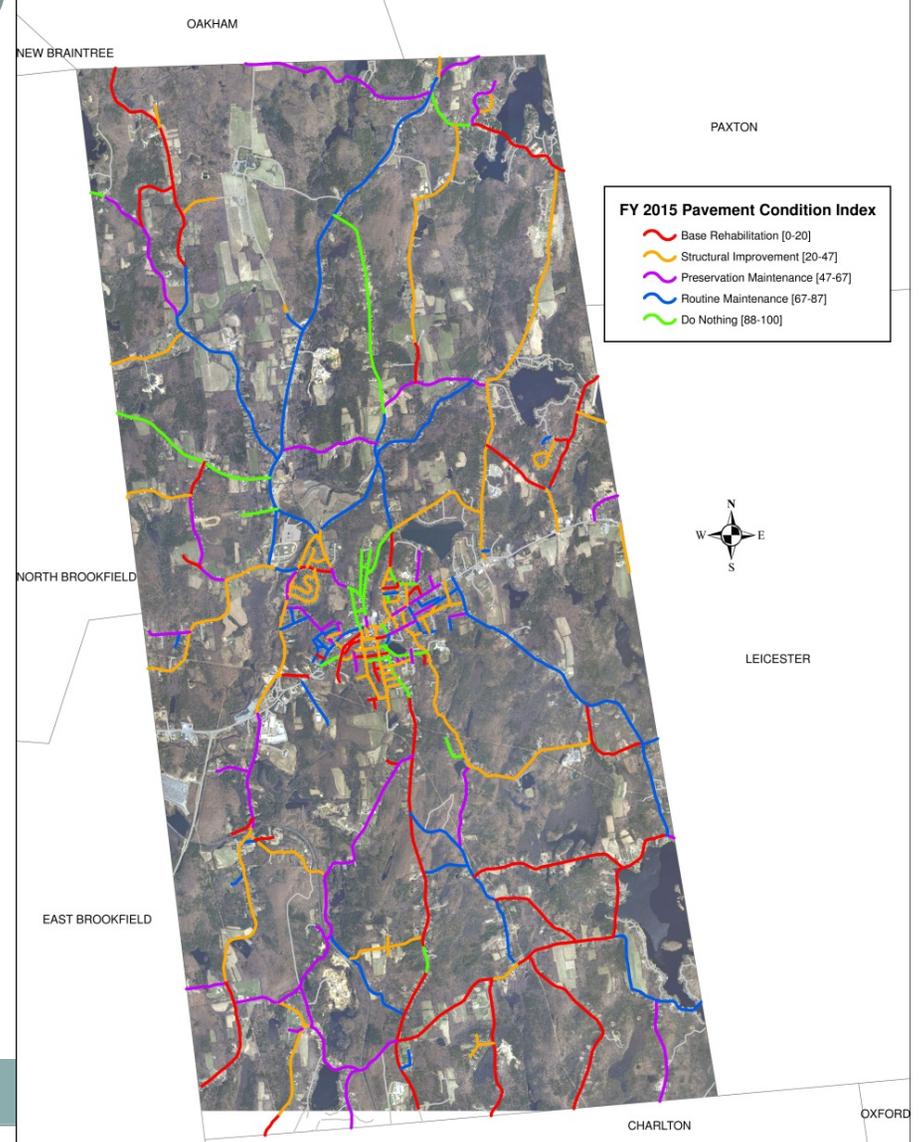
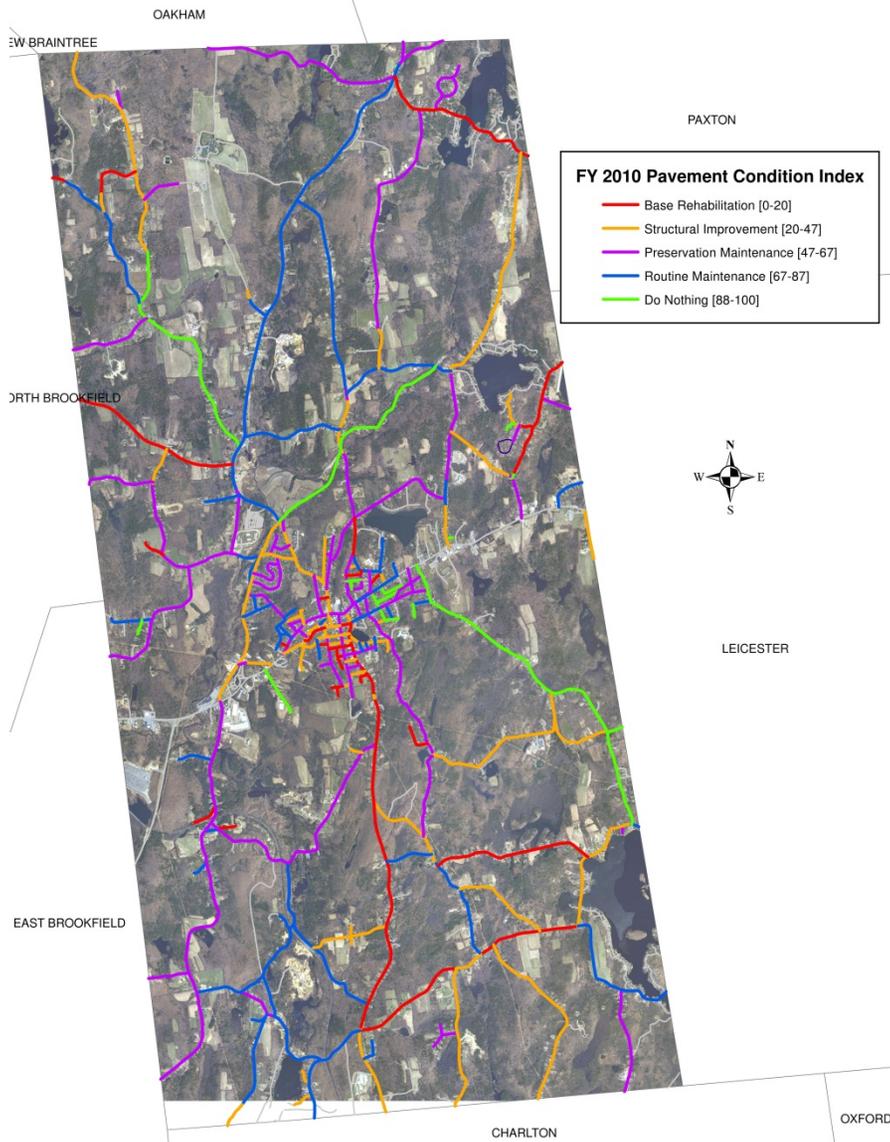
PCI Histogram Distribution



Current Network Conditions

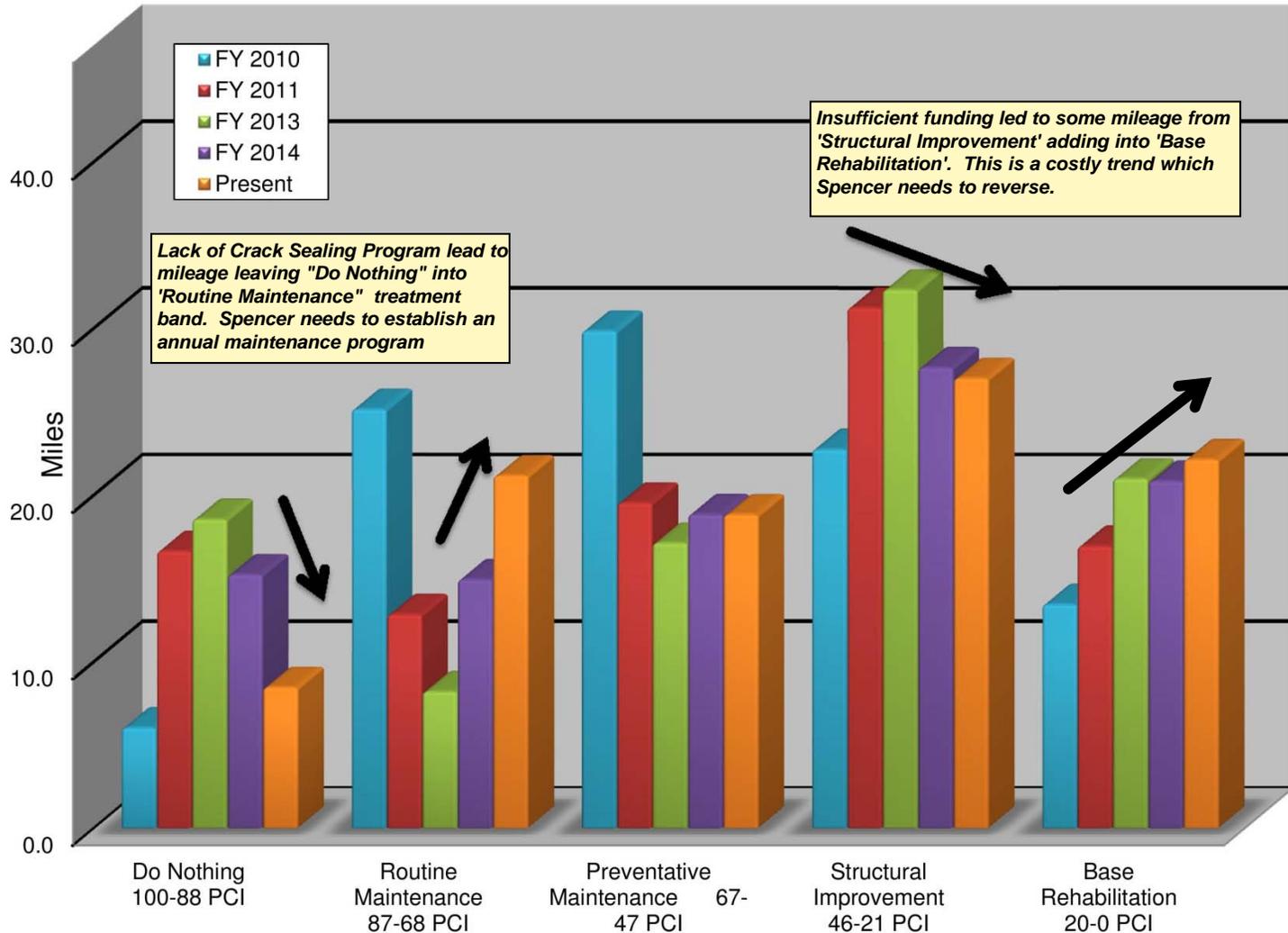
FY2010

FY2015

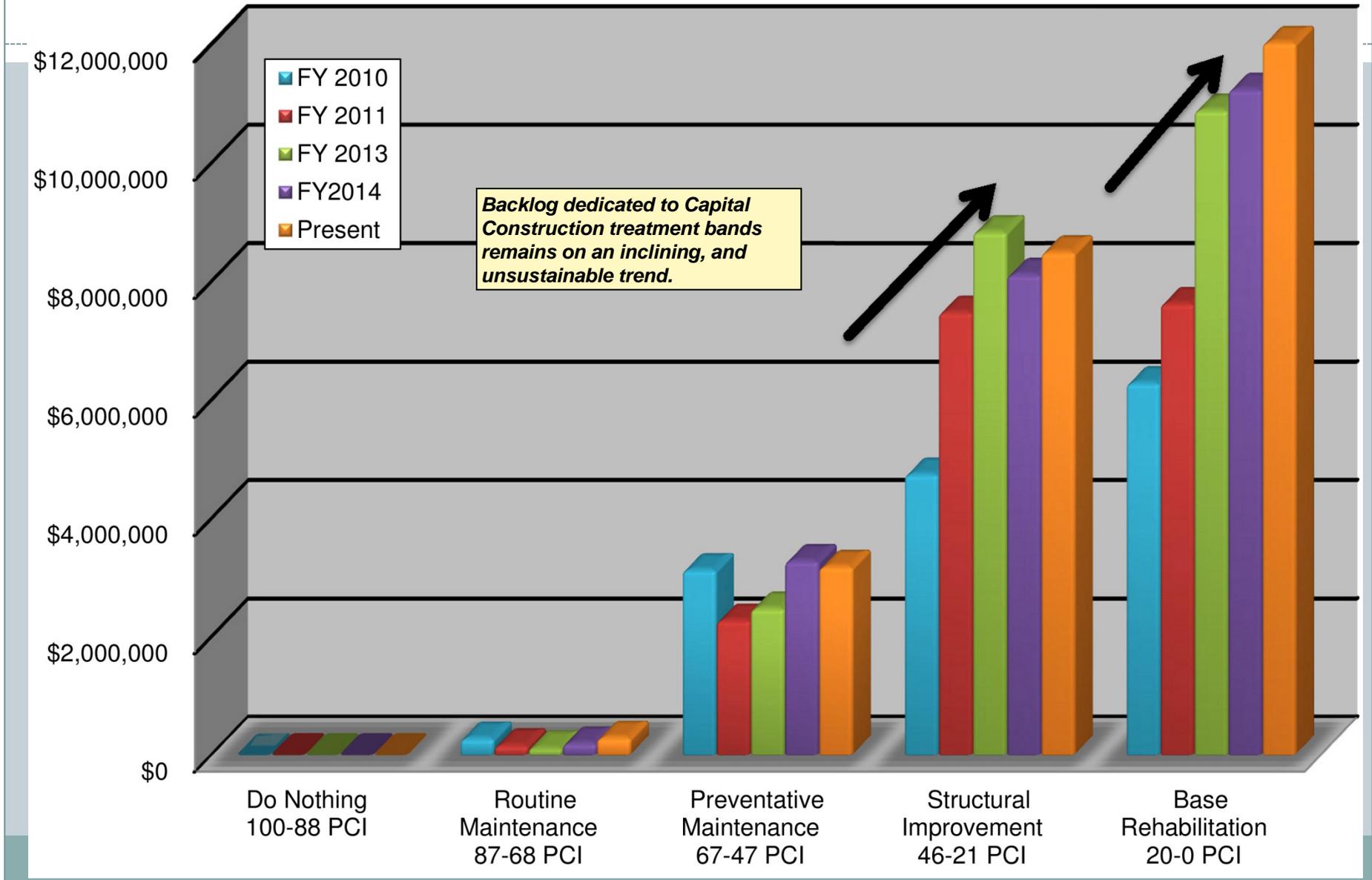


Town of Spencer

PCI Distribution in Miles by Treatment Band Since 2010



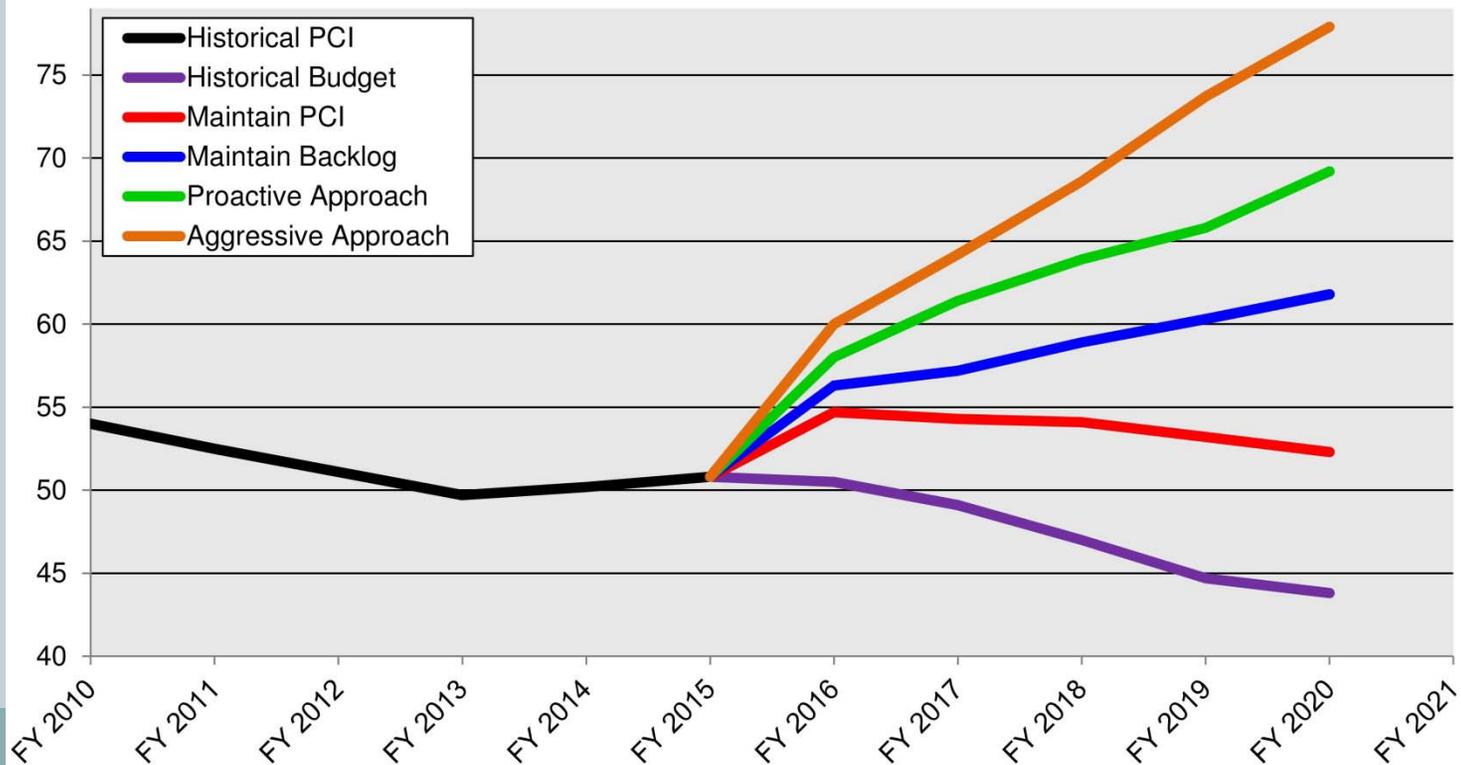
Current Backlog of Outstanding Road Repairs: \$23,900,279 (Pavement Costs Only)



Town of Spencer

Historical and Future PCI Projection

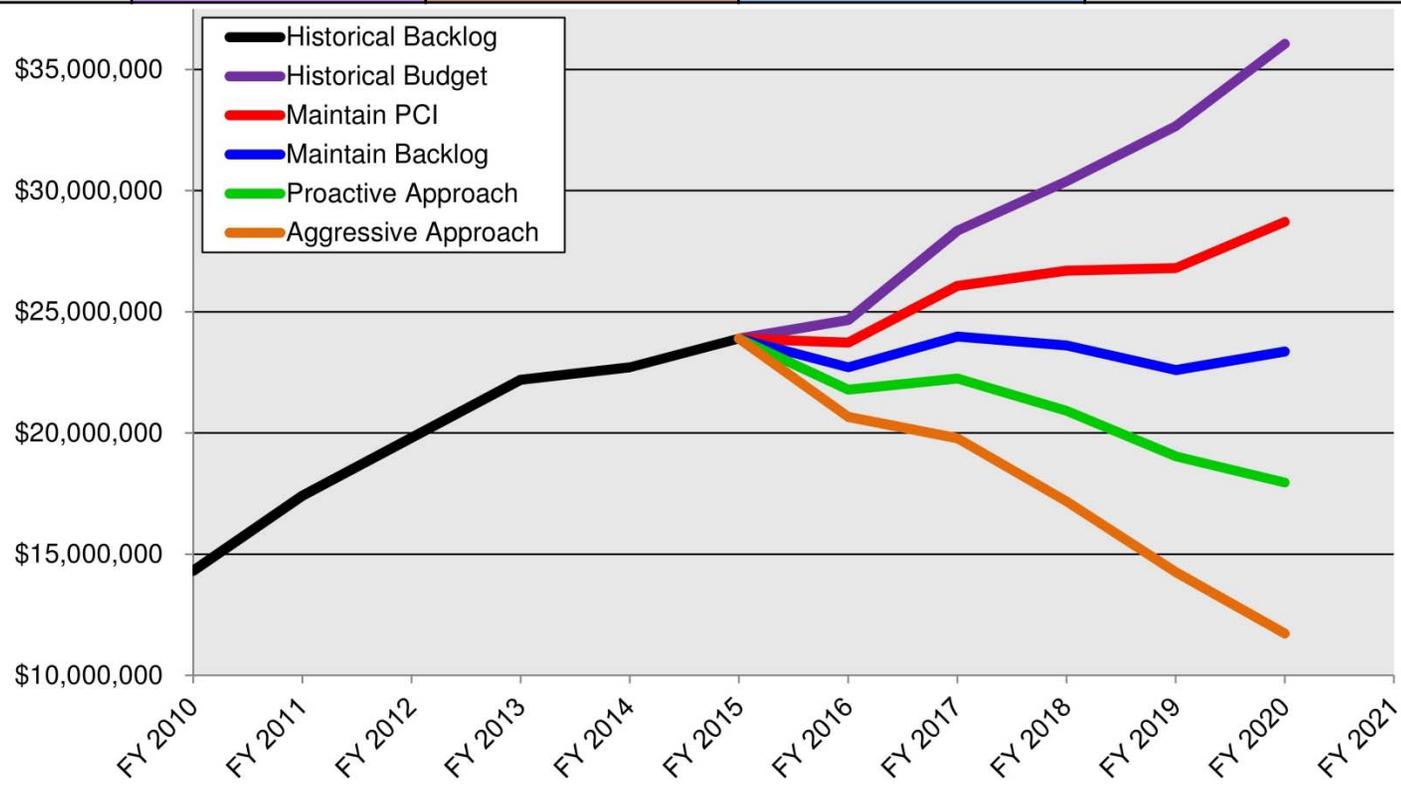
Required Budget	Approximate Historical	Maintain PCI	Maintain Backlog	Proactive Approach	Aggressive Approach
FY 2016	\$500,000	\$1,250,000	\$2,250,000	\$4,000,000	\$4,500,000
FY 2017	\$500,000	\$1,250,000	\$2,250,000	\$3,000,000	\$4,000,000
FY 2018	\$500,000	\$1,000,000	\$2,250,000	\$2,500,000	\$3,500,000
FY 2019	\$500,000	\$1,000,000	\$2,250,000	\$2,500,000	\$3,500,000
FY 2020	\$500,000	\$1,000,000	\$1,500,000	\$2,500,000	\$3,000,000
5 Year Total	\$2,500,000	\$5,500,000	\$10,500,000	\$14,500,000	\$18,500,000



Town of Spencer

Historical and Future Backlog Projection

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5 Year Total	\$2,500,000	\$5,500,000	\$10,500,000	\$14,500,000	\$18,500,000



Total Costs for Budget Scenarios



- While other improvements may be needed, these budget scenarios only included pavement costs (paving, milling, reclaiming, tack, castings, police)
- The funding scenarios are for the costs of the existing roadway pavement only do **not** include costs for: sidewalks, utilities, stormwater, drainage, sidewalks, safety enhancements, widening, signage, pavement markings, bridges, culverts, or survey, ROW, design, permitting and engineering.
- Depending upon the roadway segment the added costs for these additional work items could increase the total costs actually required to rehabilitate a particular roadway segment by 20-30% or more. Therefore, whichever pavement management budget scenario is selected the total dollars invested should be adjusted to account for these additional roadway rehabilitation related costs.

Proposed Future Plan



- A five year- **\$18,500,000** proposed plan was constructed to get Spencer back on the right path
- Given the current conditions in Spencer- this plan is front-loaded to allow the Town to stabilize the network

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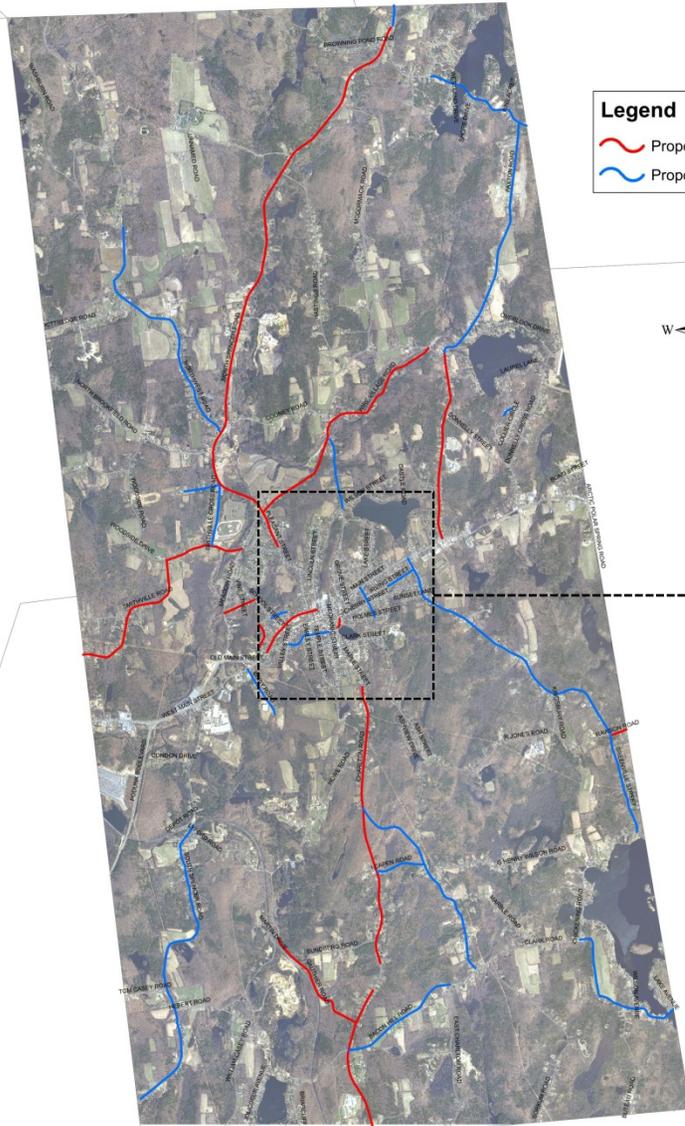
Proposed Future Plan: Year 1

STREETNAME	FROM	TO	PCI	FST ACTIVITY	COST
MAIN STREET	SUMNER STREET	50' E OF PLEASANT STREET	70	Crack Seal	\$19,936
NORTH SPENCER ROAD	PLEASANT STREET	BARCLAY ROAD	76	Crack Seal	\$125,785
MAPLE TERRACE	MAPLE STREET	CHERRY STREET	77	Crack Seal	\$1,400
RAWSON ROAD	GREENVILLE STREET	LEICESTER TOWN LINE	74	Crack Seal	\$2,597
WIRE VILLAGE ROAD	PLEASANT STREET	GOLD NUGGET FARM ROAD	85	Crack Seal	\$45,924
GAUTHIER ROAD	CHARLTON ROAD	CRANBERRY MEADOW ROAD	69	Crack Seal	\$18,088
SMITHVILLE ROAD	MEADOW ROAD	900' W OF MEADOW ROAD	70	Crack Seal	\$4,954
CROWN STREET	WALNUT STREET	SUMNER STREET	72	Crack Seal	\$4,071
FOURTH AVENUE	SCHOOL STREET	MEADOW ROAD	72	Crack Seal	\$5,618
PLEASANT STREET	200' N OF SMITHVILLE ROAD	MEADOW ROAD	41	Overlay w/Sidewalks	\$671,055
SMITHVILLE ROAD	900' W OF MEADOW ROAD	900' N OF LALIBERTE LANE	44	Patch/Paving	\$192,019
SMITHVILLE ROAD	900' N OF LALIBERTE LANE	EAST BROOKFIELD TOWN LINE	47	Patch/Paving	\$190,549
CHARLTON ROAD	MAPLE STREET	825' S OF EAST CHARLTON ROAD	6	Reclaim	\$626,040
CHARLTON ROAD	825' S OF EAST CHARLTON ROAD	OSCARS DRIVE	2	Reclaim	\$626,040
CHARLTON ROAD	1500' N OF GAUTHIER ROAD	250' N OF CRANBERRY MEADOW ROAD	12	Reclaim	\$258,137
CHARLTON ROAD	250' N OF CRANBERRY MEADOW ROAD	CHARLTON TOWNLINE	15	Reclaim	\$428,582
PAXTON ROAD	MAIN STREET	300' S OF WILSON STREET	15	Reclaim	\$183,325
PAXTON ROAD	300' S OF WILSON STREET	750' N OF WILSON STREET	32	Reclaim	\$102,114
PAXTON ROAD	750' N OF WILSON STREET	LAKEVIEW STREET	25	Reclaim	\$493,326
				Drainage Improvements	\$500,000
				Total 2015	\$4,499,558

Proposed Future Plan: Year 2

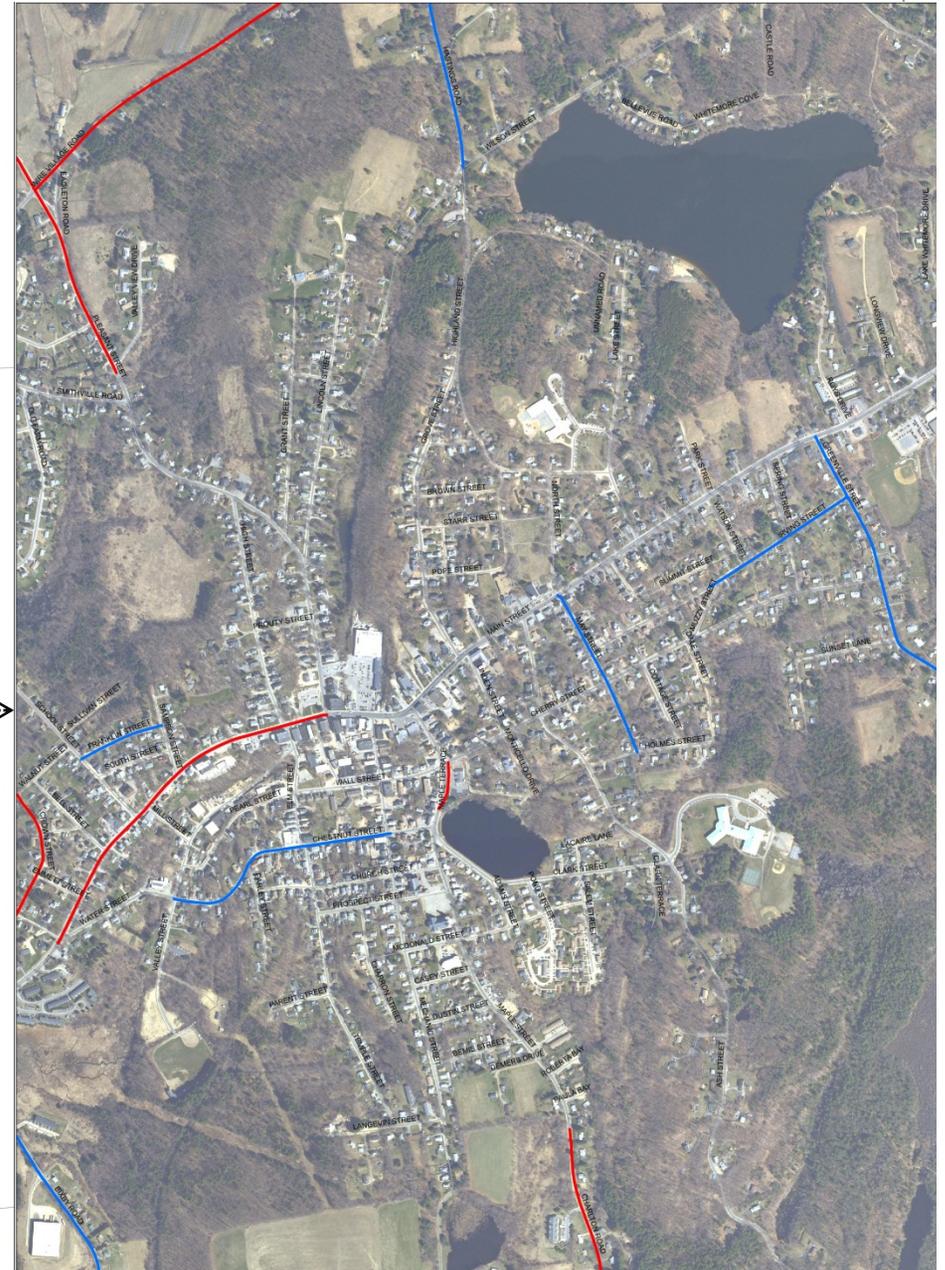
STREETNAME	FROM	TO	PCI	FST ACTIVITY	COST
NORTHWEST ROAD	NORTH SPENCER ROAD	2300' N OF BROOKS POND ROAD	75	Crack Seal	\$44,468
GREENVILLE STREET	MAIN STREET	CHICKERING ROAD	79	Crack Seal	\$66,999
CLARK ROAD	CHICKERING ROAD	LEICESTER TOWN LINE	74	Crack Seal	\$27,330
I CAPEN ROAD	CHARLTON ROAD	EAST CHARLTON ROAD	71	Crack Seal	\$8,076
EAST CHARLTON ROAD	CHARLTON ROAD	G HENRY WILSON ROAD	77	Crack Seal	\$18,933
EAST CHARLTON ROAD	G HENRY WILSON ROAD	100 ' N OF CLARK ROAD	78	Crack Seal	\$17,262
HASTINGS ROAD	WILSON STREET	150' S OF WIRE VILLAGE ROAD	82	Crack Seal	\$13,521
SMITHVILLE CROSS ROAD	NORTH SPENCER ROAD	SMITHVILLE ROAD	85	Crack Seal	\$10,988
BIXBY ROAD	WEST MAIN STREET	DEAD END	77	Crack Seal	\$8,640
MAY STREET	MAIN STREET	HOLMES STREET	84	Crack Seal	\$7,149
FRANKLIN STREET	SCHOOL STREET	SAMPSON STREET	71	Crack Seal	\$2,907
IRVING STREET	MUZZY STREET	MAY STREET	80	Crack Seal	\$6,199
SPINNAKER DRIVE	OAKLAND DRIVE	CUL-DE-SAC	68	Crack Seal	\$2,532
TERKANIAN DRIVE	NORTH SPENCER ROAD	DEAD END	84	Crack Seal	\$4,804
MAPLE STREET	750' S OF BEMIS STREET	CHARLTON STREET	12	Reclaim	\$121,251
PAXTON ROAD	LAKEVIEW STREET	5000' N OF LAKEVIEW STREET	12	Reclaim	\$569,444
PAXTON ROAD	5000' N OF LAKEVIEW STREET	THOMPSON POND ROAD	23	Reclaim	\$649,750
THOMPSON POND ROAD	NOTTINGHAM CIRCLE	PAXTON TOWNLINE	11	Reclaim	\$582,156
BARCLAY ROAD	NORTH SPENCER ROAD	PAXTON TOWN LINE	32	Overlay	\$66,068
BACON HILL ROAD	CHARLTON ROAD	EAST CHARLTON ROAD	11	Reclaim	\$505,000
CHESTNUT STREET	MECHANIC STREET	VALLEY STREET	30	Overlay	\$165,550
SOUTH SPENCER ROAD	200' N OF LYFORD ROAD	TOM CASEY ROAD	18	Double Chip	\$361,200
SOUTH SPENCER ROAD	TOM CASEY ROAD	EAST BROOKFIELD TOWN LINE	15	Double Chip	\$255,840
				Drainage Improvements	\$500,000
				Total 2016	\$4,016,065

Proposed \$18,500,000 Plan



Legend

- Proposed Plan FY 2015
- Proposed Plan FY 2016



Conclusion



Spencer should:

- **Follow proposed plan to address system-wide deteriorating conditions and inflating backlog**
- **Continue with preservation maintenance to ensure good conditions don't further deteriorate**
- **Maintain Pavement Management System to have a current understanding of network level conditions**