



# Public Facilities Committee Report

## City of Newton In City Council

**Wednesday, June 5, 2024**

Present: Councilors Albright (Chair), Getz, Laredo, Kalis, Kelley, Leary, Gentile, and Danberg

City Staff: Commissioner of Public Works James McGonagle, Deputy Commissioner of Public Works Shawna Sullivan, Chief Operating Officer Jonathan Yeo, and Associate Engineer John Daghlian.

All Public Facilities agendas and reports, both past and present, can be found at the following link:  
<https://www.newtonma.gov/government/city-clerk/city-council/council-standing-committees/public-facilities-committee>

For more information regarding this meeting, a video recording can be found at the following link: [Public Facilities Committee- June 05, 2024](#)

### ***Public Hearing***

**#250-24**

#### **National Grid petition for a Grant of Location in Richardson Street**

NATIONAL GRID petition for a grant of location to install and maintain approximately 480 feet of 12- inch Coated Steel, main across the Centre St. bridge in Newton, MA over 1-90 (also known as Washington St.). National Grid has MA DOT, and MWRA, permits for the bridge. National Grid is requesting Grant of Location for Proposed new main tie-in to existing Regulator Station at 32 Richardson Street, Newton approximately 20' X 10' X 5'D and to tie-in to existing 12" Bare Steel Main at 371 Washington Street, Newton approximately 10' X 6' X5'D (Ward 1)

**Action:** **Public Facilities Held 8-0; Public Hearing Closed 8-0**

**Note:** Mary Mulrone, National Grid Representative presented the above request for a grant of location for Richardson Street. Additional back up can be found at the following link: [Richardson Street Back-up](#) .

A councilor inquired if this is repair or replacement. Ms. Mulrone noted that it is a replacement because National Grid deemed it necessary to replace the pipe.

A councilor asked why this grant of location was not in the GSEP plans and not in a plan submitted to DPU. It was also asked why this pipe was being replaced and located on the other side of the street instead of relining the current pipe. Ms. Mulrone stated that was probably because of the length of time to get permits, and they did not want to put it in the plans until they secured the

permits. Ms. Mulrone noted that relining the pipe might reduce the size of the pipe and the regulator station needs a 12-inch pipe feeding into it for pressure reasons.

Councilors noted they would be voting against this grant of location and future grants of location until the City of Newton has a strategic plan to stop using methane gas.

The public hearing was opened.

Nathan Phillips, 73 Charles Street, expressed opposition to this grant of location due not hearing the reason as to why this is being done and not having a start and end date. Stated that relining the pipe would not decrease the size of the pipe.

The public hearing was closed.

John Daghlian, Associate Engineer, noted that due to the curvature of the pipe and orientation of the bridge it was determined that relining was not possible.

A councilor noted that the item should be held because of the lack of answers to questions and with a National Grid representative coming to the next meeting more information should be provided why the pipe cannot be relined.

Councilor Laredo motioned to hold which passed unanimously.

### ***Public Hearing***

#### **#251-24 Eversource petition for Grant of Location in Jackson Road**

EVERSOURCE ENERGY petition for a grant of location to relocate poll 227/12 approximately 5 feet north of its current location on Jackson Road. The City of Newton Engineering Department noted that this is an after the fact filing. (Ward 1)

**Action:** **Public Facilities Approved 8-0; Public Hearing Closed 8-0**

**Note:** Joanne Calendar, Eversource representative joined the committee to discuss the request to replace and relocate to poles on Jackson Road. Ms. Calendar explained that they originally moved pole 11, but the City of Newton noted that the wrong pole was moved. It should have been pole 12, which they already relocated. Additional back up can be found at the following link: [Jackson Road Back-up](#) .

The public hearing was opened. No member of the public was present to speak on the item.

The public hearing was closed.

Councilor Leary motioned to approved, which passed unanimously.

**Referred to Public Facilities and Finance Committees**

**#224-24 Transfer \$125,000 to the Library Building Maintenance- Electricity**

HER HONOR THE MAYOR requesting authorization to transfer the sum of one hundred twenty-five thousand dollars (\$125,000) from Acct # 0160110-511001 Newton Free Library - Full Time Salaries to Acct # 0160112-521000 Library Building Maintenance -Electricity.

**Action: Public Facilities Approved 7-0-1 (Councilor Laredo Abstained)**

**Note:** Jonathan Yeo, Chief Operating Officer noted that the HVAC system will be replaced over the winter and will be in place next summer. The old system uses more electricity than

it should, and this request will help cover the cost to pay for the increased electricity bill.

A Councilor inquired what the percentage of the electricity bill is offset by the solar panels. Mr. Yeo noted that it covers around 40%. A councilor asked if this number was expected to be higher, and if the new system next year would mean this percentage would go up. Councilor Laredo noted he would abstain until he got the answers to these questions. Mr. Yeo noted he would get the answers to these questions.

A councilor asked if this request was based on the data from last year, which Mr. Yeo noted this was true.

A councilor asked how the money was freed up in the Library account. Mr. Yeo noted that a number of vacancies came about that created this savings, noting most of these vacancies have been filled.

A councilor inquired as to why this additional cost of electricity was not added into the budget. Mr. Yeo noted that is because this is viewed as a one-time cost, so they wanted to use one-time funds to pay for it.

A councilor noted that one of the vacancies was a retirement, and expressed concern it took a long time to find a replacement when they knew the retirement was coming. A councilor expressed wanting to know more information on the hiring process, and anything that could be done to speed it up.

Councilor Leary motioned to approved which passed 7-0 (Councilor Laredo Abstained).

**#214-24 Discussion on the Transportation Network Improvement Plan**

DEPARTMENT OF PUBLIC WORKS requesting to provide an update on the Transportation Network Improvement Plan

**Action: Public Facilitied Held 7-0 (Councilor Leary Not Voting)**

**Note:** Jim McGonagle, Commissioner of DPW explained that this is an update the department gives to the Public Facilities Committee each year. He introduced Conrad Leger, representative from Environmental Partners who gave the attached presentation regarding the Transportation Network Improvement Plan.

The presentation included the following topics:

- Program Goals
- Roadway Network
- Pedestrian Infrastructure Network
- Program Work History
- 2024 Planned Construction
- Continued Program Improvements

A councilor inquired about the different methods of highway maintenance. Mr. Leger noted there is both routine and preventive maintenance. Routine maintenance is usually nonstructural such as crack or fog sealing, and often is the most cost-effective method.

A councilor inquired if the road program is moving fast enough, and if COVID slowed it down. Mr. Leger noted that it is a pretty aggressive schedule, and there has been significant improvement.

A councilor asked how much sidewalk is plowed each year. Mr. McGonagle noted that it is around 90 miles, which is what the department can handle with current staffing levels. They have put out this work to bid the last three years, but they have not received any bids.

A councilor asked how roads will be prioritized when current goals are hit for major collectors and local roads, and if more attention would be placed on smaller roads. Mr. Leger noted he would have a better answer once new data comes in this year.

A councilor asked if the Union Street project will impact businesses along the street and outdoor dining. Mr. McGonagle noted that would be determined in the bid process and they will work with the local businesses.

A councilor asked if all the sidewalks have been surveyed. Mr. Leger noted the entire network of sidewalk has been surveyed. Mr. McGonagle noted all sidewalks are mapped out in GIS.

A councilor inquired what the goals have been in terms of amount spent on highway maintenance. Mr. Yeo noted that it has been the goal to spend \$9.5 million annually, with the exception being during COVID. They made this up by spending over the \$9.5 million the last couple of years using ARPA funds. In FY25 it is believed they will be over the \$9.5 million. A councilor expressed concern about how the City will fund this once ARPA funding runs out, and it appears every year the City is searching for funds to cover this.

A councilor questioned what the end goal is for the Pavement Condition Index (PCI) levels, and is the goal to get to a point where more of the work is in maintenance. Mr. Leger stated the goal for PCI is to always be improving, and for each community the goal depends on where a community starts. Mr. Leger noted a good goal for arterials and collectors would be around or above 82. The goal is to do maintenance when needed to extend the life of the roadways.

A councilor asked if there are environmentally friendly ways to do road maintenance. Mr. Leger noted the City has been very open to trying these methods as they become available.

A councilor asked about the tactile warning panels at curb ramps and water that pools around some of them including one on Lowell Avenue. Mr. McGongale noted that to be ADA compliant they have to be at a certain slope which often creates a pond, and they have to do grinding work to ensure water does not pool. It was noted to put this in the 311 system, and DPW would take a look at it.

A councilor inquired how much is spent in maintenance every year. Mr. Leger noted for routine maintenance it averages between \$75,000 and \$150,000, and for preventive maintenance it really depends on year by year what is needed at the time.

A councilor questioned if sidewalks are planned on roadways where currently there is only a sidewalk on one side of the street. Mr. McGonagle noted that sometimes sidewalks are added, but at other times the roadway conditions do not allow it.

Councilor Laredo motion to hold, which passed 7-0 (Councilor Leary Not Voting)

### **Referred to Public Facilities and Finance Committees**

#### **#243-24 Appropriate \$3.2 million for Water Main Improvements in FY25**

HER HONOR THE MAYOR requesting authorization to appropriate and expend three-million two-hundred thousand dollars (\$3,200,000) and authorize a general obligation borrowing of an equal amount for the Water Main Improvements in FY25 and authorization to apply any premium received upon the sale of the bonds or notes, less the cost of preparing, issuing, and marketing them, and any accrued interest received upon the delivery of the bonds or notes to the costs of the project and to reduce the amount authorized to be borrowed for the project by like amount.

**Action:** **Land Use Approved 7-0 (Councilor Leary Not Voting)**

**Note:** Mr. McGonagle noted that this is part of the CIP water work. They received just under \$2.1 million from MWRA, so this \$3.2 million will allow them to spend the \$5.3 million that they typically spend every year.

A councilor asked if grants are available through MWRA. Mr. McGonagle noted there has been a switch from grants to loans, but there has been talk that the grants may become available again in the future.

Councilor Gentile motioned to approve which passed 7-0 (Councilor Leary Not Voting)

**Referred to Public Facilities and Finance Committees**

**#235-24 Appropriation of \$2,888,274.38 for Transportation Network Improvement Program**

HER HONOR THE MAYOR requesting authorization to appropriate and expend the sum of two million eight hundred eighty-eight thousand two hundred seventy-four dollars and thirty-eight cents (\$2,888,274.38) from June 30, 2023, Certified Free Cash to Acct #01C40112-553100 Accelerated Roads Program- Paving Supplies to support the City's Transportation Network Improvement Program

**Action:** **Public Facilities Approved 7-0 (Councilor Leary Not Voting)**

**Note:** Mr. McGonagle noted this would be for the FY25 roads program. This would bring the City up to \$7.3 million in the FY25 roads program. Getting this money earlier will allow them to get the bid out earlier and get this year's pricing which will be beneficial.

A councilor asked where the rest of the \$9.5 million will be. Mr. Yeo noted this will put the City ahead going into next year. It was noted this would most likely come from additionally free cash.

A councilor asked which roads would be done as the result of this funding. Mr. McGonagle noted this would be for the 2025 upcoming roads, which are listed in the CIP. He noted he will provide that information, noting that it might change based on utility work and other factors.

A councilor inquired if this is the FY23 free cash, and why this was not allocated earlier to be used in 2024. Mr. Yeo noted that it is the end of FY23 free cash. Mr. McGonagle noted that the bidding pool is small, and the bidders are currently working off the last contract, so they will not be able to start on the next contract until next year.

Councilor Laredo motioned to approved, which passed 7-0 (Councilor Leary Not Voting).

The Committee adjourned at 8:30 pm.

**Respectfully Submitted,**

**Susan Albright, Chair**

# TRANSPORTATION NETWORK IMPROVEMENTS 2024 ROADS PROGRAM

City of Newton

June 5<sup>th</sup>, 2024



# TRANSPORTATION NETWORK IMPROVEMENTS

## Program Goals

Our goal is to strategically improve the City of Newton's roadway and sidewalk network, aiming to deliver a high level of service. The City is committed to ensuring a superior user experience for all modes of transportation, including pedestrians, cyclists and vehicles.

The City's objective is to accommodate all users, regardless of age, ability, income, or preferred mode of transportation.

The City's Infrastructure Asset Management Program assists in guiding data-driven decisions to perform timely maintenance and rehabilitation which best benefits Newton.



City-owned Roadways



Bicycle Infrastructure



Sidewalks and Curb Ramps



Public Transit



# ROADWAY NETWORK

## Current Conditions

- Current PCI Rating is 72.17\*
  - Program began at PCI of 62
- 274 centerline miles of road
  - Approximately 50% in need of rehabilitation
  - Approximately 25% in good/very good condition

## PCI by Roadway Class

Arterial	Collector	Local
78.92	78.58	68.84



\*Based on inspection data from October 2022

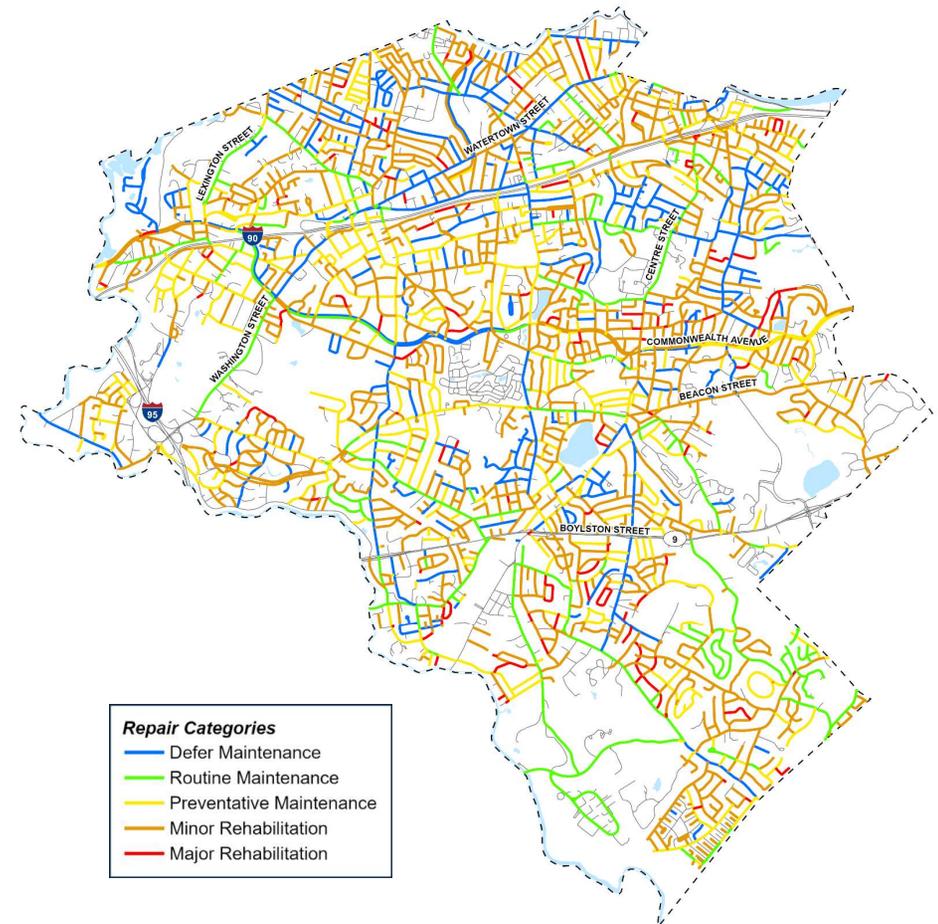
\*\*Roads being re-inspected this year



# ROADWAY NETWORK

## Backlog Report

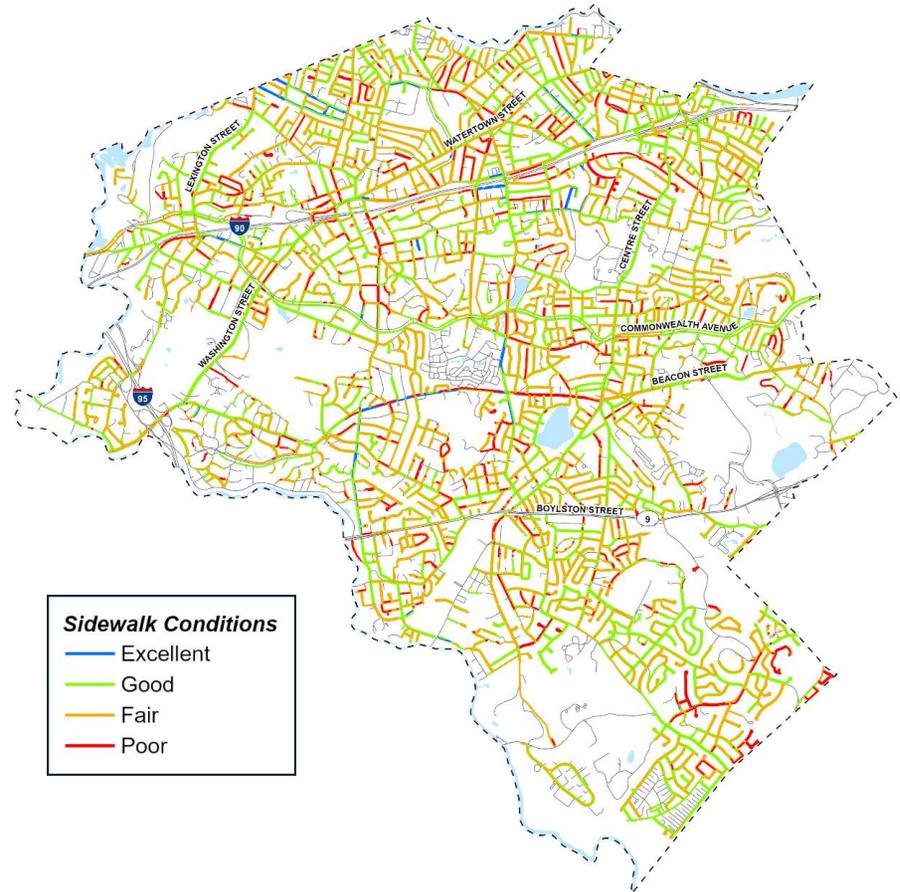
Treatment	Length (mi)	Area (SY)	Percent (by length)	Estimated Cost
Major Rehabilitation	10.82	161,843	3.9%	\$ 16,184,276
Minor Rehabilitation	131.70	2,041,761	47.9%	\$ 102,088,044
Preventative Maintenance	54.80	862,672	19.9%	\$ 6,901,380
Routine Maintenance	31.29	551,989	11.4%	\$ 689,987
Defer Maintenance	46.14	756,870	16.8%	\$ -
<b>Total</b>	<b>274.75</b>	<b>4,375,136</b>		<b>\$ 125,863,687</b>



# PEDESTRIAN INFRASTRUCTURE

## Sidewalk Inventory Results

- 420 miles of sidewalk infrastructure were evaluated and mapped (to-date)
  - Excellent/Good = 41%
  - Fair = 48%
  - Poor/Replace = 11%
- The City of Newton maintains approximately 5,200 curb ramps
  - Excellent/Good = 57%
  - Fair = 39%
  - Poor = 4%
  - 1,200 potential new ramps needed



# PROGRAM WORK HISTORY



# TRANSPORTATION NETWORK IMPROVEMENTS

## 2017 – 2023 Construction History

2017-2018		
Treatment	Area (SY)	Length (mi)
Bonded Wearing Course	12,764	2.42
Cape Seal	9,143	1.73
Hot In-Place Recycling	6,332	1.20
Microsurfacing	9,797	1.86
Mill & Overlay	43,018	8.15
<b>Total</b>	<b>81,054</b>	<b>15.35</b>

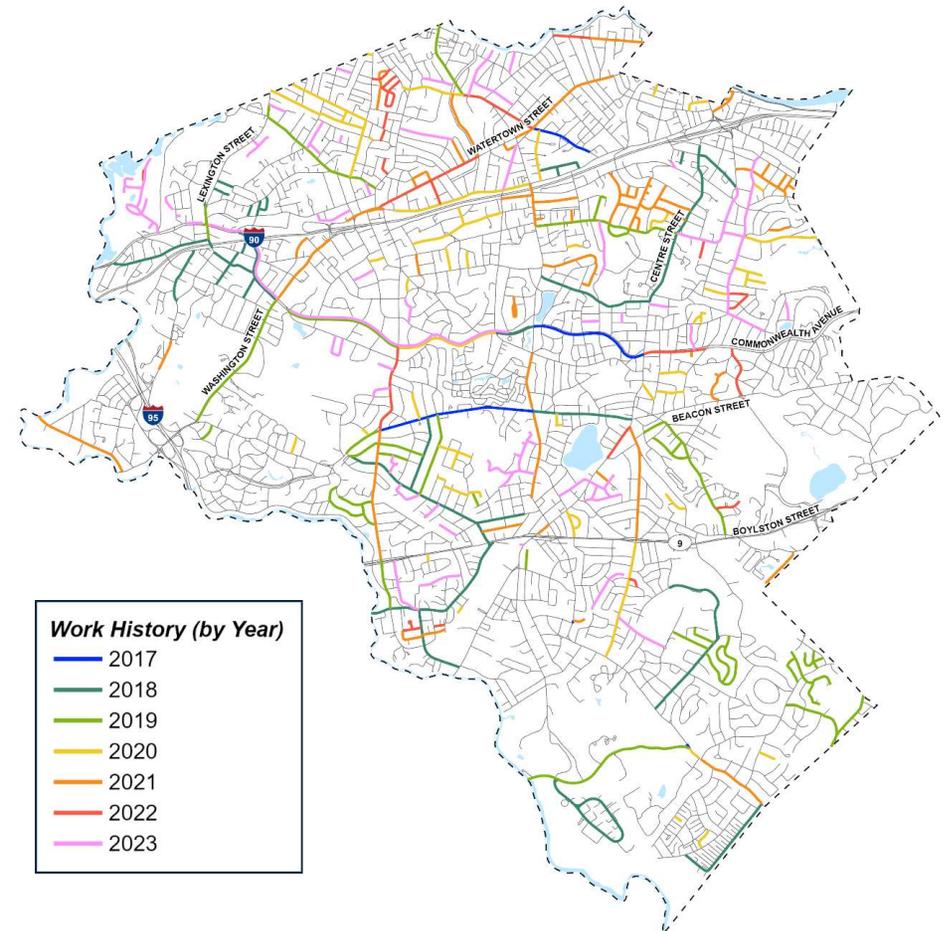
2019		
Treatment	Area (SY)	Length (mi)
Bonded Wearing Course	14,685	2.78
Cape Seal	8,479	1.61
Maintenance Overlay	19,258	3.65
Microsurfacing	1,892	0.36
Mill & Overlay	26,435	5.00
<b>Total</b>	<b>70,749</b>	<b>13.40</b>

2020		
Treatment	Area (SY)	Length (mi)
Bonded Wearing Course	3,991	0.76
Concrete Overlay	1,965	0.37
Hot In-Place Recycling	4,169	0.79
Maintenance Overlay	25,556	4.84
Mill & Overlay	16,368	3.10
Reclamation	2,493	0.47
<b>Total</b>	<b>54,542</b>	<b>10.33</b>

2021		
Treatment	Area (SY)	Length (mi)
Cold In-Place	6,887	1.31
Concrete Overlay	6,800	1.29
Maintenance Overlay	32,498	6.16
Mill & Overlay	24,225	4.59
Overlay	1,058	0.20
<b>Total</b>	<b>71,468</b>	<b>13.54</b>

2022		
Treatment	Area (SY)	Length (mi)
Bonded Wearing Course	6,631	1.26
Concrete Overlay	1,303	0.25
Maintenance Overlay	10,376	1.97
Mill & Overlay	8,570	1.62
<b>Total</b>	<b>26,880</b>	<b>5.09</b>

2023		
Treatment	Area (SY)	Length (mi)
Bonded Wearing Course	12,382	2.35
Maintenance Overlay	30,347	5.75
Mill & Overlay	28,617	5.42
BWC/SAMI	1,637	0.31
<b>Total</b>	<b>72,983</b>	<b>13.83</b>



- Program Total = 71.54 miles\*  
(excludes crack seal and fog seal)

# PEDESTRIAN NETWORK IMPROVEMENTS

## Major Sidewalk Construction

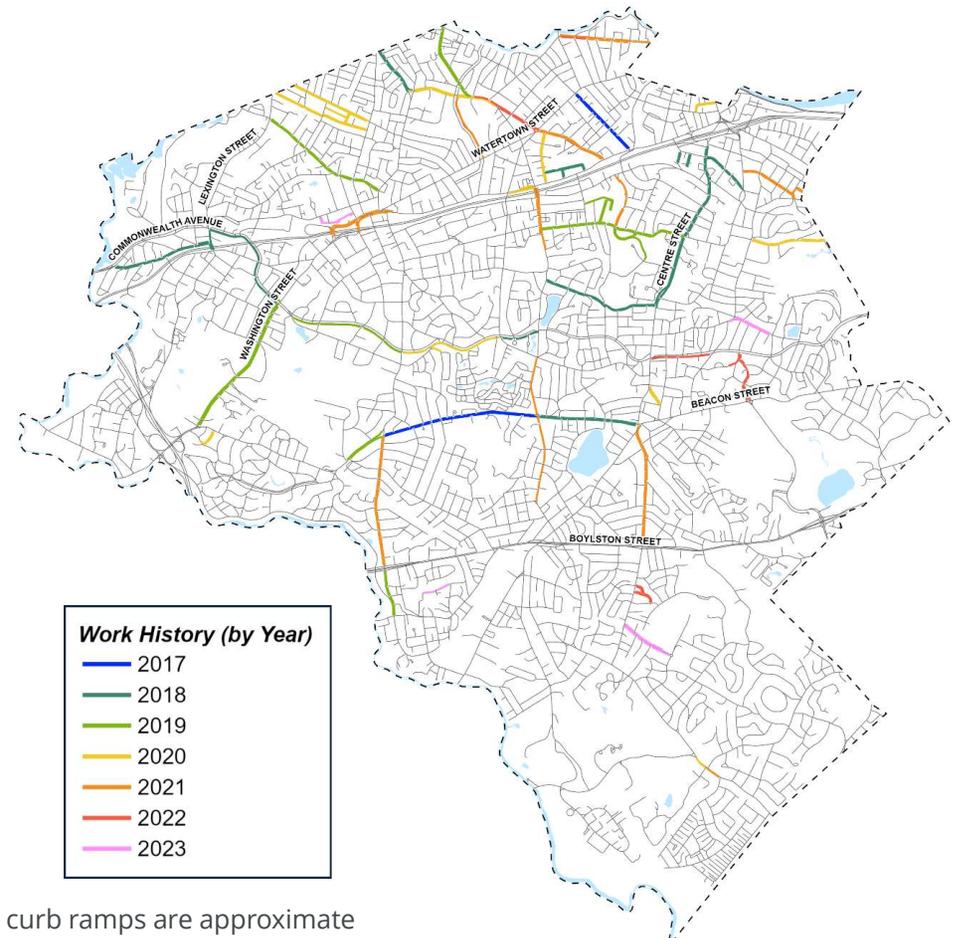
- Mileage by Year

- 2017 = 2.57 miles
- 2018 = 8.33 miles
- 2019 = 8.39 miles
- 2020 = 6.29 miles
- 2021 = 8.33 miles
- 2022 = 2.19 miles
- 2023 = 1.56 miles

- Number of Curb Ramps by Year

- 2017 = 55
- 2018 = 164
- 2019 = 56
- 2020 = 89
- 2021 = 179
- 2022 = 57
- 2023 = 34

\* Work history numbers for sidewalks and curb ramps are approximate

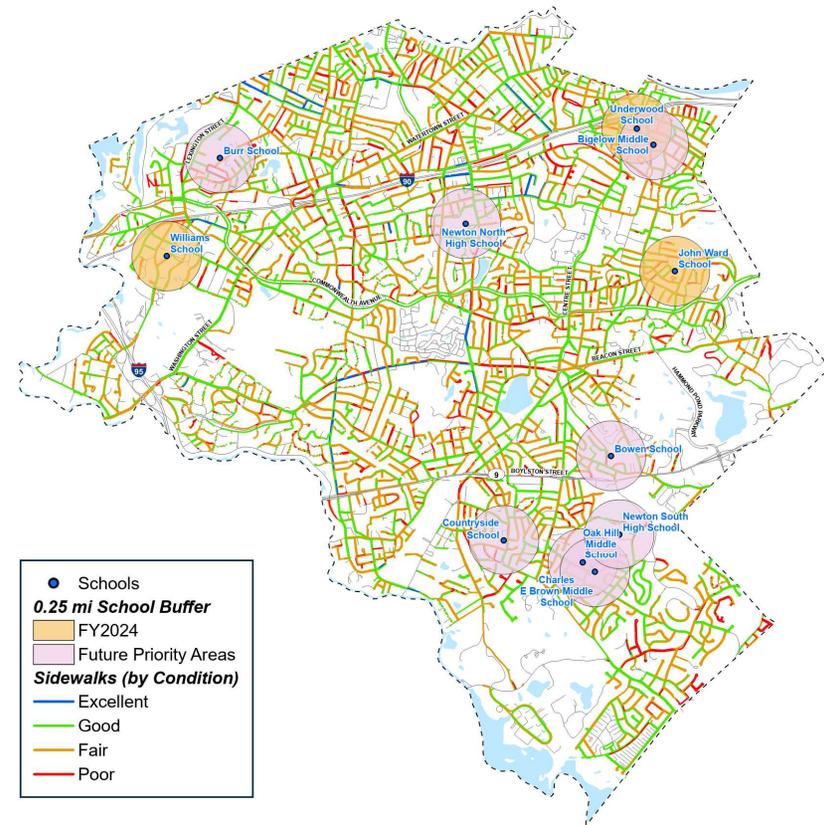


# PEDESTRIAN INFRASTRUCTURE NETWORK

# PEDESTRIAN INFRASTRUCTURE IMPROVEMENTS

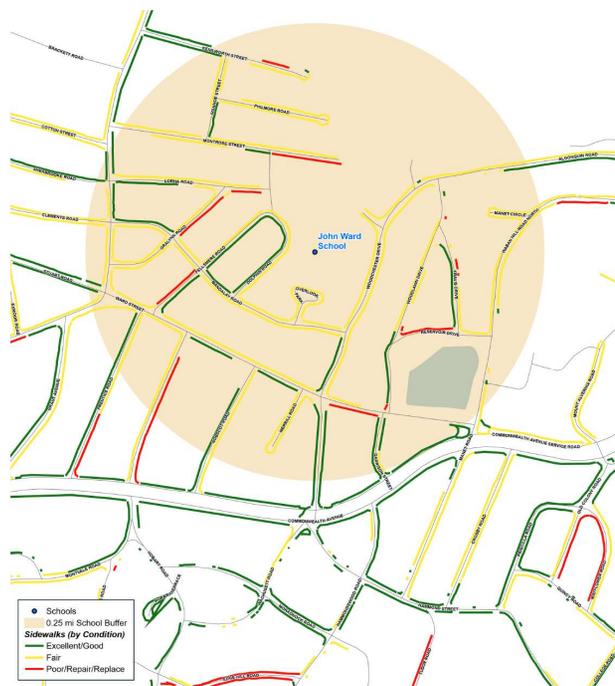
## Priority Analysis

- Priority pedestrian routes
  - Schools
- Roadway classification
  - Connections the roadway provides within the network
- Safe Routes to School
  - Previously established plow routes for sidewalks
- Condition Assessment
- ADA & AAB Compliance
- High pedestrian locations

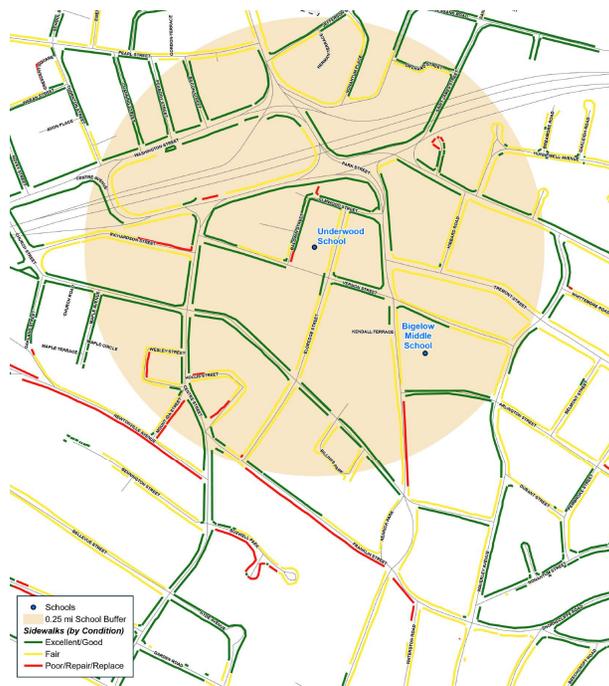


# PEDESTRIAN PRIORITIZATION ANALYSIS – EXISTING CONDITIONS

## Ward School



## Underwood School

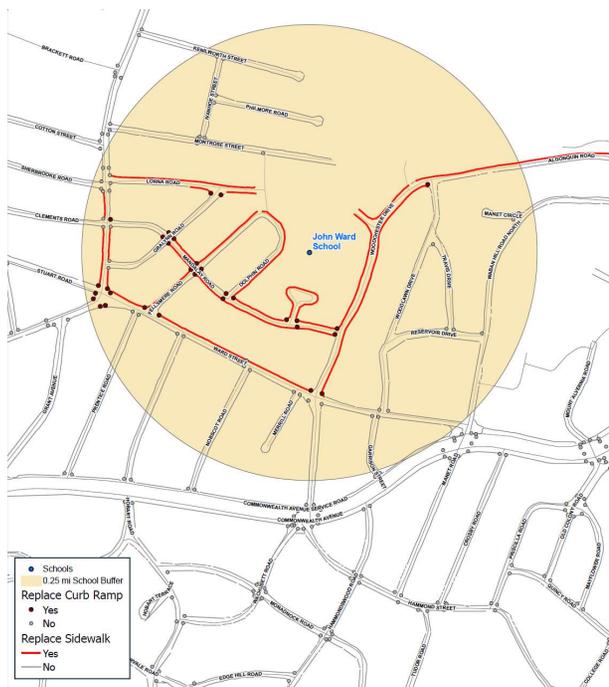


## Williams School

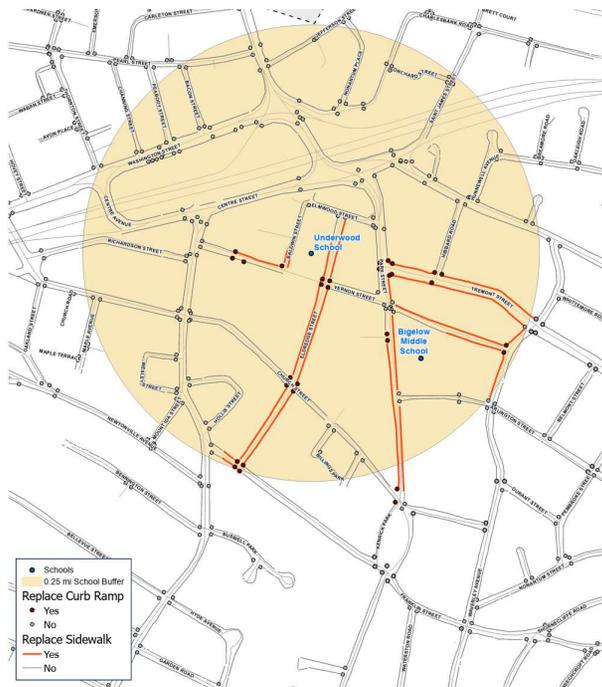


# PEDESTRIAN PRIORITIZATION ANALYSIS – PRIORITY RECONSTRUCTION

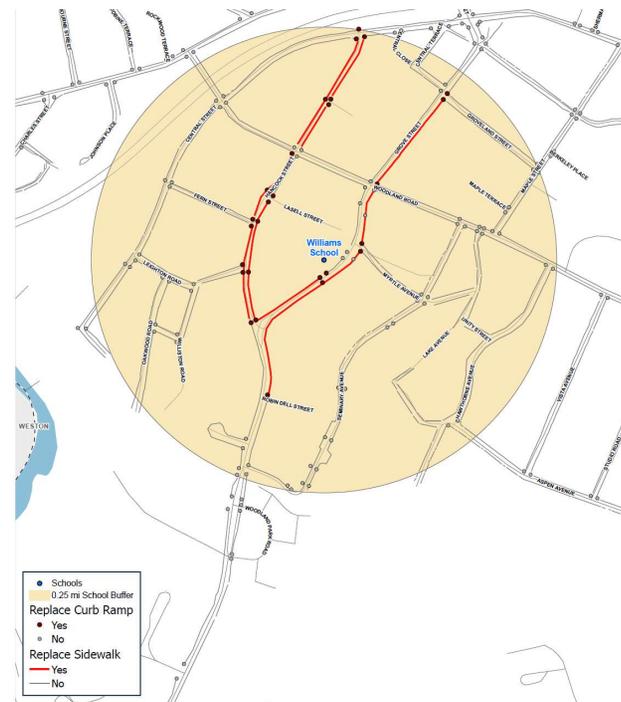
## Ward School



## Underwood School



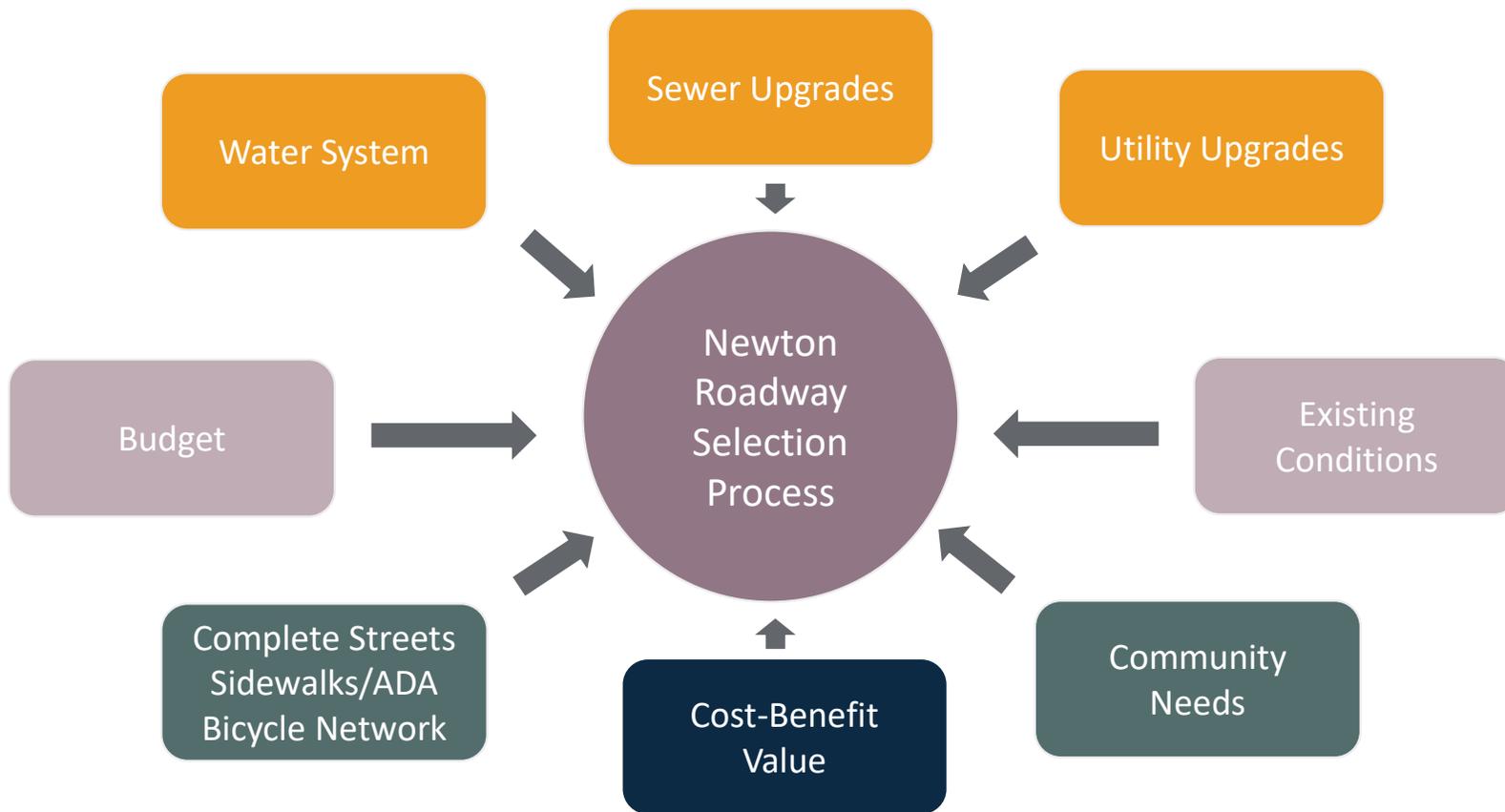
## Williams School



# ROADWAY NETWORK

# ROADWAY SELECTION PROCESS

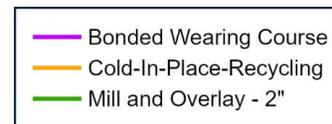
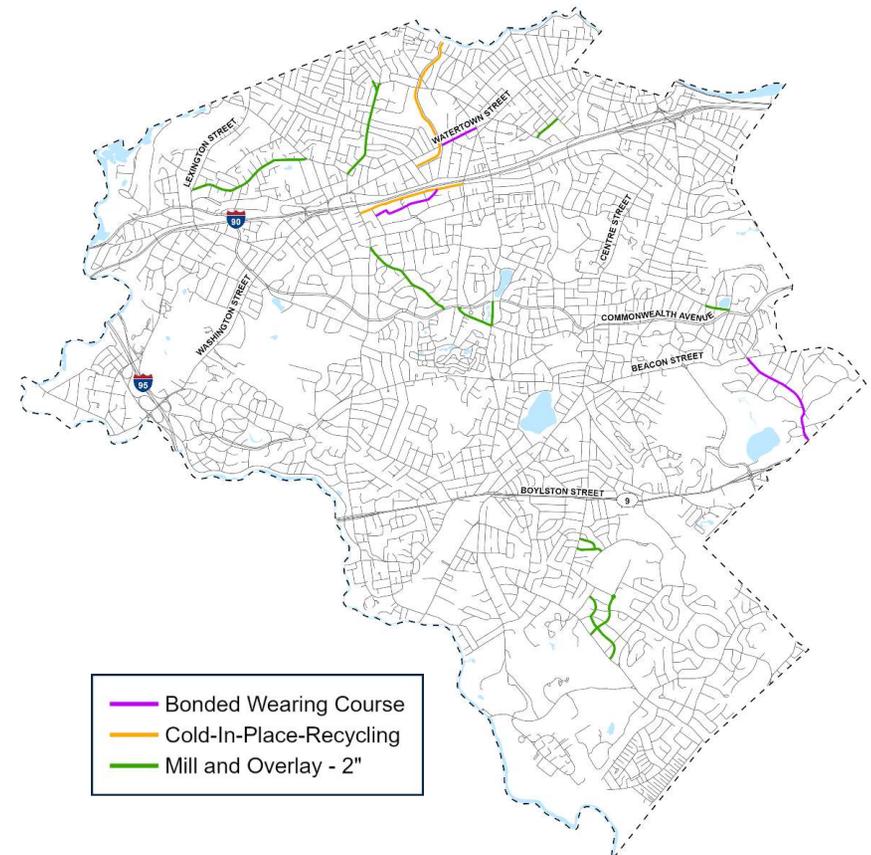
## Selection Factors



# TRANSPORTATION NETWORK IMPROVEMENTS

## 2024 Planned Construction Planned Major Paving\*

Street	From	To	Average PCI	Treatment
Albemarle Road	Crafts Street	Watertown Street	66.7	Cold-In-Place Recycling
Arnold Road	Dedham Street	Sharpe Road	36.2	Mill and Overlay - 2"
Auburndale Avenue	Lexington Street	River Street	56.9	Mill and Overlay - 2"
Austin Street	Lowell Avenue	Chestnut Street	66	Cold-In-Place Recycling
Hammond Street	Beacon Street	Brookline TL	68.3	Bonded Wearing Course
Highland Street	Highland Street	Chestnut Street	67	Mill and Overlay - 2"
Homer Street	Walnut Street	Commonwealth Avenue	76.2	Mill and Overlay - 2"
Lincoln Road	Adams Street	Crafts Street	59.1	Mill and Overlay - 2"
Meadowbrook Road	Dedham Street	Cul De Sac	49.8	Mill and Overlay - 2"
Mount Vernon Street	Austin Street	Hillside Road	52.8	Bonded Wearing Course
Police Station Parking Lot				Mill and Overlay - 2"
Roosevelt Road	Brandeis Road	Parker Street	61	Mill and Overlay - 2"
Theodore Road	Parker Street	Roosevelt Road	56.5	Mill and Overlay - 2"
Valentine Street	Burnham Road	Commonwealth Avenue	56	Mill and Overlay - 2"
Walnut Street	Commonwealth Avenue	Homer Street	76.2	Mill and Overlay - 2"
Waltham Street	Washington Street	Crafts Street	62.6	Mill and Overlay - 2"
Waltham Street Branch	Waltham Street	Crafts Street	63.3	Mill and Overlay - 2"
Ward Street	Manet Road	Hammond Street	65	Mill and Overlay - 2"
Watertown Street	Albemarle Road	Walnut Street	89.8	Bonded Wearing Course

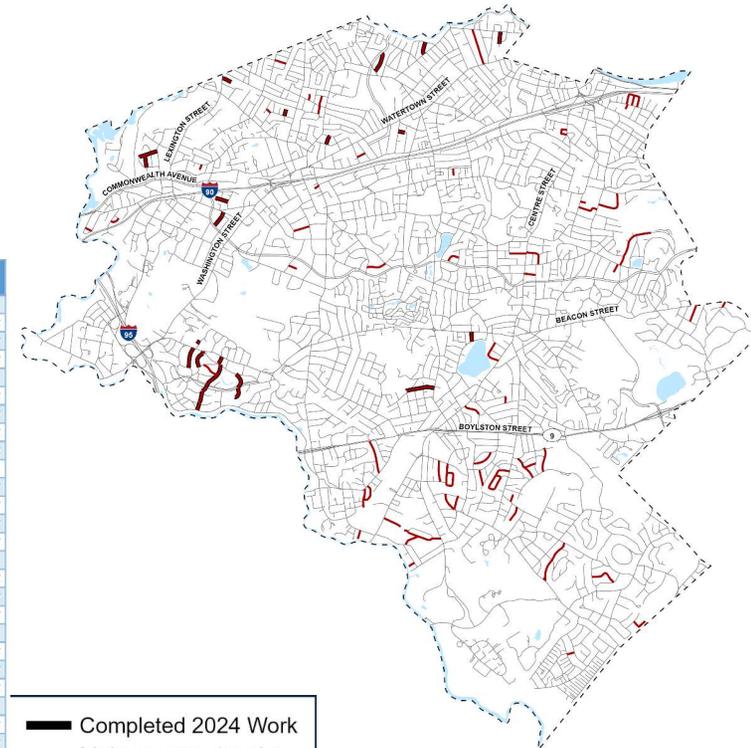


\*This is a working list that may be revised based on factors such as unexpected utility work  
 \*\*Does not include all preservation, routine maintenance or patching



# TRANSPORTATION NETWORK IMPROVEMENTS

## 2024 Planned Construction Maintenance Overlay\*



— Completed 2024 Work  
— Maintenance Overlay

*Italicized text = Completed Roadway*

*\*This is a working list that may be revised based on factors such as unexpected utility work*  
*\*\*Does not include all preservation, routine maintenance or patching*



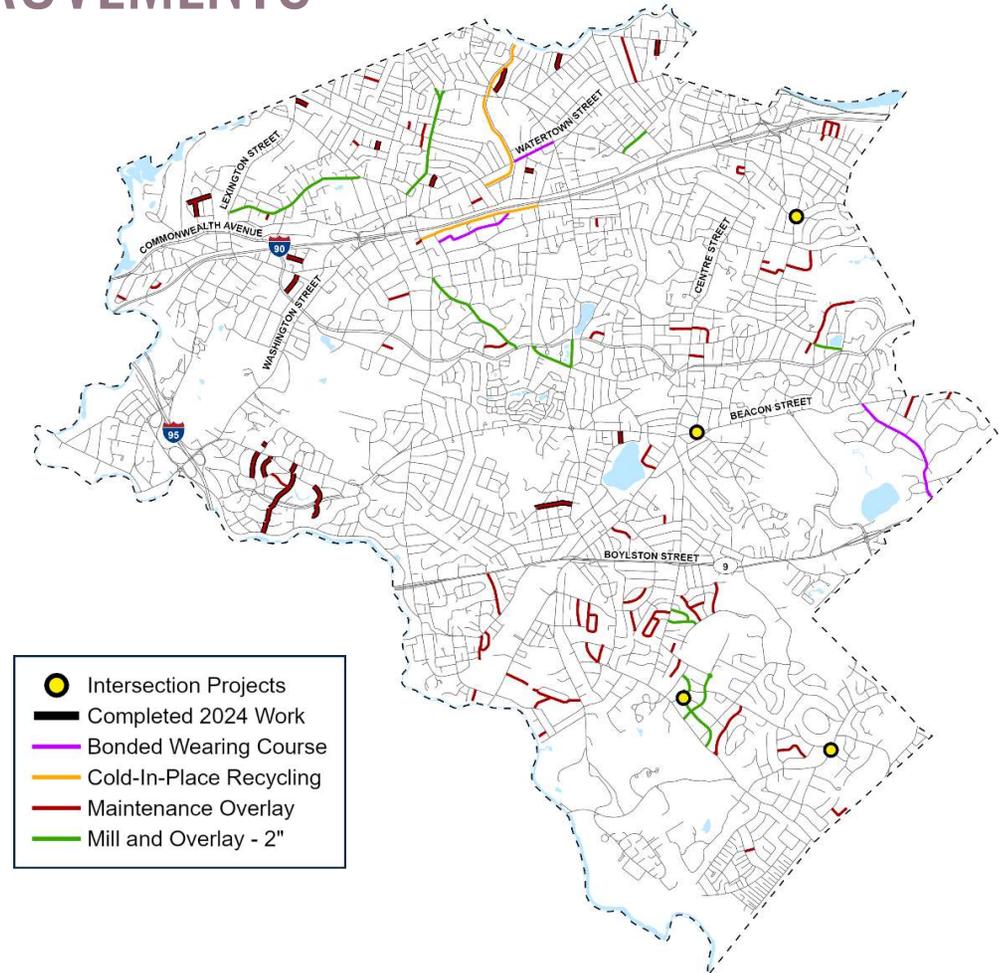
Street	From	To	Average PCI	Treatment
Abbott Street	Dead End	Oak Street	46.3	Maintenance Overlay
Acacia Avenue	Boston CL	Lee Road	50.3	Maintenance Overlay
Adeline Road	Brandeis Road	Hagen Road	50	Maintenance Overlay
Adena Road	Northgate Park	Llewellyn Road	50.1	Maintenance Overlay
Alden Street	Centre Street	Sumner Street	49.3	Maintenance Overlay
Alexander Road	Woodcliff Road	Walnut Hill Road	40.3	Maintenance Overlay
Allison Street	California Street	Los Angeles Street	99.9	Maintenance Overlay
Andrew Street	Dedham Street	Andrew Street	49.3	Maintenance Overlay
Ballard Street	Ward Street	Centre Street	49.3	Maintenance Overlay
Barnes Road	Hunnewell Avenue	Fairview Street	39.3	Maintenance Overlay
Bemis Road	California Street	Parkway Road	99.9	Maintenance Overlay
Bonaire Circle	Dorset Road	Cul De Sac	99.9	Maintenance Overlay
Brae Burr Road	Greenough Street	Commonwealth Avenue Ser. Road	99.9	Maintenance Overlay
Brookdale Road	North Street	Albemarle Road	99.9	Maintenance Overlay
Cappy Circle	Derby Street	Cul De Sac	48.3	Maintenance Overlay
Carlton Road	Beacon Street	Quinobequin Road	99.9	Maintenance Overlay
Cedric Road	Rowena Road	Athelstane Road	50.3	Maintenance Overlay
Charlemont Street	Winchester Street	Needham Street	50.3	Maintenance Overlay
Charles River Terrace	Dead End	Bernard Street	48.6	Maintenance Overlay
Chaske Avenue	Kaposia Street	Melrose Street	99.9	Maintenance Overlay
Chestnut Hill Road	Beacon Street	Chestnut Hill Ter	48.6	Maintenance Overlay
Circuit Avenue	Elliot Street	Boylston Street	60.1	Maintenance Overlay
Clinton Place	Centre Street	Gravel	48.6	Maintenance Overlay
Commonwealth Park	Commonwealth Avenue Ser. Road	Commonwealth Park	49.3	Maintenance Overlay
Crofton Road	Nehoiden Road	Dead End	99.9	Maintenance Overlay
Dalby Street	California Street	Watertown Street	49.3	Maintenance Overlay
Danehill Road	Bound Brook Road	Brush Hill Road	50.3	Maintenance Overlay
Dearborn Terrace	Westland Avenue	Dearborn Street	50.3	Maintenance Overlay
Eliot Memorial Road	Waverley Avenue	Magnolia Avenue	41.3	Maintenance Overlay
Elizabeth Circle	Exeter Street	Cul De Sac	50.3	Maintenance Overlay
Ellis Road	Valentine Street	Wauwinet Road	49.3	Maintenance Overlay
Elsworth Road	Falmouth Road	Parmenter Road	50.3	Maintenance Overlay
Evergreen Terrace	Oakland Avenue	Evergreen Avenue	25.3	Maintenance Overlay
Fairfax Street	Prince Street	Sterling Street	50.3	Maintenance Overlay
Fairview Street	Barnes Road	Hunnewell Avenue	53.3	Maintenance Overlay
Great Meadow Road	Hagen Road	Brandeis Road	53	Maintenance Overlay
Green Park	Park Avenue	Waverley Avenue	48.3	Maintenance Overlay
Hay Road	Mccarthy Road	Hanson Road	46.3	Maintenance Overlay
Hillside Road	Bowdoin Street	Walnut Street	99.9	Maintenance Overlay
Kelveden Road	Alban Road	Carlton Road	50.3	Maintenance Overlay

Street	From	To	Average PCI	Treatment
Laurel Street	Beacon Street	Lake Avenue	99.9	Maintenance Overlay
Leewood Road	Brush Hill Road	Bound Brook Road	49.3	Maintenance Overlay
Linder Terrace	Hunnewell Avenue	Dead End	49.3	Maintenance Overlay
Magnolia Avenue	Eliot Memorial Road	Kenrick Street	51.3	Maintenance Overlay
Manhattan Terrace	Westland Avenue	Dead End	99.9	Maintenance Overlay
Marla Circle	Grace Road	Cul De Sac	44.3	Maintenance Overlay
Mechanic Street	Elliot Street	Dead End	47.6	Maintenance Overlay
Merrill Road	Ward Street	Dead End	23.3	Maintenance Overlay
Miller Road	Centre Street	Cloverdale Road	50.3	Maintenance Overlay
Milton Avenue	Lexington Street	Dead End	99.9	Maintenance Overlay
Mount Vernon Street	Hillside Avenue	Austin Street	52.8	Maintenance Overlay
Nardone Road	Oldfield Road	Great Meadow Road	50.3	Maintenance Overlay
Newland Street	Charles Street	Charles Street	50.3	Maintenance Overlay
Norwood Avenue 2	Crescent Avenue	Centre Street	42	Maintenance Overlay
Oakland Street	Newtonville Avenue	Winthrop Avenue	98.8	Maintenance Overlay
Park Drive	Elinor Road	Selwyn Road	44.3	Maintenance Overlay
Parker Road	Truman Road	Truman Road	48.3	Maintenance Overlay
Plimpton Road	Chestnut Street	Cul De Sac	50.3	Maintenance Overlay
Proctor Street	Walker Street	Brooks Avenue	99.9	Maintenance Overlay
Roland Street	Charlemont Street	Christina Street	44.3	Maintenance Overlay
Rosalie Road	Hartman Road	Dedham Street	52.7	Maintenance Overlay
Rosalie Road Branch	Rosalie Road	Dedham Street	67.3	Maintenance Overlay
Sharon Avenue	Crescent Street	Cul De Sac	99.9	Maintenance Overlay
Shuman Circle	Wheeler Road	Cul De Sac	37.3	Maintenance Overlay
Stoneleigh Road	Orchard Avenue	Davis Avenue	99.9	Maintenance Overlay
Town House Drive	Washington Park	Dead End	48.3	Maintenance Overlay
Treeland Circle	Park Avenue	Cul De Sac	46.3	Maintenance Overlay
Truman Road	Parker Street	Parker Road	49.1	Maintenance Overlay
Tudor Terrace	Auburndale Avenue	Dead End	50.3	Maintenance Overlay
Verndale Road	Heatherland Road	Dedham Street	50.3	Maintenance Overlay
Voss Terrace	Wheeler Road	Cul De Sac	49.3	Maintenance Overlay
Wesley Street	Centre Street	Centre Street	41.3	Maintenance Overlay
Westgate Road	Redwood Road	Clifton Park	38.3	Maintenance Overlay
Wetherell Street	Elliot Street	Mechanic Street	46.3	Maintenance Overlay
White Oak Road	Beacon Street	Neshobe Road	99.9	Maintenance Overlay
Wild Road	Beacon Street	Alban Road	99.9	Maintenance Overlay
Willard Street	Hunnewell Avenue	Fairview Street	48.6	Maintenance Overlay
Winona Street	Chaske Avenue	Kaposia Street	99.9	Maintenance Overlay
Wiswall Street	Cross Street	Parsons Street	50.3	Maintenance Overlay
Woodchester Drive	Ward Street	Algonquin Road	46.9	Maintenance Overlay

# TRANSPORTATION NETWORK IMPROVEMENTS

## 2024 Planned Intersection Construction

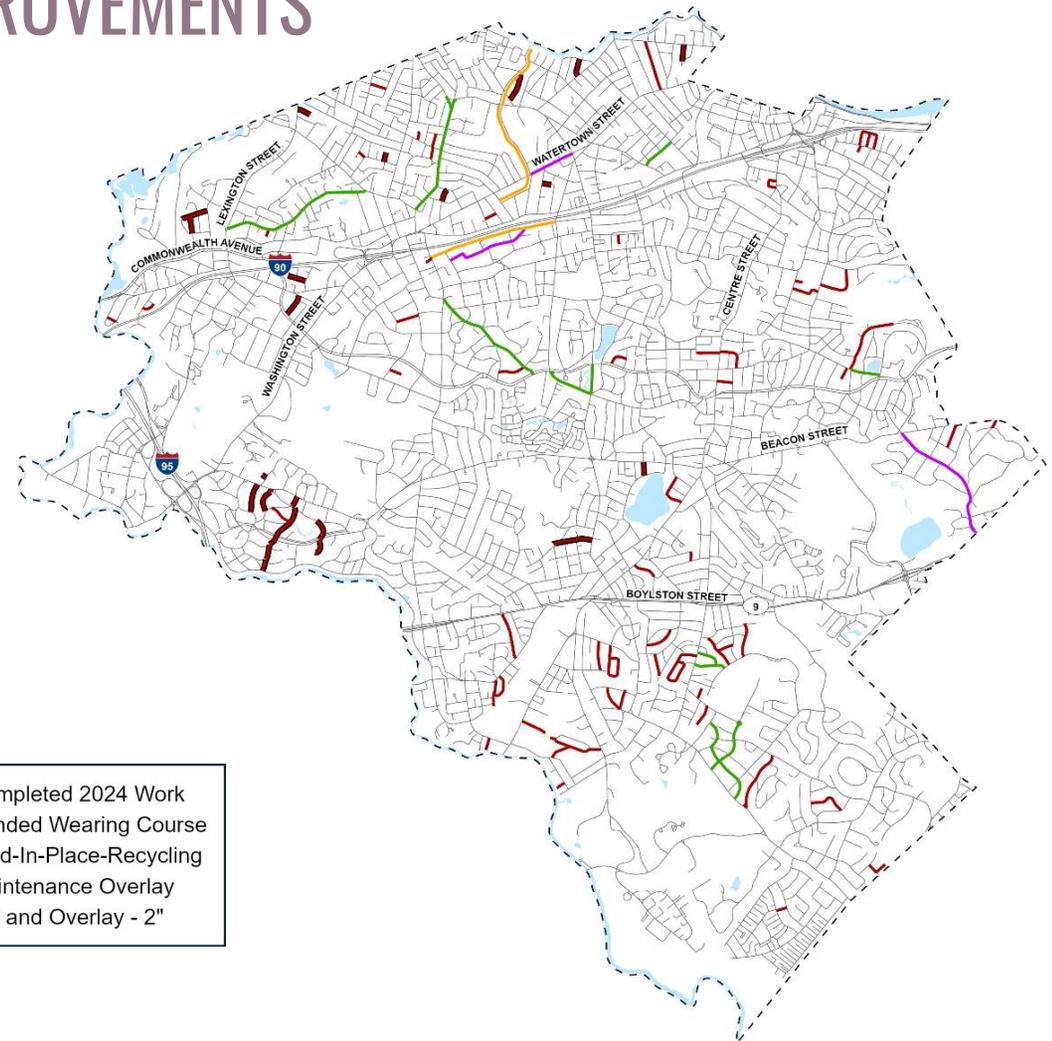
- Spaulding Lane and Hartman Road at Brookline Street
- Franklin Road at Waverley Avenue
- Arnold Road at Country Club Road
- Langley Road and Sumner Street at Beacon Street



# TRANSPORTATION NETWORK IMPROVEMENTS

## 2024 Planned Construction Summary of Work

Treatment	Area (SY)	Length (mi)	Estimated Cost
Bonded Wearing Course	23,300	1.53	\$ 582,525
Maintenance Overlay	156,333	10.33	\$ 4,221,679
Mill and Overlay - 2"	77,606	4.37	\$ 4,214,693
Cold-In-Place Recycling	23,402	1.79	\$ 665,600
<b>Total</b>	<b>280,641</b>	<b>18.01</b>	<b>\$ 9,684,497</b>



*\*This is a working list that may be revised based on factors such as unexpected utility work*

*\*\*Does not include all preservation, routine maintenance or patching*

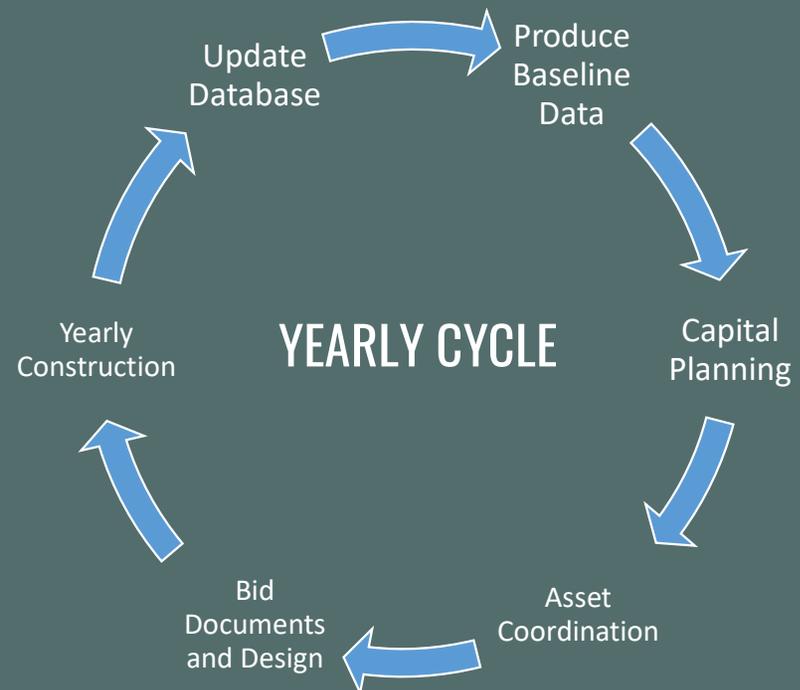
# NEXT STEPS

# CONTINUED PROGRAM IMPROVEMENT

The Transportation Network Improvement Program is not meant to be a stagnant, but rather a living document.

## 2024 Updates

- Road network re-evaluation
- Recalibration of priority roads
- Long-Range Sidewalk Prioritization



THANK YOU



This document contains the roadways scheduled for improvements over the next five years. We have found that the repair schedule for a given street can change significantly for a variety of reasons. Changes are made, for example, when we learn new information about when water, sewer, stormwater or National Grid or Eversource repairs will be done. Please check online at [www.NewtonMA.gov/DPW](http://www.NewtonMA.gov/DPW) for the most current listing for the next five years.

The choice of the repair treatment is driven, primarily, by the condition and type of street. We anticipate the following roadway treatments will be completed during this five-year timeframe:

### **Crack Sealing**

Crack sealing is the placement of a sealant material into cracks of an existing pavement surface to prevent excess water and moisture from penetrating the asphalt. This is a preventative measure to keep the road from deteriorating further. Crack Sealing can be done as a stand-alone treatment or in conjunction with other treatments listed below.



### **Fog Seal**

A fog seal is a thin liquid layer applied to the surface of a paved road in relatively good condition. The intent of this treatment is to seal the pavement, rejuvenate, restore the wearing surface and provide resistance to deterioration due to the weather and sun. Subsequent to a Fog Seal the cracks are sealed with a liquid asphalt sealer. This treatment will extend the life of the pavement. This is classified as preventative maintenance.



### **Cape Seal**

A complete Cape seal application is done in several steps. After roads are leveled with a thin coat of asphalt (if necessary) a full width coating of rubberized chip seal material is applied. The chip seal has a surface that can be driven on for a short time and it is rougher than standard asphalt. It has some loose chips. About a week after chip seal, the roads will receive a microsurface coating. The finished microsurfaced road will be very similar to a standard paved surface. The "Cape seal" term describes the complete multi-layer treatment.



### Bonded Wearing Course

Bonded Wearing Course is a high performance thin (5/8" to 3/4") hot mix overlay that consists of a single-step placement of spray applied polymer modified asphalt emulsion immediately ahead of gap-graded hot mix asphalt. The treatment provides a new paved wearing surface that seals the existing pavement, preserves curb reveal, and creates a high skid resistant surface that will not de-laminate.



### Hot In-Place Recycling

Hot In-Place Asphalt Recycling is the process of rehabilitating deteriorated pavement. Existing asphalt is heated and scarified and mixed with a recycling agent. This new mix is then paved over the existing surface to correct surface distresses not caused by structural inadequacy. The new in-place product will then require a top course of microsurfacing, chip seal or Hot Mix Asphalt. We have learned to use it only in the late fall because it temporarily cause leaves to turn brown.



### Cold In-Place Recycling

Cold In-Place (CIP) Asphalt Recycling is a pavement rehabilitation process that involves grinding, pulverizing, and mixing 3-5" of an existing poor-quality pavement. The material is then mixed with an asphalt emulsion binder, placed back on the pavement and compacted. The new surface may be fog sealed prior to the final top course of microsurfacing, chip seal or Hot Mix Asphalt.



### Mill and Overlay

The existing pavement has 0.5 to 2 inches of the surface ground off. This treatment removes the existing deteriorated wearing surface and leaves the substructure intact. Then the installation of new pavement follows the Overlay description above. It is not uncommon for two layers to be installed after milling of the pavement.



### Reclamation

This treatment is intended for a roadway that has outlived its useful life. It is considered to be the most aggressive resurfacing treatment. The entire pavement structure is completely pulverized to a depth of 14" to 20". Most of the pulverized material is reused as a subbase for the asphalt paving. Additional material may be required to be blended in the subbase to meet specifications. After the subbase is installed, a minimum of 4" of asphalt is installed in multiple layers.



### Maintenance Overlay

To address residential roads in poor condition with low traffic volume, the city will overlay the road with pavement. The intent of this treatment is to leave the existing pavement structure intact. Cast iron structures (manholes, catch basins, water and gas gates) will be reset to meet the new pavement elevation (if required). A bonding agent may be sprayed on the pavement and approximately 1.5 to 2 inches of new pavement installed. Minor pothole patching and other pavement repairs are done prior to installation of this treatment. This treatment adds strength to the road surface and will provide a new safe surface until major reconstruction is performed in the future.



## Transportation Network Improvement Program

Newton's Transportation Network Improvement Program is a citywide planning and prioritization tool that assists in guiding data-driven decisions to perform timely maintenance and rehabilitation which best benefits Newton. The objectives of Newton's Transportation Network Improvement Program are to strategically enhance the City of Newton's roadway and sidewalk network and provide an improved level of service. The City strives to provide a great user experience for all modes of transportation including pedestrian, bicycling, riding public transportation or driving an automobile. The goal of the City is to accommodate all users equally with a transportation network which can be utilized by everyone regardless of age, ability, income, or preferred mode of transportation.

The City of Newton's transportation network is comprised of a variety of assets that work together to provide mobility for all users. This collection of assets is key to connecting people to destinations within the City and the overall region, spurring economic development and supporting small business owners throughout the community. An important step in developing a prioritization strategy for future infrastructure projects is to understand current infrastructure conditions. Over the past five years the City has developed an inventory and assessment process for roadway rehabilitation.

### **Roadway Management**

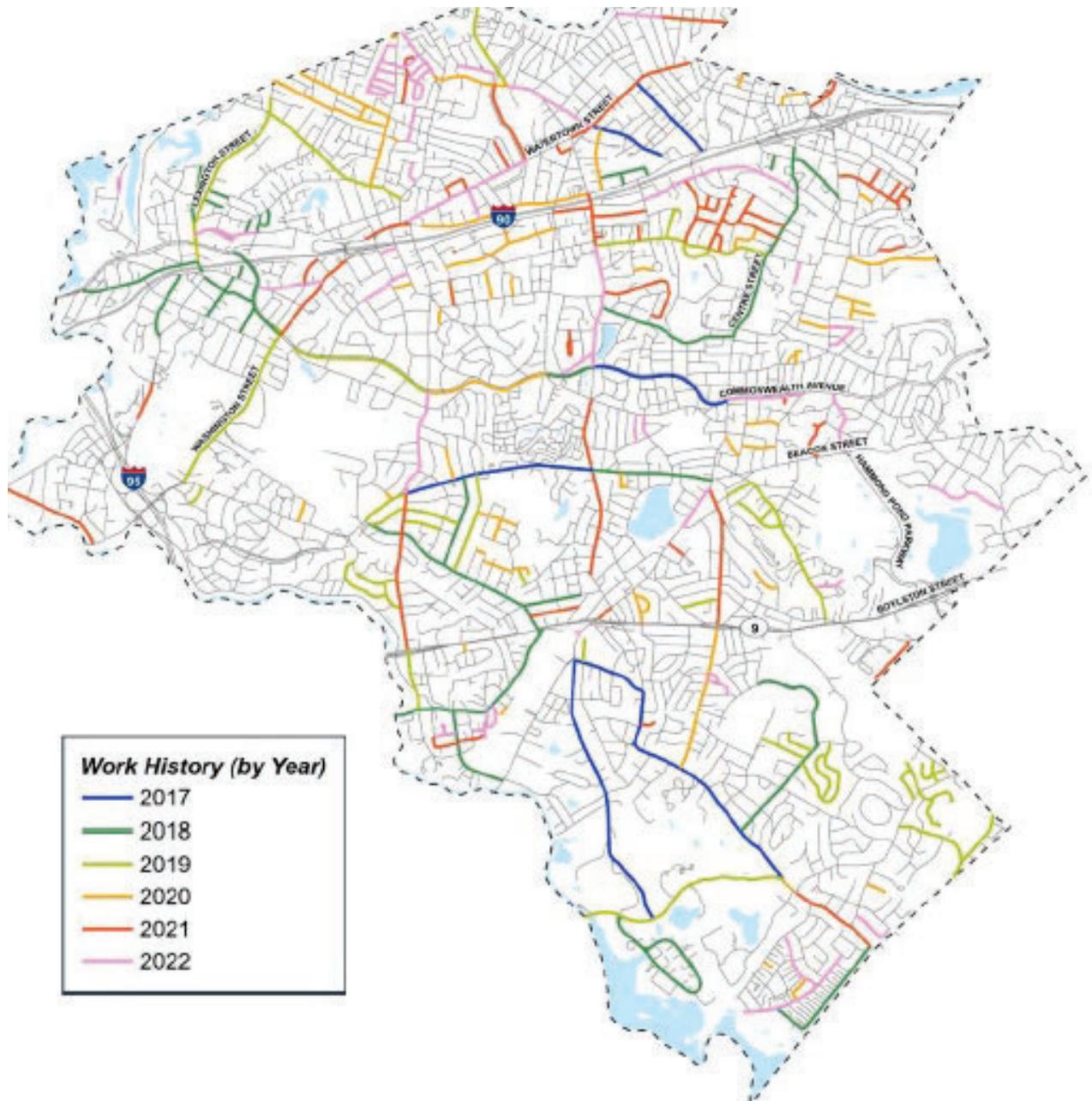
The City prioritizes improvements to the roadway network by utilizing our Pavement Management database. Pavement management is the practice of planning pavement maintenance to maximize the value of a roadway network. It is a strategic process that identifies a maintenance and rehabilitation schedule that will allow for a desired state of good repair over the lifecycle of the pavement.

In New England, asphalt pavement can expect to remain serviceable for up to 15 years depending on a variety of factors including traffic volumes, construction quality, and weather. Throughout the pavement lifecycle, the surface begins to deteriorate and shows signs of cracking, rutting, potholes, and raveling. These distresses appear and will gradually increase in size and quantity over time as the surface continues to deteriorate. Throughout the pavement lifecycle, maintenance and preservation treatments can be performed to extend the useful life of the asphalt pavement. In general, these treatments are less costly and less intrusive to the end user than minor or major rehabilitation, which involves replacing the pavement surface or rebuilding the pavement structure completely.

The City manages and maintains 278 centerline miles of roadway. To aid in identifying proper treatment selection, each roadway is inspected and given a Pavement Condition Index (PCI) based on a 0-100 rating scale, 100 being a roadway in new condition and a 0 being a roadway in poor condition. The City has been on a consistent cycle of re-assessing pavement condition every 2-3 years utilizing the latest inspection technology. This consistency of the inspection cycle allows City decision makers to have accurate inspection information to realize cost savings and extend the life of roadways. Inspections were recently completed in August of 2022.

## Roadway Work History

Over the past five years, the City has invested significant funding to enhance the overall user experience while traveling through the City. This work has been completed using a number of different treatments and has been broken down as follows:



2017-2018			2019		
Treatment	Length (ft)	Length (mi)	Treatment	Length (ft)	Length (mi)
Bonded Wearing Course	12,762	2.417	Bonded Wearing Course	14,685	2.781
Cape Seal	9,148	1.733	Cape Seal	8,479	1.606
Hot In-Place Recycling	23,163	4.387	Maintenance Overlay	19,258	3.647
Microsurfacing	9,796	1.855	Microsurfacing	5,590	1.059
Mill & Overlay	43,026	8.149	Mill & Overlay	26,674	5.052
Reclamation	2,603	0.493	<b>Total</b>	<b>74,687</b>	<b>14.145</b>
<b>Total</b>	<b>100,497</b>	<b>19.034</b>			

2020			2021		
Treatment	Length (ft)	Length (mi)	Treatment	Length (ft)	Length (mi)
Bonded Wearing Course	3,991	0.756	Cold In-Place	6,887	1.304
Concrete Overlay	1,965	0.372	Concrete Overlay	6,799	1.288
Hot In-Place Recycling	4,167	0.789	Maintenance Overlay	32,498	6.155
Maintenance Overlay	25,555	4.840	Mill & Overlay	24,229	4.589
Mill & Overlay	16,364	3.099	Overlay	1,059	0.201
Reclamation	2,493	0.472	<b>Total</b>	<b>71,471</b>	<b>13.536</b>
<b>Total</b>	<b>54,536</b>	<b>10.329</b>			

2022		
Treatment	Length (ft)	Length (mi)
Bonded Wearing Course	6,629	1.256
Concrete Overlay	1,303	0.247
Crack Seal	31,582	5.981
Maintenance Overlay	12,140	2.299
Mill & Overlay	9,315	1.764
<b>Total</b>	<b>60,970</b>	<b>11.547</b>

## Capital Planning & Action Planning

Newton strives to spend city funds in the most efficient manner possible. A pavement management program typically prioritizes roadway projects using a cost-benefit value (CBV) analysis. This analysis assigns a value to each roadway segment based on:

- The average daily traffic anticipated on the roadway
- The cost of the maintenance necessary at the time of inspections
- The presumed life extension (in years) of the suggested maintenance
- The condition rating of the roadway segment

With the new inspection data, roadway repairs will be re-prioritized in the winter of 2022.

From there, additional factors are taken into consideration to determine which roadways are the best candidates for rehabilitation, such as:

- **Underground Utility Condition:** To coordinate the reconstruction of a roadway around other capital plans for underground utility work so that paving can be completed after any water, sewer, gas, or electrical work takes place so that freshly paved roadways will not be disturbed.

- Constructability & Mobilization Considerations: Project of similar nature should be grouped, when possible, to cut down on mobilization costs
- Design Process and Considerations: As previously discussed, Newton takes a holistic approach to transportation projects and the various treatment options to improve the safety of the roadway and make it more accessible to all users.
- Existing Conditions: Using the right treatments on the right roadways.
- Complete Streets Sidewalks/ADA and Bicycle Network: The City of Newton is committed to developing complete streets throughout the community. The City strives to accommodate all users equally by creating a roadway network that meets the needs of everyone, without regard to age, ability, income, or mode(s) of transportation.
- Community Needs: Newton recognizes the importance of prioritizing routes to locations such as:
  - School Zones & designated Safe Routes to School walking routes
  - Commercial Areas & areas with a concentrated older adult population
  - Areas surrounding other public facilities or gathering places including, but not limited to, Libraries, Municipal Buildings, Parks, Playgrounds, etc.

The Transportation Network Improvement Program is meant to be a living, breathing document. Newton is committed to continually updating the information to maintain useful infrastructure data for decision-making purposes.

## Transportation Network Improvement Program Funding

Year	City Funds	Grant Funds	ARPA Funds	Total Funds
FY20	\$ 2,750,000.00	\$ 2,750,000.00		\$ 5,500,000.00
FY21	\$ 3,700,000.00	\$ 4,300,000.00		\$ 8,000,000.00
FY22	\$ 4,718,000.00	\$ 4,782,000.00	\$ 2,500,000.00	\$ 12,000,000.00
FY23	\$ 4,783,954.00	\$ 3,178,798.00	\$ 6,000,000.00	\$ 13,962,752.00
FY24	\$7,761,254.87	\$3,277,053.34	\$ -	\$11,038,308.21