



**25% DESIGN PUBLIC HEARING**

**MARCH 13, 2017  
SNOW DATE: MARCH 20, 2017**

**AT**

**POLLARD MEMORIAL LIBRARY  
401 MERRIMACK STREET**

**LOWELL, MASSACHUSETTS**

**6:00 PM**

**FOR THE PROPOSED**

**LOWELL TIGER GRANT FOR SIX CANAL BRIDGES**

**IN THE CITY OF LOWELL, MASSACHUSETTS**

**CITY OF LOWELL  
LOWELL DEPARTMENT OF PLANNING AND DEVELOPMENT**

**COMMONWEALTH OF MASSACHUSETTS  
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION**

**KEVIN J. MURPHY  
CITY MANAGER**

**DIANE TRADD  
ASSISTANT CITY MANAGER,  
DIRECTOR OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT**

**CITY OF LOWELL  
DEPARTMENT OF PLANNING AND DEVELOPMENT  
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION – HIGHWAY DIVISION  
NOTICE OF A DESIGN PUBLIC HEARING**

A Design Public Hearing will be held by the City of Lowell and MassDOT to discuss the Reconstruction and Rehabilitation of Six Bridges (ENEL Bridges), in the City of Lowell, MA, which is being funded through a Federal Highway Administration Transportation Investment Generating Economic Recovery (TIGER) Grant.

**WHERE:           Pollard Memorial Library  
                      401 Merrimack Street  
                      Lowell, Massachusetts, 01852**

**WHEN:           Monday, March 13, 2017 @ 6:00PM  
                      Snow date: Monday, March 20, 2017 @ 6:00PM**

**PURPOSE:**       The purpose of this meeting is to provide the public with the opportunity to become fully acquainted with the project to replace, rehabilitate, and repair, the following bridges within the City of Lowell: Central Street over the Pawtucket Canal, Merrimack Street over the Merrimack Canal, Merrimack Street over the Western Canal, Pawtucket Street over the Northern Canal, Pawtucket Street over the Pawtucket Canal, and Suffolk Street over the Northern Canal. The meeting will also provide information regarding the next phase of project development including public involvement efforts. All views and comments made at the meeting will be reviewed and considered to the maximum extent possible.

**PROPOSAL:**      The proposed project consists of total replacement of the two Pawtucket Street bridges, and a series of varying rehabilitation efforts for the other structures ranging from deck replacement and repair, to sidewalk repair, and guardrail replacement. Context sensitive design options will be discussed.

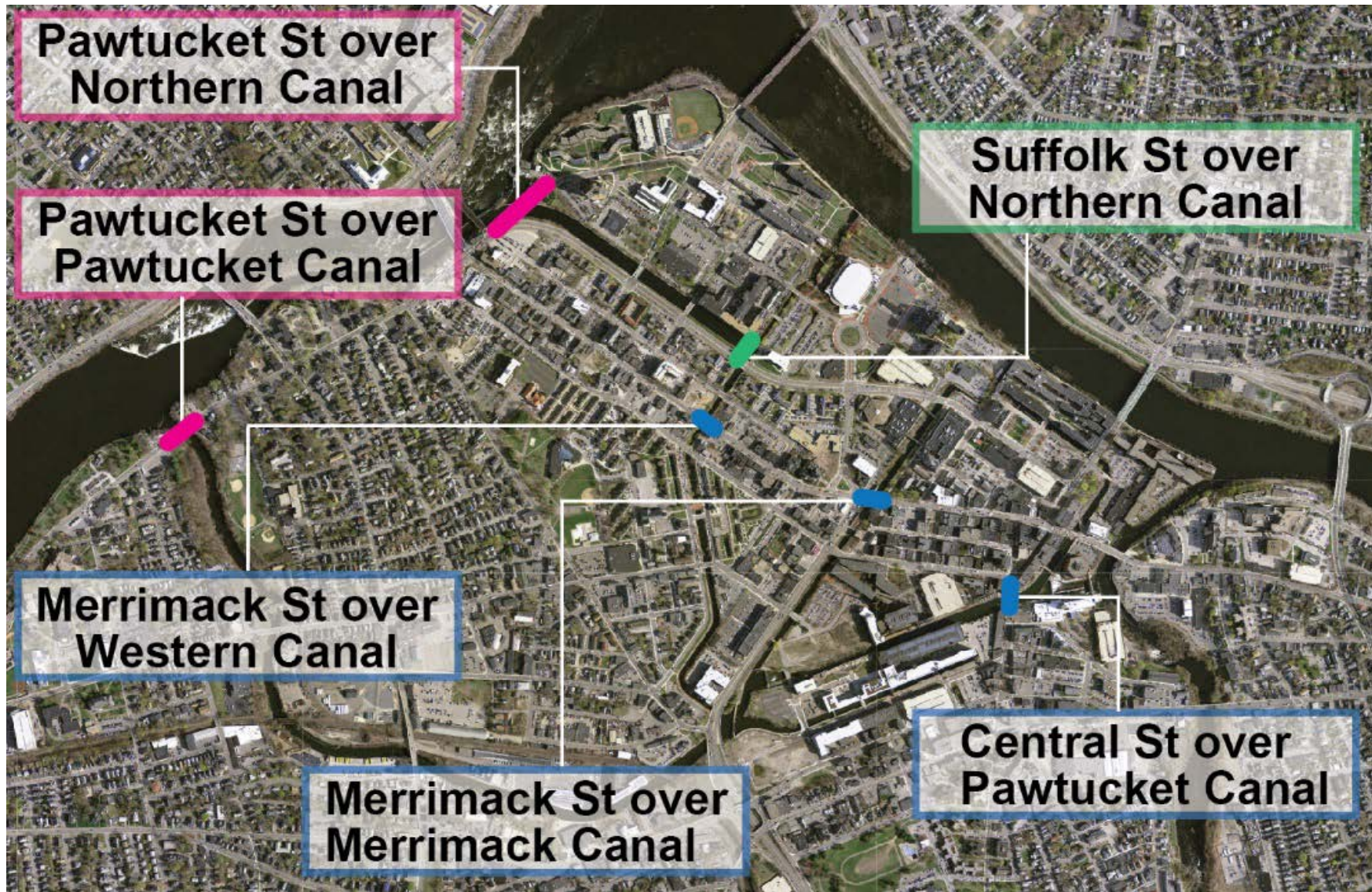
A secure right-of-way is necessary for this project. Acquisitions in fee and permanent or temporary easements may be required. If required, the City of Lowell is responsible for acquiring all needed rights in private or public lands. The City's policy concerning land acquisitions will be discussed at this hearing.

Written views received subsequent to the date of this notice and up to five (5) days prior to the date of the meeting shall be displayed for public inspection and copying at the time and date listed above. Plans will be on display one-half hour before the meeting begins, with an engineer in attendance to answer questions regarding this project. A project handout will be made available on the City of Lowell website listed below.

Written statements and other exhibits in place of, or in addition to, oral statements made at the Public Meeting regarding the proposed undertaking are to be submitted to Claire V. Ricker, AICP, Chief Design Planner, Project Manager, City of Lowell, Department of Planning and Development, 50 Arcand Drive, #2, Lowell, MA 01852, Attn: Lowell TIGER Grant Bridges. Such submissions will also be accepted at the meeting. Mailed statements and exhibits intended for inclusion in the public meeting transcript must be postmarked within ten (10) business days of this Public Meeting. Project inquiries may be emailed to [ncabral-curtis@hshassoc.com](mailto:ncabral-curtis@hshassoc.com)

This location is accessible to people with disabilities. The library is served by the Lowell Regional Transit Authority on the following routes: Route 6 - Broadway/UMass Lowell; Route 7 - Pawtucketville/UMass Lowell North; Route 9 - Lowell Circulator. In addition, the continuously running Route 18 - Downtown Shuttle stops at nearby Dutton and Market Streets.

In case of inclement weather, hearing cancellation announcements will be posted on the internet at [www.lowellbridges.com](http://www.lowellbridges.com)



- █ Complete Replacement
- █ Rehabilitation/Preservation
- █ Superstructure Replacement

**Figure 1: Project Map**

## **Project Location**

Lowell, Massachusetts, a city of 106,519 residents located 25 miles northwest of Boston, is known as the “Birthplace of the American Industrial Revolution,” resulting in its designation in the late 1970s as the first urban National Park celebrating the country’s industrial heritage. Chief among Lowell’s significant historic resources is an unparalleled, intact 5.6 mile network of power canals. An unusual legacy of this otherwise celebrated heritage is that eight canal bridges serving Downtown Lowell, the adjacent Acre neighborhood, and the campuses of the University of Massachusetts Lowell remain in private ownership.

These bridges carry several urban arterials through Downtown Lowell and the adjacent Acre neighborhood. In addition to their critical function providing multi-modal transportation access to their immediate surroundings, including the campuses of the University of Massachusetts Lowell, Middlesex Community College, and the Lowell National Historical Park, these bridges are key links to the regional transportation network of Eastern Massachusetts and Southern New Hampshire. Six of the only seven bridges across the Merrimack River between U.S. Route 3 and Interstate 93 (approximately fifteen miles apart along the river) are found in Lowell. The canal bridges themselves are located within the boundaries of census tracts 3101, 3107, 3111, and 3883. These areas are home to an extremely diverse population, a vast majority of which are minority and low-income households. Unemployment rates in these tracts are also considerably higher than national averages. All of these census tracts qualify as Environmental Justice Populations under the Environmental Justice Policy of the Massachusetts Executive Office of Energy and Environmental Affairs.

## **Purpose**

The purpose of the project is to end the private ownership and limited maintenance of six bridges in the City of Lowell that carry critical public infrastructure, and eliminate the weight restrictions and bridge closures that cripple transportation circulation and impede public safety, economic opportunity, and access to education in Downtown Lowell and the Acre Neighborhood.

These bridges are currently in various states of disrepair or deterioration, necessitating weight restrictions and closures that adversely impact public safety, commerce, economic development, traffic congestion, National Park tourism, and transportation efficiency in the City to a significant degree. Buses, school buses, fire trucks, and commercial vehicles are prohibited from crossing some/all of these spans and therefore must use cumbersome, circuitous alternate routes.

The City of Lowell has negotiated an agreement to acquire the bridges from the current owner, Enel Green Power North America (“Enel”), as part of a partnership effort to rehabilitate them and restore the transportation network serving Downtown Lowell, ending the private ownership of key public infrastructure.

The project proposes to replace, rehabilitate, and repair, the following bridges within the City of Lowell: Central Street over the Pawtucket Canal, Merrimack Street over the Merrimack Canal, Merrimack Street over the Western Canal, Pawtucket Street over the Northern Canal, Pawtucket Street over the Pawtucket Canal, and Suffolk Street over the Northern Canal. All six are within Lowell, and are located within the Lowell National Historical Park and/or have historic elements.

Complete replacement is proposed for two bridges, and repairs for the other four. In conjunction with this project, Enel has agreed to replace a further bridge at its own expense. In all cases, the new bridges will provide enhanced pedestrian and bicycle accommodations and will remove posted weight restrictions to allow transit buses, emergency vehicles, and commercial trucks to utilize the crossings. The replacement bridges will be designed in partnership with the Lowell National Historical Park and Lowell Historic Board to complement the historic canal system.

## **Existing Conditions**

Six of the eight privately-owned bridges are currently restricted in some manner that limits vehicle or pedestrian use and access (in some cases both). All but one of the bridges are likely to see further restrictions in the next year or two if nothing is done to address their deterioration. This circumstance generates significant risks and adverse impacts for the community, the region, and interstate travel, as illustrated below:

*Public Safety:* weight restrictions on the bridges limit the ability of fire vehicles to cross them. Given the high density of housing, institutional, and commercial buildings in the area served by these bridges, as well as the fact that there are dozens of buildings that require ladder truck access to respond to fire emergencies, failure to improve the bridges would pose significant risks to public safety and emergency response.

*Public Transportation:* the posted weight limits on several bridges prevent Lowell Regional Transit Authority (LRTA) buses from crossing them, resulting in circuitous detours that complicate public transit service in the community, create unnecessary delays and inconvenience for riders who depend on the LRTA bus system, and make it difficult to service entire sections of the core of the City.

*Economic Development:* the bridge capacity restrictions prevent many commercial vehicles, including tractor trailers and larger straight trucks, from crossing the bridges. As a result, delivery and shipping services cannot efficiently reach destinations in several industrial and commercial districts in Lowell's core, artificially limiting opportunities for economic reinvestment as businesses choose other locations, including sites in New Hampshire that are more difficult for inner city residents to access, to avoid these challenges.

*UMass Lowell Transportation:* UMass Lowell consists of three geographically separate campuses as well as a handful of Downtown Lowell properties, including a 500-bed residence hall at the Inn and Conference Center. The University operates a regular schedule of shuttle buses providing an average of over 7,000 unlinked daily trips among these campuses, in order to reduce parking demand and traffic congestion. Existing and pending weight restrictions on several of the canal bridges prevent University buses from travelling the shortest distances between campuses, decreasing convenience and efficiency, which in turn suppresses ridership and increases traffic and parking demand. The University's transportation demand management (TDM) program encourages sustainable transportation options for intra-campus and commuting movements; the success of these programs is completely dependent on the canal bridges.

*Pedestrian Safety:* in several cases, one or both sidewalks along these bridges have been closed due to advanced deterioration of the underlying structure. As a result, pedestrians are forced to cross streets at dangerous locations near bridges. In one case, 6,700 pedestrians per day are forced to walk in the street, separated from vehicle traffic by only a low guardrail temporarily mounted directly to the bridge deck.

*Utilities:* all of these bridges carry utilities across the canal system. In some cases, these are major utility service lines serving large numbers of commercial and residential properties. If bridge deterioration continues unabated, water, sewer, gas, and electric services may be compromised in large areas of Lowell.

*Environmental Justice:* Five of the bridges are located in Lowell's Acre neighborhood, which has been home to successive generations of low-income immigrant communities dating to the mid-1800s. The neighborhood remains among the poorest in Massachusetts. Having contributed to the limited economic development in the neighborhood, the condition of these bridges hampers access to economic opportunity for these residents.

In order to provide a more equitable education system, the City of Lowell entered into a voluntary busing program to desegregate its schools in the 1980s. That program remains in place today, but the buses which transport students from the Acre neighborhood are diverted to lengthy detour routes to avoid these bridges. The detour routes for trucks and buses around the bridges also run through the Acre, and the adjacent Lower Highlands neighborhood – a low-income area with a high concentration of immigrant and second-generation Southeast Asian populations. This introduces significant additional traffic and associated emissions to these areas, contributing to the disproportionately high rates of asthma and other respiratory conditions that have been documented among Lowell residents.

*National Park Visitor Experience:* As the defining feature of the Lowell National Historical Park, the Canal system is an essential component of the visitor experience. The Park Service operates canal boat tours which pass under several of these bridges, and has constructed canal walkways under and alongside several others. The conditions of the bridges have forced the closure of a key segment of canal walkway and impact the safety of the canal boat tours.

*Impacts on the Regional Transportation Network:* Because nearly all of the opportunities to cross the Merrimack River between Route 3 and Interstate 93 are located in areas of Lowell served by one or more of these canal bridges, a significant proportion of interstate and intrastate transportation activity in the Merrimack Valley and Southern New Hampshire passes through this area and is impacted by the increasing restrictions limiting utility of these bridges.

#### *Summary of Impacted Bridges:*

Merrimack Street over Merrimack Canal: built in 1823 and rebuilt in 1890, a mortared split granite masonry arch bridge, carrying 2 lanes and 1 parking lane, with no posted load restrictions and an existing historic ornamental rail.

Merrimack Street over Western Canal: built in 1831 and rebuilt in 1938, a single-span concrete encased steel beam bridge with a reinforced concrete deck, carrying two lanes with no posted load restrictions and an existing historic ornamental rail.

Central Street over Pawtucket Canal: built in 1835, rebuilt fully in 1922 and partially in 2011, a two-span steel beam bridge with a reinforced concrete deck carrying three lanes with a posted load restriction of 13 tons (two-axle), 16 tons (three-axle), and 25 tons (tractor trailer), and an existing historic ornamental rail.

Suffolk Street over Northern Canal: built in 1848 and rebuilt in 1926 with rehabilitation in 2014, a three-span steel beam bridge with a reinforced concrete deck, carrying two lanes with no posted load restriction, and an existing historic ornamental rail and historic canal walls.

Pawtucket Street over Pawtucket Canal: built in 1796 and rebuilt in 1927, a two-span steel beam bridge with a reinforced concrete deck, carrying lanes with a current posted load restriction of 6 tons (two-axle), 8 tons (three-axle), and 12 tons (tractor trailer), and existing canal walls.

Pawtucket Street over Northern Canal: built in 1849 and rebuilt in 1920, a two-span steel beam bridge with a reinforced concrete deck, carrying one lane with a posted load restriction of 18 tons (two-axle), 22 tons (three-axle), and 28 tons (tractor trailer), and an existing granite wingwall.

### **Proposed Project**

The proposed project includes complete replacement of the Pawtucket Street over Pawtucket Canal and the Pawtucket Street over Northern Canal bridges; superstructure, sidewalk, and BR-2 rail replacement and substructure rehabilitation on the Suffolk Street over Northern Canal bridge; deck, sidewalk, and BR-2 rail replacement and superstructure/substructure rehabilitation on the Central Street over Lower Pawtucket bridge; sidewalk, BR-2 rail, fascia, and sidewalk beam replacement on the Merrimack Street over Western Canal bridge; and BR-2 rail installation on the Merrimack Street over Merrimack Canal bridge.

### **Project Costs**

The total project cost is currently estimated to be \$19.6 million. The Federal Highway Administration is contributing \$13.4 million for project in the form of a TIGER grant. The City of Lowell, UMass Lowell, and ENEL have partnered to contribute the remaining funding for this project.

### **Schedule**

Design will be completed in June 2017, with bid openings in August 2017, and construction beginning in October 2017, through September 2022.

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CITY OF LOWELL  
DEPARTMENT OF PLANNING AND DEVELOPMENT

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

LOWELL TIGER GRANT FOR SIX CANAL BRIDGES  
LOWELL, MASSACHUSETTS

This sheet is provided for your comments. Your input is solicited and appreciated. Please return your sheet, with comments, to a staff member at the meeting, or mail to:

Claire V. Ricker, AICP  
Chief Design Planner, Project Manager  
City of Lowell, Department of Planning and Development  
50 Arcand Drive, #2, Lowell, MA 01852  
Attn: Lowell TIGER Grant Bridges

The final date for receipt of written statements and exhibits for inclusion into the official hearing transcript will be ten (10) days after the Public Hearing.

**PLEASE TYPE OR PRINT LEGIBLY.**

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Claire V. Ricker, AICP  
Chief Design Planner, Project Manager  
City of Lowell, Department of Planning and Development  
50 Arcand Drive, #2  
Lowell, MA 01852

RE: Design Public Hearing  
Lowell TIGER Grant Bridges

