

9/8/2021 Public Works Commission Meeting



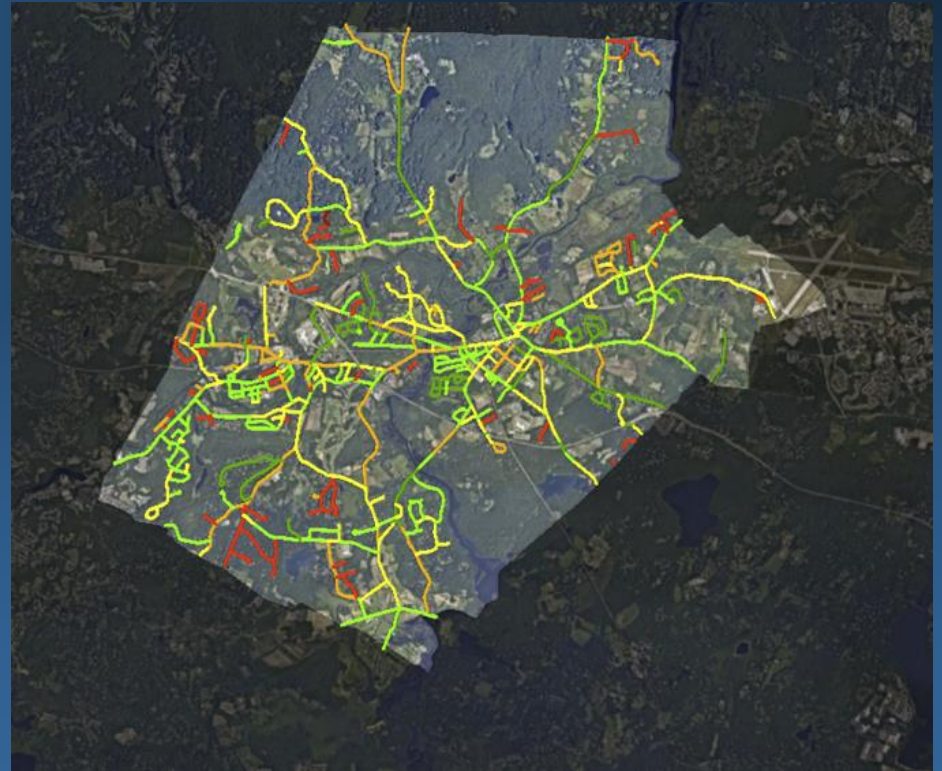
Roads Program Review

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Topics

1. Where We Are
2. Making Program More Successful
3. Funding Strategy
4. Private Road Repairs

Road Network



PCI Distribution (2018)

107 Miles – Public
37.6 Miles Arterials
8.5 Miles Collectors
60.9 Miles Local Roads

~25 Miles – Private

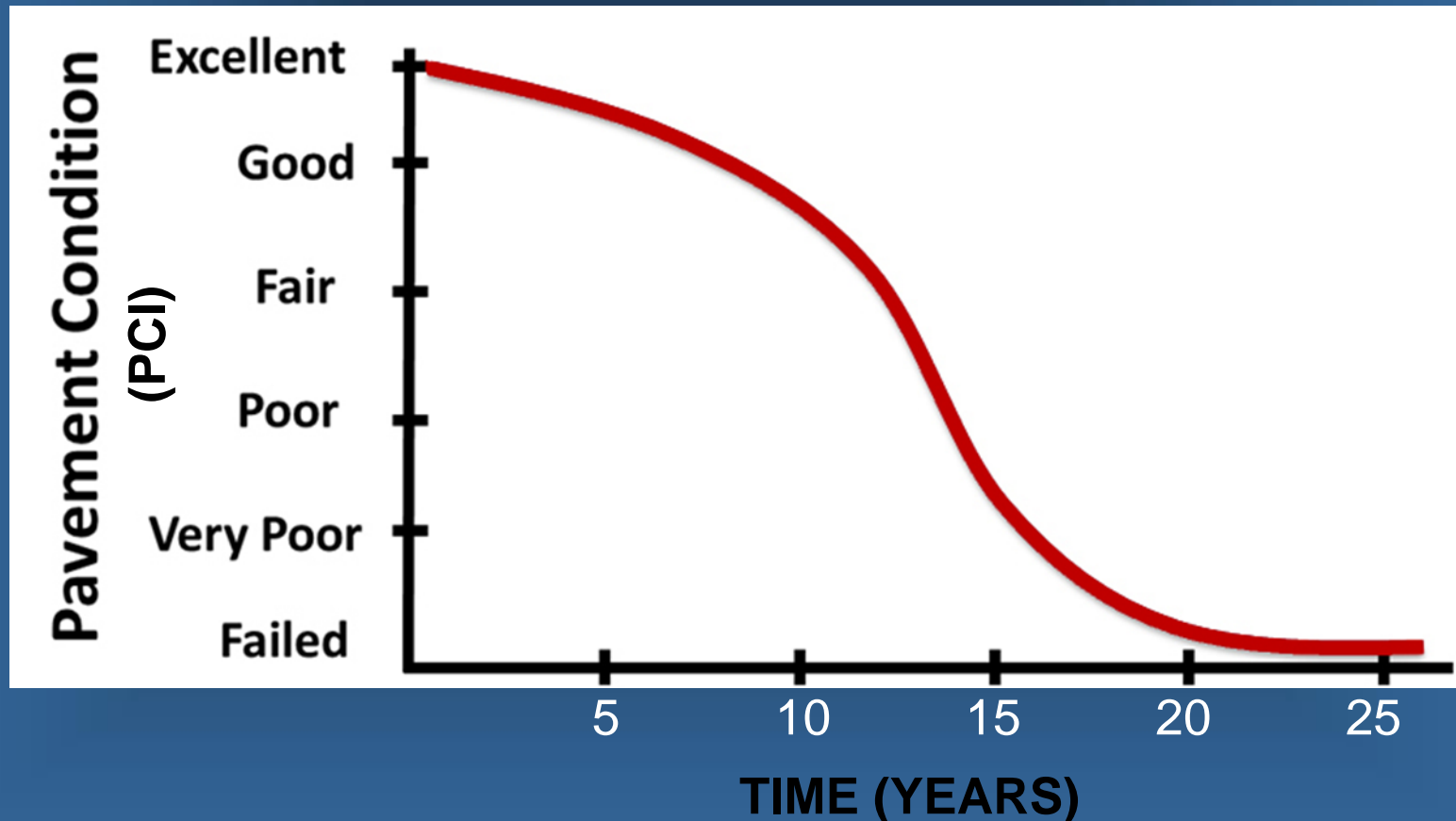
Pavement Condition Index (PCI)

- PCI is a numerical rating 0-100
- Performed by StreetScan
- 2018 Average 78 for Public Streets

PAVEMENT CONDITION DETERIORATION



- PCI vs Time
- 20-Year Life (Residential)
- Average PCI = 78 (2018), Fair to Good



PAVEMENT CONDITION DETERIORATION



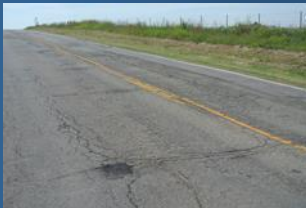
Type of Pavement Distresses



Oxidation & Raveling – High (>75% Agg. Loss)



Rutting – High (>3/4")



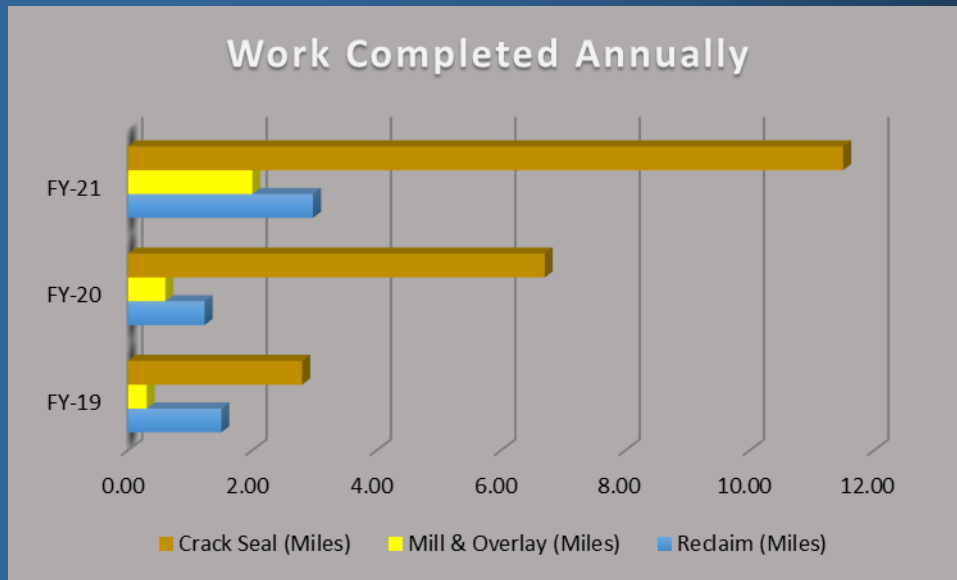
Fatigue cracking



Longitudinal Cracks – High (>3/4")



Work Completed Annually



	FY-19	FY-20	FY-21
Reclaim (Miles)	1.50	1.23	2.97
Mill & Overlay (Miles)	0.30	0.60	2.00
Crack Seal (Miles)	2.80	6.70	11.50

- Limited Drainage Improvements
- Limited Sidewalk Improvements



Pavement Management vs Roads Program

Pavement Management

- PCI Assessment
- Various Treatments
- Annual Program

Roads Program

- Annual Pavement Management
- Pedestrian Improvements
- Traffic Improvements
- Drainage Improvements
- Utility Improvements
- Multi Year Program



Pavement Management – Regular PCI Evaluation

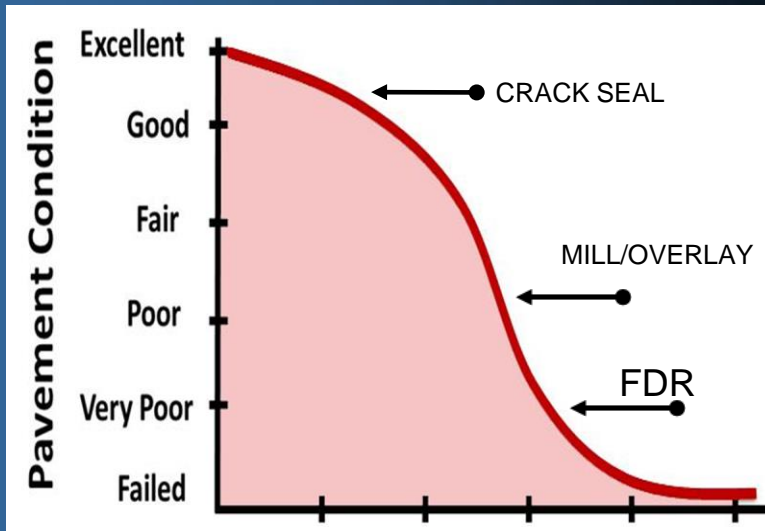
- Every Three Years
- Summer 2021
- Automated Method - StreetScan
- Survey Additional Road Assets



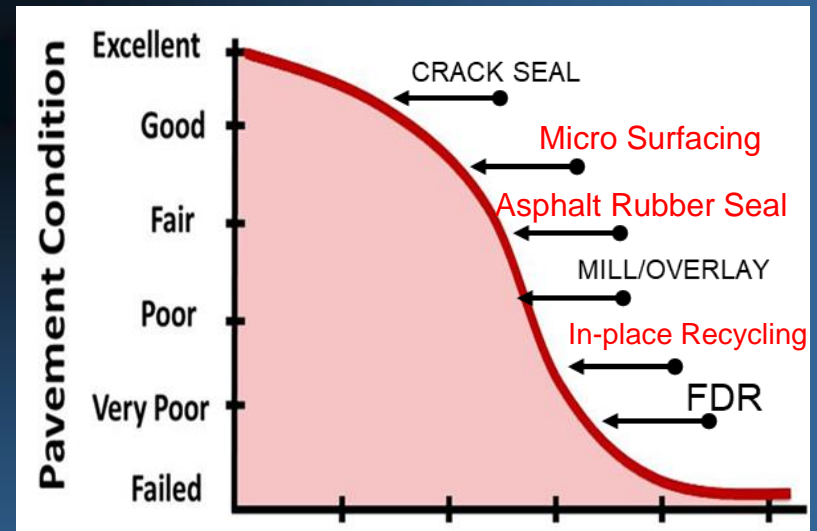


Pavement Management – Preserve with Alternative Treatments

CURRENT TOWN PRACTICES



SHIFT TOWARDS PRESERVATION





Pavement Management – Preserve with Alternative Treatments



Cape
Seal



Micro
Surfacing

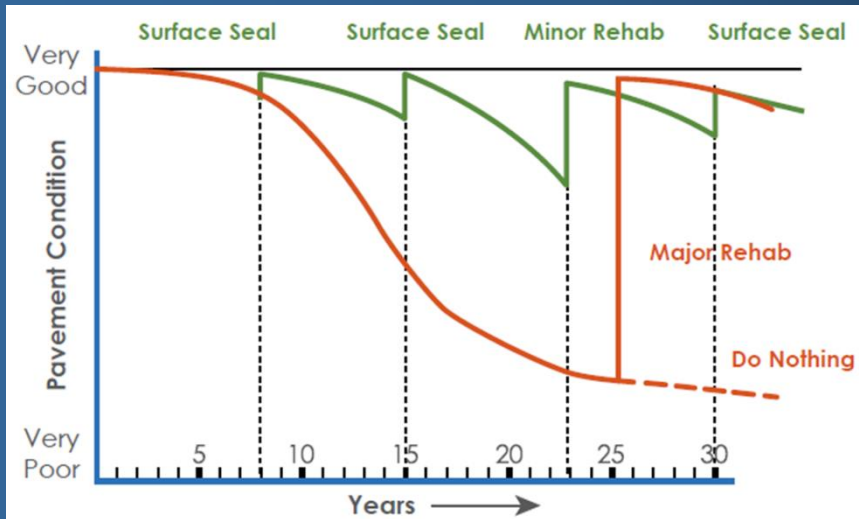


Cold In-place
Recycling



Pavement Management – Benefit of Preservation

Preservation – Keep PCI High





Roads Program – Beyond Pavement Management

Very Poor PCI =

- Most Complaints
- Difficult for Routine Maintenance
- Beyond Preservation
- Need to Reconstruct Road Base and Pave Full Thickness





Comprehensive Roads Program

Reconstruct Road Base and Pave Full Thickness

- Redesign for Drainage
- Redesign for Traffic Improvements
- Improve/Add Sidewalks and Crosswalks

Utility Project Coordination

- Schedule Flexibility - Utilities have longer life cycles
- \$ Efficiencies - Utilities Piggy Back (cost sharing)
- Integration - Utilities incentivized to share Long Term Capital Plans
- Predictability - Can make project 2-3 year schedule (Design thru Construction)

Consultant Design



Past Budgets

<u>Funding Sources</u>	FY-19	FY-20	FY-21
Chapter 90	\$810,356	\$744,863	\$677,874
Roads Bond	\$ 140,000	\$1,400,000	\$1,250,000

\$ Allocated to Projects

	Rds Program	Crack Sealing	Total Allocated
FY -19	\$ 757,081.00	\$ -	\$ 757,081.00
FY - 20	\$ 468,085.00	\$ 34,881.00	\$ 502,966.00
FY - 21	\$ 1,659,375.00	\$ 39,477.00	\$ 1,698,852.00



Funding Needed

Strategy 1							Strategy 2						
Previous Approach							Strategy to increase PCI						
Item #	Process	Miles	Life Extension	Mile-Years	Cost Per Mile	Subtotal	Item #	Process	Miles	Life Extension	Mile-Years	Cost Per Mile	Subtotal
1	Crack Seal	5.00	10	50	\$5,000	\$25,000	1	Crack Seal	5.00	10	50	\$5,000	\$25,000
2	Milling & HMA Overlay	2.50	3	8	\$191,560	\$478,900	2	Crack Seal & Thin Overlay	5.00	8	40	\$78,920	\$394,600
3	Reclaim & Repave	4.00	15	60	\$271,744	\$1,086,976	3	Crack Seal & Double/High Perform	10.00	8	80	\$71,880	\$718,800
4		0.00					4	Milling & HMA Overlay	3.00	3	9	\$191,560	\$574,680
5		0.00					5	In-Place Recycling & HMA Overlay	3.00	6	18	\$171,144	\$513,432
6		0.00					6	Reclaim & Repave	3.00	15	45	\$271,744	\$815,232
TOTAL		11.50	n/a	118	n/a	\$1,590,876	TOTAL		29.00	n/a	242	n/a	\$3,041,744

Mile-Years Preserved	118
Total Cost	\$1,590,876
Cost Per Mile-Years	\$13,539
Equivalent Annual Cost Per Square Yard	\$0.96

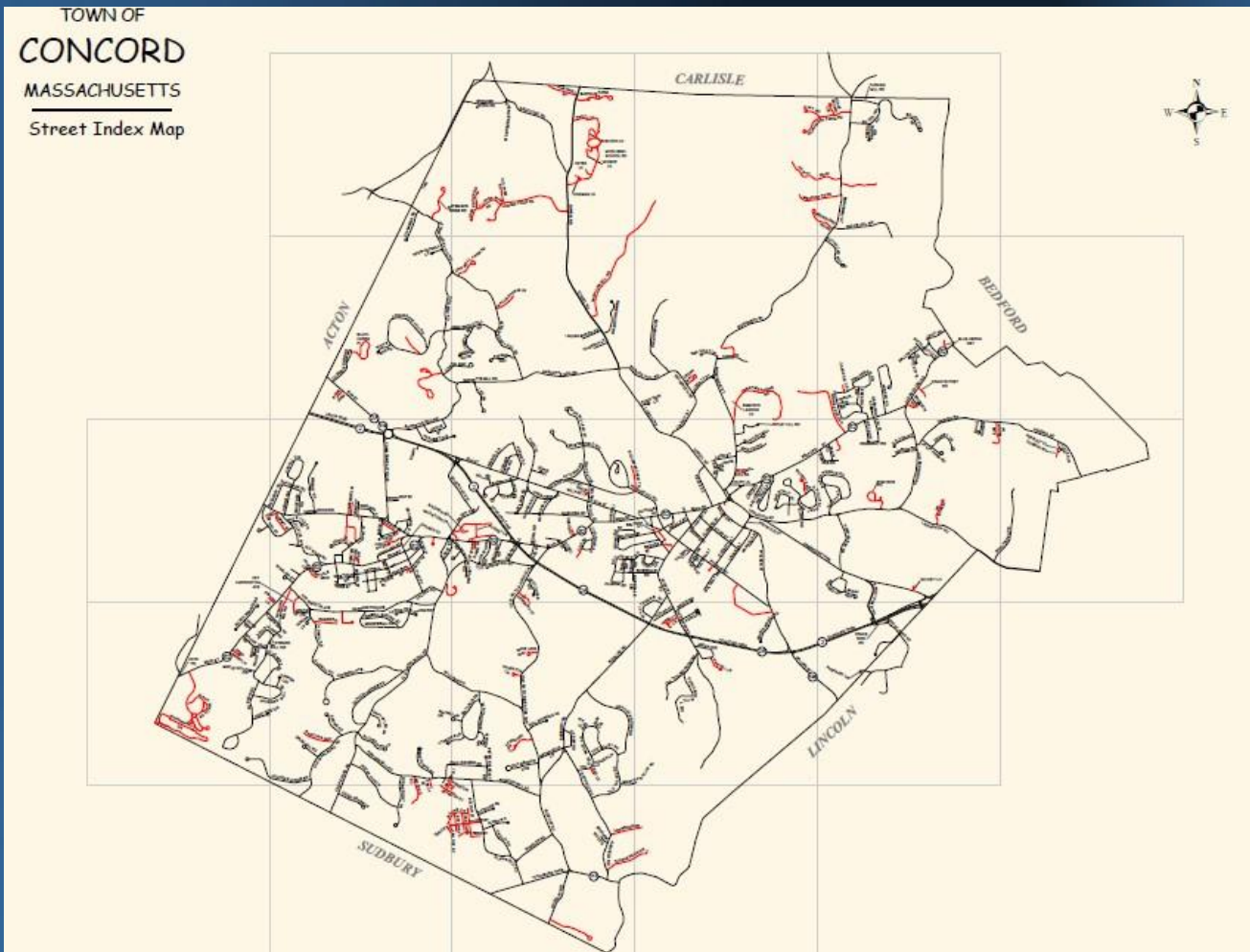
Mile-Years Preserved	242
Total Cost	\$3,041,744
Cost Per Mile-Years	\$12,569
Equivalent Annual Cost Per Square Yard	\$0.89

*Funding needs may change based on new survey data and Town goals.



Private Road Repairs

- Approx. 25 Miles Total





Private Road Repairs

- State of Disrepair
- Owners Lack Means to Manage Maintenance
- Can Town Implement a Road Repair Program
- Agreement with Owners
- Funded thru Betterment Charges or Special Assessments
- Roads Plowed by CPW currently being Assessed for Short Term Repairs
- Owners will be Advised of type of Repairs needed



September 8, 2021 PWC Road Program Review

Questions can be forwarded to the Engineering Division:

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