



Upper Merrimack Street / Pawtucket Street Land Use and Zoning Analysis

Prepared for the City of Lowell by the Northern Middlesex Council of Governments

AUGUST 2016

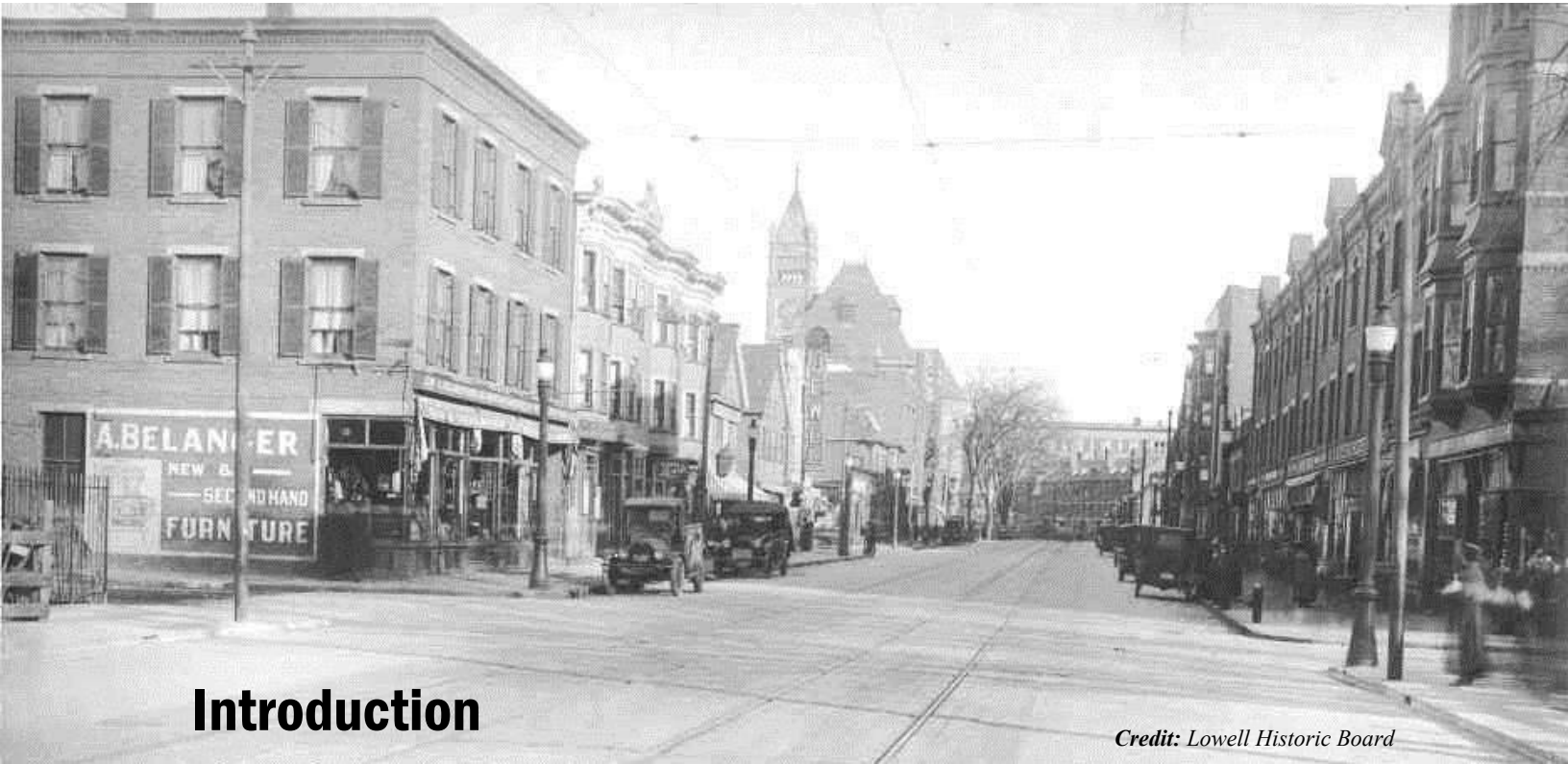
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All photographs courtesy Northern Middlesex Council of Governments unless otherwise noted.

Cover Page Ribbon Cutting photo: Courtesy photo, Galleria Café, 366 Merrimack Street, Lowell, MA

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Introduction

Credit: Lowell Historic Board

Historically, Upper Merrimack Street was a flourishing thoroughfare with continuous building frontage. This image, photographed in March 1919, was taken from the Western Canal crossing looking toward Lowell City Hall.

Upper Merrimack Street and Pawtucket Street meet in an area of Lowell that has experienced significant change in recent years. The dramatic glass façade of University Crossing marks the center of the University of Massachusetts-Lowell campus and symbolizes the continuing growth and dynamism of the institution. The realigned Merrimack River crossing serves legions of pedestrian and vehicular traffic, while finishing touches are wrapping up on a new multi-story, mixed-use development on Pawtucket Street; a symbol, many believe, of what's to come for this neighborhood.

A key thoroughfare in Lowell with a storied history as a home for progressive waves of immigrant families, Upper Merrimack Street links two areas of the city that have been transformed in recent years— downtown and UMass Lowell. In addition, Pawtucket Street serves as a key connector between the three university campuses. Several historic buildings endure and today accommodate a diverse amalgamation of neighborhood businesses showcasing Lowell's remarkable ethnic diversity. The 2014 addition of the Jeanne D'Arc Credit Union along the Western Canal provides an attractive commercial addition. The construction of University Crossing appears to have spurred investment in nearby residential structures even while the neighborhood remains a major center for affordable housing. The proposed revitalization of the Smith Baker Center into an arts center offers a potentially transformative enhancement to the community and a key future anchor destination.

However, the neighborhood retains its challenges as well. Several buildings along Upper Merrimack Street are partially or wholly vacant and some are in very poor condition. Sizable swaths of surface parking and vacant lot space detract from the urban fabric and aesthetics of the neighborhood. Street infrastructure is not as well developed as in downtown Lowell; sidewalks are deteriorating and street lighting is sparse. Traffic congestion, particularly surrounding the Merrimack River crossings, is recurrent and often unrelenting.

The recent clearing of several parcels in the neighborhood suggests that interest in redevelopment is only likely to grow. Careful planning can help promote vibrant new development that is well-aligned with the City's long-term goals related to sustainability, public health, and social and economic opportunity.

Introduction



Above: The Galleria Coffee Shop and Venezuelan Bakery recently opened along Upper Merrimack Street across from City Hall. In addition to serving coffee, baked goods, and authentic Venezuelan lunches, the restaurant showcases Lowell's growing arts reputation with revolving art displays and cultural performances. *Courtesy Photos*

Scope and Study Area

This analysis is focused specifically along segments of the Upper Merrimack and Pawtucket Street corridors in the Acre neighborhood of Lowell. For Merrimack Street, the study area is defined as between Dutton Street and the Richard Howe Senior Bridge, and for Pawtucket Street, between Father Morissette Boulevard and the School Street Bridge. Please refer to the complete parcel map on page four. The study area extends from Monument Square to the banks of the Northern Canal.

While Upper Merrimack Street serves as a key connector between downtown Lowell and UMass Lowell, there is general recognition that this link is fragmented and would be dramatically improved by pedestrian-oriented redevelopment. At the same time, in spite of growing pedestrian volumes due to the continued growth of UMass Lowell, Pawtucket Street does not yet reflect the City's and University's vision for a vibrant, pedestrian-oriented thoroughfare.

At the request of the Lowell Department of Planning and Development (DPD), this analysis focuses specifically on recommendations to re-orient the corridors to better accommodate multi-modal transportation options, including pedestrian, bicycle, and public transit modes, consistent with the City Council's adoption of Lowell's Complete Streets Policy in 2015. Additionally, a build-out analysis of seven sites well-situated for redevelopment is provided. Zoning and land use recommendations are included to promote pedestrian-oriented redevelopment that improves the appearance of the corridor and offers new economic opportunities for residents and visitors. Finally, the plan includes some short-term recommendations tailored to better market and brand the area as a distinct neighborhood offering unbounded opportunities.



Scope and Study Area (continued)

There are a number of other initiatives underway by the City, University of Massachusetts Lowell (UML), the Coalition for a Better Acre (CBA) and other community partners. These initiatives have been considered in the conduct of NMCOG's work, given the regional significance of the Upper Merrimack Street and Pawtucket Street corridors and their importance in providing access to three of the river crossings within Lowell.

The University's *Pawtucket Street Corridor Study* is nearing completion. The study focuses on connecting the University's three campuses through enhanced transportation connections. The primary goals articulated for the project include the following:

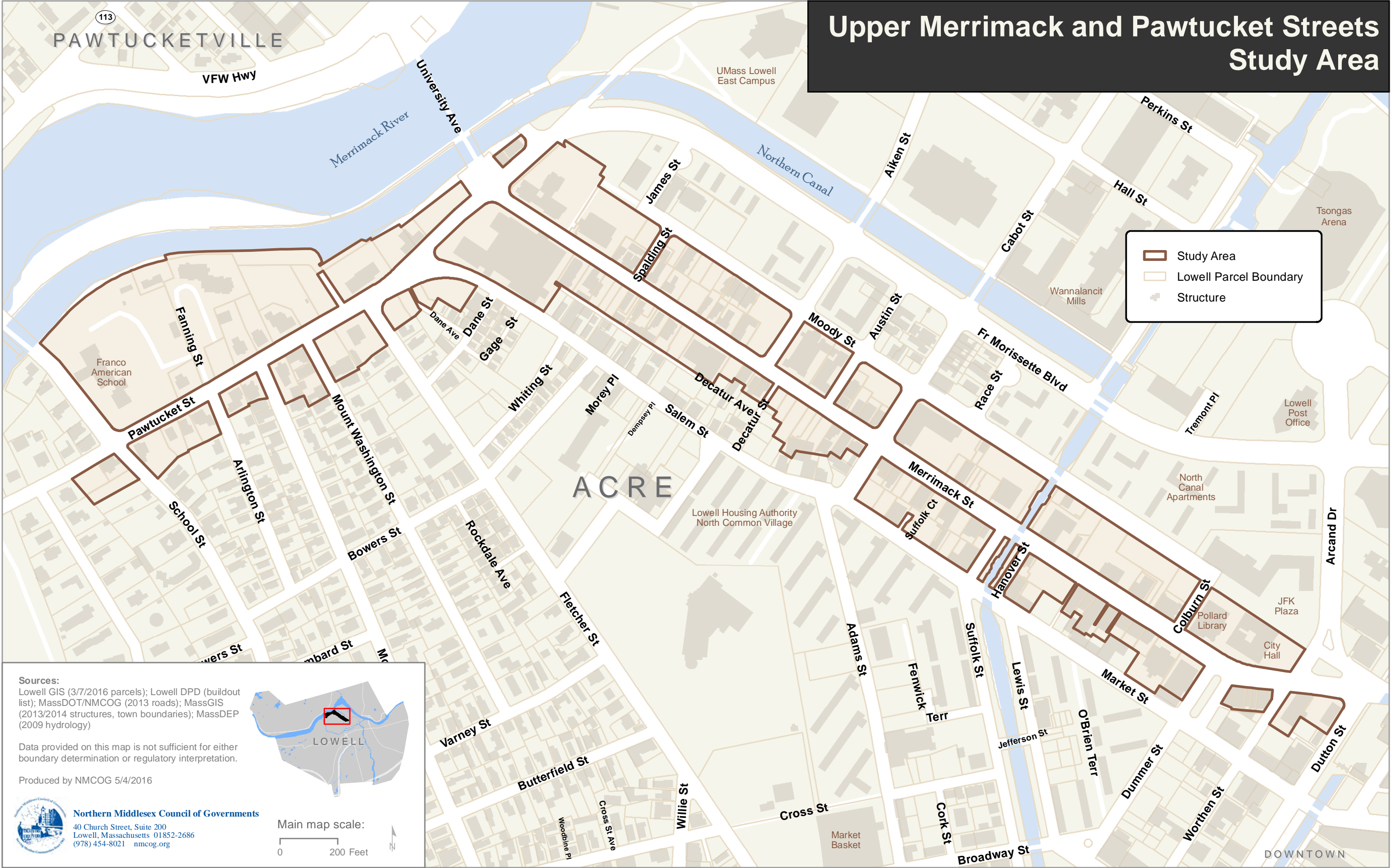
- Enrich the livability of the Acre;
- Reduce UMass Lowell's traffic impact on the area, even as the University continues to grow;
- Foster walkability and bikeability;
- Strengthen sense of place along the corridor to activate economic development;
- Promote safety and a sense of security;
- Maintain and improve traffic flow; and
- Add transit options.

When complete, the University's study will also outline recommendations on land use, zoning, housing and economic development.

The City of Lowell was recently awarded a \$13.4 million TIGER grant by the U.S. Department of Transportation to repair and assume ownership of eight canal bridges throughout the City, including the bridge over the Northern Canal and the bridge over the Pawtucket Canal, both located in the Acre. The repair of these two bridges will benefit traffic flow and safety. In addition, the repair work will allow the LRTA and University buses to travel over the bridges, which are weight-restricted given their current poor condition.

The City of Lowell, CBA and eleven other partners recently received a Working Cities Challenge Grant from the Federal Reserve Bank of Boston. The Acre Initiative will focus on three high-level factors that can alleviate the multi-generational poverty: low educational attainment, lack of employment opportunities and family-sustaining wages, and the complex issues of diversity and inclusion. In addition to the City and CBA, partners from the public, private, and non-profit sectors include NMCOG, the Lowell Community Health Center, the Career Center of Lowell, the Lowell Housing Authority, the Cambodian Mutual Assistance Association of Greater Lowell, Inc., the Greater Lowell Community Foundation, Community Teamwork, Inc., Middlesex Community College, University of Massachusetts-Lowell, Jeanne D'Arc Credit Union, and the Acre Coalition to Improve our Neighborhood (ACTION).

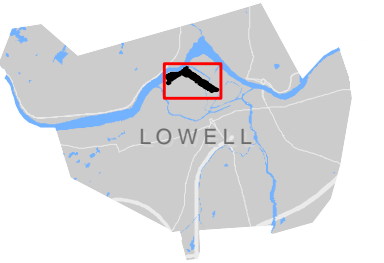
Upper Merrimack and Pawtucket Streets Study Area



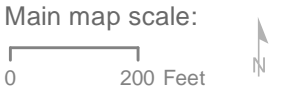
Sources:
 Lowell GIS (3/7/2016 parcels); Lowell DPD (buildout list); MassDOT/NMCOG (2013 roads); MassGIS (2013/2014 structures, town boundaries); MassDEP (2009 hydrology)

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

Produced by NMCOG 5/4/2016



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Existing Conditions

As this analysis is centered on zoning and land uses and streetscape conditions in the Upper Merrimack and Pawtucket Street neighborhood, the Existing Conditions chapter of this report focuses chiefly in those areas.

ZONING / LAND USES

Although the study area is relatively small, encompassing only about 36 acres, it spans five different zoning districts, with highly disparate land use regulations. Commercial uses are disallowed in some districts and regulations pertaining to density, building height, minimum lot size, and setbacks vary widely. Zoning requirements for parcels on Pawtucket Street within the study area can be particularly burdensome. Moreover, many parcels fall under the Downtown Lowell Historic District boundaries where new and redevelopment projects are subject to review by the Lowell Historic Board.

The Upper Merrimack corridor is surrounded by a large supply of affordable housing, maintained chiefly by the Lowell Housing Authority (LHA), the Coalition for a Better Acre (CBA), and Community Teamwork Inc. (CTI). Multi-family housing is common among both corridors and mixed-use structures are widespread on Upper Merrimack Street. Although the neighborhood is already attracting new investment, property blight and deferred maintenance remains a challenge, particularly along Upper Merrimack Street.

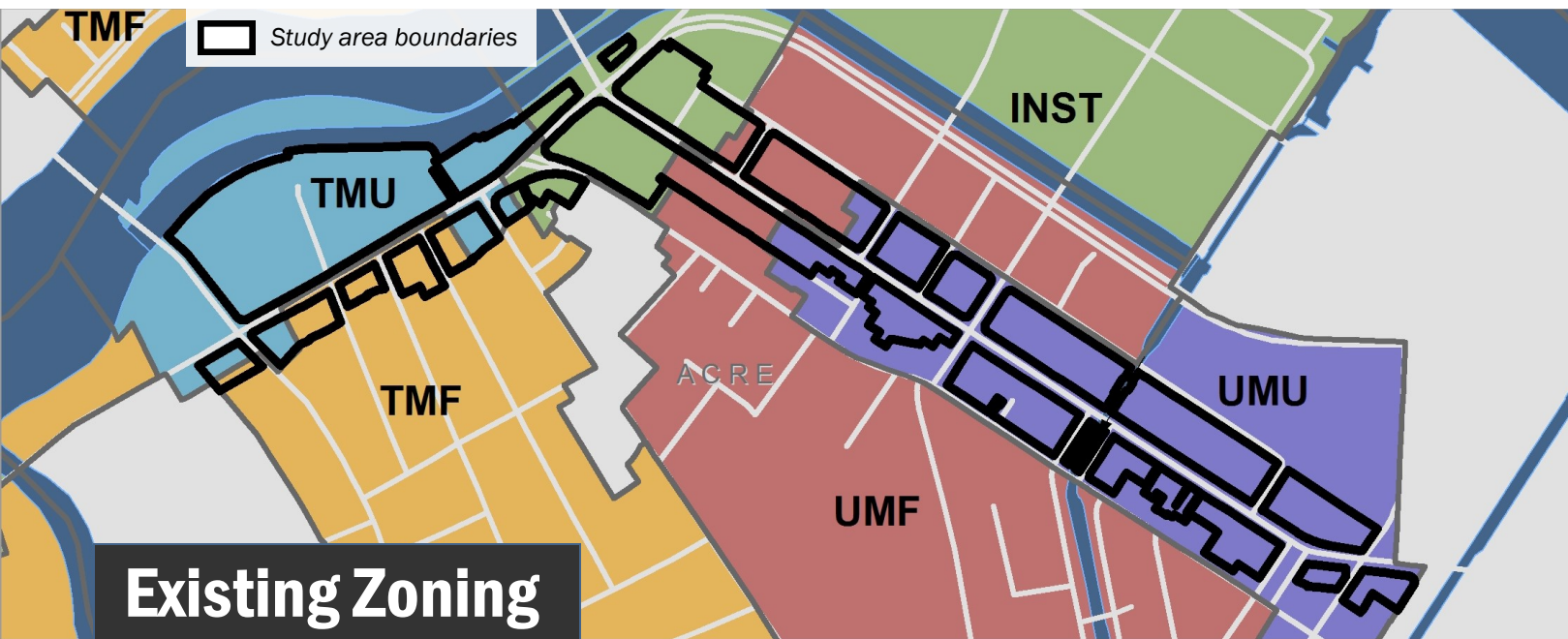
STREETScape CONDITIONS

Lowell enjoys an excellent foundation upon which to improve walkability and promote alternative transportation uses consistent with the City's Complete Streets policy. Walk Score, an internet platform which measures the walkability of locations around the world, has named Lowell as one of the 10 most walkable college towns in the country. However, the neighborhood does not yet enjoy the same vibrancy and pedestrian traffic that characterize many well known university neighborhoods across the nation, such as Harvard Square in Cambridge or College Hill in Providence.

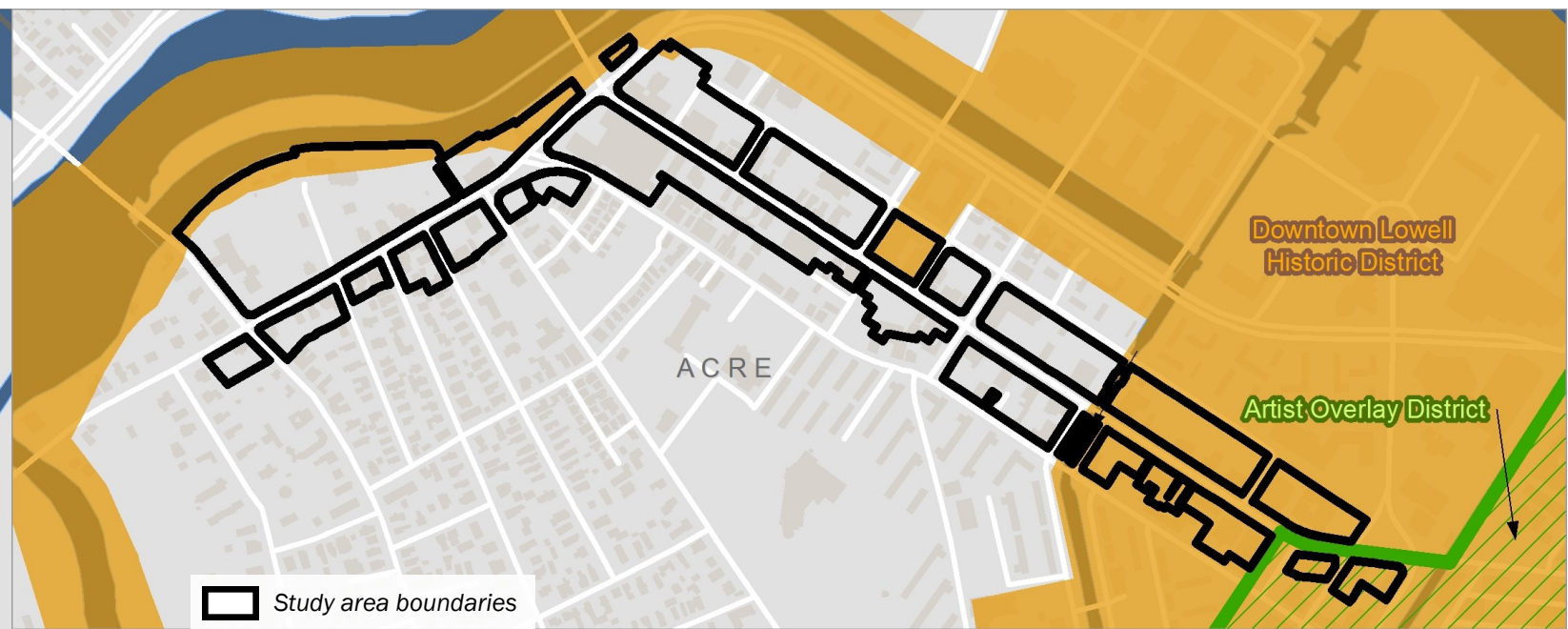
Streetscape conditions along Upper Merrimack Street, particularly for pedestrians, are less than ideal. Although relatively wide, most sidewalks are in poor condition. Street lights are spaced far apart and are spartan in appearance. Litter detracts from the visual character of the corridor, particularly surrounding the Western Canal. Although within walking distance of downtown Lowell, Upper Merrimack Street is disconnected from the downtown core by the Dutton Street/Monument Square intersection, a high volume junction where conditions are far from amenable for pedestrians.

Although sidewalks are better maintained along Pawtucket Street, they are too narrow to support high levels of pedestrian activity. A narrow right-of-way and recurrent traffic congestion limit opportunities for improvement. A promising market for redevelopment represents perhaps the best opportunity in which to improve streetscape conditions.

¹ Katie Rooney. "Top ten most walkable college towns," 13 December 2013. *Walk Score Blog*: blog.walkscore.com/2013/12/top-10-walkable-college-towns/#.VyduGvkrKUK



Existing Zoning



UMU Urban Mixed Use

Commercial Uses Permitted?	YES
Maximum FAR:	Res: No max. Other Uses: 4
Maximum Height:	No max.
Minimum Lot Size:	Res: 3,400 sf Other Uses: None
Minimum lot area/dwelling unit:	1,000 sq. ft.
Min. and max. front setback:	**

UMF Urban Multi-Family

Commercial Uses Permitted?	NO
Maximum FAR:	No max.
Maximum Height:	65 feet (6 stories)
Minimum Lot Size:	3,400 sf
Minimum lot area/dwelling unit:	1,000 sf
Min. and max. front setback:	**

INST Institutional

Commercial Uses Permitted?	YES
Maximum FAR:	2
Maximum Height:	100 feet (8 stories)
Minimum Lot Size:	No min.
Minimum lot area/dwelling unit:	None
Min. and max. front setback:	Max of 8

Notes

*- Zoning district includes different standards for single-family dwellings

** - Denotes that setback should be consistent with neighboring structures

Abbreviations
Res. - Residential uses
SF - square feet

TMF Traditional Multi-Family*

Commercial Uses Permitted?	NO
Maximum FAR:	No max.
Maximum Height:	32 feet (3 stories)
Minimum Lot Size:	6,000 sf
Minimum lot area/dwelling unit:	4,000 sf
Min. and max. front setback:	15 and 20 ft.

TMU Traditional Mixed Use*

Commercial Uses Permitted?	YES
Maximum FAR:	Res: No
Maximum Height:	max.
Minimum Lot Size:	1
Maximum Height:	45 feet (4 stories)
Minimum Lot Size:	Res: 6,000 sf Other uses: None
Minimum lot area/dwelling unit:	2,500 sf
Min. and max. front setback:	Res: ** Other uses: ** and 8 ft

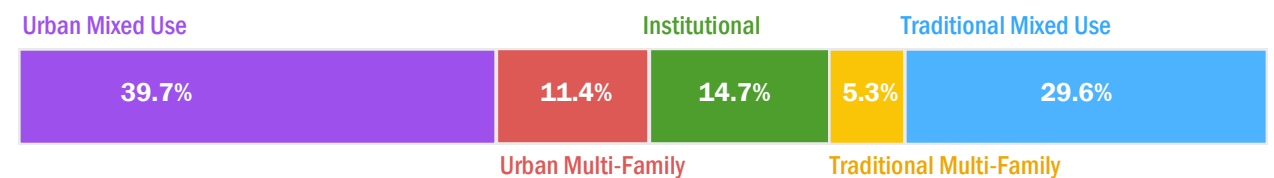
In addition to the five zoning districts spanning the study area, a significant share of the area is within the Downtown Lowell Historic District boundaries. This includes all parcels on Upper Merrimack Street east of the Western Canal, the old St. Jean Baptiste Cathedral parcels between Aiken and Austin Streets, and parcels bordering the Northern Canal on the western side of Pawtucket Street.

Finally, the easternmost six parcels in the study area,

on the south side of Merrimack Street between Dutton Street and the Cardinal O'Connell Parkway, fall within Lowell's Artist Overlay District. The overlay district was established in 2004 in order to encourage artists to both live and work in Downtown Lowell. The overlay district allows for the conversion of buildings more than 60 years old into artist live/work spaces provided that certain dimensional, parking, and square footage requirements are met.

By the numbers

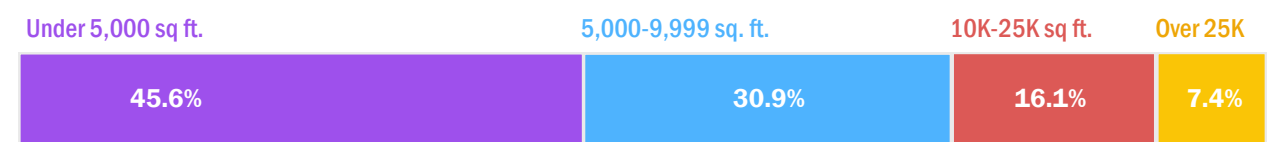
Study Area acreage by Zoning District



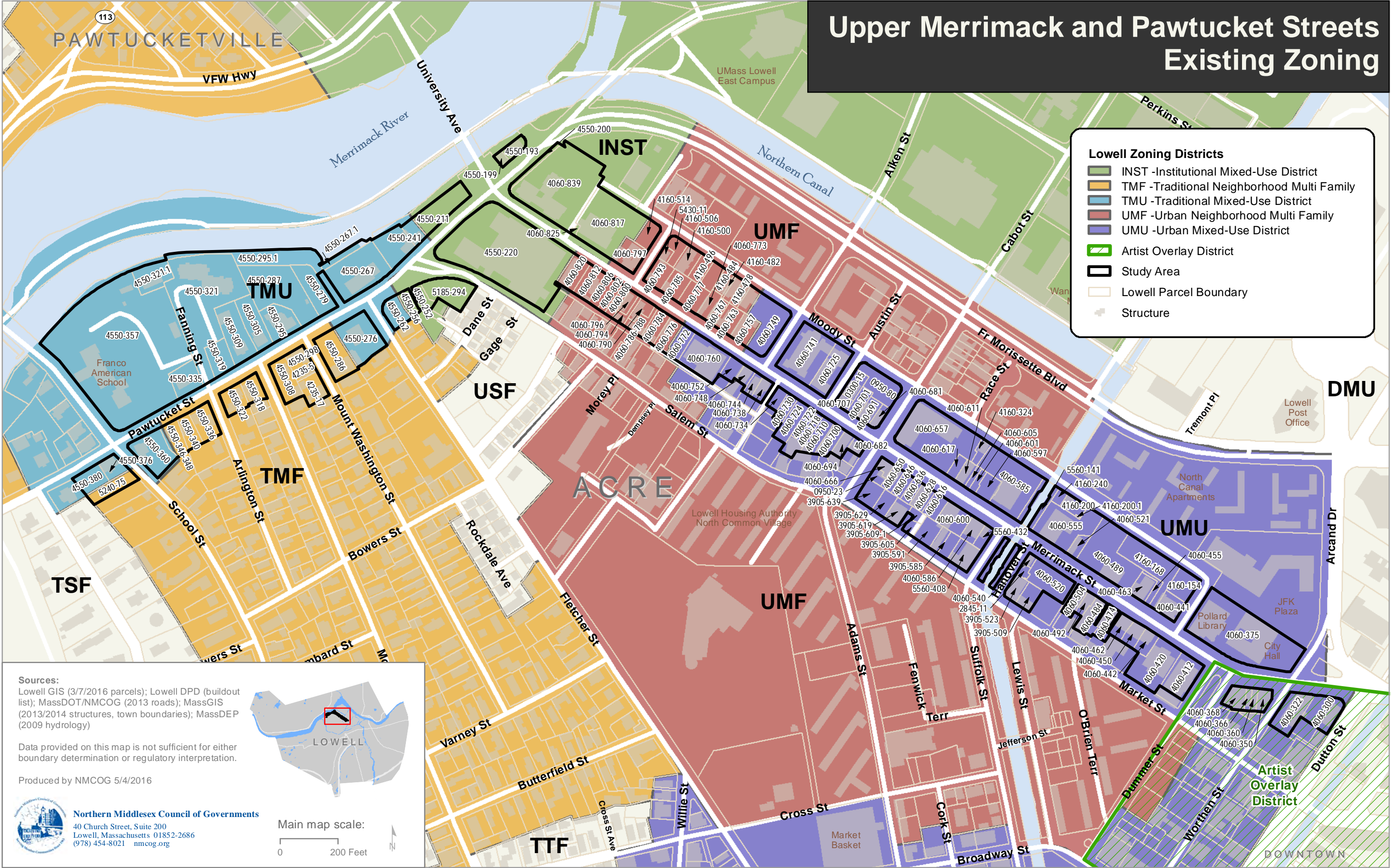
Study Area acreage by Commercial Zoning



Study Area by Parcel Size



Upper Merrimack and Pawtucket Streets Existing Zoning

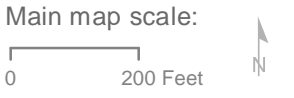
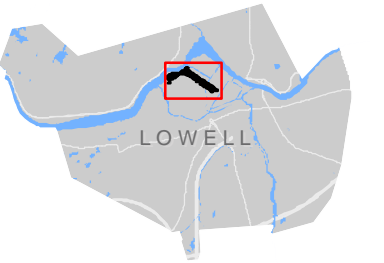


Sources:
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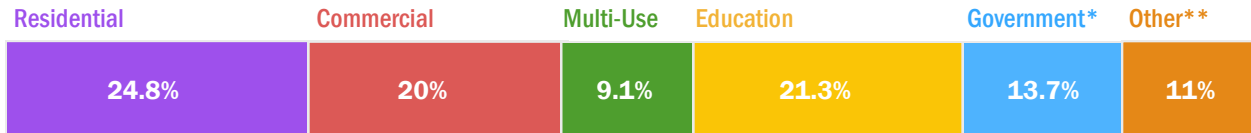
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Existing Conditions

By the numbers, continued

■ Study Area by Current Land Use Acreage



* - Government also includes parcels owned by the Lowell Housing Authority.

** - Other includes parcels owned by churches and non-profit organizations and locks and canals.

Total Estimated Value, All Parcels in Study Area:

\$100,415,600



Median Value by Square Foot,
All Parcels in Study Area:

\$58.20



Value by Square Foot,
Unity Place Apartments

\$419.18



Median Value by Square Foot,
Surface Parking Parcels:

\$4.83

Data provided by the Lowell Assessors Department. Current as of April 2016. Computed by dividing total value by parcel square feet. For condominiums, gross square feet was utilized.

Existing Conditions

Existing Zoning

Despite the small size of the area under review, the level of land use regulation can vary significantly depending on where a parcel is located within the study area. Commercial uses are disallowed along portions of both Upper Merrimack and Pawtucket Streets and regulations pertaining to building height, minimum lot size, and setbacks can vary significantly. The starkest contrast can be found between regulations in the Urban Mixed Use (UMU) and Traditional Multi-Family (TMF) zoning districts. Zoning requirements for parcels within the TMF zone on Pawtucket Street can be particularly burdensome, while those governing the UMU district (on the east end of the study area) are quite flexible. The graphics below outline development scenarios detailing the maximum allowable uses of parcels of different sizes

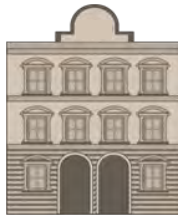
by zoning district. The vast differences in allowable uses are noteworthy.

One consistent requirement for all zoning districts in the study area is the level of parking required for new development. For residential developments, two spaces are required for every one residential unit, or 0.75 spaces per bedroom (whichever is greater) across all five zoning districts. Only the Downtown Mixed Use (DMU) zoning district allows for reduced parking, with one space required per unit. As noted in the Build-out Analysis section of this plan, the city's parking requirements in its zoning code represent a significant barrier to new development, particularly within the UMU zoning district where other land use requirements are more flexible.

Build-out Scenario A: 5,000 square foot parcel

In the Urban Mixed Use District on Upper Merrimack Street:

Five residential units with first floor commercial uses



In the Traditional Multi-Family District on Pawtucket Street:

No new development allowed (the TMU District has a 6,000 square foot minimum lot size)



Build-out Scenario B: 20,000 square foot parcel

In the Urban Mixed Use District:

Twenty residential units with commercial uses, no limit on building height or front setback*



In the Traditional Multi-Family District:

Five new residential units within a structure no taller than 32 feet situated within a front setback of between 15 and 20 feet, no commercial uses allowed



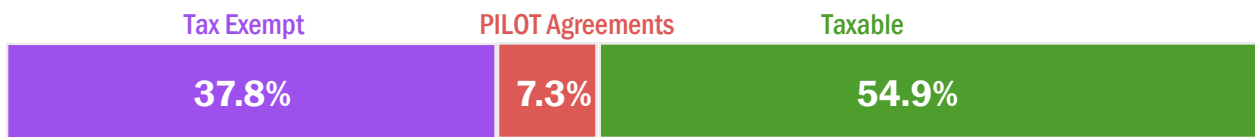
* - so long as the setback is consistent with neighboring structures

Real Estate Taxes

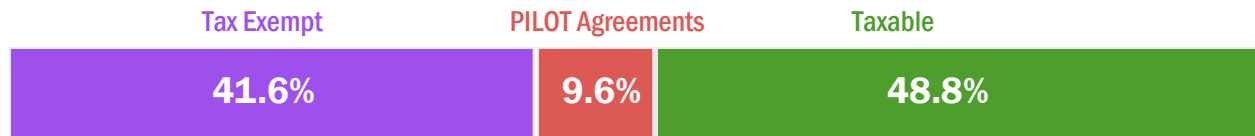
A large share of properties within the study area are tax exempt, as they are owned by government and non-profit institutions, churches, and UMass Lowell. Moreover, the Lowell Housing Authority has a large presence in the area. Under state law, the housing authority is not responsible for real estate taxes, but must make payments in lieu of taxes via a PILOT Agreement with the City. These payments cover the cost of some basic services provided by the City.

UMass Lowell recently increased its presence in the Acre neighborhood via a \$61.5 million purchase of the Perkins residential property (located near, but outside the study area). Several communities, both in Massachusetts and across the country, have negotiated agreements with state-sponsored and non-profit colleges and universities to help fund municipal services.

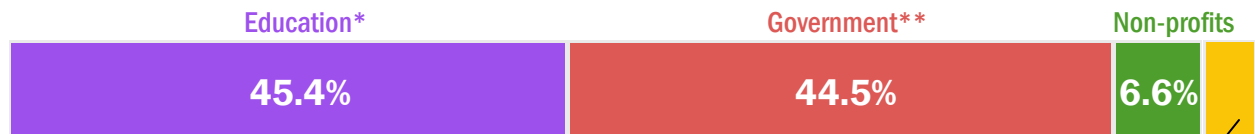
Study area tax status by ACREAGE



Study area tax status by ASSESSED VALUE



Tax exempt parcels assessed value by LAND USE



*- Education includes UMASS Lowell facilities as well as the Franco American School.

**-Government includes City of Lowell properties, including the Adult Education Center.

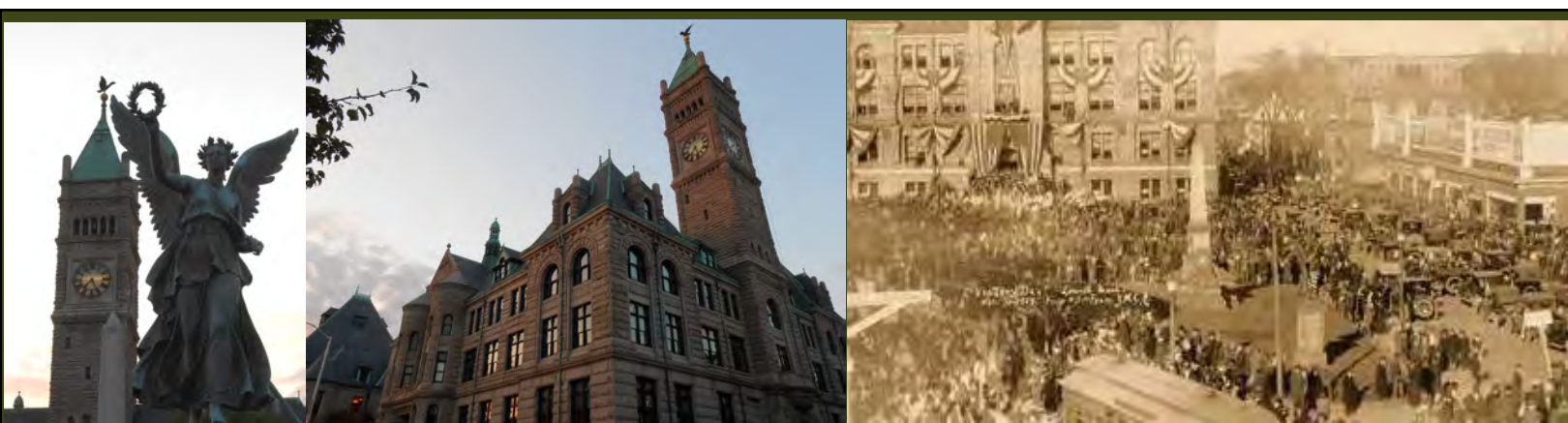
Monument Square (Merrimack Street at Arcand Drive/Dutton Street)



Lowell's Monument Square features several elements that should help define it as a vibrant public space. The Square bookends the core downtown area of Merrimack Street as well as Dutton Street, a key entryway into the City. The Square is fronted by Lowell City Hall, one of the City's most dramatic architectural landmarks, and includes the Ladd and Whitney Civil War Memorial, commemorating the first casualties of the American Civil War (the square is also their final resting place). However, several issues impair Monument Square as a rich civic space.

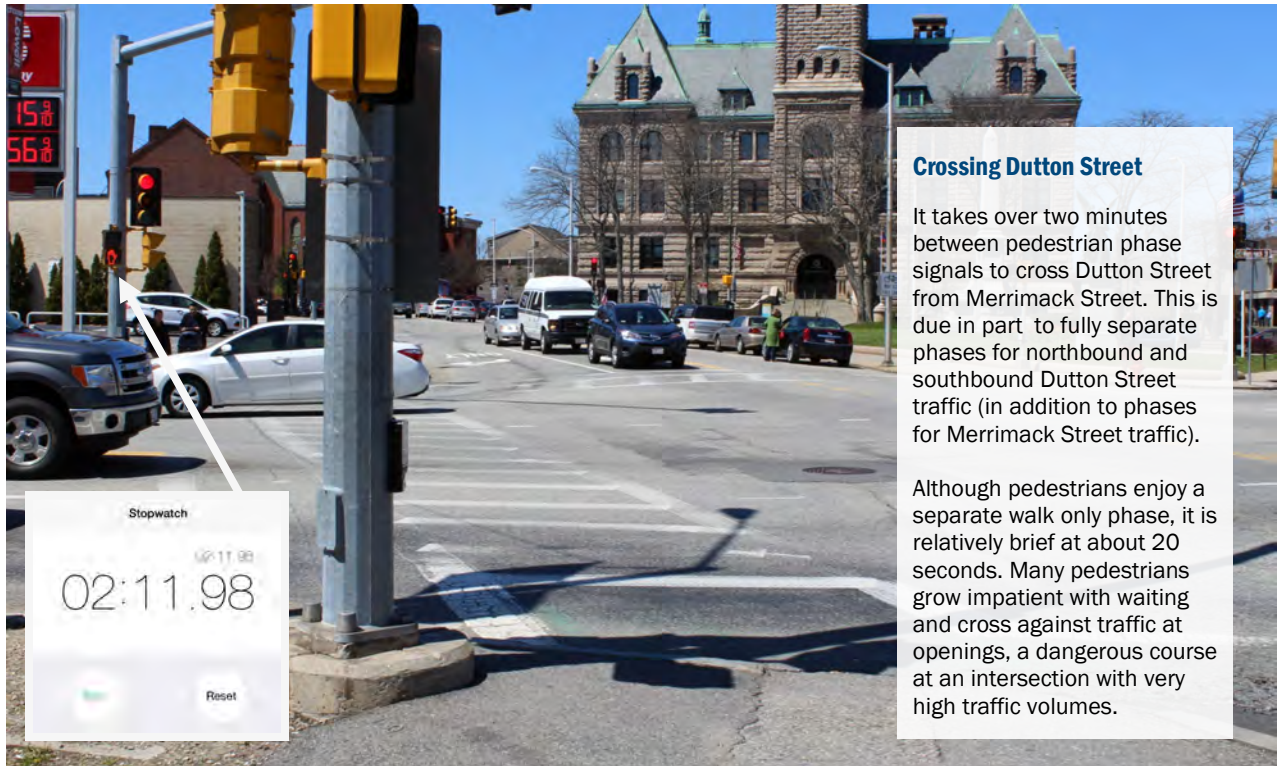
The transition from Dutton Street to Arcand Drive at

the intersection includes a sweeping broad curve with four wide travel lanes in an orientation that is more conducive to higher traffic speeds. All corner curbs are truncated and rounded to ease traffic turning movements. The green space is rarely utilized by the public and tends to function more as a traffic island due to its small size and isolation among very wide roadways. City Hall can also be overshadowed by the wide expanse of asphalt that characterizes the five-point intersection. Additionally, the major Merrimack Street block on the Square, bounded by Dutton and Worthen Streets, features automobile-oriented stores that are not conducive to pedestrian activity.



Above: Lowell City Hall helps frame Monument Square, but it was a much more pedestrian-oriented environment in 1918 (far right photo). Photos courtesy of NMCOC and Lowell City Documents, 1918.

Monument Square (Merrimack Street at Arcand Drive/Dutton Street)



Looking toward the Acre from Monument Square

Monument Square features one of the city's largest expanses of asphalt at an intersection. Combined with long pedestrian waiting times, the intersection can contribute to the perception of a divide between the downtown and the Acre neighborhood.



The former Associate Building

The Associate Building, built in 1892, previously occupied the site of the Goodyear Tire store (photo inset) in Monument Square. The building was destroyed by fire in 1924. More pedestrian-oriented structures on this block, evocative of buildings found downtown, would fill a large gap in urban development along the corridor.

Pawtucket Street at Merrimack Street/University Avenue



The Merrimack Street/University Avenue and Pawtucket Street intersection is heavily utilized by pedestrian and vehicular traffic. It is particularly trafficked by the UMass Lowell community given its central location for all three campuses. The University Avenue side of the intersection includes two grassy areas adjacent to the sidewalk on the approach to the Richard Howe Sr. Bridge (pictured below). However, these areas are walled off and are largely inaccessible. As a consequence, pedestrians are funneled to a narrow curbside area to wait for the pedestrian signal. Pedestrians tend to queue at the intersection, often blocking through pedestrian traffic attempting to access Pawtucket Street and North Campus. The traffic signal pole and road signage supports are located in the sidewalk, further impeding pedestrian access.

Additionally, the traffic signal at this intersection includes a single pedestrian-only phase when all vehicular traffic is stopped and pedestrians are permitted to cross in any direction. However, there are no markings or pedestrian signals to indicate that diagonal crossings are permitted. Even so, many pedestrians already utilize the intersection for that purpose.

There may be an opportunity to extend the curb along the north corner of Merrimack Street at the intersection to make it more flush with the University Crossing side of the crossing and provide more curbside space for pedestrians. This could potentially be implemented in conjunction with the potential redevelopment of the nursing care facility at the corner. Very little westbound Merrimack Street traffic turns left at Pawtucket Street, so this would not likely impede vehicular traffic flow at the intersection.



Existing Conditions

Upper Merrimack Street



Above: West of Monument Square, the southern side of Upper Merrimack Street includes a continuous street wall of multi-story buildings with some of the structures exhibiting signs of deferred maintenance.

Right: Deferred maintenance is also a major issue related to Upper Merrimack's street infrastructure. Several failing bridges in the neighborhood will be replaced through federal TIGER grant funds, including one over the Western Canal at Market and Suffolk Streets (bottom right).

Below: Several structures surrounding the former Jeanne D'Arc Credit Union building on East Merrimack Street have been demolished in recent months, suggesting that the site is being prepared for redevelopment projects.



Upper Merrimack Street



Above: Surface parking lots front much of Upper Merrimack Street (approximately 30 percent of the road is fronted by such lots) and mar an otherwise urban pedestrian-oriented landscape.

Below: Over time, several structures have been demolished to make way for additional surface parking - a trend somewhat encouraged by Lowell's parking requirements - including the two former buildings, pictured below left, located adjacent to the present day Pho VStar Restaurant. The loss of these structures to surface parking further diminished the pedestrian experience along the corridor. *Photos courtesy of Pictometry.*



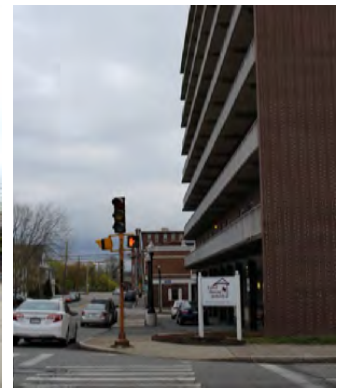
Existing Conditions

Upper Merrimack Street



Above: The western end of Merrimack Street features several densely clustered residential buildings.

Right: The building stock on the street varies in terms of how it embraces the street environment with the flower shop embracing it fully and Dewey Archambault Towers focused away from it.



Above: Though situated directly along the sidewalk, many buildings on Upper Merrimack are inhospitable to pedestrians due to windowless exterior walls, metal bars and metal roll-down security gates over windows.

Existing Conditions

Cardinal O'Connell Parkway



Above: The parkway honors Lowell's Irish community and features four lanes of parallel parking and very large 16-foot travel lanes. There may be an opportunity to narrow the lanes and add additional green space to the parkway. The unprotected crosswalk (inset photo) traversing the Parkway measures approximately 100 feet.



Above: The Coalition for a Better Acre is currently raising funds to transform the vacant Smith Baker Center, a former Congregational Church, into an arts center after having acquired the building from the City of Lowell in 2015. The structure is prominently located at the western corner of Merrimack Street and the Cardinal O'Connell Parkway. *Rendering courtesy of the Coalition for a Better Acre.*

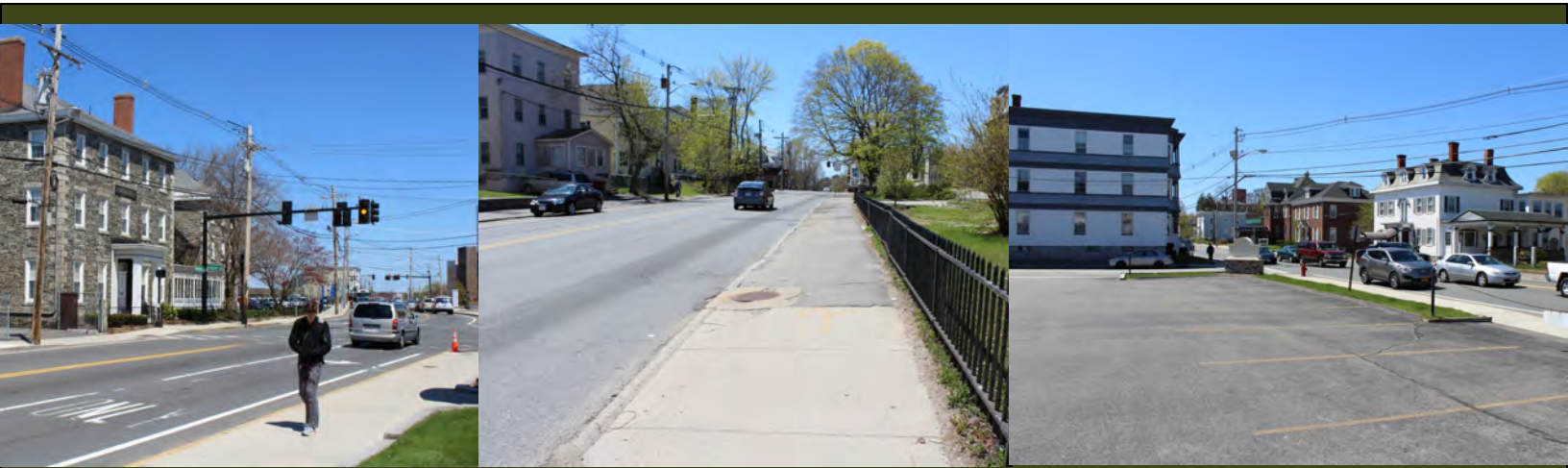
Pawtucket Street



Above and Below Left: Although heavily utilized by pedestrians, Pawtucket Street is plagued by narrow sidewalks and shoulders, and in several segments, by obstructions like utility poles, traffic signal supports, and sign posts.

Below Center: Several segments of Pawtucket Street include long stretches without crosswalks. Wide travel lanes, and a lack of bike lanes, lane markings, or speed limit signs contribute to higher vehicular speeds.

Below Right: Similar to Upper Merrimack Street, several stretches of Pawtucket Street include large surface parking lots that detract from the neighborhood's vitality and aesthetics.



Pawtucket Street



Left: Pawtucket Street is characterized by large historic homes set back slightly from the sidewalks.



Left: The sidewalk fronting University Crossing is unique among Pawtucket Street buildings in that it offers a large area for pedestrians to congregate in addition to the outdoor seating (photo inset).



Left: The Merrimack River and part of the Northern Canal run immediately west of Pawtucket Street, although it can be difficult in some areas to catch a glimpse of the water bodies.

Existing Conditions

Pawtucket Street - Recent Development



277 Pawtucket Street

Finishing touches were being made to 277 Pawtucket Street, a new mixed-use development in April 2016. The attractive pedestrian-oriented structure features traditional colonial architecture and includes ground-level commercial uses and six apartments. Parking is provided in the rear, although the development required a Zoning Board variance for reduced parking for its restaurant use. The new sidewalk fronting the building features street trees and is nearly twice as wide as surrounding sidewalks. A Jimmy John's restaurant will use part of the sidewalk as well as a side alley (photo inset) for outdoor seating.



Merrimack Street - Recent Development



Jeanne D'Arc Credit Union, 375 Merrimack Street

Widely hailed as a welcome and attractive addition to the neighborhood, the Jeanne D'Arc Credit Union opened in 2014 along the Western Canal. The three-story brick building replaced two buildings and includes space for approximately 44 vehicles, landscaped areas, a drive-through and a pedestrian walk along the canal. The development complied with the Lowell zoning requirements, including parking requirements. However, approximately 65 percent of the site is dedicated to parking and driveway space, which is the same share as before its redevelopment.



(Aerial screenshots by Pictometry, 2012, 2014)



Build-out Analysis

A build-out analysis is conducted to help communities plan for the future by evaluating scenarios that assume available land will be developed to the maximum extent allowed under existing zoning regulations. The Lowell Department of Planning and Development (DPD) requested that a build-out analysis be undertaken for seven sites in the study area comprising twenty-three different parcels. Four of the sites are single parcels, while three are multi-parcel sites, located along the Upper Merrimack Street corridor. These areas have been identified for redevelopment as they are considered significantly under-utilized in their current states. At least one of the sites is owned by a developer known to be highly interested in redevelopment and most of parcels in the multi-parcel sites are held by a single owner. *Although build-out analyses are often conducted for land conservation purposes, this analysis focused on whether current regulations allow for realistic and desirable redevelopment opportunities.*

Six of the seven sites evaluated are located in the Urban Mixed Use or Institutional Zoning Districts, which include relatively minimal regulations related to setbacks, density and frontage, particularly for non-residential uses. For residential uses, it is assumed that developers will build at the maximum density allowable under current zoning regulations.

There is no structured parking in the study area and very few private parking structures in Lowell. Generally, such structures are only financially feasible for very large development projects or campuses. It is unlikely that this market dynamic will change in coming years. Since more than 76 percent of parcels in the study area are under 10,000 square feet and more than 95 percent are under 50,000 square feet, it is therefore assumed that all parking associated with new development in the study area will be surface parking at between 310-360 square feet per parking stall (this also accounts for parking through lanes and points of egress). Lowell also requires that a minimum of 5 percent of parking areas be landscaped for trees and greenery, which was also taken into account.

It quickly became apparent in the course of the build-out analysis that parking requirements represented the single greatest regulatory barrier to new development in the study area at the municipal zoning level. For that reason, the build-out analysis largely focuses on the effects and impacts of meeting parking requirements.

PAWTUCKETVILLE

Upper Merrimack and Pawtucket Streets Build-out Analysis Parcels

Merrimack River

UMass Lowell East Campus

Northern Canal

Heritage Nursing Care Center

777 Merrimack Street

St. Jean Baptiste Cathedral

Wannalancit Mills

Franco American School

ACRE

Lowell Housing Authority North Common Village

Jeanne D'Arc Credit Union

504-544 Merrimack Street

Former Royal Theater

Santander Bank

North Canal Apartments

Lowell Post Office

Pollard Library

JFK Plaza

City Hall

Market Basket

DOWNTOWN

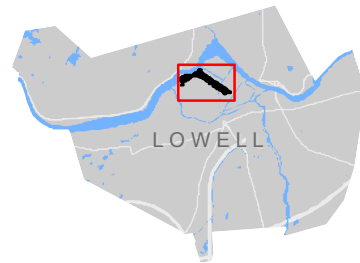
Build-out Analysis Parcels

- 504-544 Merrimack Street
- 777 Merrimack Street
- Former Royal Theater
- Heritage Nursing Care Center
- Jeanne D'Arc Credit Union
- Santander Bank
- St. Jean Baptiste Cathedral
- Study Area
- Lowell Parcel Boundary
- Structure

Sources:
 Lowell GIS (3/7/2016 parcels); Lowell DPD (buildout list); MassDOT/NMCOG (2013 roads); MassGIS (2013/2014 structures, town boundaries); MassDEP (2009 hydrology)

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

Produced by NMCOG 5/4/2016



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Main map scale:



Site 1: Heritage Nursing Care Center Parcel



Location: 841 Merrimack Street
Total parcels: 1
Total lot square footage: 56,425
Zoning district: INST (Institutional)
Current Conditions: This parcel houses a three-story nursing home facility with approximately 51 surface parking spaces at a prominent site directly across from the UMass Lowell University Crossing and the Richard Howe Sr. Bridge. The facility is owned by Genesis Health Ventures, which has submitted a bid to build in the Hamilton Canal District. The parcel may, therefore, become available for redevelopment purposes in the future.

Mixed-Use Residential Scenario: Lowell allows for a maximum of 56 residential units on this parcel (one unit per 1,000 square feet of land area). To meet Lowell's parking requirements, 112 parking spaces would need to be provided, constituting between 63 and 71 percent of the total parcel land area. This parcel should include a mixed-use component given its key location at a high-traffic pedestrian area. Therefore, assuming 6,000 square feet of commercial uses (split evenly between restaurant and retail uses), an additional 34 parking spaces would be required.

Private Dormitory Mixed-Use Scenario: Given the parcel's strategic location adjacent to the University Avenue Bridge and at the center of the three UMass Lowell campuses, the feasibility of a private student housing development was considered. Additionally, it would be shortsighted not to include some commercial uses at this site provided its key location in a high-traffic pedestrian area. Therefore, a mixed-use private student housing development is assumed with 6,000 square feet of ground-level commercial uses split evenly between restaurant and retail uses. A relatively small student housing development of 250 beds would require 125 parking spaces, in addition to 34 spaces for the commercial uses (30 for the restaurant uses and 4 for the retail uses), for a total of 159 parking spaces. This is more than triple the amount of parking currently provided at the site. At a minimum, surface parking would consume approximately 89 percent of the parcel land area.

Mixed-Use Office Scenario: The parcel's relatively large area and the fact that many companies recruit UMass Lowell students might make the site attractive for office and research and development uses. A 30,000 square foot office building with 6,000 square feet of commercial space would require approximately 91 parking spaces (75 for the office uses and 16 for the commercial uses). At a minimum, approximately 51 percent of the parcel would need to be dedicated to parking uses.

Summary: This site is ideally situated for a redevelopment scenario that includes mixed uses, which would appear to be the best use for this key parcel given its high visibility and location adjacent to the university and high traffic corridors. For a developer looking to maximize allowable uses for this site under current zoning regulations, virtually all development scenarios would require significantly more parking than is currently provided at the site.

Site 2: 777 Merrimack Street Parcel



Location: 777 Merrimack Street
Total parcels: 1
Total lot square footage: 7,185
Zoning district UMF (Urban Multi-Family)
Current Conditions: This parcel includes one fenced surface parking lot with spaces for approximately 14 vehicles (consuming about 75 percent of the parcel) and a small patch of green space which takes up the remainder of the lot. The parcel is surrounded by multi-family residential buildings near the west end of Merrimack Street.

Residential Scenario: The City of Lowell allows for a maximum of seven residential units on this parcel (one unit per 1,000 square feet of land area). To meet Lowell's parking requirements, a minimum of fourteen parking spaces would need to be provided. Therefore, parking would consume nearly the entire land area of the parcel. This is roughly equivalent to the share of the parcel that is currently utilized for surface parking.

The City of Lowell does not allow for commercial uses in the Urban Multi-Family Zoning District, so no other scenarios were considered.

Summary: For a developer looking to maximize allowable uses for this parcel, the Lowell Zoning Code requires that at a minimum, a parking area proportional to the one currently occupying the lot be provided. This would make such a development highly challenging at best. If the developer chose to build residential units with more than two bedrooms each, more parking would be required (Lowell requires two parking spaces per residential unit, or 0.75 per bedroom, whichever is greater).

Site 3: St. Jean Baptiste Cathedral Parcels



Location: 725, 741 and 749 Merrimack Street
Total parcels: 3 (single owner)
Total lot square footage: 56,687
Zoning district UMU (Urban Mixed Use)
Current Conditions: This parcel houses the former St. Jean Baptiste Cathedral, an imposing historic stone church built in 1896. The cathedral represents one of the most iconic structures along the Upper Merrimack corridor. The parcel immediately to the east houses the former church rectory, for which there are plans for conversion to residential units. The third parcel, directly across Aiken Street from the cathedral, includes a surface parking lot of approximately 52 spaces. All three parcels are held by the same owner, who has expressed interest in redeveloping each parcel. The owner is studying the feasibility of converting the cathedral itself into a function facility and community center.

Residential Scenario: Lowell allows for a maximum of 56 residential units on these parcels (one unit per 1,000 square feet of land area). To meet Lowell’s parking requirements, 112 parking spaces would need to be provided. This would largely preclude any redevelopment of the surface parking lot as it only has 52 spaces. Additionally, it would require demolition of a significant share of the historic St. Jean Baptiste Cathedral and rectory simply to meet current parking requirements. Finally, under ideal conditions, the development should include some mixed-use component, particularly on the undeveloped surface parking parcel. This would further increase parking requirements. In sum, any residential redevelopment of the parcels would appear to be infeasible under existing zoning requirements.

Commercial Mixed-Use Scenario: Historic churches have been re-used as commercial structures in other locations, including as restaurants and offices. Such conversions are possible for the St. Jean Baptiste structure and aided by the presence of parking on the parcel across Aiken Street. Commercial parking requirements could be met with the current parking lot, assuming that no major additions are made to the existing historic structures. However, such a scenario would also preclude redevelopment of the parking lot into a structure, which would generate more tax revenue for the City.

Summary: This site is well situated for an anchor mixed-use development as it sits at the center of the Upper Merrimack Street corridor with convenient access from the north to the UMass Lowell East campus. For a developer looking to maximize allowable uses for this site, development scenarios would either require significantly more parking than is currently provided at the site or preclude redevelopment of the surface parking lot parcel.

Site 4: Jeanne D'Arc Credit Union Parcels



Location: 585-639 Market Street, 616-666 Merrimack Street (excluding 617 and 657), and 408 Suffolk Street

Total parcels: 14

Total lot square footage: 53,780

Zoning District UMU (Urban Mixed-Use)

Current Conditions: This area includes a series of small contiguous parcels, most of which are owned by the Jeanne D'Arc Credit Union, bounded by Merrimack and Market Streets and Suffolk and Cabot Streets. Most of the land area is comprised of parking areas or vacant lots, however there are three structures; the former Jeanne D'Arc Credit Union at the corner of Market and Cabot Streets, a two-story commercial building at 628 Merrimack Street, and a one-story commercial building at the corner of Suffolk and Market Streets. Two structures have recently been cleared from the site, including a small and distressed mixed-use structure at 585 Market Street and the former Club DeCitoyens-American building (619 Market Street), in what may be an effort to better prepare and market the area for redevelopment. Approximately 75 percent of the land area is surface parking or vacant lots.

Residential Scenario: Assuming the lots are developed concurrently, the City allows for a maximum of 53 residential units for these parcels. Minimum parking requirements of two spaces per dwelling unit amounts to a minimum of 106 parking spaces. Therefore, at a minimum, between 33,400 to 37,800 square feet of land would need to be dedicated to parking to meet current requirements for a 53-unit residential development. This means that between 62 and 70 percent of land area would be dedicated solely to meeting the parking requirements.

Mixed-Use Scenario: Several commercial uses historically operated on this site, including, most recently, a credit union and a small restaurant/tavern. A redevelopment project incorporating a mix of uses would appear preferable given the large size of the site. Commercial uses most common along Upper Merrimack Street include small shops, restaurants, and professional offices. Assuming that a mixed-use development is proposed with 6,000 square feet evenly split between restaurant, retail, and professional office space, in addition to the residential unit scenario noted above, 23 additional parking spaces would be required. Lowell allows for shared parking, which would not require any additional spaces for the office uses, however twenty spaces would be required for the restaurant and three spaces for the retail use. This means that between 7,200 and 7,800 additional square feet would be required to satisfy the parking requirements. Combined with residential parking, between 75 and 84 percent of the total land area would need to be set aside for parking to satisfy current zoning requirements.

Site 5: 504-544 Merrimack Street Parcels



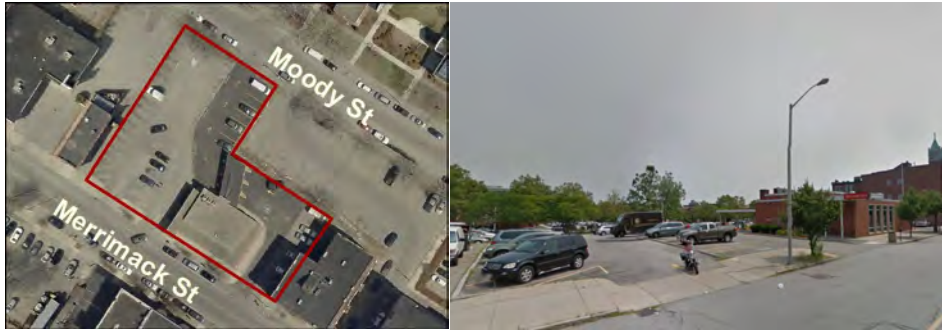
Location: 504-544 Merrimack Street
Total parcels: 3
Total lot square footage: 19,233
Zoning district UMU (Urban Mixed Use)
Current Conditions: This area includes three contiguous parcels on the south side of Merrimack Street that run eastward starting at the corner of Merrimack and Hanover Streets. The area includes a large surface parking lot of at least 30 spaces (several spaces appear to be for large vehicles like trucks) that is book-ended by a four-story mixed-use building at the corner of Merrimack and Hanover Streets (overlooking the Western Canal), and a two-story building with an Asian market on the ground level and office uses on the second floor at 504 Merrimack Street. The four-story building, known as the El Kareh Building, appears to be distressed and is largely vacant at this time although it maintains several historic architectural features.

Mixed-Use Residential Scenario: Assuming that the lots were developed concurrently, the City of Lowell’s zoning allows for a maximum of 19 residential units on this parcel (one unit per 1,000 square feet of land area). To meet Lowell’s parking requirements, 38 parking spaces would need to be provided, constituting between 63 and 71 percent of the total parcel land area. Redevelopment occurring on the parcels should include a mixed-use component consistent with the uses that are already provided at the site. Assuming that 3,600 square feet of ground floor commercial space is provided (split evenly between retail and restaurant uses), twenty additional parking spaces would be required for a total of 58 parking spaces. It would be virtually impossible to provide this much surface parking without requiring the demolition of one of the existing buildings at the site for the sole purpose of providing additional parking..

Mixed-Use Office Scenario: A small office building of 9,000 square feet with 3,000 square feet of ground level commercial space (split evenly between retail and restaurant uses) would require 31 parking spaces. This could be accomplished with a surface parking lot only slightly smaller than the existing lot at the site. A mixed-use office development scenario of any additional square footage would likely be infeasible due to the challenges associated with meeting the City’s parking requirements.

Summary: This site should be attractive for redevelopment given the presence of historic structures (eligible for state and federal historic tax credits), its location overlooking the Western Canal, and the relative ease of development on the large portion of the site currently occupied by surface parking. However, for a developer looking to maximize allowable uses for this site, virtually all development scenarios would require more parking than is currently provided at the site.

Site 6: Santander Bank Parcel



Location:	489 Merrimack Street
Total parcels:	1
Total lot square footage:	29,080
Zoning district	UMU (Urban Mixed-Use)
Current Conditions:	This parcel houses a one-story bank facility with a three-bay drive-through and approximately 49 surface parking spaces stretching from Merrimack Street to Moody Street with four curb cuts (three on Merrimack Street and one on Moody Street).

Residential Scenario: Lowell's zoning allows for a maximum of 29 residential units on this parcel (one unit per 1,000 square feet of land area). To meet parking requirements, 58 parking spaces would be needed, constituting between 65 and 75 percent of the total parcel land area. This is a slightly smaller share of the parcel than is currently consumed by parking and drive-through facilities.

Mixed-Use Scenario: Assuming that 5,000 square feet of commercial space is included in a residential development, split evenly between professional office, restaurant and retail uses, 19 additional parking spaces would need to be provided for a total of 77 parking spaces. Therefore, in order to satisfy current parking requirements in a mixed-use scenario where allowable residential uses are maximized, nearly all of the parcel would need to be consumed by parking. This scenario would clearly make such a development infeasible.

Office Building Scenario: Assuming a 20,000 square foot office building is constructed (the new Jeanne D'Arc Credit Union building on Merrimack Street is 13,600 square for comparison purposes), a minimum of 50 parking spaces would be required to meet Lowell's current codes. This would constitute between 56 and 65 percent of the parcel land area.

Summary: For a developer looking to maximize allowable uses for this parcel, most development scenarios would require more parking than is currently provided at the site. Under current conditions, parking is the most conspicuous use of the site, which, combined with drive-through facilities, makes up approximately 80 percent of the parcel land area.

Site 7: Husson Building Parcel



Location: 484 Merrimack Street
Total parcels: 1
Total lot square footage: 7,465
Zoning district UMU (Urban Mixed Use)
Current Conditions: This parcel houses a four-story distressed building dating to at least 1915, known as the Husson Building, which is vacant. In 2013, approximately 70 percent of the building, including the entire rear portion which housed the old 900-seat Royal Theater, was demolished due to lack of upkeep and severe decay, including roof collapse. The remaining portion of the building fronting Merrimack Street is severely blighted—a 1992 Lowell Cultural Resources Inventory noted that the building “needs major repairs” and it does not appear its condition has improved markedly since. However, the structure retains several historical elements, including prominent cast iron window bays.

Mixed-Use Residential Scenario: Lowell’s zoning allows for a maximum of 7 residential units on this parcel (one unit per 1,000 square feet of land area). To meet Lowell’s parking requirements, 14 parking spaces would need to be provided. Historically, the building has housed ground-level commercial uses and any potential redevelopment should ideally include a commercial element. A 1,500 square foot restaurant would require 15 additional parking spaces. This would be infeasible as the space needed to fulfill parking requirements is larger than the lot itself.

Mixed-Use Office Scenario: A small 6,000 square foot office building would require approximately the same amount of parking as the residential scenario.

Summary: This parcel provides a good illustration of the challenges of redevelopment on a small parcel under current zoning conditions. Residential density limitations are likely too stringent to make any potential redevelopment project financially feasible. Moreover, the lot is not large enough to house any significant amount of parking and adding parking would require the demolition of the historic structure since the only vacant part of the parcel is in the rear with no street access. Demolition of the building would rob the City of a unique historical building that may be a good candidate for redevelopment, and would diminish the Upper Merrimack Street pedestrian experience by creating a gap in the current continuous street wall in order to provide a curb cut for parking access.

Recommendations

The recommendations included in this report are chiefly designed to support four key objectives:

- To promote alternative forms of transportation consistent with the city's Complete Streets policy, including pedestrian, bicycle and public transit use, and to encourage building designs that mix uses and foster a vibrant pedestrian-oriented streetscape environment.
- To promote economic development and redevelopment, particularly for portions of the study area that have experienced disinvestment and blight, through infrastructure investment and a more consistent regulatory approach.
- To foster a more seamless transition between the UMass Lowell campuses and surrounding neighborhoods, including downtown Lowell, and to create a stronger sense of place and brand for the neighborhood.
- To maximize the benefits of existing assets both within and in close proximity to the study area, including the University, and ensure those benefits are accessible to all residents.

The recommendations are structured around six key topic areas including; Streetscape Improvements, Zoning and Land Uses, Parking, Design, Branding/Public Art, and Historic Preservation.



Zoning and Land Uses



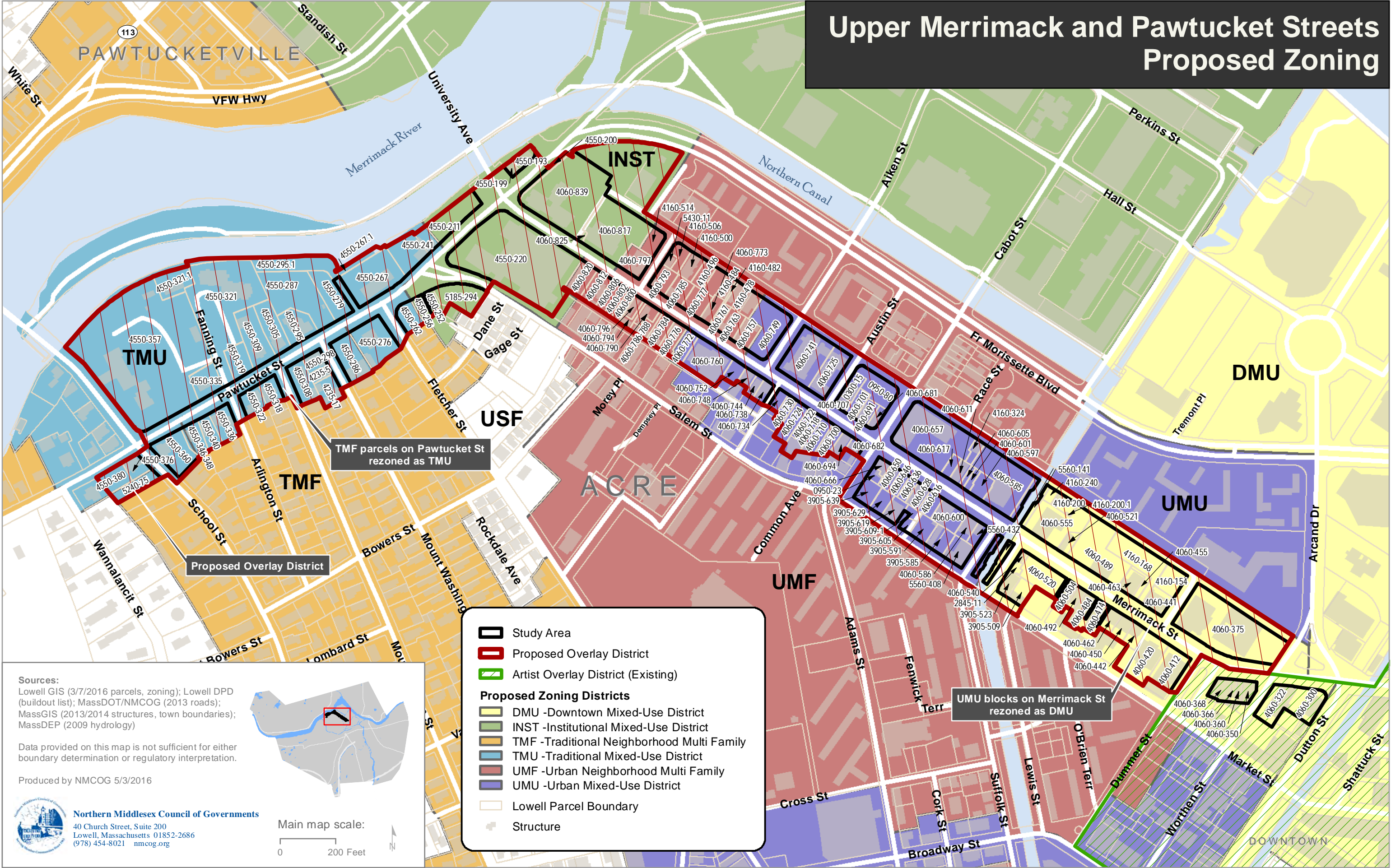
Based upon a review of existing conditions and the build-out analysis, two changes in underlying zoning district boundaries are proposed along with the development of an overlay district for the study area. The proposed zoning changes would expand commercial development opportunities in the study area and allow private property owners greater flexibility in the redevelopment of parcels along portions of Upper Merrimack and Pawtucket Streets.

It should be noted that redevelopment in the study area is attractive in large part because of its proximity to both downtown Lowell and the UMass Lowell campuses. In order to maximize redevelopment opportunities, a joint and cooperative planning effort between the city and university would be beneficial.

ZONING RECOMMENDATIONS

- Expand the Downtown Mixed Use (DMU) Zoning District to include all parcels along Merrimack Street from Dutton Street/Arcand Drive to Suffolk Street. These parcels are currently zoned in the Urban Mixed Use District. This boundary change would provide consistency with the Downtown Lowell Historic District boundaries for Merrimack Street (which ends at Suffolk Street) and is appropriate for an area with a strong urban character in close proximity to the Downtown core. It would also provide greater flexibility to landowners related to redevelopment opportunities in regard to reduced lot size and parking requirements. The City might also consider incorporating additional parcels into the DMU District located outside, but in close proximity to the study area, including parcels located along the Worthen and Dutton Street corridors.
- Expand the Traditional Mixed Use District to include parcels on both sides of Pawtucket Street within the overlay boundaries. Currently, several parcels on the east side of the street fall within the significantly more restrictive Traditional Multi-Family Zoning District which prohibits commercial uses. This zoning change would maximize opportunities for redevelopment along the Pawtucket Street corridor, provide more consistency in regard to land uses and setbacks, and allow for commercial development along both sides of the street, which is appropriate given the significant pedestrian presence along the corridor.
- Consider the adoption of a University Zoning Overlay District within the study area to reduce regulatory barriers to development and redevelopment, and better promote a more consistent and cohesive approach to development and design in an area regulated under a number of different underlying zoning districts. See the following pages for more information on what provisions a zoning overlay district might contain.

Upper Merrimack and Pawtucket Streets Proposed Zoning



Sources:
 Lowell GIS (3/7/2016 parcels, zoning); Lowell DPD (buildout list); MassDOT/NMCOG (2013 roads); MassGIS (2013/2014 structures, town boundaries); MassDEP (2009 hydrology)

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

Produced by NMCOG 5/3/2016

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Legend

- Study Area
- Proposed Overlay District
- Artist Overlay District (Existing)

Proposed Zoning Districts

- DMU -Downtown Mixed-Use District
- INST -Institutional Mixed-Use District
- TMF -Traditional Neighborhood Multi Family
- TMU -Traditional Mixed-Use District
- UMF -Urban Neighborhood Multi Family
- UMU -Urban Mixed-Use District
- Lowell Parcel Boundary
- Structure



Zoning and Land Uses

OVERLAY DISTRICT RECOMMENDATIONS

- Setbacks for all parcels in the overlay district should be consistent with neighboring structures. Outdoor seating, street furniture, and other common areas to promote social interaction and an active street environment should be allowed in the front setback and incentivized whenever feasible. These amenities should be required for larger developments (e.g. more than 10,000 square feet of floor area).
- Minimum lot size requirements should be set no lower than 3,400 square feet for all parcels in the overlay district. In underlying zoning districts where the minimum is more permissive (including the UMU, UMF and INST districts), the existing minimums should remain in effect.
- Minimum land area per dwelling unit should be set no lower than 1,000 square feet for all parcels in the overlay district. The Institutional Zoning District standard, where there is currently no minimum per dwelling unit, should remain in effect.
- Reduced parking requirements should be permitted for all parcels within the overlay district (see Parking Recommendations). In return, larger development proposals (over 10,000 square feet of interior space) should be required to include amenities such as secure bicycle parking, bicycle racks, sidewalk benches, landscaping, and sheltered transit facilities.
- Maximum building height should be set no lower than 60 feet or 5 stories for all parcels in the overlay districts. In underlying districts where there is a higher minimum, the more permissive requirement should remain in effect.
- Maximum floor-area ratio should be set no lower than 3.5 for all uses. In underlying zoning districts where the maximum is higher, the more permissive requirement shall remain in effect.
- For parcels located in the UMU district, minimum land area per dwelling unit should be reduced to 750 square feet if the developer includes pedestrian and bicycle amenities and utilizes high quality exterior building materials and/or if the development includes the renovation and reuse of a multi-story historic structure. Historic reuse projects must also incorporate pedestrian/bicycle amenities to access the lower threshold.





Zoning and Land Uses

The following uses should be prohibited for all parcels in the study area:

- Detached single family dwelling units, as identified in Table 12.1 of the Lowell Zoning Ordinance and currently allowed by right in the UMF and TMF districts.
- Automotive and Related Uses, as identified in Table 12.6 of the Lowell Zoning Ordinance.
- Some concern has been raised that additional drive-through facilities may degrade the pedestrian-oriented nature of the corridors. Additional regulations on drive-through facilities, as described in Table 12.4 (section g) of the Lowell Zoning Ordinance, should be considered. Drive-through facilities are currently allowed by special permit in the UMU and TMU districts. Additional restrictions might include:
 - A finding by the Lowell Planning Board in granting special permit approval that a proposed drive-through facility would not adversely impact the aesthetic character and the pedestrian-oriented vision for the University Area Overlay District.
 - A prohibition of drive-through only businesses that do not include interior customer service areas.
 - A minimum 75 foot buffer space between any drive-through or escape lane and an existing residential unit.
 - Screening of drive-through facilities from the fronting street.
 - A maximum of one drive-through lane and one escape lane per facility.
 - A minimum parcel size of 6,000 square feet.

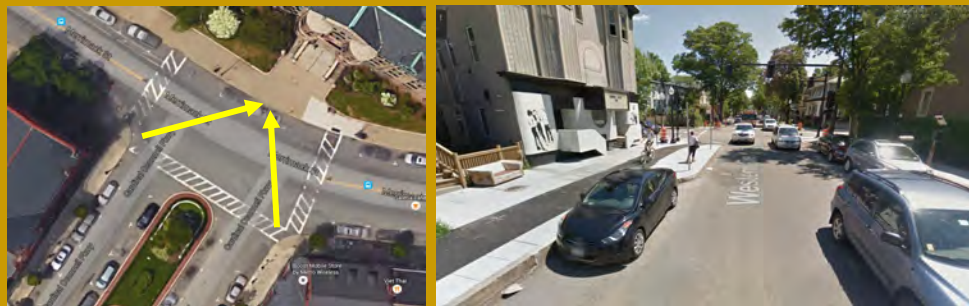


S

Streetscape Improvements

Upper Merrimack Street enjoys great potential as a pedestrian-oriented thoroughfare, however it is currently beset by decrepit sidewalk conditions, deferred property maintenance and a poor connection to downtown Lowell.

- A major overhaul of Upper Merrimack Street is critical in order to attract new private investment to the corridor. New sidewalks, plantings (including street trees), and period street lighting are greatly needed. The sidewalk width appears adequate along Upper Merrimack Street, however pedestrian bulb-outs should be considered at key intersections.
- Enhance pedestrian conditions at Monument Square, the key gateway into the neighborhood from Downtown Lowell, with the goal of fostering a more pedestrian-oriented environment, creating a more engaging public space, and facilitating a stronger connection between downtown Lowell and the Acre community.
- Focus pedestrian and streetscape improvements at the Aiken and Cabot Street intersections with Upper Merrimack Street. Both intersections should include pedestrian bulb-outs at all corners. These cross streets are key connections into the Upper Merrimack neighborhood from nearby high density residential areas, as well as the UMass Lowell North Campus.
- Should a park be developed across from the St. Jean Baptiste Cathedral, a high visibility crosswalk should be considered linking the park to the church-front.
- The Department of Planning and Development has expressed some interest in implementing a cycle track along Upper Merrimack Street similar to one installed along Western Avenue in Cambridge. Another option would be to direct through bicycle traffic along Father Morrisette Boulevard (where there is a much larger right-of-way to improve bicycle conditions) and focus on higher visibility bicycle lane markings and signage for local bicycle trips along Upper Merrimack Street.
- Merge two crosswalks that cross Merrimack Street at the corners of Cardinal O'Connell Parkway to conclude at a joint point in front of the south entrance to Lowell City Hall. A pedestrian bulb-out would be appropriate for this location. This would have the effect of better emphasizing City Hall as a focal point and free up additional space for more on-street pay station parking.



Above Left: Crosswalks in front of the Cardinal O'Connell Parkway should be relocated to better emphasize City Hall and free up additional space for on-street parking. **Right:** The Western Avenue cycle track in Cambridge, Mass. *Image courtesy of Google Streetview.*

S

Streetscape Improvements

Narrow sidewalks, a limited right-of-way and long stretches of roadway without crosswalks characterize this area of Pawtucket Street, despite growing pedestrian volumes.

- Whenever feasible, work with developers to expand sidewalks in conjunction with redevelopment projects to a minimum width of 12 feet across (or a few feet wider than those recently installed at 277 Pawtucket Street) to allow for street trees and outdoor seating or gathering areas.
- Crosswalks traversing Pawtucket Street should be installed at Pawtucket and Salem Street, Pawtucket and Mount Vernon Street, and Pawtucket and Mount Washington Street. Currently, crosswalks only cross the side streets at these locations.
- Lane and shoulder markings should be painted for the entire length of Pawtucket Street. Lane widths should not exceed 11 feet across, and 10.5 feet might be more appropriate considering the pedestrian nature of the street.
- There appears to be enough right-of-way to install bicycle lanes between Fletcher Street and School Street (and possibly further west) on Pawtucket Street. Sharrows should be incorporated on Pawtucket Street between University Avenue and Fletcher Street and on the approaches to the intersections.
- Pedestrian bulb-outs should be considered as a traffic calming mechanism for Pawtucket and Mt. Vernon Streets, or at Pawtucket and Mt. Washington Streets and Pawtucket and Arlington Streets.
- Install full diagonal crosswalks or truncated paint markings (indicating that diagonal pedestrian crossings are permissible) at the intersection of Merrimack Street and Pawtucket Street/University Avenue Bridge along with pedestrian signals to indicate that such crossings are permitted on the walk signal. This may also be appropriate for the Monument Square intersection, which also includes a pedestrian-only phase, pending the results of an intersection-specific study. See the downtown Portsmouth example below.
- Consider paver surface treatments for major intersections in the study area as both a traffic calming and branding mechanism, including the Merrimack Street/Pawtucket Street intersection.



Right: Diagonal crosswalks in Portsmouth, NH. *Image courtesy Google Streetview.*

S

Streetscape Improvements

Invest in intersecting or adjoining streets to improve connections into the Upper Merrimack and Pawtucket corridors. This is particularly important for Upper Merrimack Street as urban renewal efforts completed in the mid-twentieth century increased block sizes and eliminated some connecting streets.

- Incorporate a bicycle lane or cycle track on Suffolk Street as an alternative north/south bike route to Dutton Street, which does not include significant shoulder space and is often heavily congested. The route could be continued further south and incorporated into the redesign of the Lord Overpass.
- Work with the City and the Coalition for a Better Acre in redesigning the Cardinal O'Connell Parkway in conjunction with the redevelopment of the Smith Baker Center. The Parkway's 16 foot travel lanes are excessively wide and there are opportunities to expand the center green space or create a landscaped drop-off zone for the proposed arts center. Additionally, the green space should be extended closer to Merrimack Street in order to provide pedestrians a safe refuge. The green space currently stops just short of the crosswalk. Given the width of the roadway, bicycle lanes may also be feasible. A bicycle route could be extended to jog right onto Broadway, which also enjoys abundant right-of-way street width, and incorporate into the proposed Suffolk Street bicycle route.
- Incorporate a bicycle lane onto Cabot Street or Aiken Street as a connection between the North Acre area/UMass Lowell East campus and the Upper Merrimack Street corridor. While Cabot Street offers a wider right-of-way and is more central to the Upper Merrimack Street corridor, Aiken Street is situated closer to the center of the UMass Lowell East campus and LeLacheur Park and continues north over the Merrimack River.
- Invest in new sidewalk facilities along both Cabot and Aiken Streets. These intersections should include pedestrian bulb-outs at all corners. These two corridors are key access points into the Merrimack Street business district from the UMass Lowell North Campus and LeLacheur Park. Wayfinding signage should help direct baseball and campus visitors to Upper Merrimack Street for restaurant and service options (see Concord, NH example below).



Right: New wayfinding signage complements a recent Complete Streets transformation project in downtown Concord, NH.



Parking

Surface parking is abundant in the study area, and there is a general consensus that surface lots diminish from the aesthetic, historic and urban quality of the neighborhood and represent an inefficient use of land in an otherwise dense, high activity area. Surface parking lots generate little tax revenue for the City and, as indicated by the buildout analysis, Lowell's parking requirements represent one of the single greatest regulatory barriers to development in the area.

Moreover, peak hour traffic congestion, particularly surrounding the Robert Howe Sr. and School Street Bridges can be severe and there is little incentive to add additional vehicles to this environment. As such, parking requirements for new developments should be reduced in concert with efforts to expand and incentivize alternative forms of transportation.

- Reduce current parking requirement of 2 parking spaces per dwelling unit or 0.75 per bedroom (whichever is greater) to 1 parking space per unit or 0.5 per bedroom (whichever is greater). For student dormitories, reduce the current requirement of 1 space per 2 beds to 1 space per 4 beds. In return, larger development proposals, (over 10,000 square feet of interior space) should be required to include amenities, such as secure bicycle parking, bicycle racks, benches, landscaping, and sheltered transit facilities (if the development is likely to incur significant levels of public transit ridership).
- Provide additional parking reductions in requirements for developments that represent high quality and attractive urban design, provide bicycle/pedestrian and/or transit facilities, and incorporate mixed uses. At minimum, parking for non-residential uses should be significantly reduced or waived to promote business growth in the study area and to encourage mixed-use forms of development.
- Reduce parking requirements for small parcels (under 7,500 square feet of land area). In many cases, meeting such requirements would require the demolition of a historic building.
- Consider enacting parking maximums for non-residential uses within the overlay district boundaries, capping parking at no more than 125 percent of parking minimums set in the underlying zoning district.
- Expand pay station parking the entire length of Merrimack Street (to University Crossing) to encourage a higher rate of turnover for street parking. Pay station parking currently ends at Cabot Street.
- Monitor parking demands and consider development of a parking garage in close proximity to the study area in the future. If a garage is built, allow developers to satisfy parking requirements through lease agreements with the parking garage (as is currently allowed in downtown Lowell).
- The 2007 MIT study of the neighborhood noted that Upper Merrimack Street includes enough right-of-way in certain segments east of Cabot Street for reverse angled parking, however this would necessitate the elimination of a bike lane in these segments. The most recent daily traffic count for the segment, from 2013, is 7,600, far less than the 17,900 counted on Pawtucket Street (just south of the Upper Merrimack Street intersection). This suggestion merits further analysis as it would allow for more street parking for neighborhood businesses, more parking-related city revenue, and reduce pressure for more off-street parking. Well-marked sharrows could fill gaps in bike lanes where such parking is installed.



Parking

As UMass-Lowell continues to transition from a commuter-based campus to a more residential campus environment, parking issues in the neighborhood should ease over time. University-age young people, representing a large share of the neighborhood population and likely a key source of new development activity, drive less than other demographic groups - a trend that has only intensified in recent years. However, there is a consensus among many residents that university students currently overwhelm existing parking facilities in the neighborhood and that relief is needed. The following is recommended to address the parking needs:

- A new parking garage facility in the vicinity of Upper Merrimack/Pawtucket Street for students and faculty would benefit the neighborhood as well. The surface parking lots across from University Crossing on Salem Street might be a good location for a parking structure. Whenever possible, a parking facility should be fronted by a structure to screen the facility from street view (sometimes referred to as 'liner buildings'). Alternatively, commercial uses could be integrated into the structure at the street level. Parking facilities should not overwhelm neighboring structures and should be limited to no higher than three levels above grade.
- Ensure that all on-street parking in close proximity to the university is limited to resident permit parking or pay station parking to maintain sufficient parking access for area businesses and residents, and to discourage the use of street parking by students attending university classes or events.
- UMass Lowell should continue its efforts to encourage alternative transportation mode use by students and faculty and discourage single-occupancy auto travel by commuter students.

B

Branding/Public Art

Although Lowell is increasingly recognized as an arts community and arts destination, there are relatively few large signs of this in the downtown Lowell streetscape as historic district rules prohibit many permanent murals and art installations (murals are limited to six month displays and can not be directly painted on buildings). Several areas of the study area offer an opportunity to showcase Lowell’s arts community in a manner that is more striking than is possible within the historic district boundaries.

- Work with the Cultural Organization of Lowell, Inc. (COOL) to identify areas in the study area outside the historic district boundaries for conspicuous public art installations. The Dewey G. Archambault Tower represents an excellent opportunity. The tower is the tallest structure along Upper Merrimack Street and a features an eight-story blank brick wall that dominates the Merrimack and Cabot Street intersection. A large mural would make a dramatic impression for visitors to the neighborhood.
- Consider opportunities to incorporate art into existing facilities. Street banners should be added in concert with streetscape improvements. The City of Haverhill recently added silverware themed crosswalks to its downtown in an effort to promote the area as a restaurant destination. These installations represent a creative and low cost means to boost branding and foster a stronger sense of place.
- Consider branding campaigns that capitalize on the neighborhood’s history and location. These campaigns might focus on the area’s history as a melting pot – “Really Little Canada” or embrace its location near the UMass Lowell campuses. ‘University Town’ or ‘University Village’ is a common moniker for neighborhoods near major universities.



Above: Public murals in Richmond, Virginia and Providence, Rhode Island.

Above Right: Haverhill’s silverware crosswalks and branding initiatives in Washington’s Brookland neighborhood and Philadelphia’s Old City.

Right: Public art can help characterize much of the neighborhood in a way that is not possible in downtown Lowell, as it does in neighborhoods like Adams Morgan in Washington D.C. (pictured).

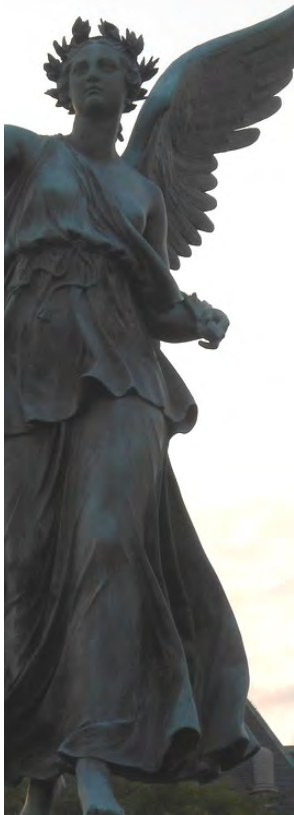


Historic Preservation

Several parcels in the study area fall outside the downtown Lowell Historic District boundaries but contain historic structures. This is especially true of Pawtucket Street where several Victorian-era homes line the roadway. The Massachusetts Historic Tax Credit program, which reimburses private developers up to 20 percent of qualifying historic rehabilitation costs in state income tax credits, has proven to be a powerful incentive for private investment in renovation projects.

The growth of UMass Lowell has led to the demolition of some old housing stock, and there is an interest in preserving historic and well-maintained structures in the study area whenever feasible. An incentive-based approach, which rewards developers for maintaining at least the facades of historic structures, may prove to be the best approach in achieving the right balance of investment and preservation.

- For historic buildings (over 50 years old) located within the overlay district but outside historic district boundaries, provide developers, who rehabilitate the two most visible sides of a historic building's exterior façade, relief in parking, set-back, density, and/or dimensional requirements even when alterations are made to the building itself to suit current needs.
- Work with the owners of the Husson and El Kareh Buildings on Upper Merrimack Street to apply for state and federal historic tax credits and rehabilitate the structures, or encourage the property owners to sell to experienced developers. The two buildings are among the few from the time period left standing in the neighborhood and their rehabilitation would dramatically improve the area's aesthetic appeal. Both buildings are significantly blighted and their structural integrity is threatened by continued decay and delay.



From Left to Right: Historic landmarks in the study area include the Franco-American School and the Husson and El Kareh Buildings. **Far Right:** Modifications to a historic brick building along Massachusetts Avenue in Cambridge have allowed for an active street presence and the preservation of the structure itself.



Design

Well designed development and infrastructure is critical in supporting the objectives outlined in this report.

- Implement design standards governing the overlay district with an emphasis on improving the pedestrian experience. Ensure that commercial uses serve pedestrians by including first floor windows that extend no higher than 3 feet from sidewalk grade level and extend a minimum of 6 feet from sidewalk grade level. Restrict metal bars or other exterior devices on ground level windows that might detract from the pedestrian environment. Restrict continuous windowless exterior walls on fronting roads to no more than 7 continuous feet.
- For new developments with ground level commercial uses, ensure that sidewalk space is wide enough to accommodate outdoor seating (See streetscape recommendations on page 36). Require street trees to enhance the pedestrian experience and improve the aesthetics of the corridors.
- Examine the feasibility of burying utility lines along both Pawtucket and Upper Merrimack Streets.
- Lead by example in improving city property. Replace boarded up windows at Pollard Memorial Library. Consider replacing the pavement in the front setback of the Adult Education Center with a landscaped area as it holds very few parking spaces and landscaping would dramatically improve its appearance.
- The Lowell Housing Authority (LHA) has expressed some interest in building additional public housing units on the vacant lot across from the former St. Jean Baptiste Cathedral. The LHA should consider incorporating some open space or community gardens into their plans given the general lack of green space in the area.



From Left to Right: Boarded windows at Pollard Library, a paved front setback at the Lowell Adult Education Center, and LHA-owned vacant land on Upper Merrimack Street. **Far Right:** Outdoor dining has helped activate other areas of Lowell, including along Middle Street in the downtown area.

Appendix

CASE STUDIES

case study

Champaign

ILLINOIS

Pop. 83,000



In September 2015, the City of Champaign, Illinois eliminated minimum parking requirements for new residential developments in its Campustown neighborhood, which surrounds the University of Illinois flagship campus. The University of Illinois Urbana-Champaign has a student body of approximately 44,000 students.

“We are trying to become a more urban community, or at least that’s how we envision ourselves in the future... and understanding that we’re not necessarily a better place if every student brings a car on campus,” Champaign Mayor Deb Feinen told Illinois Public Media.

The change was proposed, in part, due to reduced parking demand at city lots in Champaign. City leaders also wanted to allow developers additional flexibility regarding redevelopment proposals to include additional amenities like bicycle storage facilities and pedestrian gathering areas, as well as to reduce parking “dead zones.”

case study

Worcester

MASSACHUSETTS

Pop. 183,000



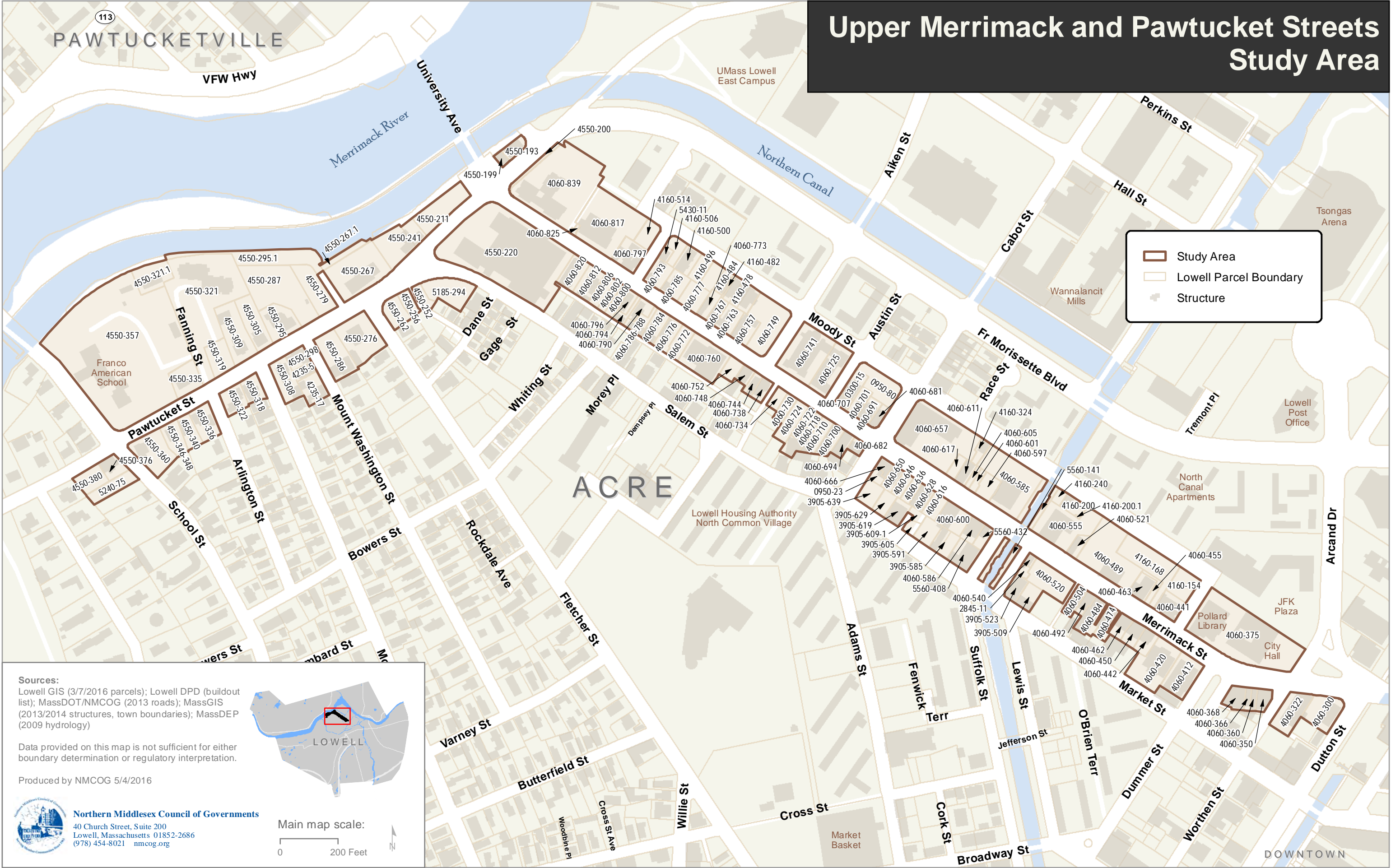
In 2015, after a two year study and review process, the City of Worcester adopted a Commercial Corridors Overlay District with the goal of encouraging both redevelopment and new development, promoting mixed-uses and pedestrian-oriented design and utilizing parking more efficiently. The designation consolidated seven different overlay districts created in Worcester over many years.

The overlay district applies to downtown Worcester and surrounding commercial corridors, including Shrewsbury Street and the city’s Canal District area. The overlay includes several features including:

- Establishes parking maximums and reduces or eliminates parking minimums (for the core downtown area).
- Allows additional parking reductions for mixed-use developments, as well as those that add bicycle parking.
- Broadened zoning allowances related to commercial artists to include ‘creative entrepreneurs’, including those in theater, dance, textiles and metals.
- Waives parking requirements when five or fewer spaces are usually required.

The initial proposal called for the elimination of parking minimums, but was significantly altered due to public input.

Upper Merrimack and Pawtucket Streets Study Area



Sources:
 Lowell GIS (3/7/2016 parcels); Lowell DPD (buildout list); MassDOT/NMCOG (2013 roads); MassGIS (2013/2014 structures, town boundaries); MassDEP (2009 hydrology)

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

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