

FISCAL YEAR

2023

SECTION V

CAPITAL PLAN

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Capital Budget details, focused on the City of Lowell's public investment plan.

**CONOR BALDWIN**  
**CHIEF FINANCIAL OFFICER**

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The City of **LOWELL** *Alive. Unique. Inspiring.*

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Thomas A. Golden, Jr., *City Manager*

Conor M. Baldwin, *Chief Financial Officer*

### **A MESSAGE FROM THE CITY MANAGER**

The FY2023 capital plan submission represents the first year of a revamped five-year capital improvement plan (“CIP”) under my Administration. It is my intention to shift the focus of our attention and resources towards several key areas including economic development, “curb appeal”, infrastructure improvements, fiscal management, public safety, education, and quality of life in all city neighborhoods. This document and the recommendations for investments included herein are the first step in moving the City of Lowell forward. Capital assets are expensive: from planning, to construction, to operations and maintenance. Therefore, maintaining capital infrastructure in the condition necessary to preserve and enhance your community’s vitality and quality of life takes forethought and planning. This plan is a best practice in long-range capital planning, budgeting, and asset maintenance planning, which will be used by the City as a foundation to build a better Lowell for generations to come.

A capital improvement program provides a blueprint for planning a community's capital expenditures and is one of the most important responsibilities of local government officials. It coordinates community planning, financial capacity, and physical development. Decisions made during this process will have an impact on the City of Lowell and taxpayers for years to come. In order to glean the most efficient outcome from this task and arrive at decisions which include expertise from all areas, I have established a Capital Improvement Committee – comprised of the Chief Financial Officer, Deputy CFO, Assistant City Manager/ DPD Director, DPW Commissioner, City Engineer School Business Manager, Police Superintendent, and Fire Chief. They have met to ensure citywide needs are addressed adequately through this plan. The city uses its five-year financial projections for revenue and expenditures, in addition to its five-year capital plan, to formulate budget guidelines for departments. The City has established a debt management and capital investment policy to guide the five-year plan and a copy of the policy is included each year in the presentation of the annual budget. The Committee has taken into account all relevant policy guidelines in this submission to the City Council.

The funding for the capital budget is different than that of the Annual Operating Budget. Rather than revenue from the tax levy, intergovernmental aid (such as Chapter 70 Education Aid from the Commonwealth), and other local receipts; projects funded in the capital budget are financed primarily through the sale of bonds. Typically, these bonds are issued for time periods ranging from five to 30 years, over the course of which the City of Lowell pays off the debt principal and interest, annually, from the general fund and are budgeted within each

## PUBLIC INVESTMENT CAPITAL PLANS

Annual Budget. Paying the debt over time has the advantage of allowing capital expenditures to be amortized over the life of the projects. Careful analysis is performed each year by the finance department, in concert with financial advisors and bond counsel, prior to any debt issuance. Portions of that analysis as it relates to the current fiscal year and the 5-year outlook are presented here for informational purposes.

Other financing sources, however, are also part of the overall financing plan for the capital plan. The City of Lowell has had great success securing various state and federal grants for infrastructure improvements and other capital investments. These grants from other funding sources outside of the city help mitigate the impact to the Lowell taxpayers for improvements to roads, bridges, and buildings. Without these outside funding sources, Gateway Cities like Lowell would be unable to pursue an aggressive capital campaign without overly burdening the residential taxpayers. These other funding sources, however, are not presented within the capital plan submission for approval by the City Council and the only appropriation authority requested is through the loan order for the city's share capital improvements in FY2023, specified in this submission. Other funding sources are presented for informational purposes only.

I am thankful for the diligent efforts of my staff to coordinate this worthy endeavor. Capital planning is critical component of municipal governance. Buildings, infrastructure, technology, and major equipment are the physical foundation for providing services to Lowellians. The procurement, construction, and maintenance of capital assets all require careful planning and therefore a prescribed process for prioritization of the many projects must be followed. A properly prepared capital plan—one which contains recommendations from subject matter experts at City Hall and balances fiscal realities with the desires of the residents and the direction of the City Council—is essential to the future financial health of the organization.

A message from Chief Financial Officer, Conor Baldwin analyzes the financial impact of the proposed plan on the City's operating budget, and details the process by why the Capital Improvement Committee derived the proposed list of projects included in the capital plan. While it will not be possible to fund all necessary projects in an accelerated time frame, it is important to at least consider them. In the short term, we may have to spend more from our operating budget on repair and maintenance of our equipment, vehicles and buildings. We may also need to amend the priorities of this plan as it is being implemented. It is imperative that we monitor these situations carefully and shift priorities if it appears that maintenance costs are too high relative to replacement costs.

## **CAPITAL PLAN SELECTION CRITERIA**

The basic criteria for a project to be included in the capital plan remained unchanged for FY2023. A project must cost at least \$25,000 and it must have a useful life of at least five years. The project itself can be an improvement to land, buildings or infrastructure, or it can be for vehicles or equipment. Generally, allowable purposes for municipal borrowing are authorized by statute in G.L. c. 44 s. 7-8. We waived the \$25,000 requirement for vehicles, since we often need many at one time. We have excluded police cruisers from the capital since cruisers only have a life of two to three years and are purchased through the operating budget on a pay-as-you-go basis.

The following are the key criteria that are used to prioritize each project:

- The level of effect on public health & safety
- Whether the project is mandated now, or could be in the future
- Effect on operating costs
- Whether the project fits in with the City Manager's strategic goals
- The level of external funding available to leverage City resources
- Impact on economic development
- Financial return or cost
- Potential public support or opposition
- Breadth of benefit based on the population served
- Priority given by the submitting department
- Whether the project is a prerequisite to another project

As part of this year's Capital Plan, it my intent and philosophy to empower the various department heads in the City. My finance team asked the various departments to update their list of priorities based on the aforementioned criteria. The department heads are the most knowledgeable in their particular area and are best suited to decide what infrastructure and equipment needs associated with their department are most vital to helping the city thrive. They were given broad guidelines on what we were looking to accomplish this year as well as an estimate of what was financially feasible. Their submissions were reviewed and weighed based on the above set criteria as well as how they fit into the City's overall focus on infrastructure and the three pillars of public safety, education, and economic development. Each department head was tasked with reviewing the existing projects submitted in prior years and submitting any new projects for funding, while prioritizing all capital requests which fall under their department's purview.

*(SELECTION CRITERIA CONTINUED)*

Although it would be easy to justify the inclusion of more vehicles each year, we must balance the need for both vehicles and infrastructure improvements. Ideally, our fleet should average no more than one half the expected lives of the vehicles. At that point half of the vehicles would be fairly young and half fairly old. Until we get to that point, we will continue to adjust replacement plans for considerations beyond expected life, but as we approach our targets, replacement will become more uniform and predictable.

In general, our primary focus this year is on infrastructure projects with “curb appeal.” By that we mean those projects that enhance the physical appearance of the City. Other projects that have been selected for funding are in the areas of public safety, education, or economic development.

Finally, in prioritizing the vehicles, we relied quite heavily on the expertise of the staff that repairs the vehicles, as well as the department heads themselves. Some of the requested funds are in amounts that differ from the replacement cost. Vehicles to be replaced with ones of a slightly different type are marked with an asterisk.

## A MESSAGE FROM THE CFO

This plan lays out the capital priorities for the City of Lowell for the next five years, but the projects proposed for funding are solely within the current fiscal year (FY2023). All additional projects are presented here for discussion purposes only and will be reassessed depending on future funding needs and fiscal realities. Most vehicles have been removed from the plan, in the out years, to allow for a comprehensive reassessment of the fleet, which is underway but incomplete. Also, four other major capital investments are occurring concurrently with the advancement of the capital plan: the TIGER bridge project, Lord Overpass construction, and the Lowell High School project. TIGER is funded primarily through a federal TIGER grant, and the LHS is in construction. While the financing for these projects undoubtedly impacts the future operations of the city and carry significant budgetary considerations, the scale of these two projects and the size of funding other than city bond proceeds warrant separate discussion, outside of the capital improvement plan. The debt service impact is included in all forecast models for budget planning purpose.

The City of Lowell is positioned well to solidify its revitalization and through strategic investments in education, public safety, and infrastructure. By doing so, Lowell will jump-start the next wave of investment in our most valuable resource: our residents. The proposed investments in roads, buildings, traffic signalization improvements, public safety, and parks and recreation amenities dovetail nicely with available state and federal dollars destined for the city. Through this plan we are making a significant investment in the building and infrastructure improvements.

Older mill cities face unique challenges in combating urban decay and Lowell has, time and again, shown its leadership by encouraging redevelopment of historic buildings throughout the city. Unfortunately, the main thoroughfares of the city have continued to deteriorate and recent engineering studies of our Pavement Condition Index (PCI) have shown that repaving and repairing using only the funding allocated from the Commonwealth through the Chapter 90 program is insufficient. That is why the City Manager included an amount of \$3 million to be included in this capital plan request to the City Council. This is in addition to the approximately \$1.8 million appropriated by the Commonwealth through Chapter 90 for a total of over \$4.8 million in FY2023. The supplemental City appropriation allows us to also focus on unaccepted streets, providing greater flexibility for what streets can be paved and repaired.

While every project submission from Department Heads was worthy of consideration and deserving in its own right, our funding capacity is limited by the Administration's desire to keep any increase in residential and commercial taxes minimal. However, I am confident this capital request represents a set of initiatives that represent the priorities of the Administration and will not significantly burden the operating budget. A summary of the projects is listed on the next page, with additional detailed descriptions and financing plans immediately following, for information and discussion purposes.

**PRIOR YEARS - SELECTIVE CAPITAL PROJECT UPDATES**

**LOWELL POLICE DEPARTMENT (LPD) UPDATES**

**1. VIDEO SURVEILLANCE EQUIPMENT \$500,000**

Fiscal Year	Original Budget	Amount Spent (To Date)	Amounts Encumbered	Amount Available
FY2016	\$500,000	\$479,938	\$19,717	\$345

Status Update

Clemente Park camera is operational and the video computer in the wagon has been updated. Additional cameras have been installed within the City. We are currently troubleshooting one remaining issue.

**2. LPD LOCKER ROOM UPGRADES \$665,000**

Fiscal Year	Original Budget	Amount Spent (To Date)	Amounts Encumbered	Amount Available
FY2017	\$475,000	\$474,735	\$0	\$265
-	\$190,000	\$185,421	\$0	\$4,579

Status Update

Completed in February 2021.

**3. COMPUTER AIDED DISPATCH (CAD) SYSTEM UPDATES \$375,536**

Fiscal Year	Original Budget	Amount Spent (To Date)	Amounts Encumbered	Amount Available
FY2018	\$375,536	\$315,639	\$28,960	\$30,937

Status Update

The LPD has been completing these upgrades by phases. The COBOL programming has been updated to C-Sharp programming. Larimore has been rewriting the programming, which was done by modules. The majority of the modules within Larimore have been updated. Due to the current state of emergency, the final phases have been delayed and we plan to complete this project by June 30, 2023. All funds will be utilized when the project is completed.

**4. POLICE & FIRE DEPARTMENT EQUIPMENT UPGRADES \$610,000**

Fiscal Year	Original Budget	Amount Spent (To Date)	Amounts Encumbered	Amount Available
FY2019	\$610,000	\$606,279	\$0	\$3,721

Status Update          68190000-589118-LPD19

Motorola has installed equipment. There are some additional purchases that need to be completed. All funds will need to be utilized for this project.

(LPD UPDATES CONTINUED)

**5. POLICE & FIRE DEPARTMENT SOFTWARE/ EQUIPMENT \$152,988**

Fiscal Year	Original Budget	Amount Spent (To Date)	Amounts Encumbered	Amount Available
FY2019	\$152,988	\$83,440	\$0	\$69,548

Status Update 68190000-589118-CAD19

LPD utilized this funding for the necessary Records Management System upgrades (Larimore). The majority of the modules within Larimore have been updated and we expect this project to be complete no later than June 30, 2023 due to the current state of emergency. All funds will need to be utilized for this project.

**6. POLICE & FIRE DEPARTMENT EQUIPMENT \$6,329,022**

Fiscal Year	Original Budget	Amount Spent (To Date)	Amounts Encumbered	Amount Available
FY2020	\$6,329,022	\$5,289,374	\$188,891	\$850,757

Status Update

Lowell Police and Fire are now operating on the new Motorola radio equipment that has been installed. We are in the process of removing any of the old radio equipment from sites. The last item we are working on is the relocation of a microwave link due to the new Freshman Academy that is being built. This project also funds the extended support and maintenance for the new infrastructure. All funds will need to be utilized for this project.

**7. POLICE GARAGE REPAIR \$240,000**

<b>Fiscal Year</b>	<b>Original Budget</b>	<b>Amount Spent (To Date)</b>	<b>Amounts Encumbered</b>	<b>Amount Available</b>
FY2020	\$125,000	\$115,587	\$0	\$9,413
FY2022	\$115,000	\$10,500	\$16,710	\$87,790

Status Update

Funding for this project had to be reallocated to the Locker Room Project, which delayed the start of this project.

**8. POLICE EVIDENCE STORAGE IMPROVEMENT \$80,000**

<b>Fiscal Year</b>	<b>Original Budget</b>	<b>Amount Spent (To Date)</b>	<b>Amounts Encumbered</b>	<b>Amount Available</b>
FY2020	\$80,000	\$17,249	\$0	\$62,751

Status Update

Funding for this project had to be reallocated to the Locker Room Project, which delayed the start of this project. The Project Design for the project was awarded to Gale Associates and the detailed specs were created for the construction. The bids for the Arch St roof projects were closed on 2/16/2022. Due to the supply chain shortages this project is estimated to be completed 8/22 – 9/22.

(LPD UPDATES CONTINUED)

**9. POLICE PARKING SURVEILLANCE \$35,000**

<b>Fiscal Year</b>	<b>Original Budget</b>	<b>Amount Spent (To Date)</b>	<b>Amounts Encumbered</b>	<b>Amount Available</b>
FY2022	\$35,000	\$0	\$0	\$0

Status Update

Argus Construction was awarded the Arcand Fence Project for \$61,500 and was started on 2/8/2022. The project is expected to be completed by the end of February 2022. The additional funds of \$26,500 were to be taken from the Building Security Project.

**10. POLICE HEAD QUARTER BUILDING SECURITY \$165,000**

<b>Fiscal Year</b>	<b>Original Budget</b>	<b>Amount Spent (To Date)</b>	<b>Amounts Encumbered</b>	<b>Amount Available</b>
FY2022	\$165,000	\$0	\$0	\$0

Status Update

Some funding was used for the Police Parking Lot Fence Project. Waiting to obtain new costs estimates from vendors.

**PRIOR YEARS - SELECTIVE CAPITAL PROJECT UPDATES (DPW)**

<b>FY22 School Infrastructure Improvement and Repair Projects (as of April 2022)</b>			
	<b>Project Description</b>	<b>Status</b>	<b>Estimated Construction Cost or Assessment Cost</b>
1	Bailey School MSBA ARP Roof and Boiler Replacement	Complete	\$2,600,000
2	Daley School MSBA ARP Boiler Replacement	Complete	\$1,600,000
3	Freshman Academy Roof Replacement	Construction pending summer/fall 2022. Materials being procured.	\$1,270,000
4	Greenhalge MSBA ARP Boiler Replacement	Complete	\$1,400,000
5	JG Pyne School hot water heater installation	Completed by DPW staff, paid by LPS	\$30,000
6	Lowell High School 1922 Flood Renovation	Complete, Project closeout remains	\$3,000,000
7	McAuliffe MSBA ARP Boiler Replacement	Complete	\$1,500,000
8	Schematic Design: McAuliffe MSBA ARP Roof Replacement	Schematic Design underway, Construction anticipated 2023	\$102,500
9	Morey School HVAC Retro-Commissioning Project	Complete	\$91,580
10	Reilly School Boiler Repairs	Completed by DPW staff	\$92,750
11	Reilly School Univent Replacement	Punchlist work remains	\$342,000
12	Schematic Design: Robinson School MSBA ARP Project, Roof, Windows, Doors, and Boiler Replacement	Schematic Design underway, Construction anticipated 2023	\$102,500
13	Schematic Design: Shaughnessy School MSBA ARP Boiler Replacement	Schematic Design underway, Construction anticipated 2023	\$102,500
14	Stem Academy MSBA ARP Boiler Replacement	Complete	\$2,100,000
15	Stoklosa School Fire Alarm Panel Replacement	Complete	\$19,273
16	Stoklosa School HVAC Retro-Commissioning Project	Complete	\$76,571
17	Sullivan School MSBA ARP Roof and Boiler Replacement	Complete	\$4,000,000
18	Schematic Design: Wang School MSBA ARP Roof and Boiler Replacement	Schematic Design underway, Construction anticipated 2023	\$102,500
19	School Wide HVAC Assessment	Contract to be executed upon ESSER funding approval	\$363,900
20	Morey School Fence Installation	In process (procurement) by DPD staff	\$17,000
		<b>SubTotal:</b>	<b>\$18,896,074</b>

**PRIOR YEARS - SELECTIVE CAPITAL PROJECT UPDATES (DPW)**

<b>FY22 Energy Management School Infrastructure Projects (as of April 2022)</b>			
	<b>Project Description</b>	<b>Status</b>	<b>Estimated Construction Cost or Assessment Cost</b>
1	Stoklosa School VFD Replacements	Complete	\$78,763
2	Stoklosa School EMS/Retro-commissioning	Complete	\$99,990
3	Morey School Retro-commissioning	Complete	\$91,580
4	Laura Lee LED lighting	Complete	\$10,795
5	Career Academy (Molloy School) LED lighting	Complete	\$30,554
6	Pawtucketville School Energy Efficient Transformers	Complete	\$37,096
7	Wang School Energy Efficient Transformers	Complete	\$66,500
8	Greenhalge School Energy Efficient Transformers	Complete	\$16,637
9	McAuliffe School Energy Efficient Transformers	Complete	\$25,736
10	Murkland School Energy Efficient Transformers	Complete	\$18,633
11	Bartlett School Energy Efficient Transformers	Complete	\$12,563
12	Bartlett School LED lighting	Construction to be complete by Apr vacation	\$99,082
13	Murkland School LED Lighting	In process (construction to begin in April)	\$91,360
14	Daley School Energy Efficient Transformers	In process (contracting) by DPD staff	\$12,044
15	STEM Academy Energy Efficient Transformers	In process (contracting) by DPD staff	\$11,165
16	Lincoln School LED	In process (contracting) by DPD staff	\$84,337
17	LHS Runwise Boiler Monitoring and Management System	In process (contracting) by DPD staff	\$34,000
18	Robinson Middle School - Retro-commissioning study	In process (procurement) by DPD staff	\$15,000
19	Solar Development on multiple facilities	In process (procurement development) by DPD staff	TBD
20	Steam Trap Repairs (various Schools)	Applying for grant April 2022	\$73,608
21	Stoklosa School Weatherization	Applying for grant April 2022	\$94,315
22	Stoklosa School LED - final phase	Applying for grant April 2022	\$89,460
23	Robinson Middle School - LED lighting Phase II	Planning	\$86,715
24	Morey School Retro-commissioning Deficiencies	Planning	\$58,503
25	Morey School Weatherization Building Envelope	Planning	\$87,302
		<b>SubTotal:</b>	<b>\$1,325,738</b>

LOWELL HIGH SCHOOL PROJECT UPDATE



**LOWELL HIGH SCHOOL PROJECT UPDATE**

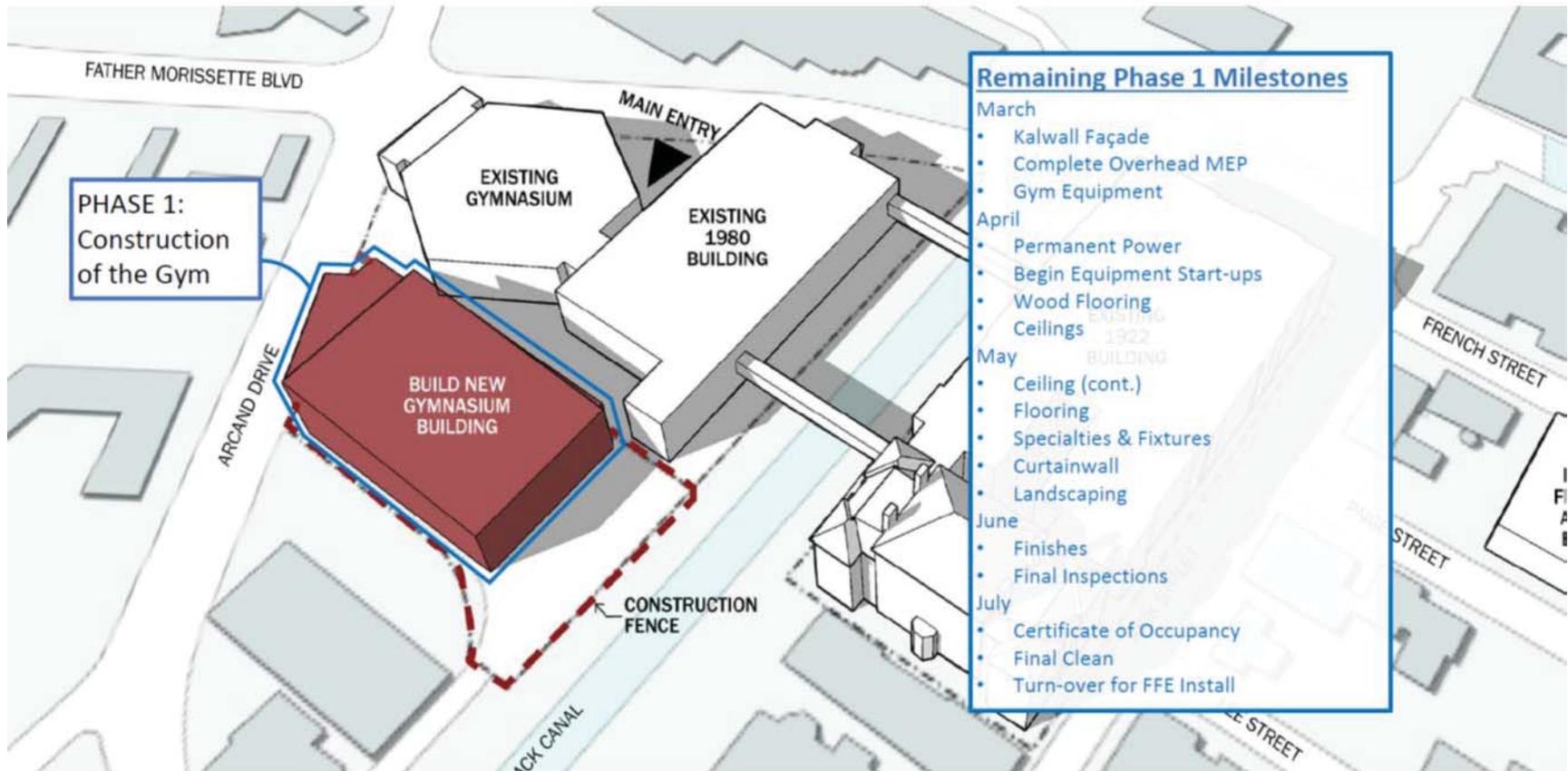
<b>OWNER’S PROJECT MANAGER (“OPM”) UPDATE – 3/31/2022</b>	
COMPANY NAME	SKANSKA BUILDING USA
<b>CONTRACT SUMMARY</b>	
ORIGINAL CONTRACT AMOUNT	\$458,760
CONTRACT AMENDMENTS (TO DATE)	2
VALUE OF CONTRACT AMENDMENTS (TO DATE)	\$9,006,810
TOTAL CONTRACT AMMOUNT	\$9,465,570
<b>PAYMENT SUMMARY</b>	
TOTAL CONTRACT AMOUNT	\$9,465,570
INVOICES PAID (TO DATE)	\$3,281,692
INVOICES RECEIVED (REPORTING PERIOD)	\$123,905
CONTRACT AMOUNT REMAINING	\$6,059,973
OPM ACTIVITIES (REPORTING PERIOD)	<ul style="list-style-type: none"> <li>● Skanska is working with Suffolk in the final stages of preparation for establishing the final GMP. PCO meetings continue weekly. PCO review and comments process is ongoing daily. Updated budgets and PCO logs are consistently maintained.</li> <li>● The forecasted final GMP budget was presented to the City Council at \$38,568,011 over budget due to COVID impacts and the City Council approved a loan order to cover the overage. The City is working on options for securing ARPA and other COVID funding sources to assist with or cover the overage.</li> <li>● The Project Team continues to address supply chain issues. Requests from trade partners for change orders due to material cost increases have been declined as they are not contractually entitled to cost increase changes.</li> </ul>

<b>DESIGNER UPDATE – 3/31/2022</b>	
COMPANY NAME	PERKINS EASTMAN/ DPC
<b>CONTRACT SUMMARY</b>	
ORIGINAL CONTRACT AMOUNT	\$1,095,000
CONTRACT AMENDMENTS (TO DATE)	9
VALUE OF CONTRACT AMENDMENTS (TO DATE)	\$26,174,816
TOTAL CONTRACT AMOUNT	\$27,269,816
<b>PAYMENT SUMMARY</b>	
TOTAL CONTRACT AMOUNT	\$27,269,816
INVOICES PAID (TO DATE)	\$20,562,395
INVOICES RECEIVED (REPORTING PERIOD)	\$119,162
CONTRACT AMOUNT REMAINING	\$6,588,259
DESIGNER ACTIVITIES (REPORTING PERIOD)	<ul style="list-style-type: none"> <li>• Continuing to actively review submittals. Field bulletins are being reviewed and quantified in submittals and RFIs.</li> <li>• Phasing coordination is ongoing. Requisitions and meeting minutes are reviewed and responded to monthly by PE. Monthly and weekly inspections are conducted by AE and consultants. Continues to work with Skanska on Move Management</li> </ul>
30 DAY LOOK AHEAD	<ul style="list-style-type: none"> <li>• Field Bulletin, Submittal and RFI work continues along with weekly inspections</li> </ul>

(LOWELL HIGH SCHOOL UPDATE CONTINUED)

<b>GENERAL CONTRACTOR UPDATE – 3/31/2022</b>	
COMPANY NAME	SUFFOLK CONSTRUCTION COMPANY
<b>CONTRACT SUMMARY</b>	
ORIGINAL CONTRACT AMOUNT	\$800,000 (Pre-Construction)
CONTRACT AMENDMENTS (TO DATE)	8
VALUE OF CONTRACT AMENDMENTS (TO DATE)	\$209,996,844
CONTRACT TYPE	CM AT-RISK (MGL c. 149A)
TOTAL CONTRACT AMMOUNT	\$210,796,844
<b>PAYMENT SUMMARY</b>	
TOTAL CONTRACT AMOUNT	\$210,796,844
INVOICES PAID (TO DATE)	\$37,221,108
INVOICES RECEIVED (REPORTING PERIOD)	\$5,218,636
CONTRACT AMOUNT REMAINING	\$168,357,100

# Phase 1 Progress Report





Gym – Looking East



Gym – Looking West



Gym – Looking East



# **FISCAL YEAR 2023 CAPITAL PROJECT DETAILS**

**FY2023 CAPITAL PROJECTS – CITY SHARE ONLY (SUMMARY)**

<b>PROJECT</b>	<b>PROJECT DESCRIPTION</b>	<b>FY23 COST</b>
2023-01	AMERICANS WITH DISABILITIES ACT (“ADA”) CAPITAL IMPROVEMENTS	\$835,500
2023-02	CITY-WIDE PAVING AND SIDEWALK IMPROVEMENTS	\$3,010,000
2023-03	CENTRAL STREET BRIDGE CONSTRUCTION	\$2,000,000
2023-04	“CAMBODIA TOWN” INFRASTRUCTURE PROJECT	\$250,000
2023-05	VAULT ABANDONMENT PROGRAM	\$150,000
2023-06	TRAFFIC SIGNALIZATION	\$400,000
2023-07	MASTER PLAN IMPLEMENTATION: WAYFINDING	\$250,000
2023-08	WESTFORD STREET LANDFILL – ENVIRONMENTAL COMPLIANCE	\$100,000
2023-09	PARKS & OPEN SPACE (KOUMANTZELIS/ CITY-SIDE BASEBALL)	\$700,000
2023-10	MARKET STREET BRIDGE DESIGN	\$280,000
2023-11	DPW PORTABLE GENERATOR	\$80,000
2023-12	INLAND STREET IMPROVEMENTS	\$700,000
2023-13	DPW VEHICLE/ EQUIPMENT REPLACEMENT	\$350,000
2023-14	SCHOOL BUILDING IMPROVEMENTS (VARIOUS)	\$2,333,000
2023-15	DPW – BRINING SYSTEM (SNOW OPERATIONS)	\$125,000
2023-16	CITY HALL BATHROOM IMPROVEMENTS	\$500,000
2023-17	FIRE APPARATUS REPLACEMENT	\$60,000
2023-18	LPD HQ REMEDIATION	\$65,000
2023-19	LPD BODY CAMERA PROGRAM	\$725,000
<b>TOTAL</b>		<b>\$12,913,500</b>

**PROJECT NUMBER: 2023-01**

**AMERICANS WITH DISABILITIES ACT (“ADA”) CAPITAL IMPROVEMENTS**



**IMPACT ON THE OPERATING BUDGET**

*THIS FUNDING WILL IMPROVE THE QUALITY OF LIFE FOR RESIDENTS AND VISITORS OF LOWELL WHO HAVE DISABILITIES. THE CITY OF LOWELL IS COMMITTED TO PROVIDING ACCESS OPPORTUNITIES IN ALL PUBLIC SPACES AND HAS COMMITTED FUNDING TOWARDS THAT END. THESE FUNDS WILL SERVE TO SUPPLEMENT OTHER CAPITAL MONIES TO IMPROVE STREETS, SIDEWALKS, AND CURBING, FURTHER REDUCING OPERATING COSTS WHILE ALLOWING FOR ACCESSIBILITY. THE DEBT SERVICE WILL BE PAID BY THE GENERAL FUND OPERATING BUDGET.*

**EXISTING CONDITIONS/ COMMENTS**

This project funding request from the Office of the City Manager continues the City Manager’s pledge/commitment to fund an amount equal to 5% of the subtotal of all Capital Plan projects in order to continue implementing the ADA Transition Plan prepared for several City properties, and to act as matching funds for subsequent ADA Transition Plan preparations.

**PROJECT NUMBER: 2023-01**

**FINANCING PLAN: ADA IMPROVEMENTS/ UPGRADES**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>AMERICANS WITH DISABILITIES ACT ("ADA") IMPROVEMENTS</b>		<b>\$ 835,500</b>
ACCESSIBLE MUNICIPAL FACILITIES/ INFRASTRUCTURE IMPROVEMENTS	\$ 417,750	
ACCESSIBLE PARKS/ PLAYGROUNDS	\$ 417,750	
	<b>TOTAL PROJECT BUDGET</b>	<b>\$ 835,500</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 835,500</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 835,500	
	<b>TOTAL FINANCING SOURCES</b>	<b>\$ 835,500</b>

**PROJECT NUMBER: 2023-02**

**CITY-WIDE PAVING AND SIDEWALKS IMPROVEMENTS**

There are approximately 280 miles of roadway in the City, the majority of which are City-Owned. There are nearly 192 miles of accepted City Streets, 44 miles of unaccepted City maintain streets, 12 miles of private streets, and 32 miles of State roadway maintained by the Massachusetts Department of Transportation (MADOT). To help the City of Lowell consistently provide a first-class roadway network to its citizens, BETA Group, Inc. was retained to maintain a Pavement Management Program (“PMP”) for the City’s 235 miles of maintained roadways. A PMP involves the identification of the existing network, evaluation of the roadway surface conditions, and the specification of its maintenance practices with associated costs. Pavement management software utilizes roadway inventory and distresses to create an extensive and powerful database used for subsequent analysis and report generation. This database was created by evaluating actual roadway infrastructure conditions that allowed for the formulation of a prioritized list of roadways and improvements. Ultimately, the objective of this study was to gain a greater understanding of the City’s roadways and to develop short and long range Capital Improvement Plan. During FY22, the city received approximately \$1.8 million apportioned by the Commonwealth’s Chapter 90 road paving program.

**PAVEMENT MANAGEMENT CONCEPTS**

The typical life of an untreated road is about 20 years, over the first 75% of a road’s life, it will drop 40% in quality. Over the next 12% of its life, it will drop another 40% in quality. Once the road past the point of accelerated deterioration (RSR or PCI below 65), its will require reconstruction.

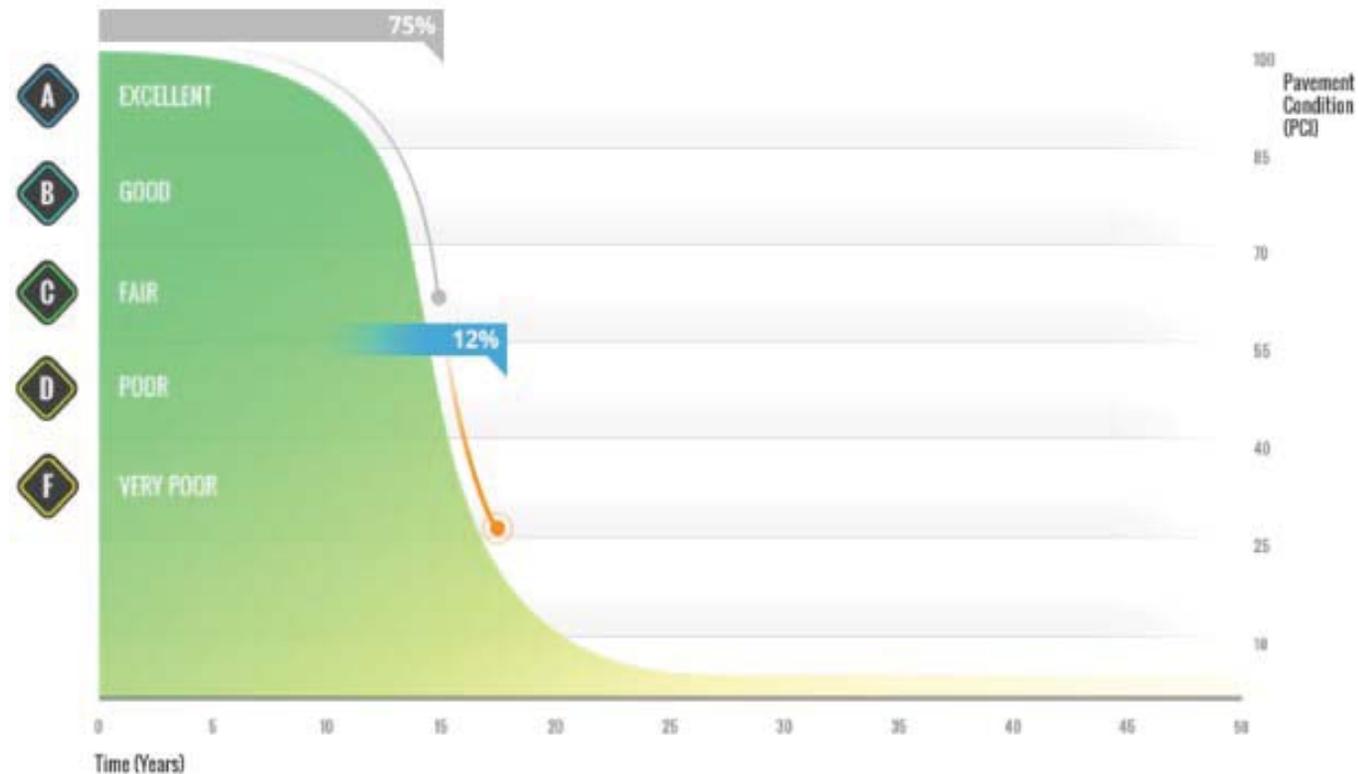
Pavement management is the basis of the development of a city-wide roadway improvement program. This system accurately models roadway conditions, predicting future deterioration. The key concept of maintaining a high level of service to users is to make timely repairs, to avert more expensive reconstructions.

## PUBLIC INVESTMENT CAPITAL PLANS

(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)

A pavement management program formalizes the prediction process by collecting, organizing, and maintaining a complete database that describes a particular roadway; traffic volume, repair service life, condition, and cost for the suggested repair method.

This database then becomes the basis for a historical record of the City infrastructure that will help manage and evaluate existing and projected roadway conditions. Pavement deteriorates in an accelerated fashion, so the goal is to save money and resources in both the short and long term by developing a repair strategy that utilizes available funding efficiently and responsibly, maximizing expenditures, while meeting the overall goals set by community leaders.



*(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)*

## **2023 ROADWAY SURVEY UPDATE**

The City of Lowell completed a city-wide assessment in the Fall of 2021 to evaluate and rate the condition of all roadways within the City. The pavement management process is conducted with the intent to keep the roadway system in the best possible condition with the most efficient use of available funds. Data is collected then convert to an industry standard 0-100 scale Road Surface Rating (RSR), each roadway will be placed into a repair category. RSR rating of 100 is a newly paved road and a rating of 0 is a gravel/dirt road.

All city's roadway is placed into the following repair categories:

- No Maintenance Required
- Routine Maintenance (Crack seal, Fog seal)
- Prevention Maintenance (Micro surfacing, Chip Seal, Cape Seal, Thin Asphalt Overlay)
- Minor Rehabilitation (Mill and Overlay)
- Major Rehabilitation (Full-Depth Reclamation)

### **A. Routine Maintenance:**

Crack Seal: During the crack seal process, compressed air is used to clean out any dirt, debris or water from cracks. Then a heated asphalt compound is applied to the crack, filling the void within the pavement. Crack seal is a cost effective method to treat all types of cracks greater than 1/8".

Fog Seal: Fog seal is a single application of light emulsified asphalt to an existing asphalt surface. It protects the pavement structure from moisture intrusion and oxidation. It addresses minor surface cracks and oxidation. Fog Seal is typically applied a few years after the road surface is installed.

### **B. Prevention Maintenance:**

Micro surfacing: Micro surfacing is an application of a mixture of water, asphalt emulsion, aggregate (very small crushed rock), and chemical additives to an existing asphalt pavement surface. Polymer is commonly added to the asphalt emulsion to provide better mixture properties. It can apply in a single or double layers double on the pavement distress conditions.

*(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)*

Chip Seals: Chip seal is a two-steps process which first an application of asphalt emulsion and then a layer of crushed stone to an existing asphalt pavement surface. It addressed minor cracking less than ¼”, raveling and oxidization.

Cape Seals: Cape seal is an application of a chip seal follow by the application of slurry seal or micro surfacing a week or two later.

Thin-asphalt Overlay: An ultra-thin (0.75” to 1”) of paving mix is place and compacted on the existing pavement. This application addressed low-severity cracking (<1/4”), raveling, friction loss and oxidation.

**C. Minor Rehabilitation:**

Mill and Overlay: Milling the top 1.5” – 2” of existing pavement from a road then install an overlay layer. This application is used on roads which have moderate cracking within the surface course of the road and the binder course and gravel subbase are still in good conditions.

**D. Major Rehabilitation**

Full Depth Reclamation: Full depth reclamation is a process which the deteriorated street is pulverized for a depth of 9-12 inches including the entire existing pavement thickness plus a portion of the underlying gravel sub-base. This pulverized material is blended together and recycle into a new homogeneous sub-base. New pavement will be installed on the upgraded subbase. This application is typically use on roads that have moderate to severe pavement distress and underlying base issue.

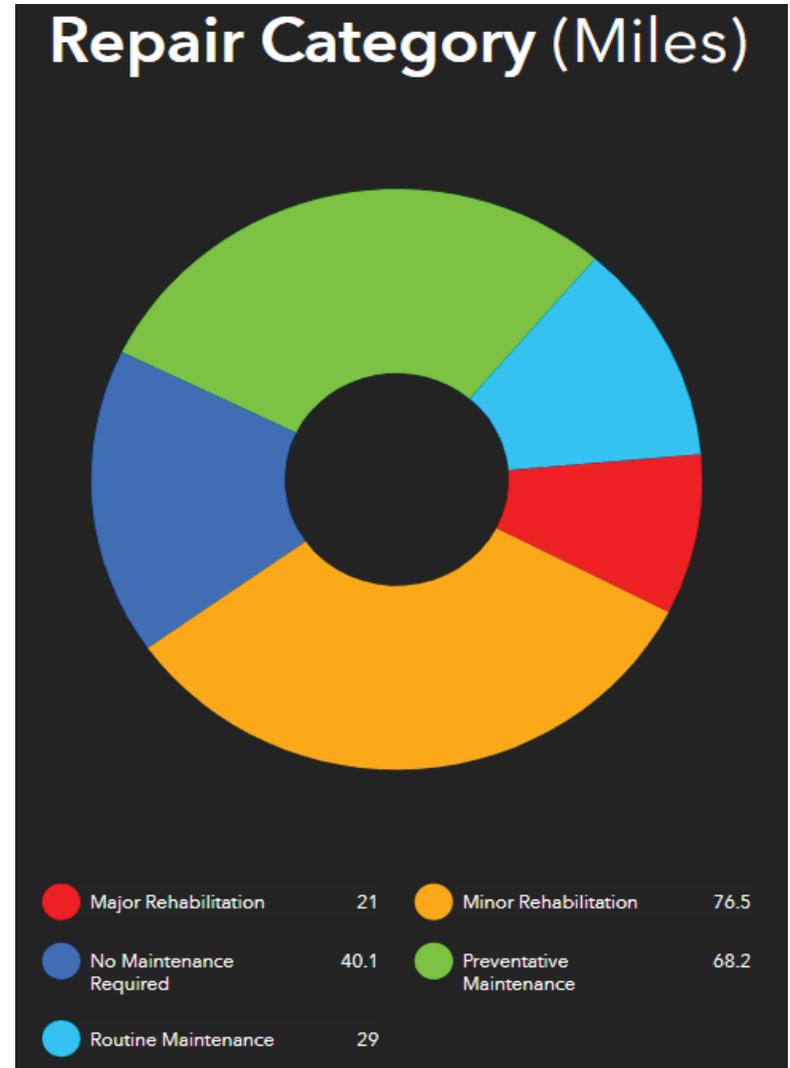
Reconstruction: Reconstruction is to include remove of the existing pavement and subbase, new roadbed base material is imported and compacted. New pavement will be installed on the new subbase. This application typically use on the road have moderate to severe pavement distress and underlying base issue, where existing subbase is non-suitable that require it to be removed and replaced.

(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)

Table 1: Estimated Life Spans of Pavement Treatments and RSR Value

Treatment Type	Estimated Life Span	RSR Value
Crack Seal	3-5 years	70-100
Fog Seal	2-4 years	70-100
Micro surfacing	6-8 years	70+
Chip Seals	5-7 years	60-90
Cape Seals	8-10 years	60-90
Thin-asphalt Overlay	8-10 years	70+
Mill and Overlay	12-15 years	45-70
Full depth reclamation	20-25 years	0-60
Reconstruction	20-25 years	0-60

The average RSR of Lowell’s roadway network is currently 70.8. An RSR of 72 is considered to be in fair condition. This Backlog Summary summarizes both the amount of roadway with its specific repair method and the estimated cost for doing each of those repairs.



(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)

**OVERALL: ROADWAY REPAIR BACKLOG SUMMARY**

Repair Method	Length (Miles)	Square Yards	Percent Repair	Estimated Cost
Major Rehabilitation	20.99	327,028.66	8.94%	\$ 15,697,375.57
Minor Rehabilitation	76.53	1,243,492.87	32.58%	\$ 23,875,063.18
Preventative Maintenance	68.18	1,142,784.79	29.03%	\$ 10,970,734.01
Routine Maintenance	29.04	487,778.47	12.36%	\$ 351,200.50
No Maintenance Required	40.13	664,304.19	17.09%	\$ -
<b>Total</b>	<b>234.87</b>	<b>3,865,388.98</b>	<b>100.00%</b>	<b>\$ 50,894,373.25</b>

The estimated cost accounts for curb to curb improvements only; does not include any drainage, sidewalk, ADA, gravel subbase or utility improvement.

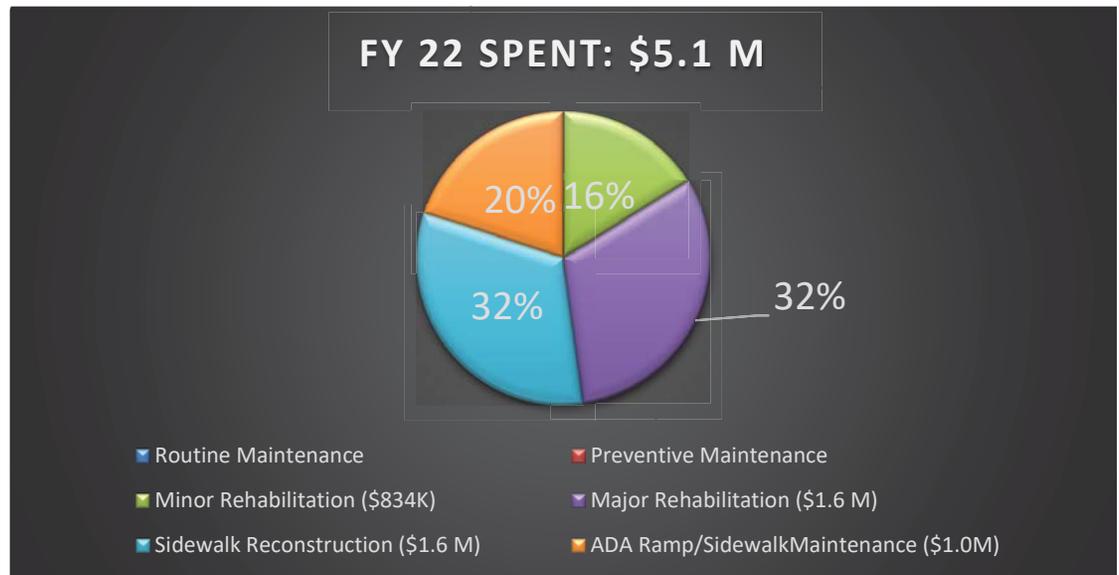
(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)

### CITY OF LOWELL ROADWAY CAPITAL IMPROVEMENT PLAN

Based on the updated data, Engineering Division is able to utilize analysis tools within our Pavement Management Program to prioritize repairs and develop a Capital Improvement Plan (CIP) that includes both reconstruction and maintenance practices. Maintenance priority is based on many considerations, not just the condition of the roadway itself. Factors that affect prioritization include but are not limited to:

- Condition of Roadway (including top course, base course, and gravel material),
- Road Surface Rating,
- Cost Benefit Value,
- Type of Roadway,
- Sidewalk Conditions,
- Adjacent projects planned by the City, State or private entity,
- Utilities conditions (water, sewer, drainage, gas, etc.),
- Input from residents, City Councilor, Manager’s office, School Department, and other municipal department,
- Cost of construction and/or maintenance work,
- Average daily volume of traffic.

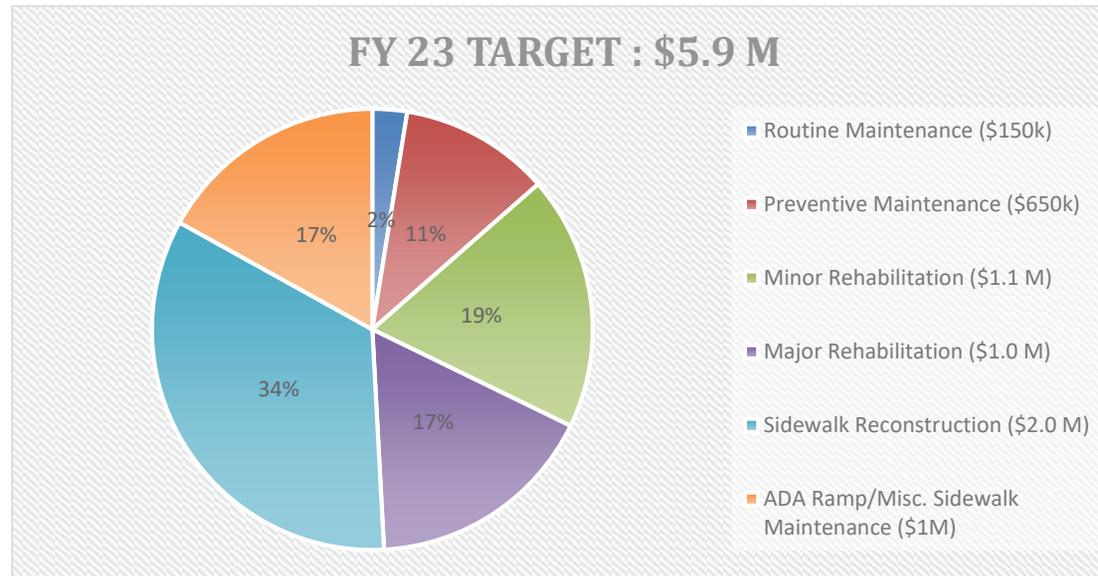
During FY22, the City received approximately \$1.88 million apportioned by the Commonwealth’s Chapter 90 road paving program and \$3.0 million Capital fund, total of approximate \$4.89 million. Engineering Division allocate \$5.1 million to the citywide roadway and sidewalk program as displayed in the accompanying graphic.



## PUBLIC INVESTMENT CAPITAL PLANS

(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)

For FY 23, Engineering Division propose allocation of funding as follows, including routine and preventive maintenance, minor and major roadway rehabilitation, and sidewalk reconstruction:



### *Proposed List of Sidewalk Reconstruction and Road Rehabilitation/Reclamation Project 2023 – 2024<sup>59</sup>*

Broadway: from School St to Wilder St  
Walker St: from Middlesex St to Pawtucket St  
Carl St: from Westford St to Technology Dr  
University Ave: from Riverside St to Dracut TL  
Hale St: from YMCA Dr to End  
Highland Ave: from Parker St to Pine St  
Wachusett St: from 12th St to 13th St  
Sidney Street: from Moore Street to End

<sup>59</sup> This street list is subject to change due to utility coordination and available budget/resources.

*(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)*

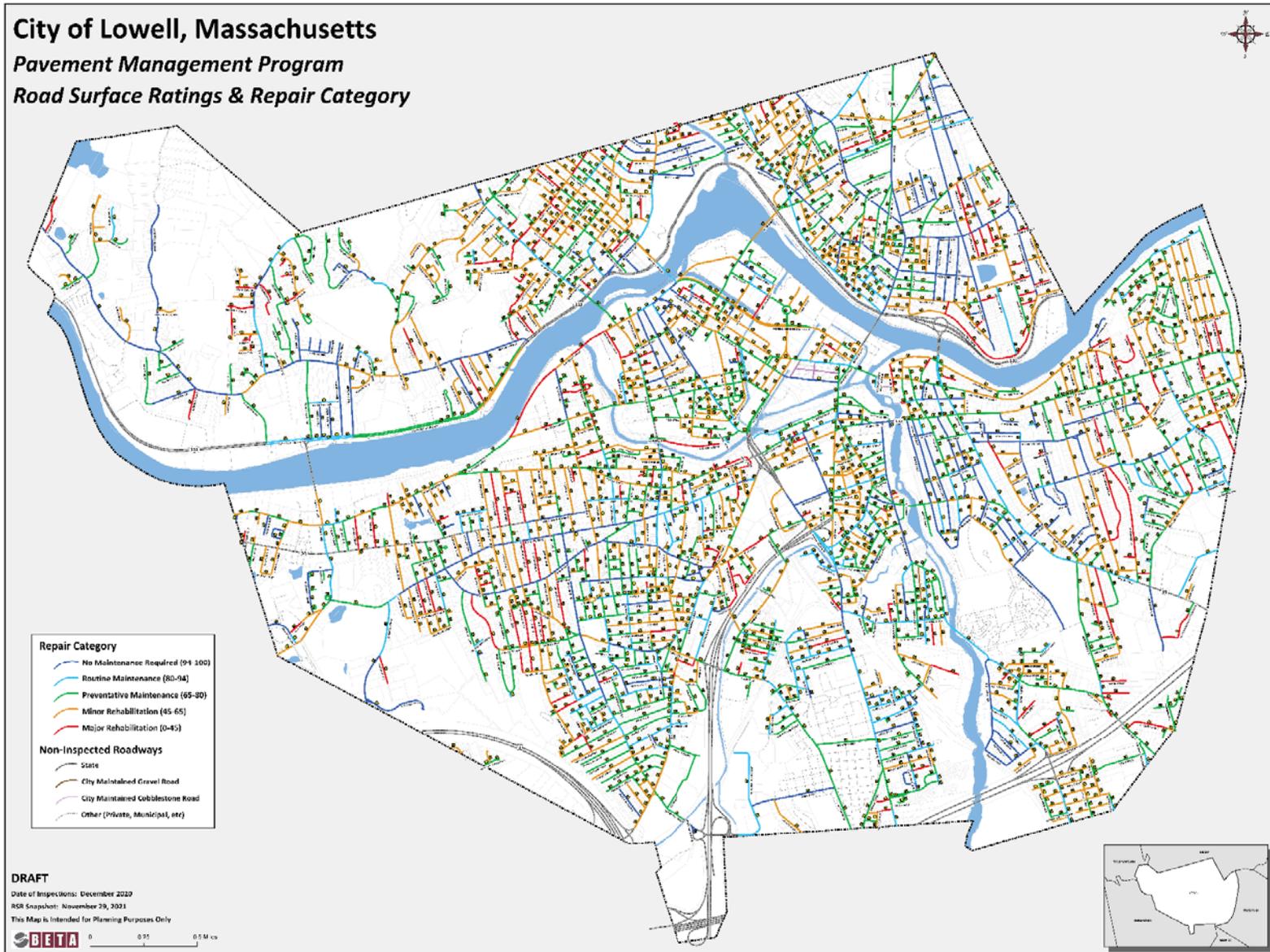
*Example of Street in need of rehabilitation (Walker Street)*



*Example of Street in need of rehabilitation (Broadway Street)*



(PROJECT 2023-02, CITY-WIDE PAVING CONTINUED)



**PROJECT NUMBER: 2023-02**

**FINANCING PLAN: CITY-WIDE PAVING/ SIDEWALKS PROGRAM**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY-WIDE PAVING &amp; SIDEWALKS PROGRAM</b>		<b>\$ 4,887,841</b>
PAVING - STREETS	\$ 3,087,841	
CRACK SEALING	\$ 150,000	
STREETS/ PREVENTATIVE MAINTENANCE PROGRAM	\$ 650,000	
SIDEWALKS & CURBING - IMPROVEMENTS	\$ 1,000,000	
	<b>TOTAL PROJECT BUDGET</b>	<b>\$ 4,887,841</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 3,010,000</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 3,010,000	
<b>INTERGOVERNMENTAL REVENUE</b>		<b>\$ 1,877,841</b>
MASSDOT FUNDING (CHAPTER 90) - FY2023 APPORTIONMENT	\$ 1,877,841	
	<b>TOTAL FINANCING SOURCES</b>	<b>\$ 4,887,841</b>

**PROJECT NUMBER: 2023-03**

**TIGER BRIDGE PROGRAM – CENTRAL STREET BRIDGE**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY OF LOWELL HAS EMBARKED ON A SIGNIFICANT, CITY-WIDE BRIDGE REPAIR PROGRAM OVER THE PAST SEVERAL YEARS WHICH HAS INCLUDED THE COMPLETE REPLACEMENT OF MULTIPLE CITY BRIDGES, FUNDED THROUGH A VARIETY OF SOURCES. THIS PROJECT CONTINUES THE MOMENTUM ON THE OTHER BRIDGES THROUGHOUT THE CITY. THESE REPAIRS ARE NECESSARY AND HAVE POSITIVE IMPACTS ON PUBLIC SAFETY AND ECONOMIC DEVELOPMENT. WHILE THE DEBT SERVICE WILL IMPACT THE OPERATING BUDGET, AS PROJECTS ARE COMPLETED AND BONDS ARE PERMANENTLY FINANCED, THERE WILL BE REDUCED MAINTENANCE COSTS INCURRED BY THE CITY IN ORDER TO PASS STATE INSPECTIONS. THESE BRIDGES ALSO PROVIDE CRITICAL ROUTES FOR PUBLIC SAFETY (POLICE, FIRE, & EMS), BUS SCHEDULED FOR SCHOOL CHILDREN, AND GENERAL TRAFFIC PATTERNS FOR RESIDENTIAL COMMUTERS.*

**EXISTING CONDITIONS/ COMMENTS**

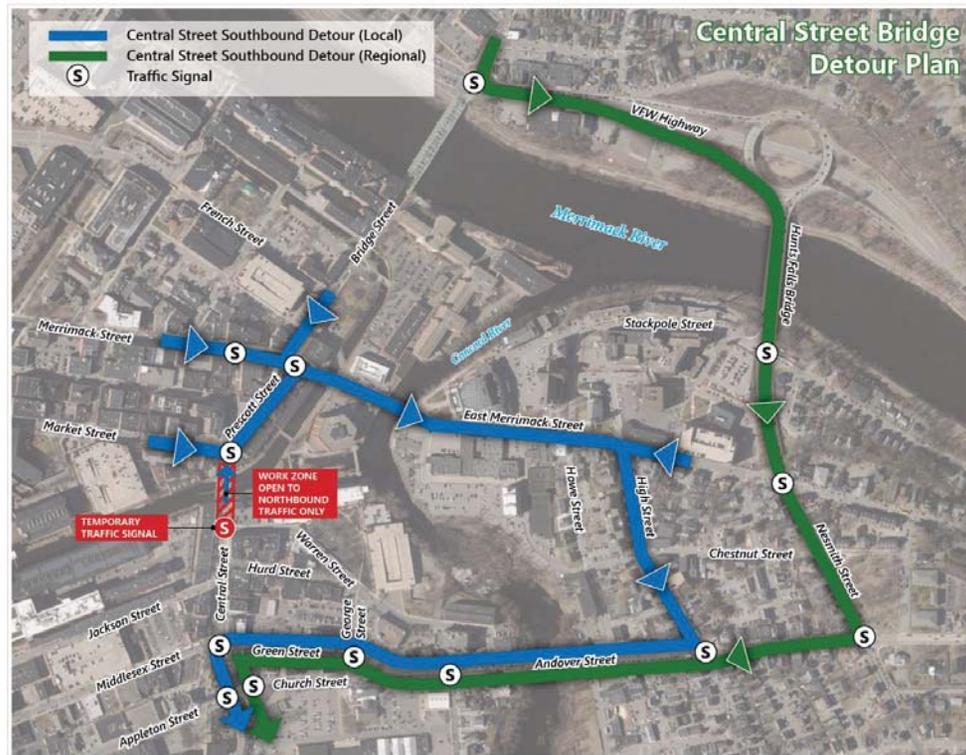
Construction of the Lowell Canal Bridges (TIGER) Program continues as scheduled, into 2022. Central Street over the Pawtucket Canal is the last of the five bridges scheduled for completion, with a current completion date anticipated in September 2022. The original construction sequencing included the superstructure to be rehabilitated within three phases to allow for two lanes of vehicular traffic, northbound and southbound, to travel in each direction across the bridge during construction. Upon receipt of a recent state bridge inspection report completed in September 2020, the overall rating of the Central Street over the Pawtucket Canal bridge was degraded to a rating of 3 (3 of 10), which although still safe for vehicular and pedestrian use, requires more frequent state inspections. The frequency of bridge inspections will be increased from an annual inspection to one every six months.

In February 2021, traffic was reduced to one-way in a northbound direction and southbound traffic has been detoured and coordinated appropriately with emergency services. Upon beginning the construction and removing the decking material, additional deterioration of the bridge members was discovered. The original contracted construction included partial beam replacement which provided an extended bridge life of 10 to 20 years. Given the additional deterioration that was discovered, full beam replacement has been recommended. Full beam replacement will provide an extended bridge life of approximately 40 to 50 years. The City, MassDOT, the contractor, have completed a revised bridge design and ordered the steel for the full beam replacement. There is a 10 month lead time on the procurement of the steel and steel is anticipated to arrive onsite in May/June 2022. Bridge utility and demolition work will resume in spring 2022. Phase 1 in its current configuration will continue into fall/water 2022. It is anticipated that two-way traffic will resume when Phase 2 is underway at the end of 2022. Overall bridge construction completion is anticipated to be completed in summer/fall 2023.

(PROJECT 2023-03, CENTRAL STREET BRIDGE CONTINUED)

**FY2023 Funding Update and Proposal from DPD:**

Additional funding is needed to ensure that this project is completed. There is approximately \$1 million in the FY21 capital authorization remaining for the project. The City must use the existing capital funds to cover an amendment to the design contract. The current cost estimate from MAS is \$4.5 million. The City is responsible for \$2.25 million to finish the project (MassDOT will cover the other half) and anticipate using the rest of the FY21 capital funds to support the remaining work.



**PROJECT NUMBER: 2023-03**

**FINANCING PLAN: CITY-WIDE BRIDGE REPAIR PROGRAM - CENTRAL STREET (TIGER)**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>"TIGER" BRIDGE REPAIR PROGRAM - VARIOUS BRIDGES</b>		\$ 31,037,373
DESIGN DEVELOPMENT (PREVIOUSLY FUNDED) - KLEINFELDER	3,954,116	
<b>CENTRAL STREET BRIDGE CONSTRUCTION (ADDITIONAL FUNDING)</b>	<b>4,500,000</b>	
CONSTRUCTION (PREVIOUSLY FUNDED) - MAS BUILDING & BRIDGE, INC.	20,283,257	
CONSTRUCTION CONTINGENCY (PREVIOUSLY FUNDED)	1,600,000	
DESIGN CONTINGENCY (PREVIOUSLY FUNDED)	\$ 700,000	
<b>TOTAL PROJECT BUDGET</b>		<b>\$ 31,037,373</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ 8,200,000
G.O. BOND PROCEEDS (LOAN ORDER DATED 3/2/2016)	\$ 600,000	
G.O. BOND PROCEEDS (LOAN ORDER DATED 1/24/2018)	\$ 3,600,000	
G.O. BOND PROCEEDS (LOAN ORDER DATED 6/9/2020)	\$ 2,000,000	
<b>FY2023 PROPOSED FUNDING - CITY BONDS</b>	<b>\$ 2,000,000</b>	
<b>LEGAL SETTLEMENTS</b>		\$ 1,347,623
ENEL SETTLEMENT	\$ 1,347,623	
<b>INTERGOVERNMENTAL REVENUE</b>		\$ 21,489,750
MASSDOT FUNDING (PREVIOUSLY FUNDED)	\$ 3,600,000	
UMASS LOWELL FUNDING (MASTER AGREEMENT)	\$ 2,000,000	
MASSDOT FUNDING (ADDITIONAL)	\$ 2,500,000	
FHWA TIGER GRANT	\$ 13,389,750	
<b>TOTAL FINANCING SOURCES</b>		<b>\$ 31,037,373</b>

PROJECT NUMBER: 2023-04

“CAMBODIA TOWN” INFRASTRUCTURE IMPROVEMENTS

**IMPACT ON THE OPERATING BUDGET**

*“CAMBODIA TOWN” IS RECOGNIZED AS ONE OF THE NATION’S RICHEST OUTPOSTS OF KHMER CULTURE AND CUISINE. THEIR CURRENT STATE OF DISREPAIR, HOWEVER, IS A MAJOR HINDRANCE TO POTENTIAL ECONOMIC DEVELOPMENT THROUGHOUT THIS AREA. IMPROVEMENTS TO THE AREA WILL BE A CATALYST TO FUTURE ECONOMIC DEVELOPMENT AND WILL EXPAND THE CITY’S TAX BASE. THE DEBT SERVICE FOR THESE IMPROVEMENTS WILL BE PAID FROM THE GENERAL FUND WHEN THE BONDS ARE PERMANENTLY FINANCED.*

**BACKGROUND**

“Cambodia Town” is a small neighborhood located within the larger Highlands Neighborhood at the west end of the City of Lowell. Lowell is home to the second largest Cambodian American community in the United States. There are several Cambodian American and South East Asian businesses of all sizes and kinds including: restaurants, jewelry stores, supermarkets, convenience stores, and well as the Cambodian Mutual Assistance Association (“CMAA”) which provides culturally appropriate social services. The neighborhood is also home to the Boys and Girls Club and one of the most prominent public parks in the City called Roberto Clemente Park, but which is locally identified as Pailin Park by the local residents. This vibrant neighborhood is mostly residential, but with a strong business presence, which the City considers a unique place that attracts local residents and tourists as an economic development opportunity.

Unfortunately, the Branch Street corridor (the main commercial corridor of the neighborhood) is a vehicular-oriented strip that deters pedestrian friendly traffic and holds some of the highest concentrations of traffic accidents in the City. The corridor is perceived as dangerous for pedestrians and deters foot traffic into businesses, potentially hindering economic development prospects for the local businesses and affecting the quality of life of the local residents.

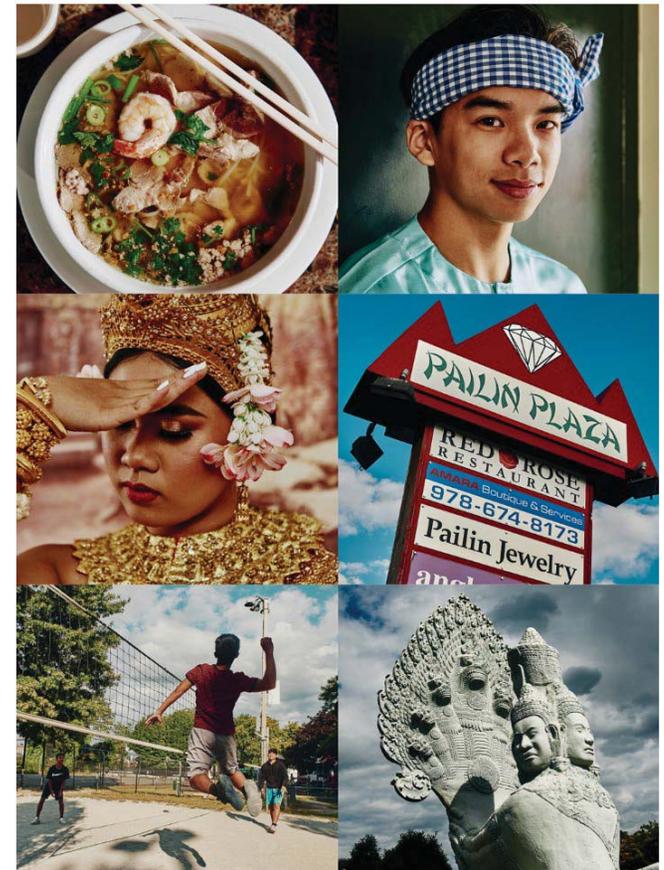


Photo Credi - Tony Luong

**PROJECT NUMBER: 2023-04**

**FINANCING PLAN: CAMBODIATOWN INFRASTRUCTURE PROJECT**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CAMBODIA TOWN INFRASTRUCTURE PROJECT</b>		\$ 450,000
SIDEWALK/ INFRASTRUCTURE IMPROVEMENTS		250,000
REPAIRS & IMPROVEMENTS TO LOWER LOCKS	\$	200,000
	TOTAL PROJECT BUDGET	\$ 450,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ 250,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$	250,000
<b>INTERGOVERNMENTAL REVENUE</b>		\$ 200,000
LEGISLATIVE EARMARK (STATE REP. RADY MOM)	\$	200,000
	TOTAL FINANCING SOURCES	\$ 450,000

**PROJECT NUMBER: 2023-05**

**DOWNTOWN SIDEWALK VAULT ABANDONMENT PROGRAM**

**IMPACT ON THE OPERATING BUDGET**

*THIS PROJECT WILL EXPAND THE CITY-WIDE PROGRAM AND POLICY TO ABANDON SIDEWALK VAULTS IN VARIOUS LOCATIONS THROUGHOUT THE CITY AS VAULTS ARE FOUND TO BE IN DETERIORATED CONDITION AND/OR TO ADDRESS ADA ACCESSIBILITY CONSTRAINTS. THE DEBT SERVICE FOR THE DEBT SERVICE ASSOCIATED WITH THIS PROJECT WILL BE PAID BY THE GENERAL FUND.*

**EXISTING CONDITIONS/ COMMENTS**

The City has a preliminary inventory of vaults that exist throughout the City. Hundreds of vaults beneath City sidewalks exist throughout the City, and primarily within the downtown area. These are extensions of building foundations that extend beneath the City’s sidewalk. Some of these vaults have deteriorated to a condition where property owners have pursued abandonment of these vaults due to water leaking into the vault and basements, failing at the vault surface, or for other reasons. These locations may also provide ADA accessibility constraints.

A formal vault program will be recommended for funding in future years dependent on the success of this year’s implementation of the program.



**PROJECT NUMBER: 2023-05**

**FINANCING PLAN: SIDEWALK VAULT ABANDONMENT PROGRAM**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>SIDEWALK VAULT ABANDONMENT PROGRAM</b>		\$ 150,000
LAND ACQUISITION AND SITE IMPROVEMENTS/ SIDEWALK REPAIR	\$ 150,000	
	TOTAL PROJECT BUDGET	\$ 150,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ 150,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 150,000	
	TOTAL FINANCING SOURCES	\$ 150,000

**PROJECT NUMBER: 2023-06**

**TRAFFIC SIGNALIZATION (CITY-WIDE)**

**IMPACT ON THE OPERATING BUDGET**

*REGULAR REPLACEMENT AND UPGRADES OF TRAFFIC SIGNALIZATION EQUIPMENT AND IMPROVEMENTS TO INTERSECTIONS IS A CRITICAL COMPONENT OF THE CAPITAL BUDGET. MANY OF THE CITY'S TRAFFIC LIGHTS ARE BEYOND THEIR USEFUL LIFE AND REQUIRE REGULAR MAINTENANCE AND REPAIRS FROM THE DPW – OFTEN TIMES LATE AT NIGHT WHICH REQUIRES OVERTIME. A REGULAR REPLACEMENT SCHEDULE OF PRIORITY INTERSECTIONS HELPS MITTIGATE THESE COSTS, AS WELL AS ALLOWS THE CITY TO IMPLEMENT THE LATEST TECHNOLOGY TO HELP EASE TRAFFIC CONGESTION AND ENSURE PROPER CONTROLS FOR PUBLIC SAFETY AND EMERGENCY VEHICLES TO EASILY PASS THROUGH INTERSECTIONS.*

**EXISTING CONDITIONS/ COMMENTS**

The Department of Planning and Development (“DPD”) has completed several engineering reports that concluded that installation of a traffic signal is justified at each of the four intersections:

1. Mammoth Road and East Meadow Road
2. Stedman Street and Westford Street
3. Westford Street and Wilder Street
4. Middlesex Street and Baldwin Street

The Department of Planning and Development (“DPD”) has requested the City split the costs into a two-year time frame. Funding is included for year one and is programmed into the five-year capital plan (“CIP”) for the next year (FY2024).

(PROJECT 2023-06, TRAFFIC SIGNALIZATION CONTINUED)



Mammoth Rd. & E. Meadow Rd.



Westford St. & Stedman St.

(PROJECT 2023-06, TRAFFIC SIGNALIZATION CONTINUED)



Westford St. & Wilder St.



Middlesex St. & Baldwin St.

**PROJECT NUMBER: 2023-06**

**FINANCING PLAN: TRAFFIC SIGNALIZATION**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>TRAFFIC SIGNALIZATION</b>		<b>\$ 400,000</b>
VARIOUS INTERSECTIONS (YEAR 1 OF 2 YEAR PLAN)	\$ 400,000	
	TOTAL PROJECT BUDGET	\$ 400,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 400,000</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 400,000	
	TOTAL FINANCING SOURCES	\$ 400,000

**PROJECT NUMBER: 2023-07**

**MASTER PLAN IMPLEMENTATION – WAYFINDING IN BUSINESS DISTRICTS**

**IMPACT ON THE OPERATING BUDGET**

*ECONOMIC DEVELOPMENT IS NOT ONLY A KEY PRIORITY AREA FOR THE CITY COUNCIL AND THE CITY MANAGER’S ADMINISTRATION, BUT IT IS ALSO INTRINSICALLY TIED TO MANY ANNUAL REVENUE SOURCES. MEALS TAXES AND OTHER LOCAL RECEIPTS ARE ALL DRIVEN BY THE LEVEL OF ECONOMIC ACTIVITY IN THE CITY. ALTHOUGH THE CITY OF LOWELL’S MAIN BUSINESS HUB IS THE DOWNTOWN, THERE ARE ALSO SEVERAL VIBRANT NEIGHBORHOOD BUSINESS DISTRICTS THROUGHOUT THE CITY. THIS PROJECT WILL HELP FACILITATE ECONOMIC DEVELOPMENT IN THOSE DISTRICTS. THE DEBT SERVICE FOR THIS PROJECT WILL BE PAID BY THE GENERAL FUND.*

**BACKGROUND/ EXISTING CONDITIONS**

Despite the recent development and other activities in Downtown Lowell, including projects like Mill No. 5 and wayfinding initiatives to connect cultural hubs to key destinations, Downtown Lowell feels disconnected from parking facilities, parks and recreational hubs, nearby residential neighborhoods, UMass Lowell, and other major destinations. In fact, in many ways, Downtown Lowell feels disconnected from itself. Though it’s a relatively compact neighborhood, each part of Downtown feels separate from the others. The combination of auto-dominated infrastructure and a lack of a coordinated pedestrian wayfinding system creates an uninviting experience for Downtown Lowell visitors and perpetuates the perception that Downtown is not accessible visitors, residents, or patrons. Though ample parking is available in Downtown Lowell, there is a strong preference for street parking and a perception that parking is lacking. Improved signage, wayfinding, and curbside management could address this incorrect perception.

A wayfinding system supports overall accessibility of a commercial district. It benefits pedestrians and bicyclists, and directs motorists to park and walk. Without clear visual cues, customers may find it difficult to park or may be less aware of local offerings. A comprehensive wayfinding system is needed. There are a wide variety of pedestrian- and vehicle-oriented signage in Downtown Lowell. Most signs are oriented towards vehicles. Cultural and pedestrian signage is available, but can get lost in the auto-oriented signage. Some areas suffer from excessive signage, or “sign clutter;” this clutter is confusing and can cause visitors to disregard signage. Many signs are in disrepair and since signs have been installed by different entities at different times, it is sometimes unclear who is responsible for maintaining each sign. Combined with strategic streetscape enhancements, a comprehensive signage and wayfinding program would contribute to an improved Downtown “image” and make Downtown Lowell more welcoming and inviting to visitors.

(PROJECT 2023-07, MASTER PLAN - WAYFINDING CONTINUED)



**PROJECT DESCRIPTION**

There are a lot of signs in Downtown Lowell with a variety of designs, colors, and owners. Many of the signs are aimed towards drivers, but there are pedestrian-scale signs posted by several different organizations. Some signs are in disrepair and the number of different signing programs can be confusing to people unfamiliar with Downtown Lowell. This project proposes a single, consistent signage and wayfinding program that intercepts visitors, directs visitors to parking and other destinations, and provides walking distances and times so pedestrians can more easily navigate Downtown Lowell. This program would consolidate existing wayfinding in Downtown to develop a coordinated and easily identifiable aesthetic. Expressive, appropriate, and strategic signage solutions are a valuable addition to the community. Distinctive wayfinding and signage can make a city more user-friendly to visitors, residents, and local employees. Implementing an innovative civic brand strategy can also create a more dynamic sense of place.

**PROJECT NUMBER: 2023-07**

**FINANCING PLAN: MASTER PLAN IMPLEMENTATION: WAYFINDING**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>SIGNAGE/ WAYFINDING - INFRASTRUCTURE IMPROVEMENTS</b>		<b>\$ 250,000</b>
KIOSKS FOR WAYFINDING	\$ 175,000	
PEDESTRIAN DIRECTIONAL SIGNS	\$ 25,000	
PARKING ID SIGNS	\$ 25,000	
POST-MOUNTED PARK ID	\$ 25,000	
<b>TOTAL PROJECT BUDGET</b>		<b>\$ 250,000</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 250,000</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 250,000	
<b>TOTAL FINANCING SOURCES</b>		<b>\$ 250,000</b>

**PROJECT NUMBER: 2023-08**

**WESTFORD STREET LANDFILL – ENVIRONMENTAL COMPLIANCE**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY OF LOWELL MUST MEET ONGOING COMPLIANCE REQUIREMENTS TO MASSDEP IN CONNECTION WITH A FORMER LANDFILL. THESE COSTS WILL ENSURE COMPLIANCE AND AVOID ANY POTENTIAL FINES ASSOCIATED WITH NON-COMPLIANCE. THE DEBT SERVICE WILL BE PAID FROM THE GENERAL FUND.*

**BACKGROUND/ EXISTING CONDITIONS**

The City of Lowell Westford Street Sanitary Landfill (the “landfill”) is a former municipal solid waste landfill situated between Westford Street and Stedman Street in the Princeton Village/Drum Hill area of the City of Lowell. The landfill was closed to waste circa 1996. This funding recommendation is to address ongoing MassDEP compliance activities related to the Westford St. Landfill. The City is currently required by MassDEP to conduct gas and groundwater monitoring in conjunction with a gas collection system conversion. The proposed work includes the following:

- Groundwater sampling & reporting (2 rounds);
- Monthly perimeter gas monitoring (8 rounds);
- Landfill gas sampling (4 rounds)
- Annual landfill inspection;
- Revised environmental monitoring plan;
- Landfill liner (FML) repairs.

**PROJECT NUMBER: 2023-08**

**FINANCING PLAN: WESTFORD STREET LANDFILL - ENVIRONMENTAL COMPLIANCE**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
WESTFORD STREET LANDFILL - ENVIRONMENTAL COMPLIANCE		\$ 100,000
SAMPLING, REPORTING, FML REPAIRS, INSPECTIONS, ETC.	\$ 100,000	
	TOTAL PROJECT BUDGET	\$ 100,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
CITY FINANCING		\$ 100,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 100,000	
	TOTAL FINANCING SOURCES	\$ 100,000

**PROJECT NUMBER: 2023-09**

**PARKS & OPEN SPACE IMPROVEMENTS (KOUMANTZELIS PARK)**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY OF LOWELL'S PARKS DIVISION OF DPW MAINTAINS OVER 75+ PARKS PER YEAR. BUDGETARY CONSTRAINTS SINCE THE ECONOMIC DOWNTURN OF 2009 HAVE IMPACTED STAFFING IN THE DEPARTMENT AND THE CONDITION OF MANY PARKS, INCLUDING THEIR GROUNDS AND AMENITIES HAVE DETERIORATED OVER TIME. THIS CAPITAL INVESTMENT WILL REDUCE OPERATING COSTS ASSOCIATED WITH THESE PARKS. THE DEBT SERVICE FOR THESE CAPITAL IMPROVEMENTS WILL BE PAID FROM THE GENERAL FUND.*

**ARPA ELIGIBILITY**

In regards to the American Rescue Plan Act (“ARPA”), the Department of the Treasury has published an FAQ document that clarifies the rule, as it related to Parks Improvements. The FAQ states that “Coronavirus State and Local Fiscal Recovery Funds” can be used for the following purposes for outdoor space/parks:

1. To improve spaces in areas that have been disproportionately impacted by the pandemic. This provision refers to projects in a “Qualified Census Tract” and can include improving park space that will benefit the health and wellness of these communities.
2. Maintenance and upkeep issues because of the increased use parks saw during the pandemic. Addressing these issues are allowable expenses under the ARP.

As of writing, the City Administration is awaiting the completion of a robust series of public input sessions before final allocation of ARPA funding. However, it is worth noting that, while these projects are recommended here, there is additional park improvements to be contemplated and funded via ARPA. The City Administration is resolved to utilizing this capital funding to maximize the projects funded with ARPA, and vice-versa.

**BACKGROUND/ EXISTING CONDITIONS**

In the FY2022 capital budget, the Lowell City Council authorized \$500,000 for field lighting at the Roberto Clemente Baseball field. Additional funding is needed to complete the design and construction of the lights and make other necessary site improvements. Additional funding is requested to make improvements to baseball fields, city-wide.

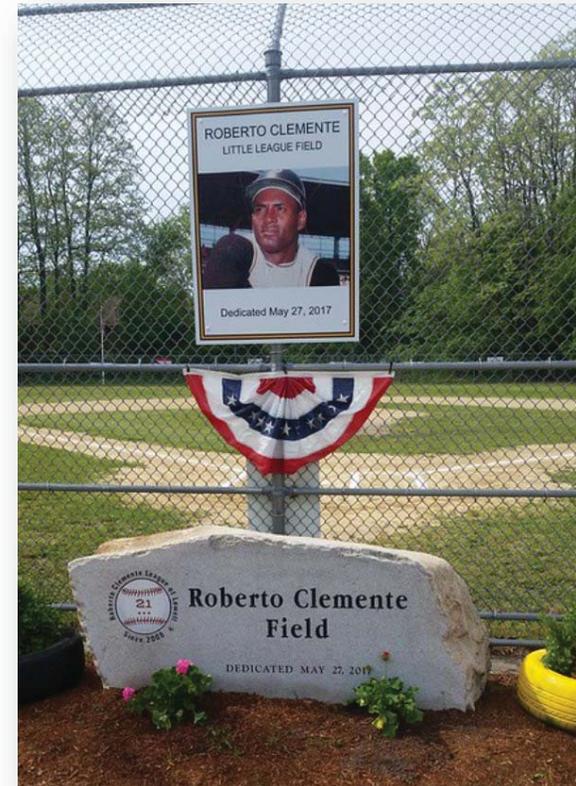
**PROJECT NUMBER: 2023-09**

**PROJECT DESCRIPTION**

The recommendation of \$500,000 in FY2023 is for Koumantzelis Park in the Acre neighborhood. The money would close the anticipated funding gap for the implementation of new athletic lighting at the Roberto Clemente Baseball Field. Remaining funds would go towards a new restroom and concession facility. Koumantzelis currently has no lighting or restroom/ concession facilities. These would be new amenities added to the park.

Implementation of these improvements would help meet the following action items from the City’s Open Space and Recreation Plan:

1. Goal #4/ Action # 20: Provide better restroom facilities at parks;
2. Goal #6/ Action #15: Renovate Clemente Field at Koumantzelis Park to include improved lighting, concessions, restrooms, and a scoreboard.



**PROJECT NUMBER: 2023-09**

**FINANCING PLAN: PARKS AND OPEN SPACE IMPROVEMENTS**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>PARKS AND OPEN SPACE IMPROVEMENTS</b>		<b>\$ 1,200,000</b>
ROBERTO CLEMENTE FIELD LIGHTS (PREVIOUSLY FUNDED)	500,000	
KOUMANTZELIS PARK IMPROVEMENTS (RESTROOM, CONCESSIONS, & LIGHTS)	\$ 500,000	
CITY-WIDE BASEBALL FIELD IMPROVEMENTS	\$ 200,000	
<b>TOTAL PROJECT BUDGET</b>		<b>\$ 1,200,000</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 1,200,000</b>
G.O. BOND PROCEEDS (LOAN ORDER DATED 6/8/2021)	\$ 500,000	
<b>FY2023 PROPOSED FUNDING - CITY BONDS</b>	<b>\$ 700,000</b>	
<b>TOTAL FINANCING SOURCES</b>		<b>\$ 1,200,000</b>

**PROJECT NUMBER: 2023-10**

**MARKET STREET OVER MERRIMACK STREET BRIDGE: DESIGN/ ENGINEERING**

**IMPACT ON THE OPERATING BUDGET**

*THE DEBT SERVICE ASSOCIATED WITH THIS DESIGN PROJECT SHALL BE PAID BY THE GENERAL FUND.*

**BACKGROUND/ EXISTING CONDITIONS**

A set of design documents and cost estimate were completed in 2017. Even though Chapter 85 approval doesn't expire, the City Engineer's office has advised that the City resubmit the design to MassDOT for review in case of any regulation/guideline change. Once that process is completed, then local permitting is needed along with update construction cost estimate. This funding will allow for any additional design/ engineering work necessary to prepare bid documents and ascertain new cost estimates. In 2017, the cost estimate provided by TEC was approximately \$1.35 million. However, current estimates based on escalated materials would bring the total closer to \$2.8 million.



**PROJECT NUMBER: 2023-10**

**FINANCING PLAN: MARKET STREET OVER MERRIMACK CANAL - BRIDGE**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
MARKET STREET BRIDGE OVER MERRIMACK CANAL		\$ 280,000
DESIGN/ ENGINEERING	\$ 280,000	
	TOTAL PROJECT BUDGET	\$ 280,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
CITY FINANCING		\$ 280,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 280,000	
	TOTAL FINANCING SOURCES	\$ 280,000

**PROJECT NUMBER: 2023-11**

**DPW/ELECTRICAL – PORTABLE GENERATOR**

**IMPACT ON THE OPERATING BUDGET**

*THE PURCHASE OF A PORTABLE GENERATOR WILL ALLOW THE ELECTRICAL DIVISION OF DPW IS A CRITICAL COMPONENT TO ENSURE 24/7 OPERATIONS IN THE CITY. THE CITY'S CURRENT EQUIPMENT IS AGEING AND IS UNRELIABLE. THE DEBT SERVICE ASSOCIATED WITH THIS DESIGN PROJECT SHALL BE PAID BY THE GENERAL FUND.*

**BACKGROUND/ EXISTING CONDITIONS**

This recommendation is a continuation of the FY22 request to purchase a portable Generator. The amount requested in FY22 was not sufficient to purchase the needed generator given the price escalations that the construction industry has experienced. Replacement of existing portable backup generator used during emergency conditions with power loss and for remote power during public events. This generator is a 220 kVA portable generator, designed to provide reliable power to meet the most demanding requirements. The City is in need of a generator designed and built to withstand tough environments at construction sites and provide dependable temporary power at entertainment venues and disaster recovery operations.

The existing generator has exceeded its' useful life and has become unreliable for usage. Over the past two years, City Electricians have made repairs necessary to provide power to remote locations. An entire location for the Folk Festival and Winterfest was in jeopardy of not having power unless these repairs were successful. A portable emergency generator is essential for the backup power at the Senior Center and other locations affected by emergency situations.

Having a reliable power source during an emergency situation can be vital during an event with large-scale power outages. Rental replacements are not always available and are often hours, if not days away when demand is high. This generator will also be used to supply power for the City's many festivals and City buildings, including LeLacheur Park.

**PROJECT NUMBER: 2023-11**

**FINANCING PLAN: DPW/ ELECTRICAL - PORTABLE GENERATOR**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>PORTABLE GENERATOR</b>		<b>\$ 170,000</b>
EQUIPMENT PURCHASE	\$ 170,000	
	<b>TOTAL PROJECT BUDGET</b>	<b>\$ 170,000</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 170,000</b>
G.O. BOND PROCEEDS (LOAN ORDER DATED 6/28/2021)	\$ 90,000	
<b>FY2023 PROPOSED FUNDING - CITY BONDS</b>	<b>\$ 80,000</b>	
	<b>TOTAL FINANCING SOURCES</b>	<b>\$ 170,000</b>

**PROJECT NUMBER: 2023-12**

**INLAND STREET IMPROVEMENT PROJECT – ROADWAY/ SIDEWALKS**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY'S DPW IS FREQUENTLY CALLED TO ADDRESS ISSUES IN THIS AREA RELATED TO FALLEN TREE LIMBS AND DOWNED WIRES, ASSOCIATED WITH THE POOR CONDITIONS. THIS CAPITAL IMPROVEMENT WILL ALLEVIATE THE NEED FOR CONSTANT MAINTENANCE AND REPAIR FOR THE INFRASTRUCTURE IN THE AREA. THE DEBT SERVICE ASSOCIATED WITH THE PROJECT WILL BE PAID BY THE GENERAL FUND.*

**ARPA ELIGIBILITY**

As of writing, the City Administration is awaiting the completion of a robust series of public input sessions before final allocation of ARPA funding. However, it is worth noting that, while components of this project are recommended for funding here, there is additional work to be contemplated and funded via ARPA. The City Administration is resolved to utilizing this capital funding to maximize the projects funded with ARPA, and vice-versa.

Although not included in this capital request, this street is a good candidate for sewer separation. Sewer separation and replacement of water main could be considered as an ARPA eligible project in coordination with this project. Drainage could also be ARPA eligible. Pavement directly associated with some of this work could also be ARPA eligible.

**BACKGROUND/ EXISTING CONDITIONS**

The area around the Washington School lacks sidewalks. 14 mature existing trees along Inland Street have compromise the accessibility, condition and drainage of the roadway and sidewalk along Inland Street. The mature trees have extended into the roadway and in many cases have taken over the sidewalk. There have been cases where tree limbs have fallen onto houses or knocked out utility wires. This area also lacks a safe crossing across Chelmsford Street. This request has come up in previous City Council motion requests and DPW has performed routine pothole repairs and limb removals as needed.

National Grid completed gas main work on the street and installed an overlay on the street in 2021. While the condition of the overlay is in fair condition, the trees protruding into the roadway, inaccessible sidewalks, and drainage issues continue to be an issue. The roadway needs to be lowered and drainage needs to be corrected.

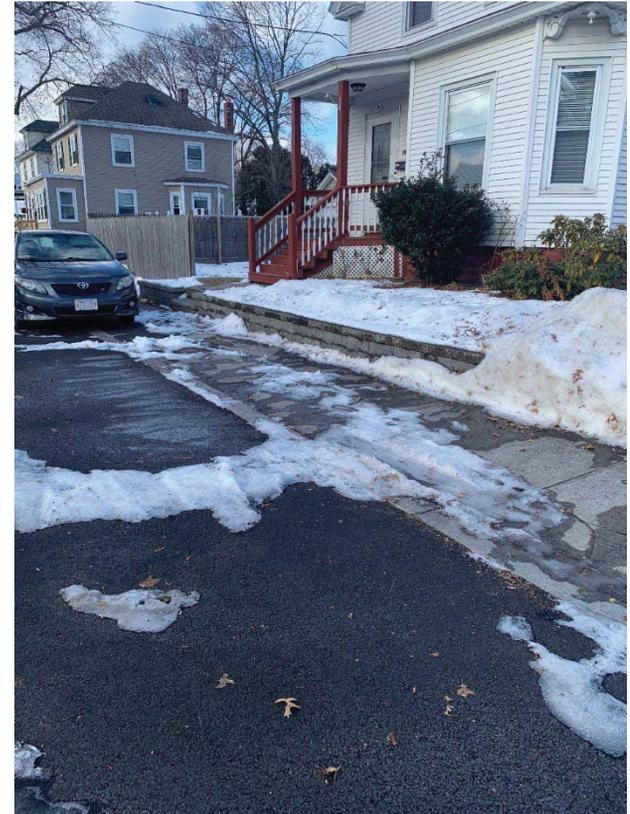
(PROJECT 2023-12, INLAND STREET CONTINUED)

**PROJECT DESCRIPTION**

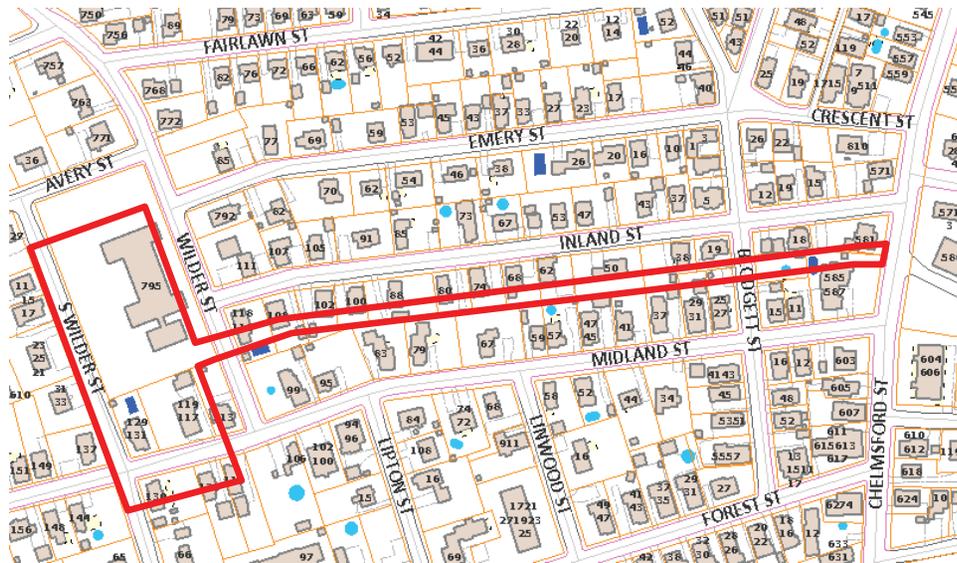
The project includes installation of new sidewalks around the Washington School and crosswalks along Wilder Street, Inland Street, and Chelmsford Street (within the project area); removal of 4-5 mature trees on the south side of Inland Street and provide ADA compliant sidewalks for the length of Inland Street; maintenance of 8 mature trees on the north side of Inland Street with expanded tree pits and potentially installation of curb extensions; installation of drainage structures along Inland Street; roadway rehabilitation.

We anticipate there will be a need for public meetings with residents before a final plan can be determined. How to deal with the presence of street trees in the sidewalks and encroaching into the street will generate considerable conversation.

These three projects will be grouped together and included in one construction contract. Due to the need for meetings with neighbors, this work will be scheduled after neighborhood input has been received and reviewed.



Existing Conditions – Inland Street (no curb reveal, creating drainage issues in the street, sidewalk, as well as on private property)



Proposed Project Area

**PROJECT NUMBER: 2023-12**

**FINANCING PLAN: INLAND STREET IMPROVEMENTS**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>INLAND STREET IMPROVEMENTS</b>		<b>\$ 700,000</b>
TREE REMOVAL/ SIDEWALK REPAIR/ ADA IMPROVMENTS/ ETC.	\$ 700,000	
	<b>TOTAL PROJECT BUDGET</b>	<b>\$ 700,000</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 700,000</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 700,000	
	<b>TOTAL FINANCING SOURCES</b>	<b>\$ 700,000</b>

**PROJECT NUMBER: 2023-13**

**DPW VEHICLE REPLACEMENT PROGRAM**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY'S DPW FLEET HAS FALLEN BELOW THE TARGETS SET FOR THE AVERAGE AGE. CONTINUOUS INVESTMENT THROUGH THE CAPITAL BUDGET WILL HELP MITIGATE SPIKES IN REPLACEMENT AND REPAIR COSTS FROM THE ANNUAL DPW OPERATING BUDGET FOR VEHICLES. THE DPW IS ALSO EXPLORING LEASING OPTIONS IN FY2023 IN THE OPERATING BUDGET, TO MAXIMIZE THE ANNUAL OPERATING BUDGET. THE DEBT SERVICE ASSOCIATED WITH THIS CAPITAL INVESTMENT WILL BE PAID BY THE GENERAL FUND.*

**BACKGROUND/ EXISTING CONDITIONS**

DPW's aging fleet is deteriorating and is long overdue on refreshing some of the older vehicles. The average age of the fleet is fifteen (15) years old and with many pieces of equipment rated in poor condition. The average age of the DPW's fleet should be closer to five to ten (5-10) years and in fair condition.

DPW began replacing some of its heavy fleet in FY22 but annual replacement is critical to work towards maintaining a fleet with an average age of 5-10 years. The average cost for repairs and maintenance per vehicle is increasing as the age of the fleet increases. This capital request has been prioritized as DPW's top priority request because a failure to begin replacing the aging fleet could compromise the ability for DPW to perform public safety duties and especially during snow and ice events.

**PROJECT DESCRIPTION:**

This recommendation is to replace vehicles and equipment in the Parks, Cemetery, and Streets Division.

The Parks request includes the addition of 2 electric mowers, 3 mowers, 1 pole saw, 1 downtown sander/salter, and a chipper. All tree and brush maintenance is currently coordinated with the Streets Department. An addition of a chipper to the Parks Department will allow the Parks Department to clear and dispose of brush in Parks that the Streets Department currently completes.

Various Heavy Vehicle Replacements are also proposed for replacement in the Streets Division of DPW as well, including a 1999 F350, a 2001 International Trash Truck, (2) 2002 International Sanders/Dump Trucks, and a garage vehicle lift that is approximately 30 years old.

*(PROJECT 2023-13, DPW VEHICLE REPLACEMENT CONTINUED)*

Existing vehicles/ equipment proposed for replacement, pictured below.



**PROJECT NUMBER: 2023-13**

**FINANCING PLAN: DPW VEHICLE/ EQUIPMENT REPLACEMENT PROGRAM**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>DPW FLEET/ EQUIPMENT REPLACEMENT</b>		\$ 350,000
PARKS & CEMTERY LIGHT FLEET REPLACEMENT	\$ 100,000	
STRETS DIVISION - HEAVY EQUIPMENT REPLACEMENT	\$ 250,000	
	TOTAL PROJECT BUDGET	\$ 350,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ 350,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 350,000	
	TOTAL FINANCING SOURCES	\$ 350,000

**PROJECT NUMBER: 2023-14**

**SCHOOL BUILDING IMPROVEMENTS AT VARIOUS SCHOOL BUILDINGS**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY'S DPW – LANDS AND BUILDINGS DIVISION IS RESPONSIBLE FOR SKILLED LABOR AT THE CITY'S VARIOUS SCHOOL BUILDINGS. THE SCHOOL DISTRICT OPERATES FROM APPROXIMATELY JUST OVER 2.4 MILLION SQUARE FEET OF MUNICIPALLY OWNED EDUCATIONAL SPACE ACROSS 31 BUILDINGS AT 28 DIFFERENT SITES. SCHOOLS RANGE IN SIZE FROM THE 18,400 SF LAURA LEE THERAPEUTIC SCHOOL TO THE 625,500 SF OF COMBINED SPACE AT THE FOUR BUILDINGS THAT CONSTITUTE LOWELL HIGH SCHOOL. OFTEN, AS FUNDING IS CONSTRAINED, DEFERRING PREVENTATIVE MAINTENANCE IS OFTEN CONTEMPLATED AS ONE WAY TO REDUCE COSTS. HOWEVER, REDUCING FUNDING FOR PREVENTATIVE MAINTENANCE TYPICALLY HAS THE OPPOSITE EFFECT, AS ANNUAL COSTS WILL ACTUALLY INCREASE. IN FACT, STUDIES HAVE SHOWN THAT TIME AND FINANCIAL RESOURCES SPENT ON PREVENTIVE MAINTENANCE RETURNS \$2 IN SAVINGS FOR EVERY \$1 INVESTED.*

*THIS CAPITAL REQUEST WILL REPLACE SOME OF THE MORE ANTIQUATED HVAC SYSTEMS AND MOST PROBLEMATIC SCHOOL-RELATED ISSUES, WHICH OTHERWISE WOULD BE HANDLED AS REPAIRS BY DPW.*

**BACKGROUND/ EXISTING CONDITIONS**

In the last several years, the City of Lowell has made a concerted effort to invest in the school facilities by utilizing the Massachusetts School Building Authority's ("MSBA") core program and accelerated repair program ("ARP"). The Lowell High School project has been funded through the core program, while several heating and roof projects were funded in 2019 as part of the ARP program. A new batch of applications has been submitted to the MSBA, which include boilers, as well as roofs and windows. In a Gateway City such as Lowell, the annual operating budget is insufficient to act as the sole funding source for capital improvements in the schools. This allocation is to supplement the City's ongoing efforts to submit and manage projects through the MSBA funding program and to keep pace with ageing facility needs.

(PROJECT 2023-14, SCHOOL BUILDING IMPROVEMENTS CONTINUED)

Building	Address	Size (sf)	Year	Age
<b>Elementary / K–8 Schools (15 facilities)</b>				
Dr. Gertrude Bailey Elementary	Campbell Drive	65,000	1992	26
Bartlett Community Partnership	Wannalancit Road	95,500	1994	67
Greenhalge Elementary	Ennell Street	66,000	1994	24
Abraham Lincoln Elementary	Chelmsford Street	60,100	1993	25
S Christa McAuliffe Elementary	Beacon Street	63,600	1993	25
Joseph McAvinnue Elementary	Mammoth Road	66,000	1993	25
Moody Elementary	Rogers Street	48,932	1888	130
Charles W Morey Elementary	Pine Street	68,405	2009	9
Charlotte M Murkland Elementary	Adams	60,100	1993	25
Pawtucketville Memorial Elementary	W. Meadow Road	78,424	1965	53
Pyne Arts Elementary	Boylston Street	78,963	1965	53
Peter W Reilly Elementary	Douglas Road	74,129	1959	59
Rogers Early Learning Center	Highland Street	112,000	1994	24
John J Shaughnessy Elementary	Gorham Street	63,918	1991	27
Washington Elementary	Wilder Street	40,205	1910	108
<b>Middle Schools (8 facilities)</b>				
B.F. Butler Middle School	Gorham Street	96,572	1882	136
James S Daley Middle School	Flemming Street	111,800	1994	24
Cardinal O'Connell	Carter Street	23,989	1880	138
Riverside School	Woburn Street	16,800	1891	127
Henry J Robinson Middle	June Street	99,000	1989	29
Kathryn P. Stoklosa Middle School	Broadway Street	105,500	2006	12
James Sullivan Middle School	Draper Street	97,200	1992	26
Dr. An Wang Middle School	W. Meadow Street	93,800	1992	26
<b>High Schools (2 facilities)</b>				
LHS Career Academy (Molloy)	Smith Street	20,500	1936	82
Lowell High School <sup>8</sup>	Fr. Morrisette Blvd	628,558	1850-1980	38-166
<b>Therapeutic Schools (2 facilities)</b>				
Leblanc Therapeutic Day School	Sycamore Street	26,650	1935	83
Laura Lee Therapeutic Day School	Powell Street	18,400	1896	122
<b>Adult Education (1 facility)</b>				
Adult Education	Merrimack Street	22,800	1930	88
<b>GRAND TOTAL</b>		<b>2,402,845</b>	<b>Avg age - 59 yrs</b>	

**PROJECT DESCRIPTION:**

Prior to her departure, the DPW commissioner submitted the following projects for funding, in collaboration with her counterparts at the School Department. While included here as examples, the funding proposed is for building improvements, generally, and may be directed towards different priorities as project budgets are bid. The projects listed on the following pages are planned for FY2023.

**PROJECT NUMBER: 2023-14**

**FINANCING PLAN: SCHOOL BUILDING IMPROVEMENTS**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>SCHOOL BUILDING IMPROVEMENTS</b>		<b>\$ 2,333,000</b>
STOKLOSA HVAC IMPROVEMENTS (OUTSIDE OF GRANT SCOPE)	\$ 100,000	
SULLIVAN & REILLY SCHOOL PARKING LOT REHAB	\$ 550,000	
J.G. PYNE SCHOOL PARKING LOT AND ENTRANCE REHAB	\$ 90,000	
LEBLANC EXTERIOR RAMP IMPROVEMENTS	\$ 35,000	
REILLY SCHOOL GYM CEILING REPAIR	\$ 25,000	
WASHINGTON SCHOOL FIRE ALARM REPLACEMENT	\$ 35,000	
BARTLETT SCHOOL BOILER ROOM STAIR & VAULT REPLACEMENT	\$ 350,000	
DISTRICT-WIDE WINDOW REPLACEMENT	\$ 125,000	
DISTRICT-WIDE DOOR REPLACEMENT	\$ 78,000	
ROBINSON SCHOOL UNIVENT REPLACEMENT	\$ 560,000	
WANG EJECTOR PUMPS & EXPANSION TANK REPLACEMENT	\$ 30,000	
MCAVINNUE CASTING REPLACEMENT FOR BOILER #1	\$ 45,000	
BARTLETT HEARING HOT WATER PUMPS (2) AND EXPANSION TANK REPLACEMENT	\$ 30,000	
DISTRICT-WIDE DOMESTIC HOT WATER REPLACEMENT	\$ 100,000	
REILLY HEAT EXCHANGER REPLACEMENT	\$ 60,000	
J.G. PYNE CHILLER REPLACEMENT	\$ 120,000	
<b>TOTAL PROJECT BUDGET</b>		<b>\$ 2,333,000</b>

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 2,333,000</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 2,333,000	
<b>TOTAL FINANCING SOURCES</b>		<b>\$ 2,333,000</b>

**PROJECT NUMBER: 2023-15**

**DPW/ STREETS DIVISION – SNOW OPERATION/ BRINING SYSTEM (*PILOT*)**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY’S DPW – STREETS DIVISION IS PROPOSING A PILOT PROGRAM TO TREAT ICY ROAD SURFACES USING A BRINE SOLUTION OF SALT AND WATER. A TANK IN THE BACK OF A DPW TRUCK WILL SPRAY THE SOLUTION ON STREETS IN ADVANCE OF A PREDICTED STORM, CREATING A LAYER THAT PREVENTS SNOW AND ICE FROM BONDING WITH THE SURFACE. THIS PROCESS OFFERS PROTECTION AGAINST ICE FORMATION, BUT USES ONLY A QUARTER OF THE SALT THAT IS NORMALLY USED IN TREATING THESE AREAS.*

*ONE OF THE GOALS OF THIS PILOT IS TO REDUCE THE AMOUNT OF OVERALL SALT USED AND REDUCE THE ANNUAL COST FOR SALT. THE DEBT SERVICE FOR THE CAPITAL PROJECT WILL BE PAID FROM THE GENERAL FUND.*

**BACKGROUND/ EXISTING CONDITIONS**

The Department of Public Works (“DPW”) is proposing a new, anti-icing practice. It is the department’s belief that anti-icing applications and pre-wetting road salt will reduce the amount of salt used during the winter season.

According to US Department of Transportation, more than 116,000 Americans are injured and over 1,300 are killed on snowy, slushy, or icy pavement and nearly 900 people are killed and nearly 76,000 people are injured in vehicle crashes during snowfall or sleet. A Marquette University study “*Accident Analysis in Ice Control Operations*” found that applying road salt reduced crashes by 88%, injuries by 85% and accident costs by 85%. Deicing pays for itself within 25 minutes after salt is spread. Applying brine to road salt is called pre-wetting. According to recent studies, pre-wetting salt can reduce salt usage by 30%. By pre-wetting the salt with brine prior to being applied to street, it is activated and starts working when it comes in contact with road, whereas dry salt needs to come into contact with precipitation before it will to start work. When dry salt is applied to roadways, researchers have found that up to 30% of the salt bounces and scatters into the curb lines. Pre-wetted salt does not bounce as much and stays in the roadways.

*(PROJECT 2023-15, BRINING SYSTEM CONTINUED)*

Research conducted by the College of Engineering at Montana State University concluded that “Anti-icing and pre-wetting both present a viable option in reducing materials applied to roadways and maintenance costs while providing safer traveling conditions. Both practices also lead to less corrosion and environmental impacts due to snow and ice control operations.”



**Example of Brine Machine in Wisconsin**

The direct application of brine, also known as anti-icing, can be applied to road surfaces up to three days prior to a snow event. Applying the brine to the roadways will prevent the snow and ice from forming a bond with the road surface. By preventing the bond it becomes easier to remove the snow from the roadway. The brine is dormant until it comes in contact with precipitation. According to the Salt Institute, anti-icing can reduce the total quantity of salt used during a storm by up to a factor of four.

**PROJECT NUMBER: 2023-15**

**FINANCING PLAN: DPW STREETS - BRINING SYSTEM**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>DPW STREETS - SNOW OPERATION - BRINING PILOT</b>		\$ 125,000
PURCHASE AND INSTALL BRINE SYSTEM (PILOT)	\$ 125,000	
	TOTAL PROJECT BUDGET	\$ 125,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ 125,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 125,000	
	TOTAL FINANCING SOURCES	\$ 125,000

**PROJECT NUMBER: 2023-16**

**CITY HALL BATHROOM IMPROVEMENTS**

**IMPACT ON THE OPERATING BUDGET**

*THE CITY’S A. THE DEBT SERVICE ASSOCIATED WITH THE PROJECT WILL BE PAID BY THE GENERAL FUND.*

**ARPA ELIGIBILITY**

As of writing, the City Administration is awaiting the completion of a robust series of public input sessions before final allocation of ARPA funding. However, it is worth noting that, while components of this project are recommended for funding here, there is additional work to be contemplated and funded via ARPA. The City Administration is resolved to utilizing this capital funding to maximize the projects funded with ARPA, and vice-versa.

A component of this project is proposed for ARPA funding, as it is eligible under the “addressing the public health crisis” category. A small component of the project scope is to replace certain restroom facilities with “touchless” systems to reduce disease transmission in the City Hall building.

**PROJECT DESCRIPTION**

This project will fully renovate the public restrooms at Lowell City Hall. The bathrooms are currently out of date and in need of accessibility and functional repairs. New fixtures, floor tile, walls and ceilings will be replaced as part of the project. The project was previously funded as part of the FY2019 capital plan for design. The design work was completed in December 2021 and the current estimated cost is proposed for funding. This project will improve the facilities, which are open to the public, by bringing them to full ADA compliance and will make certain improvements to reduce disease transmission.

**PROJECT NUMBER: 2023-16**

**FINANCING PLAN: CITY HALL BATHROOM PROJECT**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY HALL BATHROOM IMPROVEMENTS</b>		<b>\$ 943,297</b>
DESIGN/ENGINEERING (PREVIOUSLY FUNDED)	\$ 175,000	
REPAIR & IMPROVE ALL CITY HALL BATHROOMS (6 TOTAL)	\$ 434,923	
"TOUCHLESS" AMMENITIES & SANITARY IMPROVEMENTS (ARPA)	\$ 25,176	
ACCESSIBILITY IMPROVEMENTS (ADA)	\$ 243,121	
CONTINGENCY	\$ 65,077	
TOTAL PROJECT BUDGET		\$ 943,297

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		<b>\$ 918,121</b>
G.O. BOND PROCEEDS (LOAN ORDER DATED 5/30/2017)	\$ 175,000	
G.O. BOND PROCEEDS (LOAN ORDER DATED 6/28/2021)	\$ 243,121	
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 500,000	
<b>INTERGOVERNMENTAL REVENUE</b>		<b>\$ 25,176</b>
ARPA FUNDING	\$ 25,176	
TOTAL FINANCING SOURCES		\$ 943,297

**PROJECT NUMBER: 2023-17**

**FIRE DEPARTMENT – APPARATUS REPLACEMENT (FIRE ENGINE)**

**IMPACT ON THE OPERATING BUDGET**

*REGULAR REPLACEMENT OF CAPITAL ASSETS FOR PUBLIC SAFETY, SUCH AS FIRE APPARATUS, IS A CRITICAL COMPONENT OF CAPITAL PLANNING. DEFERRED MAINTENANCE OF FIRE APPARATUS LEADS TO INCREASED MAINTENANCE COSTS IN THE FIRE DEPARTMENT OPERATING BUDGET AND REDUCED RELIABILITY OF THE EQUIPMENT IN THE EVENT OF AN EMERGENCY. THE REGULAR REPLACEMENT OF APPARATUS IS A GFOA BEST PRACTICE. FURTHERMORE, THE CITY OF LOWELL ACTIVELY SEEKS OUT AVAILABLE GRANT AND FEDERAL FUNDING SOURCES, SUCH AS THE ASSISTANCE FOR FIREFIGHTERS (AFG) GRANT PROGRAM TO SUPPLEMENT THE PURCHASE COSTS AND REDUCE THE BURDEN ON LOWELL RESIDENTIAL TAXPAYERS.*

**PROJECT DESCRIPTION**

For FY2023, the Fire Chief has proposed replacement of Engine #4 at the High Street fire station. In January of FY2022, a grant application was submitted to FEMA for federal funding. The grant program requires a 10% local match, approval of which will aid in the competitiveness of the grant to the federal government.

The current Fire Engine #4 is approaching 22 years in age, which is beyond the 15 year recommendation for replacement by the National Fire Protection Association (“NFPA”).



**PROJECT NUMBER: 2023-17**

**FINANCING PLAN: FIRE APPARATUS REPLACEMENT**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>FIRE APPARATUS REPLACEMENT</b>		\$ 600,000
REPLACE ENGINE #4	\$ 600,000	
	<b>TOTAL PROJECT BUDGET</b>	\$ 600,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ 60,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 60,000	
<b>INTERGOVERNMENTAL REVENUE</b>		\$ 540,000
FEMA - AFG GRANT	\$ 540,000	
	<b>TOTAL FINANCING SOURCES</b>	\$ 600,000

**PROJECT NUMBER: 2023-18**

**LPD HEADQUARTERS BUILDING – REMEDIATION AND IMPROVEMENTS**

**IMPACT ON THE OPERATING BUDGET**

*REGULAR REPLACEMENT OF CAPITAL ASSETS FOR PUBLIC SAFETY, SUCH AS FIRE APPARATUS, IS A CRITICAL COMPONENT OF CAPITAL PLANNING. DEFERRED MAINTENANCE OF FIRE APPARATUS LEADS TO INCREASED MAINTENANCE COSTS IN THE FIRE DEPARTMENT OPERATING BUDGET AND REDUCED RELIABILITY OF THE EQUIPMENT IN THE EVENT OF AN EMERGENCY. THE REGULAR REPLACEMENT OF APPARATUS IS A GFOA BEST PRACTICE. FURTHERMORE, THE CITY OF LOWELL ACTIVELY SEEKS OUT AVAILABLE GRANT AND FEDERAL FUNDING SOURCES, SUCH AS THE ASSISTANCE FOR FIREFIGHTERS (AFG) GRANT PROGRAM TO SUPPLEMENT THE PURCHASE COSTS AND REDUCE THE BURDEN ON LOWELL RESIDENTIAL TAXPAYERS.*

**PROJECT DESCRIPTION**

The majority of the LPD station's offices are still covered in tile from the original building, which is currently 50 years old. The tile itself has been the subject of testing and investigations due to asbestos content. Additionally, this tile has been damaged over the years due to normal wear and tear as well as water damage. The best way to avoid risk of exposure and further damage to tiles would be to cover the existing tiles in carpet. This has been done in a few sections of the department already due to immediate necessity; however, it would be prudent for this asbestos remediation be completed in all existing offices where tile still exists. The Interim Police Chief has requested that both the asbestos remediation and the replace of tile in the women's locker room bathroom be included in this capital project request.

**PROJECT NUMBER: 2023-18**

**FINANCING PLAN: LPD BUILDING REMEDIATION**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>LPD BUILDING REMEDIATION</b>		\$ <b>65,000</b>
LPD HEADQUARTERS - REMEDIATION	\$ 65,000	
	TOTAL PROJECT BUDGET	\$ 65,000

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>CITY FINANCING</b>		\$ <b>65,000</b>
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 65,000	
	TOTAL FINANCING SOURCES	\$ 65,000

**PROJECT NUMBER: 2023-19**

**LPD – BODY WORN CAMERAS**

**IMPACT ON THE OPERATING BUDGET**

*ACCORDING TO THE BUREAU OF JUSTICE ASSISTANCE (“BJA”): IN GENERAL, WHEN ESTIMATING THE COST OF IMPLEMENTING A BODY-WORN CAMERA (BWC) PROGRAM, THREE TYPES OF COSTS SHOULD BE CONSIDERED.*

- *CAPITAL OUTLAY. THIS CAN INCLUDE THE NUMBER OF BWCs, MOUNTING KITS, TABLETS, FIELD VIEWERS, AND DOCKING STATIONS.*
- *OPERATIONAL COSTS. DATA STORAGE, SOFTWARE, AND REDACTION COSTS ARE INCLUDED IN THIS CATEGORY AS WELL AS COSTS ASSOCIATED WITH OFFICER BWC ADMINISTRATION (DOWNLOAD TIME, REVIEWING VIDEO) AND ANY EFFORTS REQUIRED TO TRACK AND PROVIDE THE VIDEO TO THE COURTS.*
- *REPLACEMENT COSTS. THIS IS RELATED TO REPAIRS, UPGRADES TO NEXT-GENERATION TECHNOLOGY, WARRANTIES, AND REPLACEMENTS.*

**PROJECT DESCRIPTION:**

The proposed cost of the body worn cameras includes cloud storage, auto-tagging, auto-redaction and many other features. The LPD does not currently have body worn cameras. Body worn cameras were recently added to both the patrol and superior officer’s contracts in 2021.

**PROJECT NUMBER: 2023-19**

**FINANCING PLAN: LPD BODY WORN CAMERAS**

<b>PROGRAM EXPENDITURES</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>LPD BODY WORN CAMERA PROGRAM</b>		\$ 754,935
EQUIPMENT AND INCIDENTAL SOFTWARE/HARDWARE	\$ 754,935	
	TOTAL PROJECT BUDGET	\$ 754,935

<b>FINANCING PLAN</b>	<b>DETAIL</b>	<b>SUMMARY</b>
<b>INTERGOVERNMENTAL REVENUE</b>		\$ 29,935
EOPSS GRANT FUNDING	\$ 29,935	
<b>CITY FINANCING</b>		\$ 725,000
FY2023 PROPOSED FUNDING - CITY BONDS	\$ 725,000	
	TOTAL FINANCING SOURCES	\$ 754,935

**FY2023 PROJECTS – CITY SHARE ONLY (SUMMARY)**

<b>PROJECT</b>	<b>PROJECT DESCRIPTION</b>	<b>FY23 COST</b>
2023-01	AMERICANS WITH DISABILITIES ACT (“ADA”) CAPITAL IMPROVEMENTS	\$835,500
2023-02	CITY-WIDE PAVING AND SIDEWALK IMPROVEMENTS	\$3,010,000
2023-03	CENTRAL STREET BRIDGE CONSTRUCTION	\$2,000,000
2023-04	“CAMBODIA TOWN” INFRASTRUCTURE PROJECT	\$250,000
2023-05	VAULT ABANDONMENT PROGRAM	\$150,000
2023-06	TRAFFIC SIGNALIZATION	\$400,000
2023-07	MASTER PLAN IMPLEMENTATION: WAYFINDING	\$250,000
2023-08	WESTFORD STREET LANDFILL – ENVIRONMENTAL COMPLIANCE	\$100,000
2023-09	PARKS & OPEN SPACE (KOUMANTZELIS/ CITY-SIDE BASEBALL)	\$700,000
2023-10	MARKET STREET BRIDGE DESIGN	\$280,000
2023-11	DPW PORTABLE GENERATOR	\$80,000
2023-12	INLAND STREET IMPROVEMENTS	\$700,000
2023-13	DPW VEHICLE/ EQUIPMENT REPLACEMENT	\$350,000
2023-14	SCHOOL BUILDING IMPROVEMENTS (VARIOUS)	\$2,333,000
2023-15	DPW – BRINING SYSTEM (SNOW OPERATIONS)	\$125,000
2023-16	CITY HALL BATHROOM IMPROVEMENTS	\$500,000
2023-17	FIRE APPARATUS REPLACEMENT	\$60,000
2023-18	LPD HQ REMEDIATION	\$65,000
2023-19	LPD BODY CAMERA PROGRAM	\$725,000
<b>TOTAL</b>		<b>\$12,913,500</b>

PUBLIC INVESTMENT CAPITAL PLANS

PROPOSED CAPITAL PROJECTS – FIVE YEAR OUTLOOK

PROPOSED CAPITAL PROJECTS – FIVE YEAR OUTLOOK

YEAR 1 – FY2023 (CURRENT YEAR)

Project Number	Category	Department	Project Description	Total Project Cost	2023	2024	2025	2026	2027
2023-03	Bridges	Planning and Development (DPD)	Central Street Bridge (TIGER)	\$ 2,000,000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -
2023-02	Paving/ Roadway	DPW/ Engineering	Citywide Paving Program	\$ 10,060,000	\$ 1,210,000	\$ 1,350,000	\$ 1,500,000	\$ 3,000,000	\$ 3,000,000
2023-02	Paving/ Sidewalks	DPW/ Engineering	Sidewalk Improvement Program	\$ 2,000,000	\$ 1,000,000	\$ 1,000,000	\$ -	\$ -	\$ -
2023-01	Infrastructure	Planning and Development (DPD)	ADA Transition Plan and Design	\$ 835,500	\$ 835,500	\$ -	\$ -	\$ -	\$ -
2023-19	Public Safety	Lowell Police Department	Body Worn Cameras Program (Lowell Police)	\$ 725,000	\$ 725,000	\$ -	\$ -	\$ -	\$ -
2023-12	Infrastructure	DPW/ Engineering	Inland Street Project (Roadway/ Sidewalk)	\$ 700,000	\$ 700,000	\$ -	\$ -	\$ -	\$ -
2023-02	Paving/ Roadway	DPW/ Engineering	City-Wide Preventative Maintenance Pavement Program	\$ 2,300,000	\$ 650,000	\$ 650,000	\$ 500,000	\$ 250,000	\$ 250,000
2023-14	Building Improvements	DPW/ Lowell Public Schools	Robinson Univer Replacement	\$ 560,000	\$ 560,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Sullivan and Reilly School Parking Lot Rehab	\$ 550,000	\$ 550,000	\$ -	\$ -	\$ -	\$ -
2023-09	Parks & Open Space	Planning and Development (DPD)	Koumantzelis Park Improvements	\$ 500,000	\$ 500,000	\$ -	\$ -	\$ -	\$ -
2023-16	Building Improvements	DPW/ Lands & Buildings	City Hall Bathroom Project	\$ 500,000	\$ 500,000	\$ -	\$ -	\$ -	\$ -
2023-06	Traffic Signalization	Planning and Development (DPD)	Citywide Traffic Signalization Improvements	\$ 800,000	\$ 400,000	\$ 400,000	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Bartlett Boiler Room Stair & Vault Replacement	\$ 350,000	\$ 350,000	\$ -	\$ -	\$ -	\$ -
2023-10	Bridges	DPW/ Engineering	Bridge Repair Design - Market St. over Merrinack Street	\$ 280,000	\$ 280,000	\$ -	\$ -	\$ -	\$ -
2023-04	Infrastructure	Planning and Development (DPD)	Cambodiatown Infrastructure Project	\$ 3,000,000	\$ 250,000	\$ 2,500,000	\$ 250,000	\$ -	\$ -
2023-07	Infrastructure	Planning and Development (DPD)	Implementation of Master Plan; Wayfinding	\$ 750,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ -	\$ -
2023-13	Equipment	DPW/ Streets	Streets Division Equipment Replacement	\$ 750,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ -	\$ -
2023-09	Parks & Open Space	DPW/ Parks & Cemetery	Citywide Baseball Park Improvements	\$ 200,000	\$ 200,000	\$ -	\$ -	\$ -	\$ -
2023-05	Infrastructure	Planning and Development (DPD)	Sidewalk Vault Abandonment Program	\$ 150,000	\$ 150,000	\$ -	\$ -	\$ -	\$ -
2023-02	Paving/ Roadway	DPW/ Engineering	Citywide Crack Sealing Program	\$ 150,000	\$ 150,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	School-wide Window Replacement	\$ 125,000	\$ 125,000	\$ -	\$ -	\$ -	\$ -
2023-15	Equipment	DPW/ Streets	Brining System for Winter Snow Operations	\$ 250,000	\$ 125,000	\$ 125,000	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	J.G. Pyne Chiller Replacement	\$ 120,000	\$ 120,000	\$ -	\$ -	\$ -	\$ -
2023-08	Environmental Remediation	Planning and Development (DPD)	Remediation at Westford St. Landfill	\$ 100,000	\$ 100,000	\$ -	\$ -	\$ -	\$ -
2023-13	Equipment	DPW/ Parks & Cemetery	Parks & Cemeteries Vehicle Replacement	\$ 400,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ -
2023-14	Building Improvements	Planning and Development (DPD)	Stoklosa HVAC Improvements (outside of grant scope)	\$ 100,000	\$ 100,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	School-wide Domestic Hot Water Replacement (Various Sites)	\$ 200,000	\$ 100,000	\$ 100,000	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	J.G. Pyne School Parking Lot and Entrance Rehab	\$ 90,000	\$ 90,000	\$ -	\$ -	\$ -	\$ -
2023-11	Equipment	DPW/ Electrical	Portable Generator	\$ 80,000	\$ 80,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	School-wide Door Replacement	\$ 78,000	\$ 78,000	\$ -	\$ -	\$ -	\$ -
2023-18	Building Improvements	Lowell Police Department	Building Remediation	\$ 65,000	\$ 65,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Reilly Heat Exchanger Replacement	\$ 60,000	\$ 60,000	\$ -	\$ -	\$ -	\$ -
2013-17	Public Safety	Lowell Fire Department	Replace Engine # 4 (City Match - AFG Grant)	\$ 60,000	\$ 60,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	McAvinne Casting Replacement for Boiler #1	\$ 45,000	\$ 45,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Leblanc Exterior Ramp Replacement	\$ 35,000	\$ 35,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Washington School Fire Alarm Replacement	\$ 35,000	\$ 35,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Wang Ejector Pumps and Expansion Tank Replacement	\$ 30,000	\$ 30,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Bartlett Heating Hot Water Pumps (2) and Expansion Tank Replacement	\$ 30,000	\$ 30,000	\$ -	\$ -	\$ -	\$ -
2023-14	Building Improvements	DPW/ Lowell Public Schools	Reilly School Gym Ceiling Repair & Painting	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -	\$ -
<b>FY2023 TOTAL</b>					<b>12,913,500</b>				

(FIVE YEAR OUTLOOK CONTINUED)

**YEAR 2 – FY2024**

Project Number	Category	Department	Project Description	Total Project Cost	2023	2024	2025	2026	2027
2024-01	Infrastructure	Planning and Development	Cawley Stadium Improvements	\$ 3,000,000	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -
2024-02	Equipment	DPW/ Solid Waste & Recycling	Vehicle Fleet Replacement	\$ 75,000	\$ -	\$ 75,000	\$ -	\$ -	\$ -
2024-03	Public Safety	Lowell Police Department	Police Equipment Replacement - Firearms	\$ 300,000	\$ -	\$ 300,000	\$ -	\$ -	\$ -
2024-04	Public Safety	Lowell Police Department	LPD Dispatch Hardware Upgrade	\$ 200,000	\$ -	\$ 200,000	\$ -	\$ -	\$ -
2024-05	Public Safety	Lowell Police Department	LPD Evidence Storage Area Improvements	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ -	\$ -
2024-06	Public Safety	Lowell Fire Department	Replace Engine # 3	\$ 650,000	\$ -	\$ 650,000	\$ -	\$ -	\$ -
2024-07	Bridges	DPW/ Engineering	Bridge Repair Construction - Market St. over Merrimack Street	\$ 2,600,000	\$ -	\$ 2,600,000	\$ -	\$ -	\$ -
2024-08	Paving/ Roadway	Public Works	Cawley Stadium - Parking Lot Paving	\$ 900,000	\$ -	\$ 900,000	\$ -	\$ -	\$ -
<b>FY2024 SUBTOTAL</b>						<b>7,765,000</b>			
<b>PRIOR YEAR PROJECTS FUNDED IN FY2024 SUBTOTAL</b>						<b>6,725,000</b>			
<b>GRAND TOTAL FY2024</b>						<b>14,490,000</b>			

(FIVE YEAR OUTLOOK CONTINUED)

**YEAR 3 – FY2025**

Project Number	Category	Department	Project Description	Total Project Cost	2023	2024	2025	2026	2027
2025-01	Infrastructure	Planning and Development	Downtown Sidewalk Master Plan	\$ 5,000,000	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -
2025-02	Bridges	Planning and Development	Lower Locks Improvements	\$ 1,000,000	\$ -	\$ -	\$ 1,000,000	\$ -	\$ -
2025-03	Building Improvements	DPW/ Lands & Buildings	DPW Roof Replacement	\$ 500,000	\$ -	\$ -	\$ 500,000	\$ -	\$ -
2025-04	Public Safety	Lowell Fire Department	Building Improvements (Firehouses)	\$ 300,000	\$ -	\$ -	\$ 300,000	\$ -	\$ -
2025-05	Parks & Open Space	Panning & Development	Shedd Park Field House/ Pavilion	\$ 300,000	\$ -	\$ -	\$ 300,000	\$ -	\$ -
<b>FY2025 TOTAL</b>							<b>7,100,000</b>		
<b>PRIOR YEAR PROJECTS FUNDED IN FY2024 SUBTOTAL</b>							<b>2,850,000</b>		
<b>GRAND TOTAL FY2024</b>							<b>9,950,000</b>		

(FIVE YEAR OUTLOOK CONTINUED)

**YEAR 4 – FY2026**

Project Number	Category	Department	Project Description	Total Project Cost	2023	2024	2025	2026	2027
2026-01	Flood Mitigation	Public Works	Rosemont Flood Mitigation/ Levee	\$ 3,000,000	\$ -	\$ -	\$ -	\$ 3,000,000	\$ -
2026-02	Public Safety	Lowell Fire Department	Replace Ladder #3	\$ 1,600,000	\$ -	\$ -	\$ -	\$ 1,600,000	\$ -
2026-03	Park Improvement	Public Works - Parks	Carvalho Varsity Soccer Complex Artificial Turf	\$ 550,000	\$ -	\$ -	\$ -	\$ 550,000	\$ -
2026-04	Park Improvement	Public Works - Parks	Hale Howard Ped Improvements	\$ 500,000	\$ -	\$ -	\$ -	\$ 500,000	\$ -
2026-05	Park Improvement	Public Works - Parks	South Common	\$ 400,000	\$ -	\$ -	\$ -	\$ 400,000	\$ -
2026-06	Park Improvement	Public Works - Parks	Upper Merrimack - Transportation	\$ 350,000	\$ -	\$ -	\$ -	\$ 350,000	\$ -
<b>FY2026 TOTAL</b>								<b>6,400,000</b>	
<b>PRIOR YEAR PROJECTS FUNDED IN FY2026 SUBTOTAL</b>								<b>3,350,000</b>	
<b>GRAND TOTAL FY2026</b>								<b>9,750,000</b>	

(FIVE YEAR OUTLOOK CONTINUED)

**YEAR 5 – FY2027**

Project Number	Category	Department	Project Description	Total Project Cost	2023	2024	2025	2026	2027
2027-01	Infrastructure	Public Works - Streets	First Street Sidewalks & Guardrails	\$ 900,000					\$ 900,000
2027-02	Building Improvements	Public Works - Admin	DPW Admin Building - Additional Storage	\$ 900,000					\$ 900,000
2027-03	Department Equipment	Fire Department	Replace Fire Apparatus - Ladder	\$ 850,000					\$ 850,000
2027-04	Building Improvement	Lowell School Department	Cardinal O'Connell Improvements	\$ 400,000					\$ 400,000
2027-05	Building Improvement	Planning and Development	LMA Maintenance/ Repairs	\$ 400,000					\$ 400,000
2027-06	Building Improvement	Lowell School Department	Cardinal O'Connell Windows	\$ 340,000					\$ 340,000
2027-07	Building Improvement	Public Works - Lands & Buildings	Various School Generator/ Fire Alarms	\$ 310,000					\$ 310,000
2027-08	Building Improvement	Lowell School Department	Green School Adult Education Windows	\$ 300,000					\$ 300,000
2027-09	Building Improvement	School Department	Security Cameras	\$ 280,000					\$ 280,000
2027-10	Building Improvement	Development Services	City Hall Windows	\$ 227,870					\$ 227,870
2027-11	Public Safety	Lowell Fire Department	Replace Car #1, #6, & #9	\$ 150,000					\$ 150,000
2027-12	Park Improvement	Public Works - Parks	O'Donnell Park/ Tennis Court Improvements	\$ 135,000					\$ 135,000
2027-13	Park Improvement	Public Works - Parks	Campbell Park Improvements	\$ 95,000					\$ 95,000
2027-14	Infrastructure	Planning and Development	City Wide Bicycle/ Pedestrian Plan	\$ 75,000					\$ 75,000
2027-15	Park Improvement	Public Works - Parks	Hadley Field	\$ 65,000					\$ 65,000
2027-16	Department Equipment	Public Works - Streets	Topsoil Screening System	\$ 45,000					\$ 45,000
2027-17	Building Improvement	School Department	Bartlett School Bathroom Reconfiguration	\$ 40,000					\$ 40,000
2027-18	Park Improvement	Public Works - Parks	Donahoe Park Improvements	\$ 35,000					\$ 35,000
<b>FY2027 TOTAL</b>									<b>5,547,870</b>
<b>PRIOR YEAR PROJECTS FUNDED IN FY2026 SUBTOTAL</b>									<b>3,250,000</b>
<b>GRAND TOTAL FY2027</b>									<b>8,797,870</b>

## FINANCIAL ANALYSIS

One financing strategy for capital plans is to use the budgetary capacity created by paying off existing debt to issue more bonds to finance capital projects. In theory this accomplishes two objectives. First by financing capital with debt, it matches payments for the asset with the useful life of the asset itself. Secondly, by replacing a declining expense with a new expense, the operating budget is not burdened further. The number we will arrive at as the “target debt service” would represent a net zero impact on the General Fund.

To begin these calculations, we start with the forecast of current debt service and deduct ongoing reimbursements from the Massachusetts School Building Authority (“MSBA”). From this, we arrive at our target debt service number for the next five years. Next, we include potential savings forecasted from issuing refunding bonds. This occurs when new debt is issued to replace or redeem old debt before the maturity or call date of the old debt. Under these circumstances, the proceeds of the new debt must be placed in escrow and used to pay interest on old, outstanding debt as it becomes due, and to pay the principal on the old debt either as it matures or at an earlier call date. While Lowell has already taken advantage of many refunding opportunities, there are additional prospects being pursued currently by the City Administration which will reduce future debt service costs. These savings are incorporated in the model presented below.

The analysis includes previously authorized capital expenditures which have been spent, but not permanently financed. These future costs are layered into the analysis to provide a more accurate forecast, including all financial considerations.

A less attractive, but more generous strategy is to perform the same calculations, but to assume that the City’s budget has the capacity to increase at 2 ½% per year. This is consistent with Proposition 2 ½ and with the long-term historical revenue growth. Along the bottom line of the chart, the revised target includes an increase of 2.5% of the prior year’s forecasted debt service for comparison. The capital planning process has run concurrently with preparations for the upcoming year’s operating budget. The symbiotic relationship between capital planning and preparation of the operating budget has long-since been a goal of the city, which has finally come to fruition.

Preparation of a five-year capital improvement plan (CIP) is a best practice in municipal finance. Department Heads were asked to submit their short and medium term priorities to the Finance Office this winter for consideration and inclusion in a comprehensive plan. Buildings, infrastructure, technology, and major equipment are the physical foundation for providing services to constituents. The procurement, construction, and maintenance of capital assets are a critical activity of state and local governments, school districts, and other government agencies, and therefore require careful planning.

*(FINANCIAL ANALYSIS CONTINUED)*

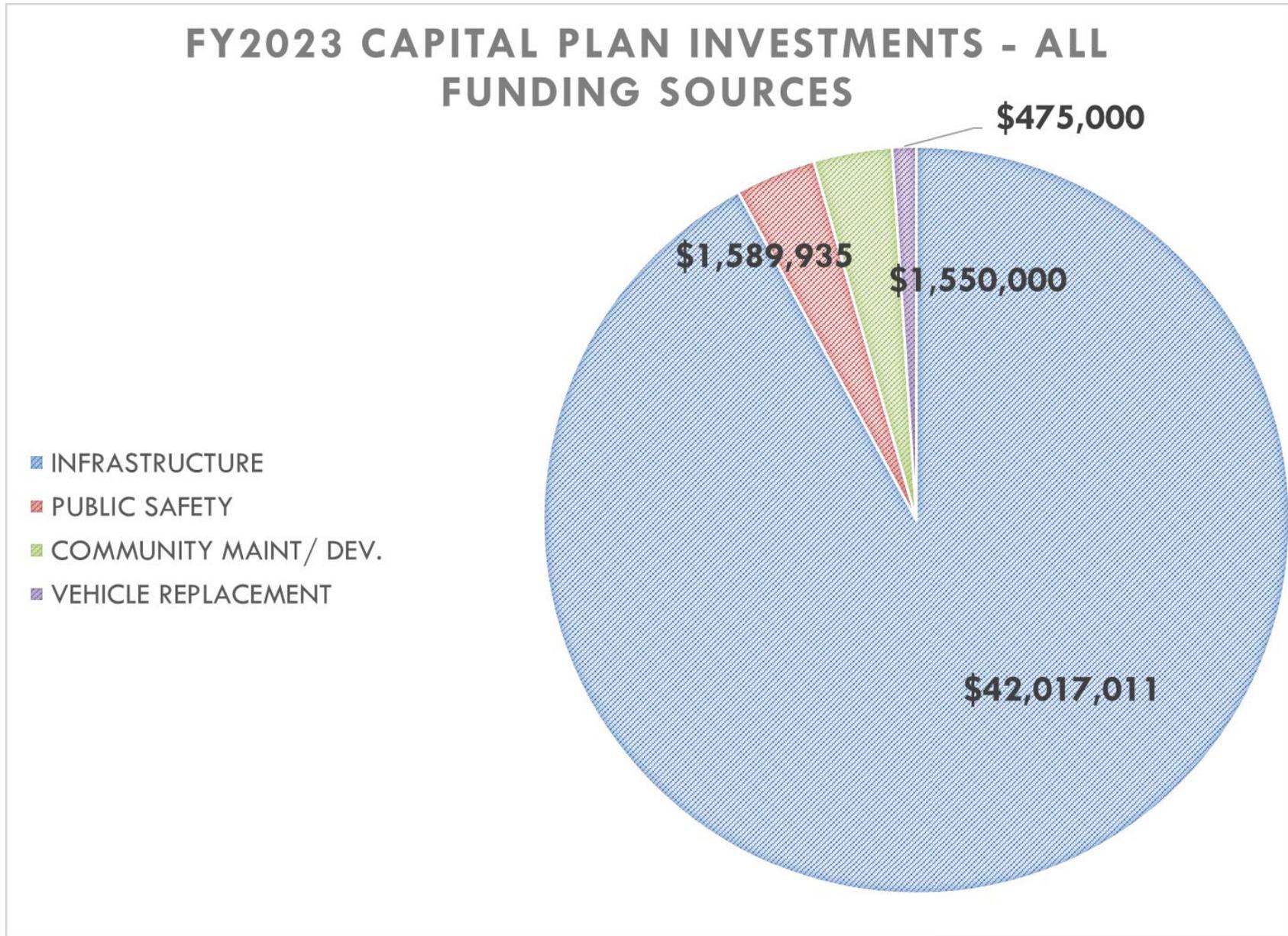
Capital planning is critical to maintaining essential public services. It is also an important component of a community’s economic development program and strategic plan. Capital facilities and infrastructure are important legacies that serve current and future generations. It is extremely difficult for governments to address the current and long-term needs of their constituents without a sound multi-year capital plan that clearly identifies capital and major equipment needs, maintenance requirements, funding options, and operating budget impacts. The debt service payments related to financing all of these projects have been incorporated into our General Fund forecasts. Please refer to the forecasts for each individual major operating fund, in the Financial Overview section of this budget, for detail.

**FY2023 FINANCING PLAN - ALL FUNDING SOURCES**

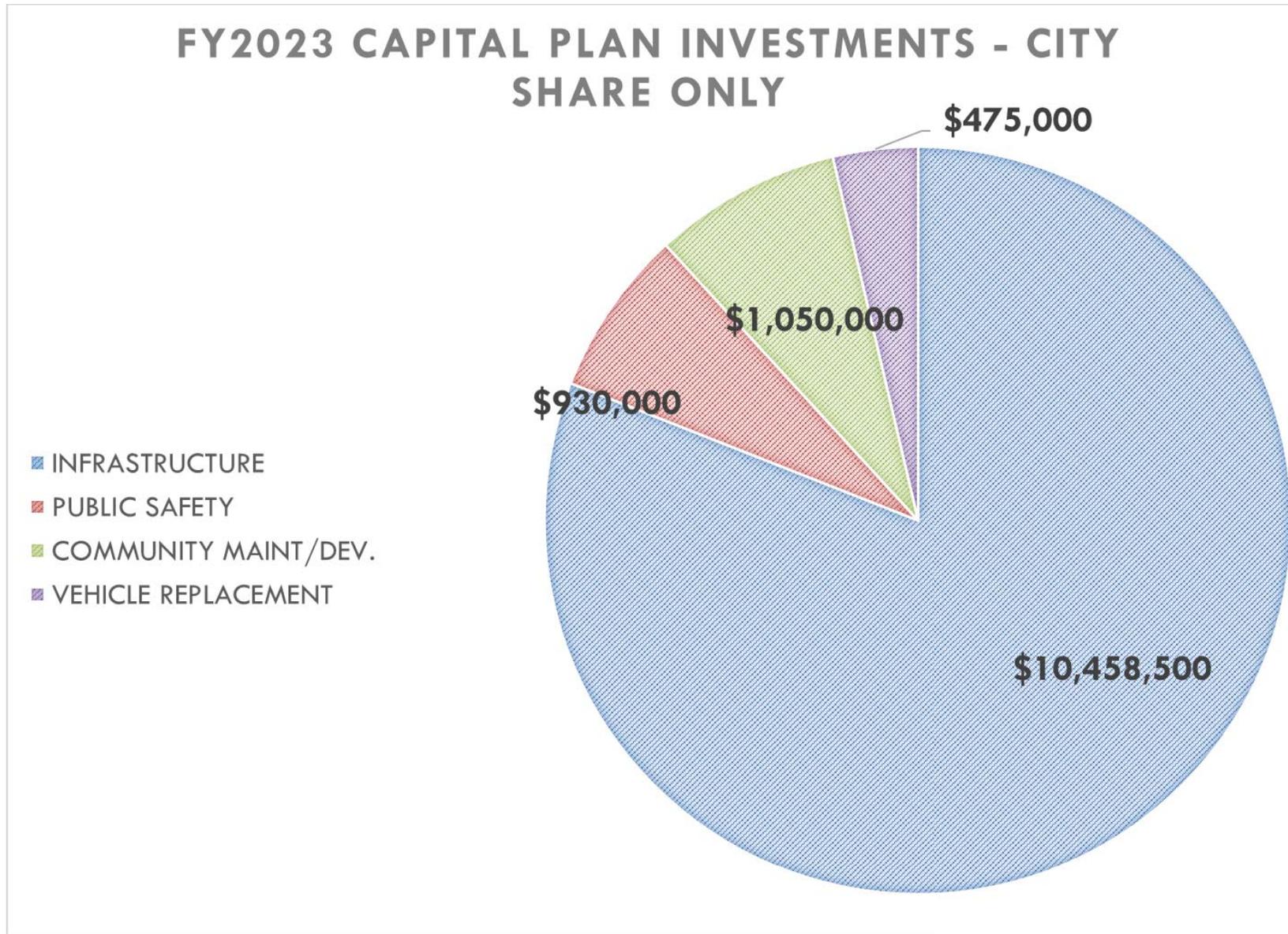
<b>Approved FY22</b>	<b>PROGRAM EXPENDITURES</b>	<b>Budget FY23</b>
36,844,674	INFRASTRUCTURE	42,017,011
905,000	PUBLIC SAFETY	1,589,935
5,090,294	COMMUNITY DEVELOPMENT	1,550,000
1,000,000	VEHICLE REPLACEMENT	475,000
<b>43,839,968</b>		<b>45,631,946</b>

<b>Approved FY22</b>	<b>FINANCING PLAN</b>	<b>Budget FY23</b>
1,878,020	CHAPTER 90 (HIGHWAY)	1,877,841
-	FHWA - TIGER GRANT	13,389,750
400,000	CULTURAL FACILITY FUND	-
1,430,000	EOEEA GRANT FUNDING (STATE)	-
-	UMASS LOWELL MASTER AGREEMENT	2,000,000
-	STATE PUBLIC SAFETY GRANT (EOPPS)	29,935
-	ASSISTANCE FOR FIREFIGHTERS (AFG) GRANT	540,000
15,000,000	MASSDOT FUNDING	6,100,000
-	LEGAL SETTLEMENTS	1,347,623
-	LEGISLATIVE EARMARKS (STATE)	200,000
10,985,737	PREVIOUSLY FUNDED - CITY CAPITAL	7,208,121
	AMERICAN RESCUE PLAN ACT (ARPA)	25,176
13,745,294	<b>GENERAL FUND - BOND PROCEEDS</b>	<b>12,913,500</b>
<b>43,839,968</b>		<b>45,631,946</b>

<b>TOTAL PROJECT COSTS (ALL FUNDING SOURCES)</b>		
<b>PROJECT DESCRIPTION</b>	<b>COST</b>	<b>CATEGORY</b>
AMERICANS WITH DISABILITIES ACT ("ADA") IMPROVEMENTS	835,500	INFRASTRUCTURE
CITY-WIDE PAVING & SIDEWALKS PROGRAM	4,887,841	INFRASTRUCTURE
"TIGER" BRIDGE REPAIR PROGRAM - VARIOUS BRIDGES	31,037,373	INFRASTRUCTURE
CAMBODIA TOWN INFRASTRUCTURE PROJECT	450,000	INFRASTRUCTURE
SIDEWALK VAULT ABANDONMENT PROGRAM	150,000	INFRASTRUCTURE
TRAFFIC SIGNALIZATION	400,000	INFRASTRUCTURE
MARKET STREET BRIDGE OVER MERRIMACK CANAL	280,000	INFRASTRUCTURE
INLAND STREET IMPROVEMENTS	700,000	INFRASTRUCTURE
SCHOOL BUILDING IMPROVEMENTS	2,333,000	INFRASTRUCTURE
CITY HALL BATHROOM IMPROVEMENTS	943,297	INFRASTRUCTURE
PORTABLE GENERATOR	170,000	PUBLIC SAFETY
FIRE APPARATUS REPLACEMENT	600,000	PUBLIC SAFETY
LPD BUILDING REMEDIATION	65,000	PUBLIC SAFETY
LPD BODY WORN CAMERA PROGRAM	754,935	PUBLIC SAFETY
SIGNAGE/ WAYFINDING - INFRASTRUCTURE IMPROVEMENTS	250,000	COMMUNITY MAINT/DEV.
WESTFORD STREET LANDFILL - ENVIRONMENTAL COMPLIANCE	100,000	COMMUNITY MAINT/DEV.
PARKS AND OPEN SPACE IMPROVEMENTS	1,200,000	COMMUNITY MAINT/DEV.
DPW STREETS - SNOW OPERATION - BRINING PILOT	125,000	VEHICLE REPLACEMENT
DPW FLEET/ EQUIPMENT REPLACEMENT	350,000	VEHICLE REPLACEMENT
<b>TOTAL CAPITAL PROJECTS - ALL FUNDING SOURCES</b>	<b>\$ 45,631,946</b>	



<b>PROJECT COSTS - 2023 CAPITAL BUDGET (CITY AMOUNT ONLY)</b>		
<b>PROJECT DESCRIPTION</b>	<b>COST</b>	<b>CATEGORY</b>
AMERICANS WITH DISABILITIES ACT ("ADA") IMPROVEMENTS	835,500	INFRASTRUCTURE
CITY-WIDE PAVING & SIDEWALKS PROGRAM	3,010,000	INFRASTRUCTURE
"TIGER" BRIDGE REPAIR PROGRAM - VARIOUS BRIDGES	2,000,000	INFRASTRUCTURE
CAMBODIA TOWN INFRASTRUCTURE PROJECT	250,000	INFRASTRUCTURE
SIDEWALK VAULT ABANDONMENT PROGRAM	150,000	INFRASTRUCTURE
TRAFFIC SIGNALIZATION	400,000	INFRASTRUCTURE
MARKET STREET BRIDGE OVER MERRIMACK CANAL	280,000	INFRASTRUCTURE
INLAND STREET IMPROVEMENTS	700,000	INFRASTRUCTURE
SCHOOL BUILDING IMPROVEMENTS	2,333,000	INFRASTRUCTURE
CITY HALL BATHROOM IMPROVEMENTS	500,000	INFRASTRUCTURE
PORTABLE GENERATOR	80,000	PUBLIC SAFETY
FIRE APPARATUS REPLACEMENT	60,000	PUBLIC SAFETY
LPD BUILDING REMEDIATION	65,000	PUBLIC SAFETY
LPD BODY WORN CAMERA PROGRAM	725,000	PUBLIC SAFETY
SIGNAGE/ WAYFINDING - INFRASTRUCTURE IMPROVEMENTS	250,000	COMMUNITY MAINT/DEV.
WESTFORD STREET LANDFILL - ENVIRONMENTAL COMPLIANCE	100,000	COMMUNITY MAINT/DEV.
PARKS AND OPEN SPACE IMPROVEMENTS	700,000	COMMUNITY MAINT/DEV.
DPW STREETS - SNOW OPERATION - BRINING PILOT	125,000	VEHICLE REPLACEMENT
DPW FLEET/ EQUIPMENT REPLACEMENT	350,000	VEHICLE REPLACEMENT
<b>TOTAL CAPITAL PROJECTS - ALL FUNDING SOURCES</b>	<b>\$ 12,913,500</b>	



FINANCIAL ANALYSIS – ACTUAL AND BUDGETED REVENUES

Fiscal Year	Total Amounts to Be Raised	Annual Growth Rate	Compounded Annual Growth Factor ("CAGF")
2008	\$ 308,711,540	N/a	
2009	\$ 318,636,488	3.21%	} 2.8%
2010	\$ 308,847,270	-3.07%	
2011	\$ 311,646,472	0.91%	
2012	\$ 321,111,145	3.04%	
2013	\$ 328,095,926	2.18%	
2014	\$ 342,975,498	4.54%	
2015	\$ 364,130,698	6.17%	
2016	\$ 358,051,834	-1.67%	
2017	\$ 365,886,534	2.19%	
2018	\$ 376,248,783	2.83%	
2019	\$ 391,858,652	4.15%	
2020	\$ 407,340,917	3.95%	
2021	\$ 432,424,652	6.16%	
2022	\$ 457,479,382	5.79%	
2023	\$ 470,514,334	2.85%	
2024	\$ 483,920,691	2.85%	
2025	\$ 497,709,035	2.85%	
2026	\$ 511,890,250	2.85%	
2027	\$ 526,475,530	2.85%	
2028	\$ 541,476,388	2.85%	
2029	\$ 556,904,665	2.85%	
2030	\$ 572,772,540	2.85%	
2031	\$ 589,092,539	2.85%	
2032	\$ 605,877,542	2.85%	

**FINANCIAL ANALYSIS – EXISTING DEBT OBLIGATION AS A PERCENTAGE OF BUDGETED REVENUES**

<b>Fiscal Year</b>	<b>Existing Net Debt Service Obligation (ALL FUNDS)</b>	<b>Projected Budgeted Revenue</b>	<b>Debt Service as a Percentage (%) of Projected Budgeted Revenue</b>
2023	\$ 27,008,966	\$ 470,514,334	5.74%
2024	\$ 26,081,516	\$ 483,920,691	5.39%
2025	\$ 25,767,561	\$ 497,709,035	5.18%
2026	\$ 24,268,713	\$ 511,890,250	4.74%
2027	\$ 23,683,251	\$ 526,475,530	4.50%
2028	\$ 23,044,236	\$ 541,476,388	4.26%
2029	\$ 20,127,789	\$ 556,904,665	3.61%
2030	\$ 19,325,996	\$ 572,772,540	3.37%
2031	\$ 17,584,318	\$ 589,092,539	2.98%
2032	\$ 16,095,735	\$ 605,877,542	2.66%

FINANCIAL ANALYSIS – DEBT LIMIT CALCULATIONS

DEBT LIMIT CALCULATION

<b>Equalized Valuation as of January 1, 2020</b>	\$ 9,848,176,600
<b>Debt Limit (5% of Equalized Valuation)</b>	<b>\$ 492,408,830</b>
Total Outstanding Debt as of June 30, 2021 <sup>60</sup>	\$ 297,598,932
	\$
Total Authorized/ Unissued Debt as of June 30, 2020 ( <i>Approximate</i> )	445,871,284 <sup>61</sup>
<b>Total Outstanding Debt Plus Total Authorized/ Unissued Debt</b>	<b>\$ 743,470,216</b>
Amount of Outstanding Debt Outside the Debt Limit	\$ 96,847,334
Appx. Amount of Authorized/ Unissued Debt Outside the Debt Limit	\$ 417,616,340
<b>Outstanding Debt plus Authorized/ Unissued Outside the Debt Limit</b>	<b>\$ 514,463,674</b>
Total Outstanding Debt Plus Total Authorized/ Unissued Debt	\$ 743,470,216
Less: Outstanding Debt plus Authorized/ Unissued Outside the Debt Limit	\$ 514,463,674
<b>Debt Subject to the Debt Limit</b>	<b>\$ 229,006,542</b>
Debt Limit (5% of Equalized Valuation)	\$ 492,408,830
<b>Remaining Borrowing Capacity Under Debt Limit</b>	<b>\$ 263,402,288</b>

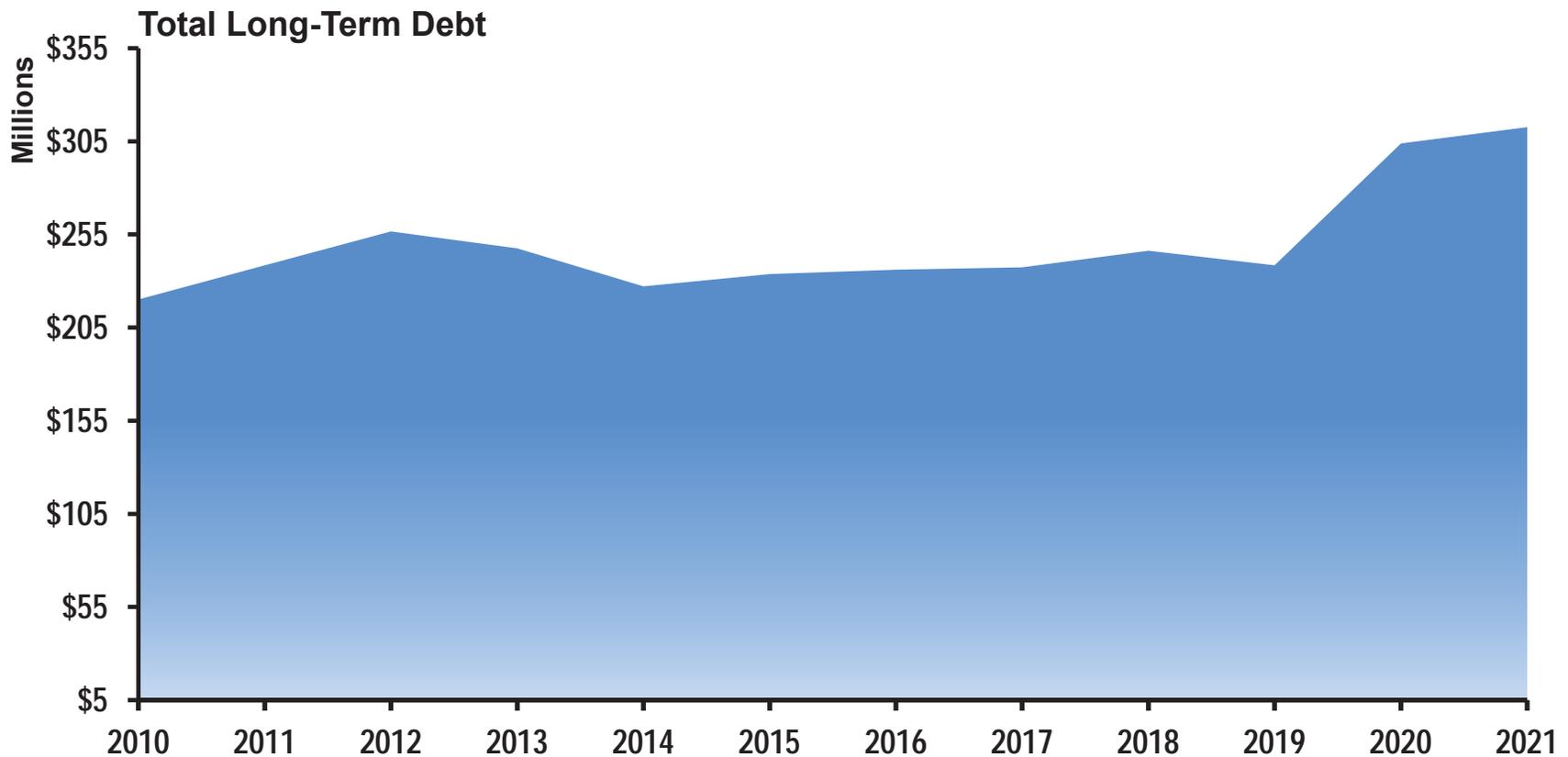
<sup>60</sup> As reported on the Statement of Indebtedness as of 6/30/2021

<sup>61</sup> Currently, the City has approximately \$445.8 million (excluding authorized refundings) of authorized unissued debt outstanding (as of 6/30/21), comprised of the following: \$309.5 million school bonds authorized for construction and reconstruction of a new high school. The total amount authorized for this project will be reduced to the extent of school building grant funds paid to the City by the Massachusetts School Building Authority (MSBA). The reimbursement rate will be approximately 80% of reimbursable project costs. \$60.7 million sewer and \$43 million water bonds authorized for the reconstruction of water and sewer mains and facility upgrades throughout the City. The City is aggressively working to maintain and improve its water and sewer infrastructure. Financing will be through the Massachusetts Clear Water Trust. Rates will be raised to support this debt as it is issued.

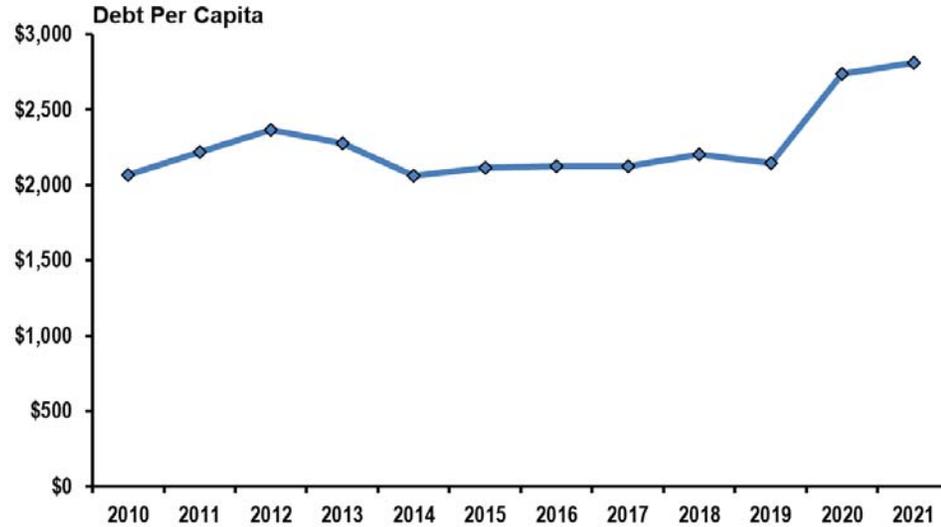
FINANCIAL ANALYSIS – HISTORIC LONG TERM DEBT ANALYSIS



Total long-term debt in excess of 5 percent of a community's assessed valuation is generally prohibited under MGL Chapter 44 §10, and approaching this limit is often considered a warning sign by bond rating agencies. Evaluating a community's debt in this way is an indicator of both a community's overall debt burden as well as its effort in consistently investing in its capital assets. While a high debt load may be an indication of fiscal strain, low and decreasing debt may indicate underinvestment in capital assets and infrastructure.



PUBLIC INVESTMENT CAPITAL PLANS



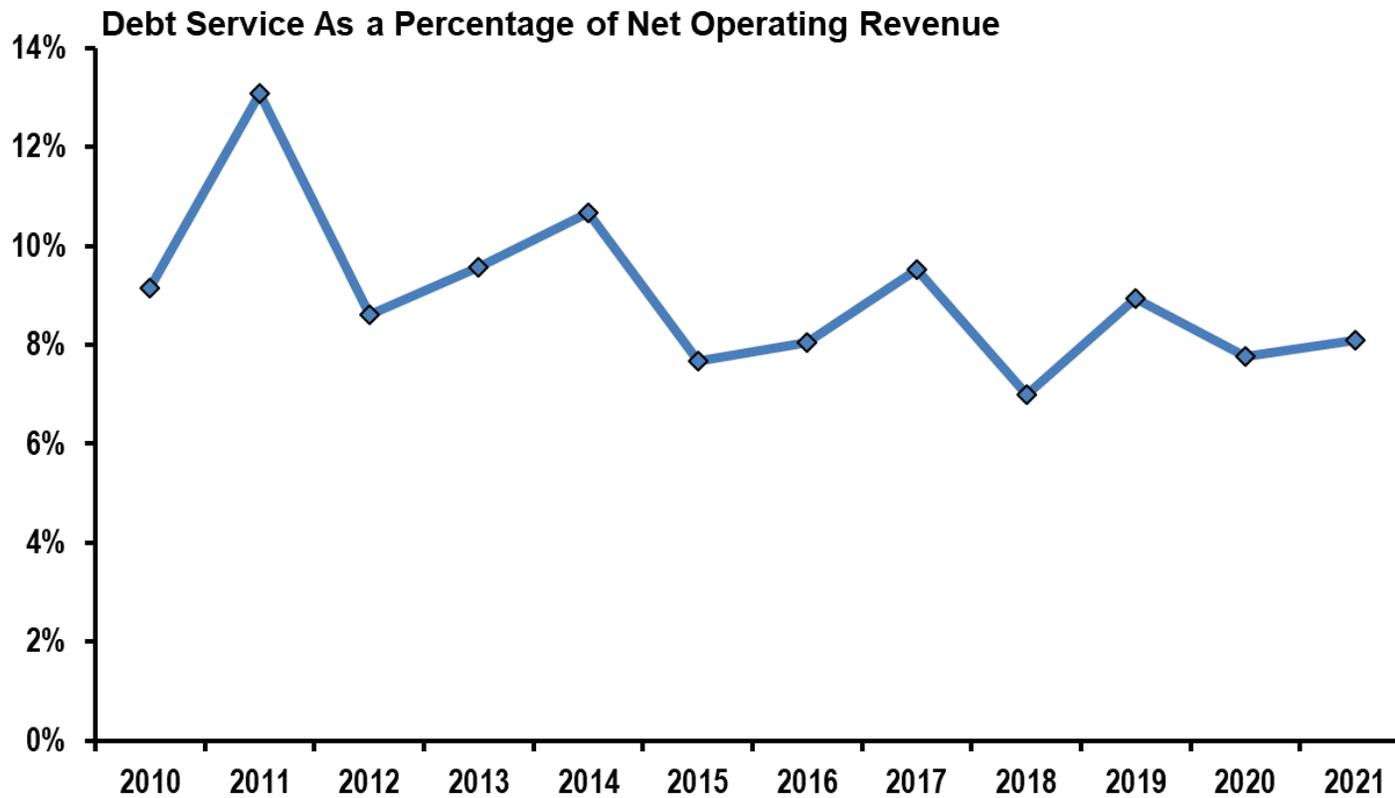
Fiscal Year	Assessed Valuation	Bonds Outstanding	Population	Debt as % Assessed Valuation	Debt Per Capita
2010	\$ 6,390,673,111	\$ 220,050,595	106,519	3.44%	\$ 2,066
2011	\$ 6,149,861,125	\$ 238,410,550	107,571	3.88%	\$ 2,216
2012	\$ 6,095,108,518	\$ 256,583,545	108,522	4.21%	\$ 2,364
2013	\$ 6,082,517,858	\$ 247,590,510	108,861	4.07%	\$ 2,274
2014	\$ 6,085,685,748	\$ 227,206,056	110,235	3.73%	\$ 2,061
2015	\$ 6,332,311,813	\$ 233,750,883	110,699	3.69%	\$ 2,112
2016	\$ 6,683,928,991	\$ 236,079,708	111,250	3.53%	\$ 2,122
2017	\$ 7,090,285,250	\$ 237,392,385	111,728	3.35%	\$ 2,125
2018	\$ 7,664,201,191	\$ 246,269,331	111,670	3.21%	\$ 2,205
2019	\$ 8,187,814,400	\$ 238,383,416	110,997	2.91%	\$ 2,148
2020	\$ 9,043,323,474	\$ 303,803,103	110,997	3.36%	\$ 2,737
2021	\$ 9,848,176,600	\$ 312,607,939	111,306	3.17%	\$ 2,809

Data Source: City debt report, Municipal Databank, Statement of Indebtedness

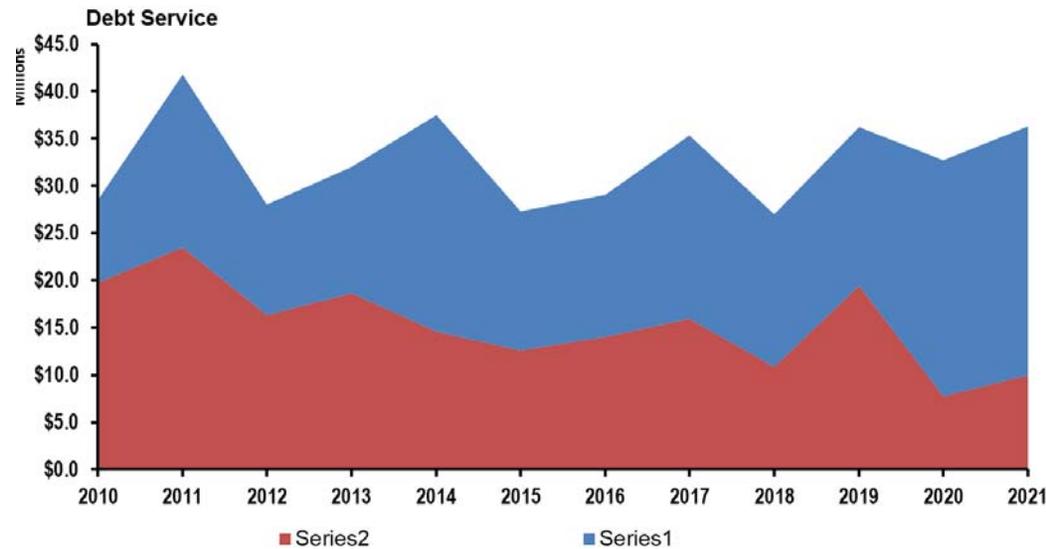
FINANCIAL ANALYSIS – HISTORIC DEBT SERVICE ANALYSIS



Annual debt service in excess of 10 percent of net operating revenues may indicate that the town's debt load is too high. A trend of increasing debt load may negatively affect a community's ability to maintain spending on essential services as more revenues must be set aside to service debt. Conversely, a declining trend may indicate that the town is not maintaining investment in its capital assets and is losing the capacity to do so as operating expenses take on a greater proportion of the budget. The town should find a favorable balance between these two extremes, ideally set by policy.



PUBLIC INVESTMENT CAPITAL PLANS



As % of Net Operating Revenue

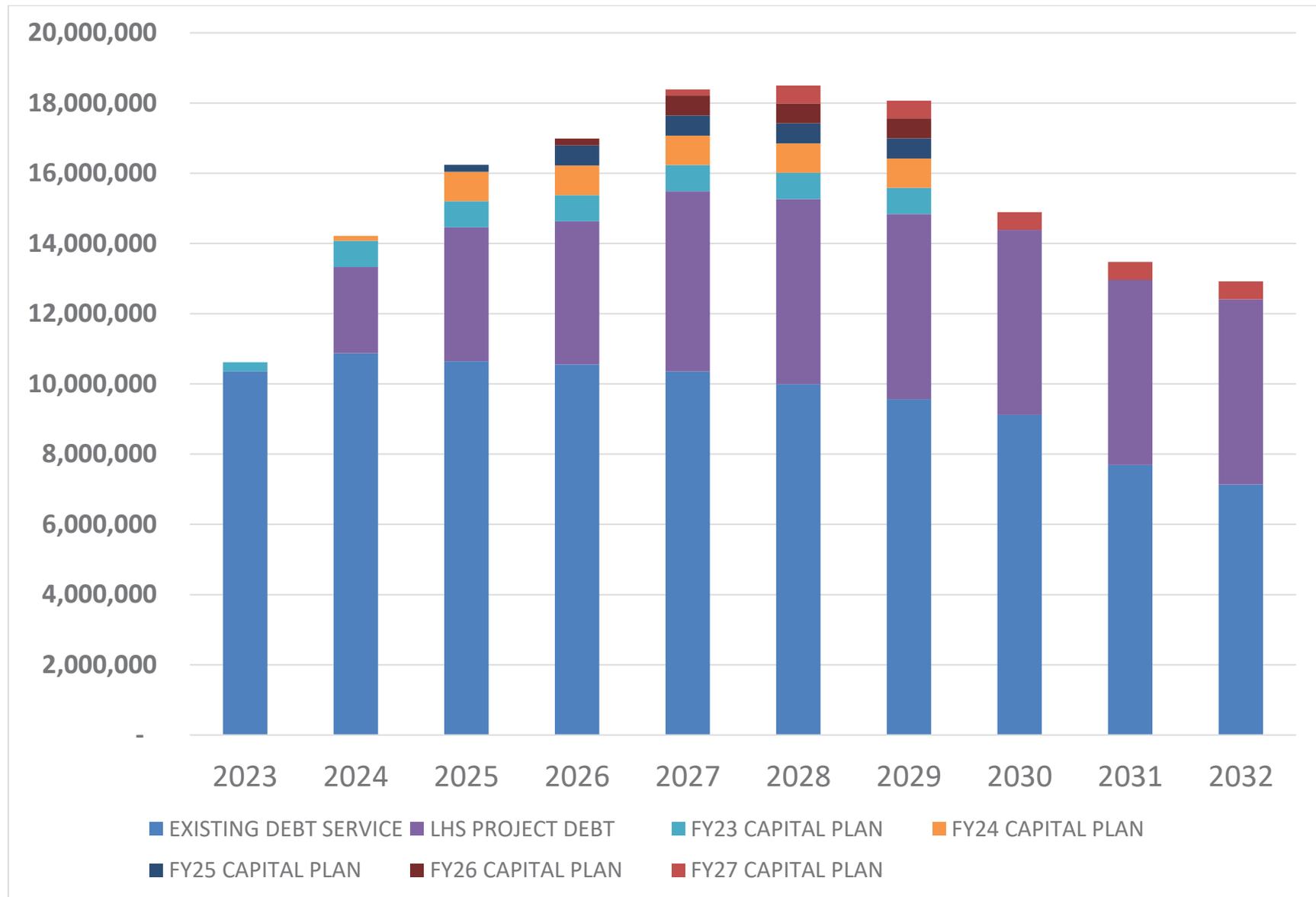
Fiscal Year	Non-Exempt Debt Service	Exempt Debt Service	Total Debt Service	Operating Revenue (Nominal Dollars)	Non-Exempt	Exempt	Total
2010	\$ 8,772,837	\$ 19,749,123	\$ 28,521,960	\$ 311,614,472	2.82%	6.34%	9.15%
2011	\$ 18,282,169	\$ 23,530,310	\$ 41,812,479	\$ 319,564,905	5.72%	7.36%	13.08%
2012	\$ 11,707,044	\$ 16,360,667	\$ 28,067,711	\$ 325,858,417	3.59%	5.02%	8.61%
2013	\$ 13,354,711	\$ 18,663,538	\$ 32,018,249	\$ 334,833,448	3.99%	5.57%	9.56%
2014	\$ 22,932,844	\$ 14,554,290	\$ 37,487,134	\$ 351,338,279	6.53%	4.14%	10.67%
2015	\$ 14,706,321	\$ 12,594,257	\$ 27,300,578	\$ 355,962,520	4.13%	3.54%	7.67%
2016	\$ 15,028,717	\$ 14,029,292	\$ 29,058,009	\$ 360,734,739	4.17%	3.89%	8.06%
2017	\$ 19,445,681	\$ 15,911,406	\$ 35,357,087	\$ 371,583,434	5.23%	4.28%	9.52%
2018	\$ 16,135,296	\$ 10,854,914	\$ 26,990,210	\$ 385,434,653	4.19%	2.82%	7.00%
2019	\$ 16,720,570	\$ 19,477,934	\$ 36,198,504	\$ 405,306,163	4.13%	4.81%	8.93%
2020	\$ 24,996,632	\$ 7,738,799	\$ 32,735,431	\$ 422,128,078	5.92%	1.83%	7.75%
2021	\$ 26,336,301	\$ 9,957,758	\$ 36,294,059	\$ 448,640,572	5.87%	2.22%	8.09%

Data Source: Schedule A Reports

Principal Payments by Purpose  
As of June 30, 2021 (1)

Fiscal Year	General (2)	School (3)	Water (4)	Sewer (5)	MCWT (6)	Parking Garage	Arena	Total Outstanding Principal
2022	\$ 5,626,724	\$ 2,720,676	\$ 962,400	\$ 1,900,200	\$ 5,870,396	\$ 3,125,000	\$ 5,000	\$ 20,210,396
2023	5,310,600	2,217,500	937,500	1,968,100	6,008,991	3,131,300	-	19,573,991
2024	5,342,100	1,284,000	865,100	1,888,800	5,795,164	2,920,000	-	18,095,164
2025	5,395,800	1,314,000	876,200	1,894,000	5,923,975	3,075,000	-	18,478,975
2026	5,101,600	1,329,500	691,800	1,912,100	5,510,478	3,075,000	-	17,620,478
2027	5,170,200	1,364,000	697,500	1,918,300	5,344,382	3,225,000	-	17,719,382
2028	5,152,000	1,323,000	702,500	1,912,600	5,307,996	3,375,000	-	17,772,996
2029	4,962,000	1,388,000	632,600	1,692,400	5,213,200	1,600,000	-	15,488,200
2030	4,882,900	1,281,500	638,100	1,544,500	5,223,882	1,678,000	-	15,248,882
2031	3,737,400	1,235,000	598,500	1,374,100	5,343,639	1,750,000	-	14,038,639
2032	3,310,000	1,285,000	555,000	1,030,000	4,978,725	1,825,000	-	12,983,725
2033	2,785,000	1,290,000	555,000	835,000	5,094,216	1,890,000	-	12,449,216
2034	2,510,000	1,260,000	515,000	840,000	4,894,326	1,955,000	-	11,974,326
2035	2,515,000	1,205,000	500,000	585,000	5,008,347	2,015,000	-	11,828,347
2036	2,150,000	1,235,000	505,000	590,000	5,015,340	2,070,000	-	11,565,340
2037	1,240,000	1,180,000	150,000	595,000	4,919,131	1,645,000	-	9,729,131
2038	1,265,000	1,200,000	155,000	595,000	4,100,777	1,695,000	-	9,010,777
2039	1,085,000	1,225,000	160,000	175,000	4,197,878	1,745,000	-	8,587,878
2040	1,135,000	1,240,000	160,000	180,000	3,096,591	1,790,000	-	7,601,591
2041	560,000	865,000	30,000	180,000	1,624,551	1,845,000	-	5,104,551
2042	360,000	805,000	-	185,000	835,315	1,895,000	-	4,080,315
2043	370,000	825,000	-	190,000	856,634	1,955,000	-	4,196,634
2044	385,000	840,000	-	195,000	-	2,010,000	-	3,430,000
2045	390,000	860,000	-	200,000	-	2,070,000	-	3,520,000
2046	395,000	880,000	-	200,000	-	-	-	1,475,000
2047	400,000	900,000	-	205,000	-	-	-	1,505,000
2048	415,000	920,000	-	210,000	-	-	-	1,545,000
2049	425,000	940,000	-	-	-	-	-	1,365,000
2050	435,000	965,000	-	-	-	-	-	1,400,000
Total	\$ 72,811,324	\$ 35,377,176	\$ 10,887,200	\$ 24,995,000	\$ 100,163,932	\$ 53,359,300	\$ 5,000	\$ 297,598,932

- (1) Principal amount only. Excludes lease and installment purchase obligations, overlapping debt, unfunded pension liability, and other post-employment benefits liability.
- (2) \$90,000 is outside the City's general debt limit.
- (3) \$25,006,500 is outside the City's general debt limit.
- (4) Self-supporting. Outside the City's general debt limit.
- (5) Self-supporting. \$12,262,400 is outside the City's general debt limit.
- (6) Massachusetts Clean Water Trust, formerly Massachusetts Water Pollution Abatement Trust. \$48,305,233 is outside the City's debt limit. Sewer services are accounted for in an enterprise fund.



**City of Lowell FY2023 Capital Plan Loan Order to the Lowell City Council**

**PUBLIC INVESTMENT CAPITAL PLANS**

THE COMMONWEALTH OF MASSACHUSETTS  
CITY OF LOWELL

In City Council

LOAN ORDER  
(General Fund Capital Improvements)

To borrow \$12,913,500 for the purpose of financing various capital improvements and purchases and any related architectural and engineering services in connection therewith and any costs incidental and related thereto.

IT IS ORDERED BY THE CITY COUNCIL OF THE CITY OF LOWELL BY A TWO-THIRDS VOTE OF ALL OF ITS MEMBERS, as follows:

**Ordered:** That the sum of \$12,913,500 is appropriated for the purpose of financing the following capital improvements, and any related architectural and engineering services in connection therewith and any costs incidental and related thereto:

<b>Project Description</b>	<b>Amount</b>
Bridge Design, Construction and Repairs	\$2,280,000
Road Paving, Road & Sidewalk Construction, Repair, Sealing, & Improvements	\$3,860,000
ADA Transition Plan & Design	\$ 835,500
Various Departmental Equipment	\$1,340,000
Various Building Remodeling	\$2,258,000
Various Parking Lot Rehabilitation	\$640,000
Traffic Signalization Improvements	\$400,000
Cambodiatown Infrastructure Project	\$250,000
Implementation of Master Plan; Wayfinding	\$250,000
Various Parks Improvements	\$700,000
Landfill Remediation	\$100,000

That to meet this appropriation the Treasurer, with the approval of the City Manager, is authorized to borrow \$12,913,500 and to issue bonds or notes therefor under G.L. c. 44 or any other enabling authority; that the City Manager is authorized to contract for and expend any federal or state aid available for the projects; that the City Manager is authorized to take any action necessary to carry out the projects; and that the Treasurer is authorized to file an application with the Municipal Finance Oversight Board to qualify any or all of the bonds under G.L. c.44A and to provide such information and execute such documents as such board may require for these purposes.

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