

Transportation

Centralville

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Lowell
Neighborhood
Initiative

Introduction



Figure 1 - John E. Cox Memorial Bridge at Bridge Street



Figure 2 - Joseph Oulette Bridge at Aiken Street

Transportation in Centralville

Centralville is a neighborhood in the northeastern corner of Lowell, across the Merrimack River from downtown Lowell and the Acre. The area is connected to the rest of Lowell by three bridges: the John E. Cox Memorial Bridge (in the center), the Joseph Oulette Memorial Bridge (in the northwest), and the Quinn-Holmes Bridge (in the southeast). The John E. Cox and Joseph Oulette Memorial bridges are two historic bridges that span the river at Bridge St. and Aiken St., respectively.

Traffic between Centralville and the rest of Lowell mainly relies on Bridge Street and Aiken Street. Bridge Street serves as the neighborhood's main commercial strip, as well as the dividing line between Christian Hill, on the east side of Bridge St., and the rest of Centralville. Additional commercial areas include the intersection of Aiken St. And 6th Street in western Centralville, and Sunrise Plaza on the north end of the neighborhood bordering Dracut. Aiken St. and Bridge St. serve as the main North-South connectors and 6th Street is the major East-West thoroughfare.

Methodology

Our methodology relied on surveys conducted by the studio's Intercept Survey group, interviews conducted by the Community-Based Organizations

group, and observations made during site visits to the neighborhood.

We analyzed the existing conditions in Centralville's transportation and mobility networks. We then sourced information from various engagement teams to confirm our research and metrics. The information gathered from the Intercept Survey group and the Community-Based Organization group helped to identify traffic congestion issues and specific road and infrastructural issues in the neighborhood. We then used this data to visualize transportation conditions in Centralville, identify areas where infrastructure fell short, and propose actionable solutions the city of Lowell can take to increase connectivity and reduce car dependency.

Scale Analysis

To organize our analyses on the issue of transportation, we have delineated the current issues, potential opportunities, and recommendations as they pertain to three different scales: **neighborhood (intra)**, **city (inter)**, and **regional levels**. This reflects the connective nature of transportation within Centralville and Lowell's metropolitan area overall, and how even regional-level developments can impact the lived experiences of neighborhood residents, and vis versa.

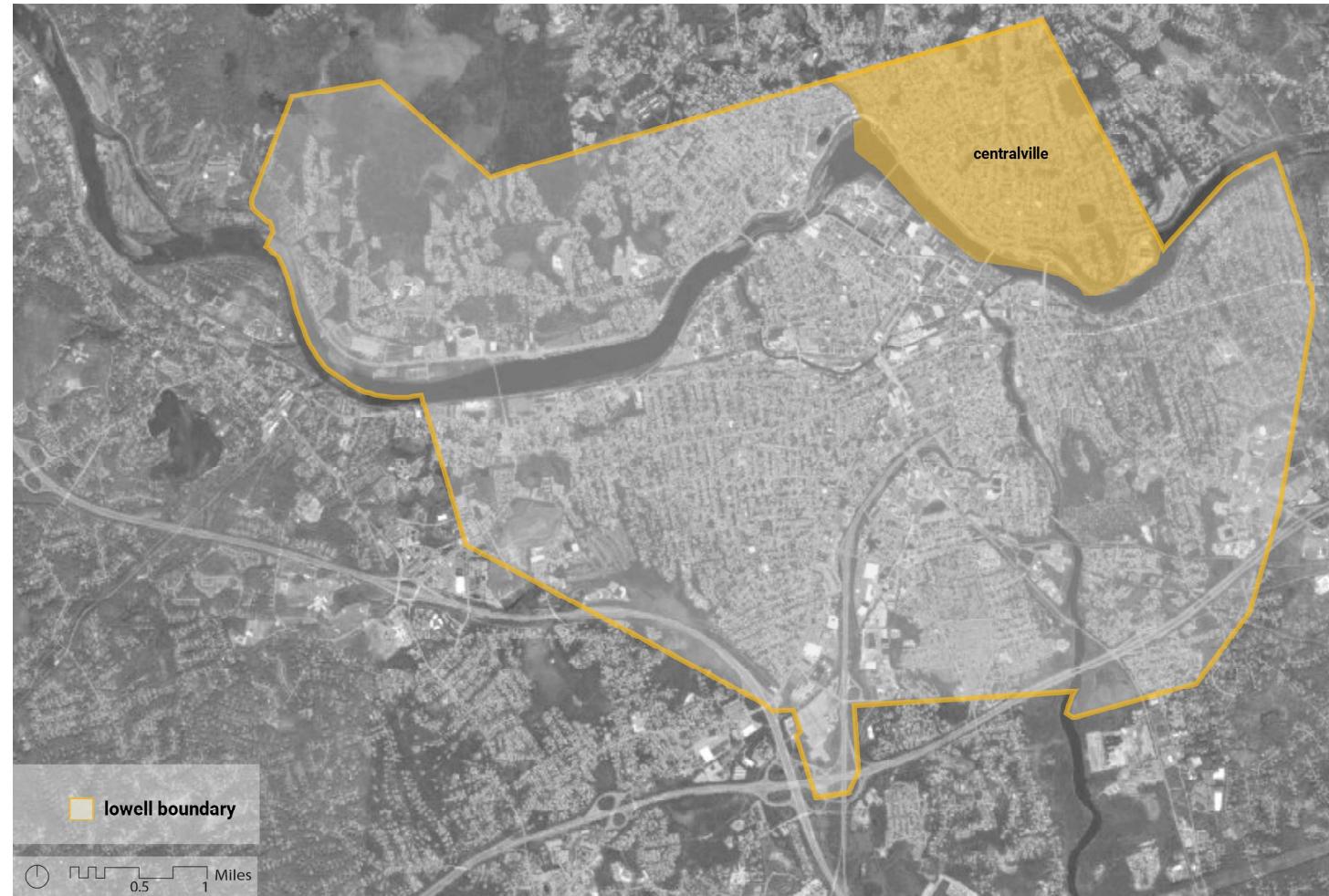


Figure 3 - Map of Lowell Centering on Centralville

Context

Neighborhood

At the neighborhood scale, Centralville is a dense community made up of a network of major thoroughfares, narrower residential lanes, and sidewalks. This contributes to one of its main strengths as a considerably walkable neighborhood. Based on walkshed analysis, an individual may be able to walk the span of Centralville within a 20-minute period. This can be attributed to a collection of streets that have sidewalks on both sides throughout much of the area, which is especially present in the central region of the neighborhood.

The Centralville neighborhood also has three main commercial corridors: Aiken Street in the northwest, Bridge Street in the south, and Sunrise Plaza in the north. Aiken and Bridge street commercial corridors are located directly at the base of the bridges.

Issues

Despite its perceived walkable nature, when we visited the site in-person, we observed very little pedestrian activity. Much of the transportation was reliant on cars. The major thoroughfares, Bridge Street and Aiken Street, were car-oriented with wide lanes, few stop lights and crosswalks, and high-volume, fast-moving traffic. This made for a difficult and potentially hazardous walking or biking environment.

Additionally, sidewalks were in varying conditions of walkability. Following a recent snowstorm, a significant number of sidewalks that we walked through were not shoveled. As the Center for Hope and Healing mentioned, “the lack of snow removal and shoveling of recent weeks exemplifies how lack of public services can negatively impact people trying to get away from the house.” This, coupled with illegally parked vehicles on the sidewalks, made it challenging for pedestrians to continuously walk on sidewalks, forcing them to walk directly into streets. One resident complained to the Intercept Team that “I’ve talked to the city councilor about people parking on the sidewalks, but nothing has been done.” Another chimed in - “it’s dangerous to be a pedestrian in Centralville because of the cars!”

Another gap that was noticed was the lack of bicycle infrastructure present in Centralville. Compared to the rest of the city, Centralville has no bicycle lanes. The lack of bicycle infrastructure may be due to the negative perception of alternative transportation options. In an interview with the Centralville Neighborhood Action Group (CNAG), the use of bicycles by youth was described as “teen bike gangs”.



Figure 4 - Vehicles Parked on Sidewalk on Dalton Street



Figure 5 - Children Jaywalking on Bridge Street

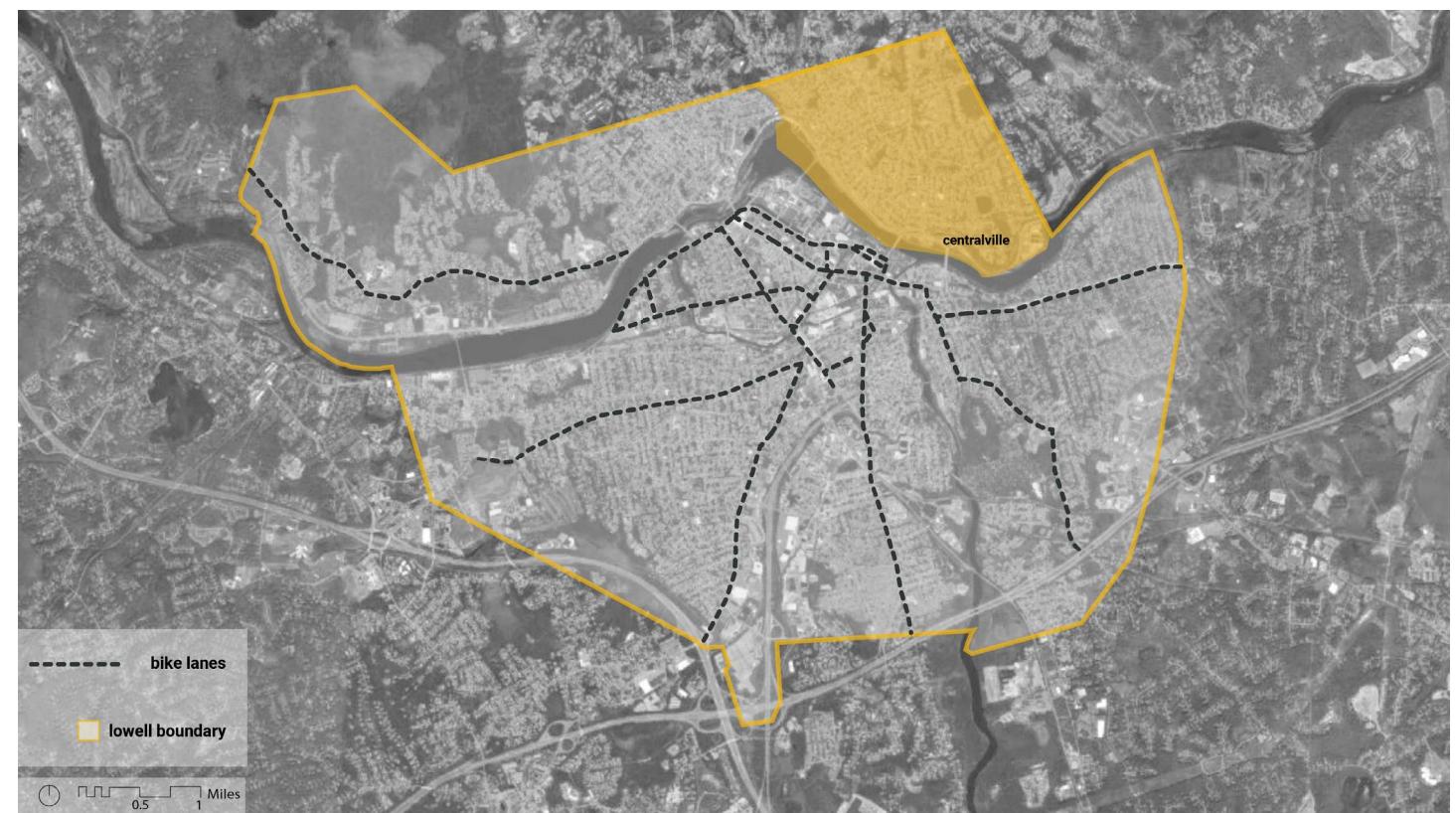


Figure 6 - Existing Bike Lanes in Lowell

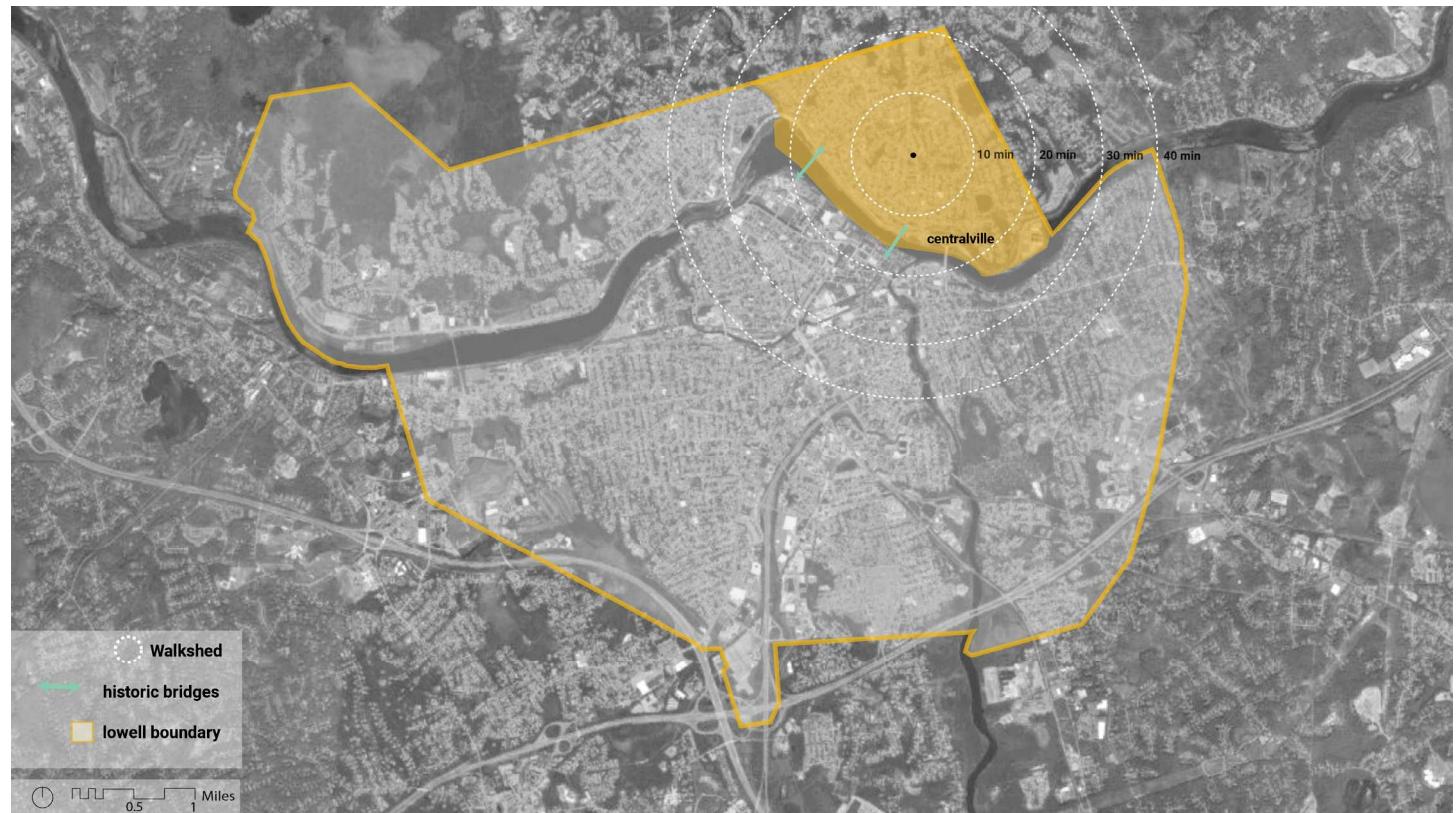


Figure 7 - Centralville watershed analysis

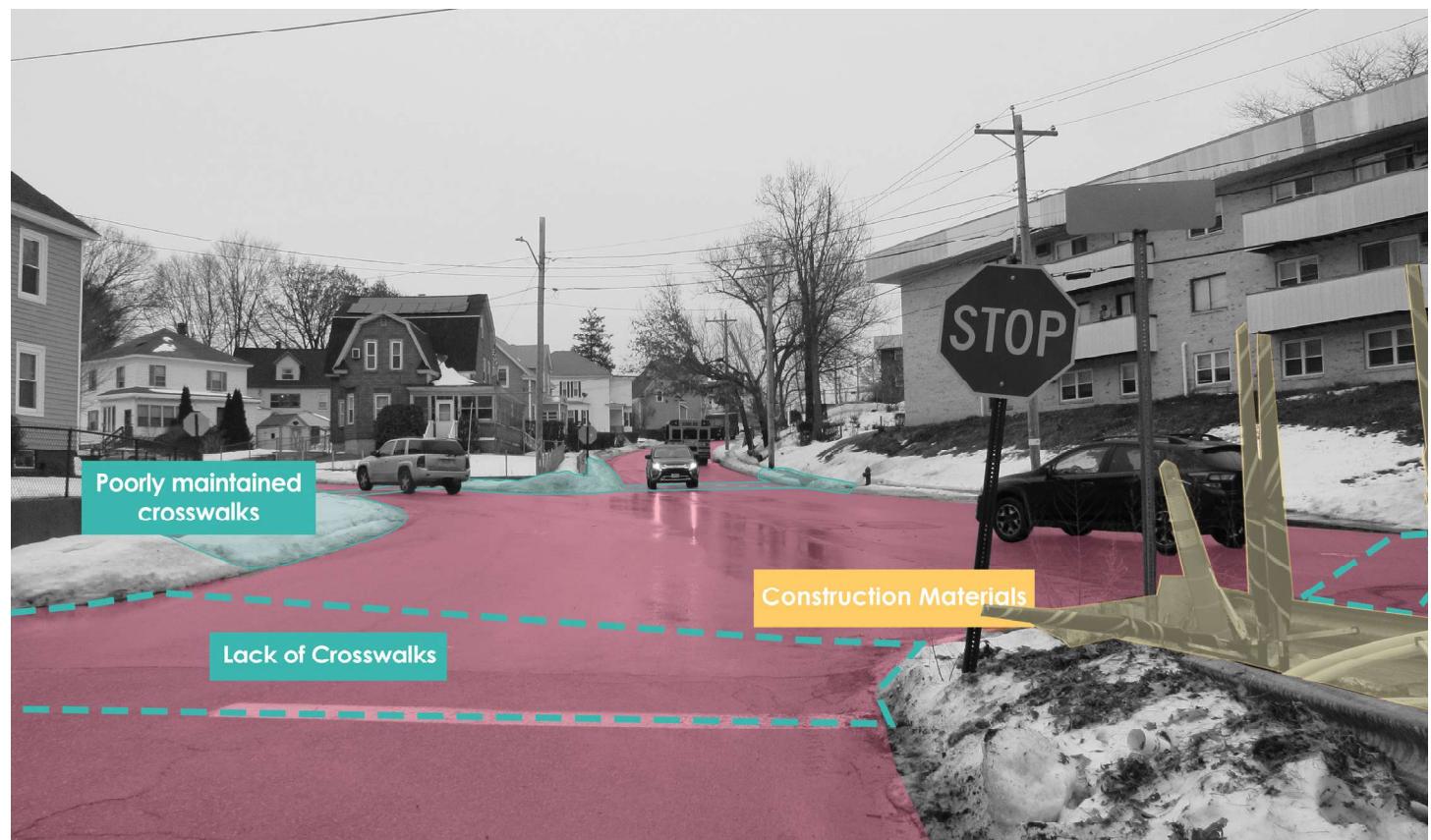


Figure 8 - Obstructed sidewalks in a residential neighborhood in Centralville

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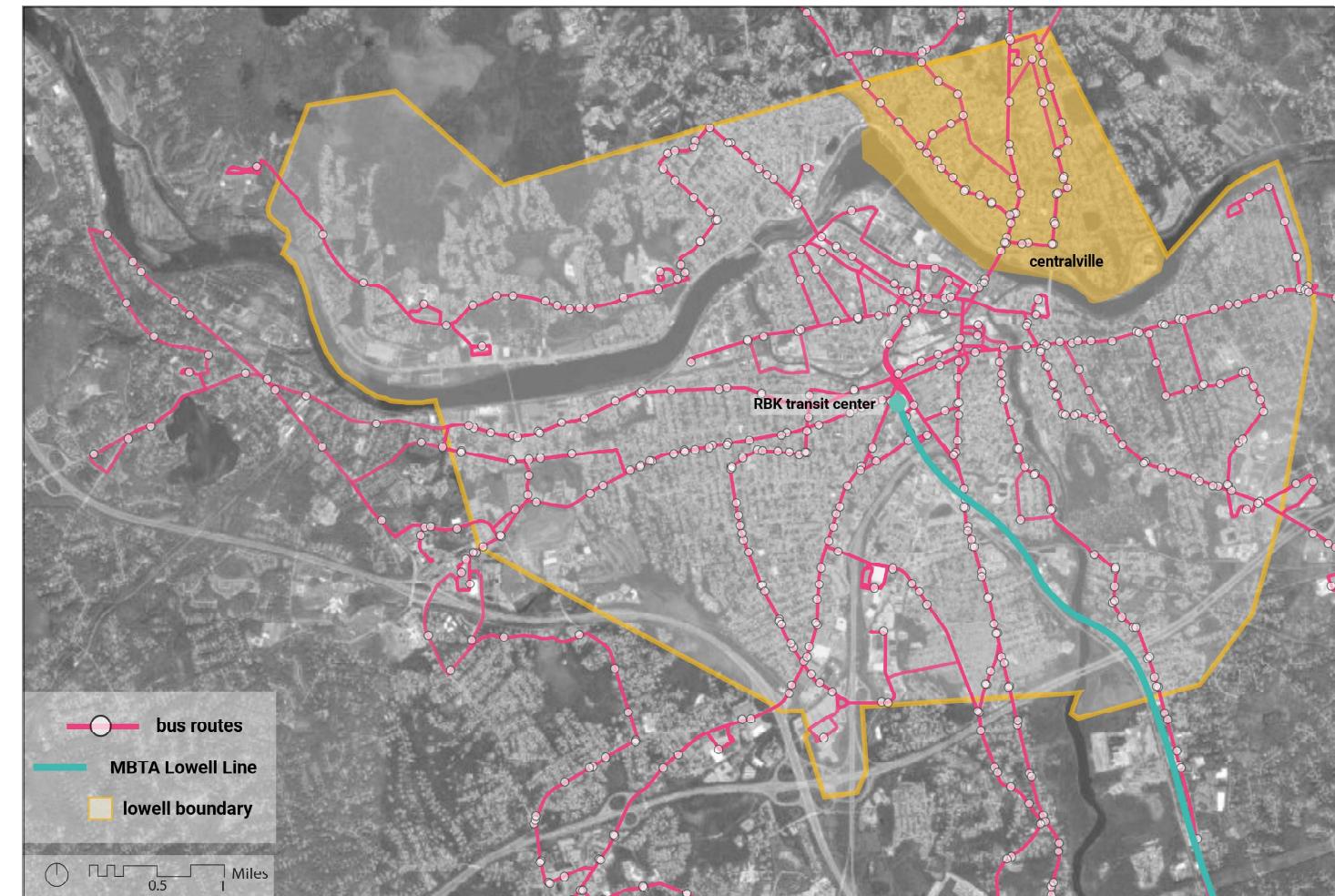


Figure 9 - Map of Existing Transit Lines through Lowell & Centralville

City

Lowell is served by its own transportation network, the Lowell Regional Transit Authority (LRTA), as well as the MBTA. Two LRTA bus lines in Centralville connect the neighborhood to downtown Lowell and the MBTA train station into Boston.

Issues

However, LRTA service is infrequent and unreliable, and bus stops in Centralville often suffer from the same accessibility issues that plague the sidewalk system (lack of upkeep, no clear marking or delineation). A resident associated with the 350 MA of Greater Lowell

organization commented:

"car-oriented aspect of Lowell is a big challenge...the transit system is woefully inadequate and very few people use it."

Even if residents have the desire to reduce their automobile dependency, the current public transportation infrastructure does not support this shift. A member of the organization Mill City Grows told the CBO team that "People don't have good transportation to get to where they want...buses are not frequent...getting to nearest grocery store without a car is not easy." This sentiment was shared by the Cambodian Mutual Assistance Association, who lamented the infrequency of bus services that



Figure 10 - Google Streetview - 3rd Street & Beech Bus Stop



Figure 11 - Instagram - LRTA Bus & Lowell MBTA Train Station

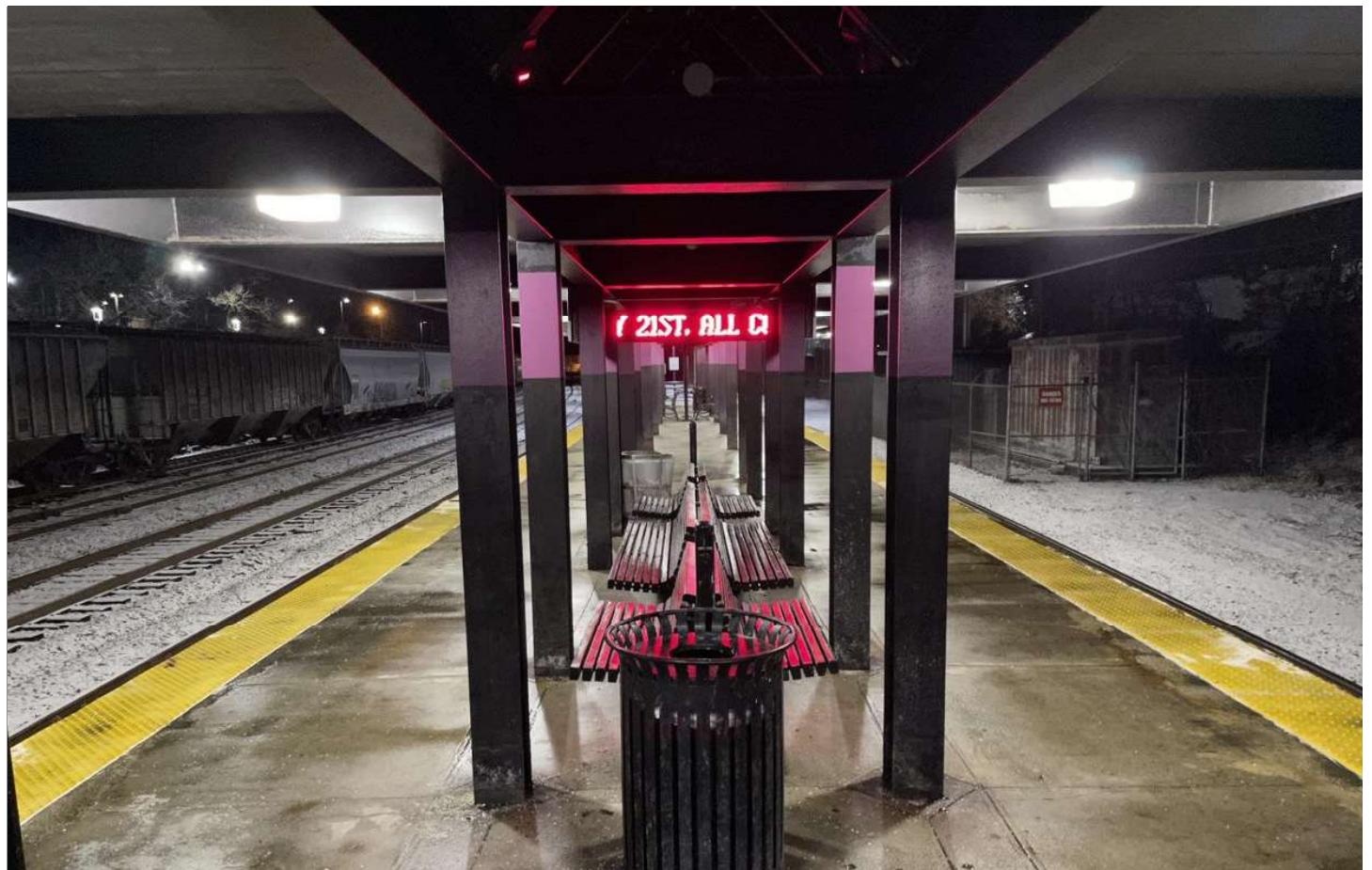


Figure 12 - Lowell MBTA Transit Station, Saturday, 2/19/22 at 7:00 PM

Car dependency throughout Lowell thus becomes a self-perpetuating cycle: some people want to use other forms of transit, but because these other forms of transit are not robust or reliable, they fall back on car use, creating congestion and safety problems.

Regional

At the regional level, Centralville is connected to the rest of the Massachusetts Bay/Greater Boston Metropolitan area by regional rail (MBTA Lowell Line into Boston), neighboring Lawrenceville via the Merrimack Valley Regional Transit Authority

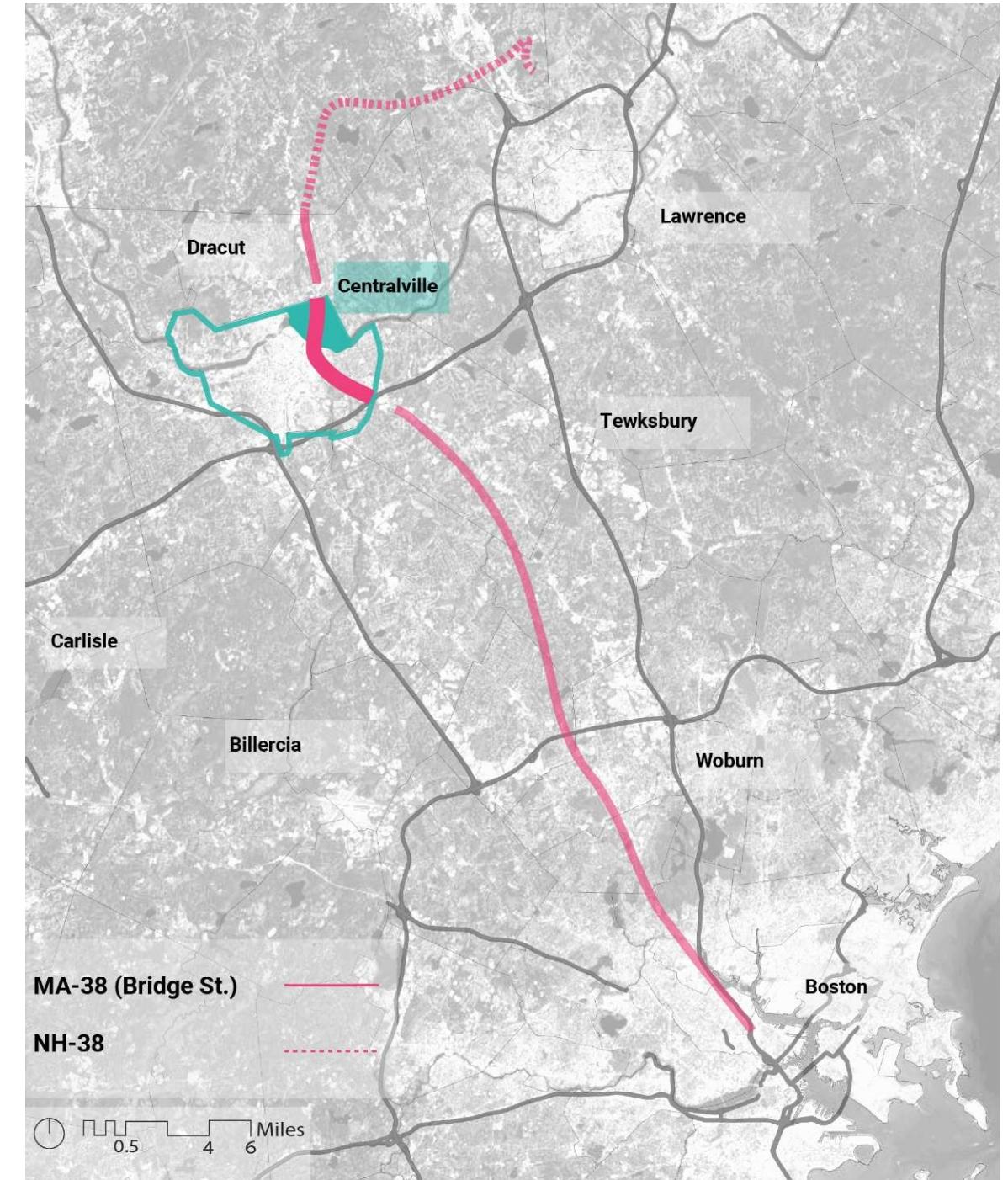


Figure 13 - Regional map showing extent of Bridge Street

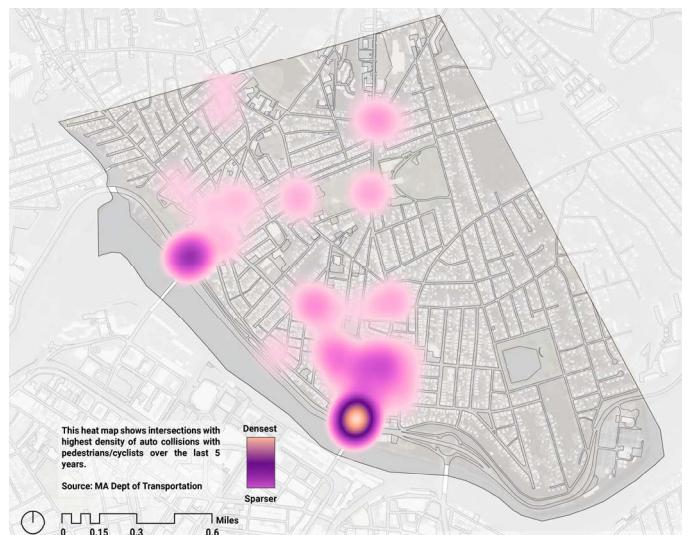


Figure 14 - Traffic Accidents near Bridge Street, 2018-2022

(MVRTA), and several highways and interstate routes. Interstate 95/495 and Interstate 93 connect the area to Boston, and MA Route 38 connects the area to the northern suburbs and New Hampshire. Route 38 cuts through Lowell, becoming Bridge Street, connecting downtown Lowell to Centralville via the John E. Cox Memorial Bridge.

This makes the John E. Cox Memorial Bridge and Bridge St. an important regional route for people outside of Centralville to pass through. Aiken Street also carries a significant load of traffic.

This bridge, along with the Oulette Bridge at Aiken Street further west in Centralville, are both historically significant: the Aiken St. Bridge was built in 1882 and is one of the oldest bridges in continuous use in Massachusetts, and the John E. Cox memorial bridge, in its current iteration, was built in 1937 as part of New Deal Massachusetts' Work Progress Administration. These bridges reinforce Lowell's status as a National Historic Place, as exemplified by the National Park located in the old factory district.

Because of its connectedness to the larger metropolitan area, many Centralville residents work outside of the neighborhood and city of Lowell. Regional job centers that attract Centralville residents include Dracut, Lawrence, Woburn, Wilmington, and Boston, and many of these residents are daily



Figure 15 - Traffic on Bridge Street, Friday, 2/18/22 at 6:00 pm

commuters using Lowell's regional transportation infrastructure.

Issues

As with the other scales, the main problem affecting regional transport in Centralville is automobile dependency, which leads to congestion for commuters during rush hour. One commuter told the Intercept Team that "traffic is really bad over the bridge, especially in the evenings." The intersection of Bridge Street and the VFW highway, on the Centralville side of the Merrimack, is the most congested intersection in the entire city of Lowell. This intersection is also responsible for the highest amount of pedestrian accidents in Lowell.

As Bridge Street is part of the regional highway Route 38, this affects not only commuters within Centralville, but other commuters who need to pass through Centralville on their way to jobs in Lawrence or New Hampshire. Despite the problems, Centralville residents often have no choice but to drive – as previously noted, public transportation is not frequent or reliable enough to appeal to the average commuter.

Recommendations

Recommendation One: Neighborhood/Intra Scale

Our first recommendation seeks to improve "active mobility" at the intra/neighborhood scale in Centralville by improving sidewalk maintenance, constructing additional sidewalks, and installing bike lanes on major thoroughfares.

The lack of sidewalks in the eastern and northern portions of the neighborhood prevents a culture of pedestrianism and exacerbates car dependency. Constructing sidewalks would encourage residents to walk for short neighborhood trips. Existing sidewalks in other parts of the neighborhood suffer from a lack of maintenance, and residents often forego their use and park their cars or dump trash.



Figure 16 - Imagined active mobility upgrades in Centralville

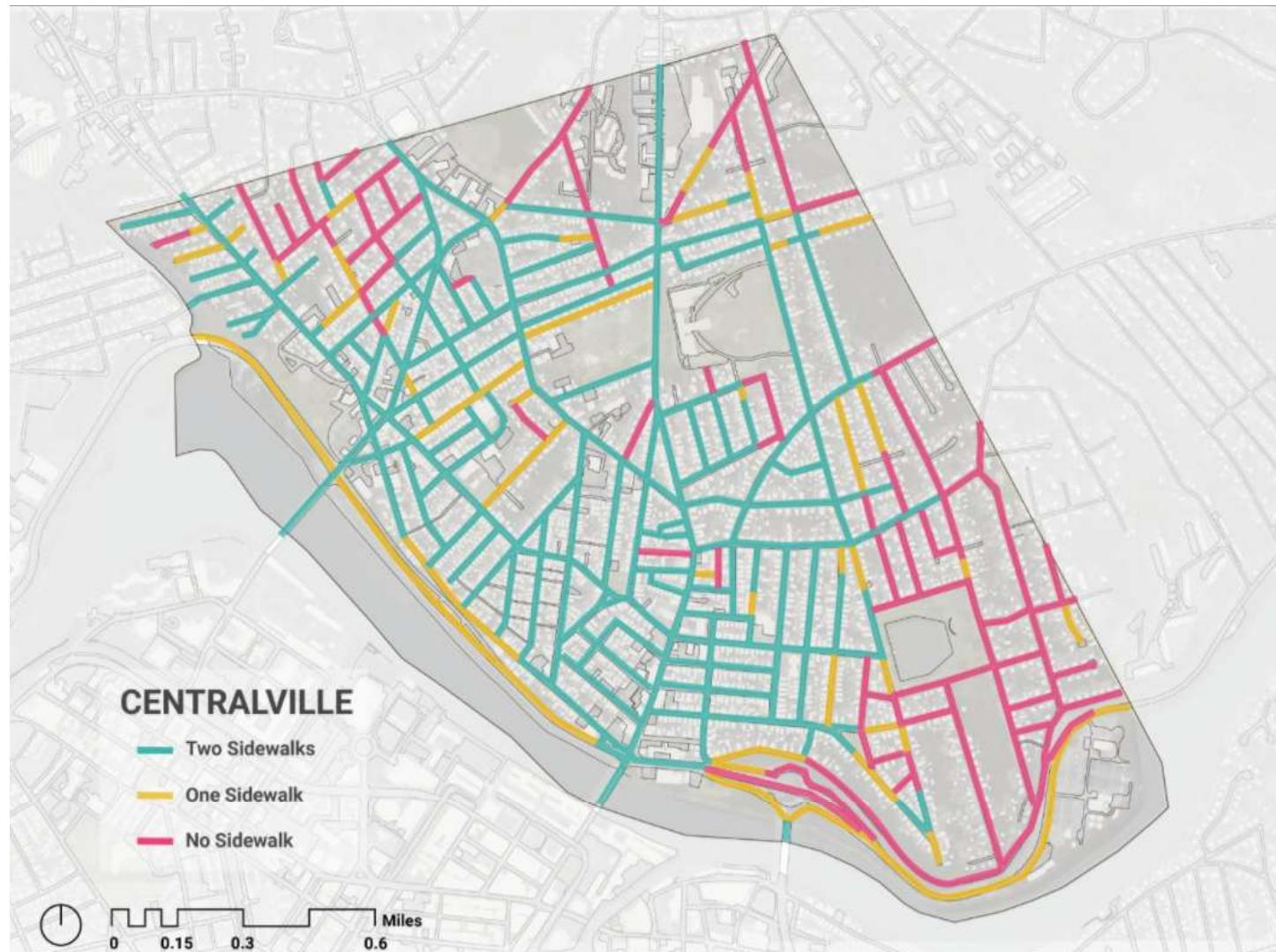


Figure 17 - Sidewalk inventory within Centralville

In the winter, snow removal on sidewalks is often foregone as streets take precedence.

We recommend that sidewalk maintenance, especially snow removal, be performed at more frequent intervals by the city of Lowell, and that more signs are put up in the neighborhood specifying that sidewalks are to be used for walking, and not parking or trash disposal. As noted earlier in our report, Centralville is the only neighborhood in Lowell that has no designated bike lanes. We recommend installing bike lanes on the neighborhood's major thoroughfares, such as Bridge St. And 6th St, and connect to the already existing larger bike lane network. Additionally, we believe that increasing

accessibility, improving pedestrian paths, and adding bike lanes to the Centralville side of the Merrimack river promenade would encourage walkability and active mobility in the neighborhood.

Recommendation Two: City/Inter Scale

Our second recommendation is to make public transit wayfinding easier for Centralville residents. So that there are alternative, non-vehicle means to travel to destinations in and outside of the neighborhood. While Centralville has two bus lines that run through the neighborhood, stops are not well demarcated nor maintained and service is infrequent, running at most every hour. We recommend that bus shelters and signs be constructed at all stops. The shelters would clearly demarcate the location of stops and communicate to residents that buses are actively moving through the neighborhood. If economically feasible, we also recommend increasing service to make scheduled stops every half hour. This

increase in wayfinding ability and improved bus stop conditions would more easily connect Centralville residents to the transit rich areas of the Acre and downtown Lowell. All bus stops located within Centralville would display Lowell Regional Transit Authority (LRTA) route maps for the whole city of Lowell and schedules for the local buses. This increased service and demarcated stations and route maps would increase access to the Lowell MBTA station and the Lowell Line to North Station in Boston. This would provide Centralville residents with access to regional jobs and leisure.

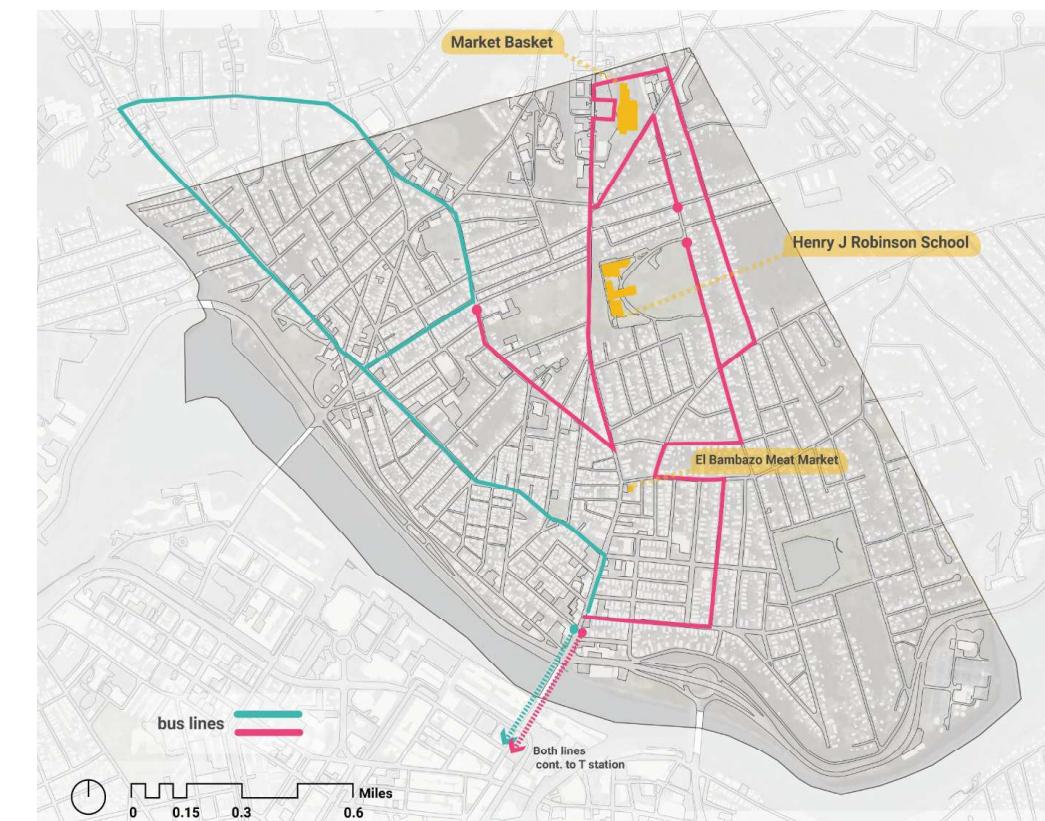


Figure 18 - Bus routes within Centralville

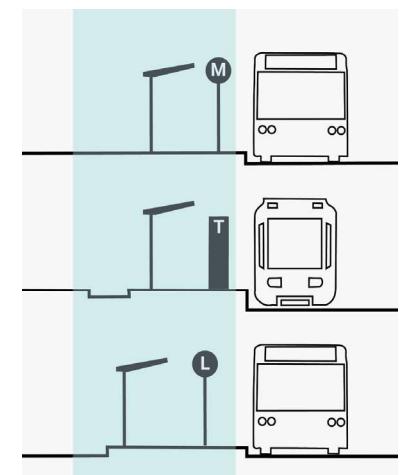


Figure 19 - Wayfinding improvements for LRTA

Recommendation Three: Regional Scale

Our third recommendation is to upgrade the John E. Cox Memorial and Aiken St. Bridges to increase access for Centralville residents to the rest of Lowell and the region, as well as to entice Lowell residents from other neighborhoods to stroll over into Centralville. We recommend upkeeping and delineating the pedestrian sidewalks on both bridges. Additionally, we recommend building a separate pedestrian and cycling bridge adjacent to the John E. Cox Bridge. This would ease traffic congestion as Centralville residents may choose to use the

pedestrian bridge to walk into downtown when road traffic is high. The pedestrian bridge access and decreased traffic congestion would connect the heart of downtown Lowell with Centralville's main business corridor, and improve the overall quality and safety of Lowell's road networks. Finally, we recommend incorporating both bridges into the National Park System in Lowell as part of a "historic" walking tour connecting the bridges with the historic factory district downtown. Both bridges have a rich history, and the Aiken St. Bridge is the oldest active bridge

in Lowell, and the second oldest Iron Truss bridge in Massachusetts. The pedestrian/cycling bridge would directly connect the National Park to the Centralville river front on the other side, and provide direct views of the Cox bridge. Historic designation would increase regional "history" tourism and encourage tourists to cross the bridge into Centralville from downtown Lowell and the Acre, where they would then serve as potential patrons of businesses in the Aiken St. And Bridge St. Corridors.



Figure 22 - View of the Merrimack River from Centralville

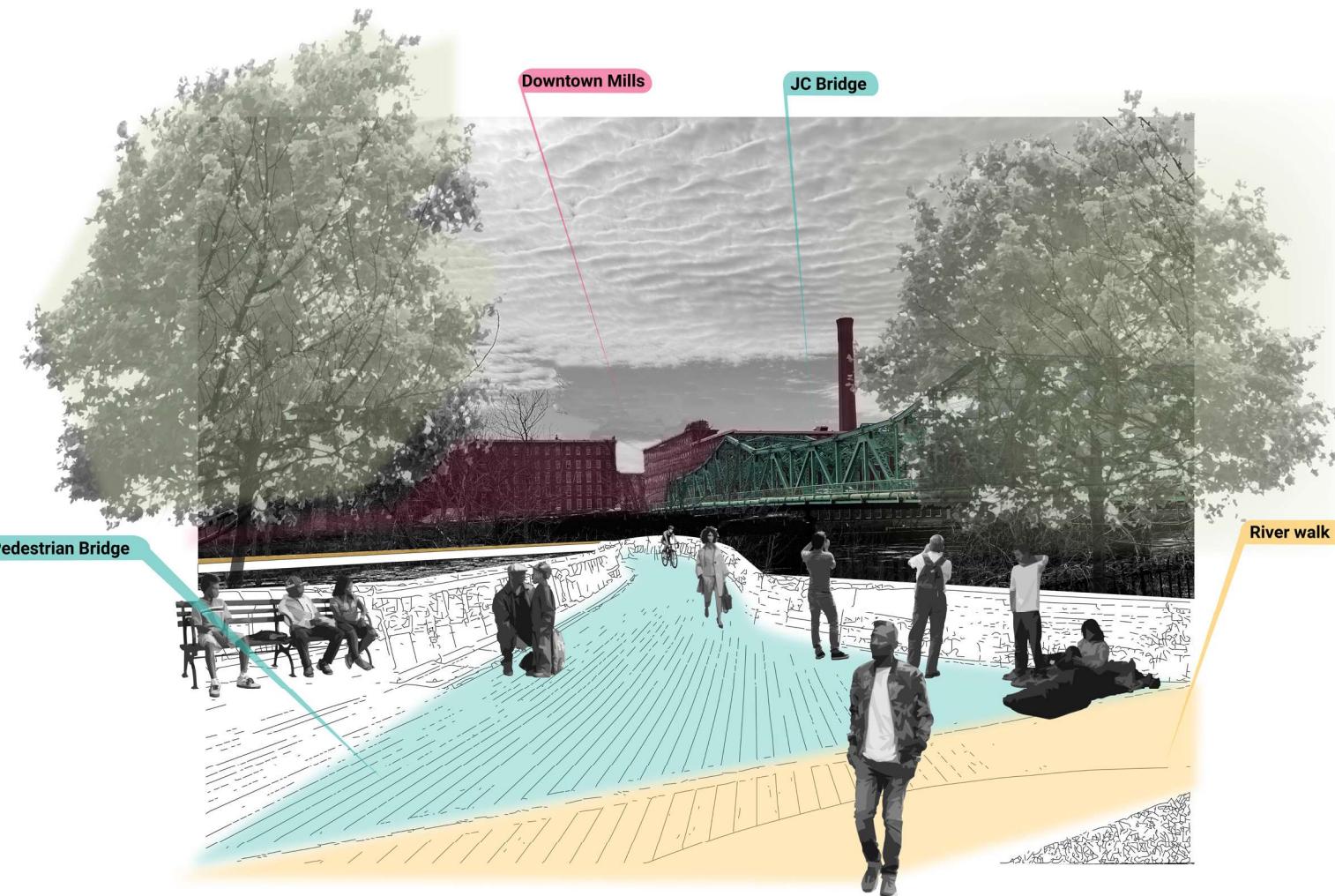


Figure 21 - Imagined new pedestrian walkway that connects downtown Lowell to Centralville

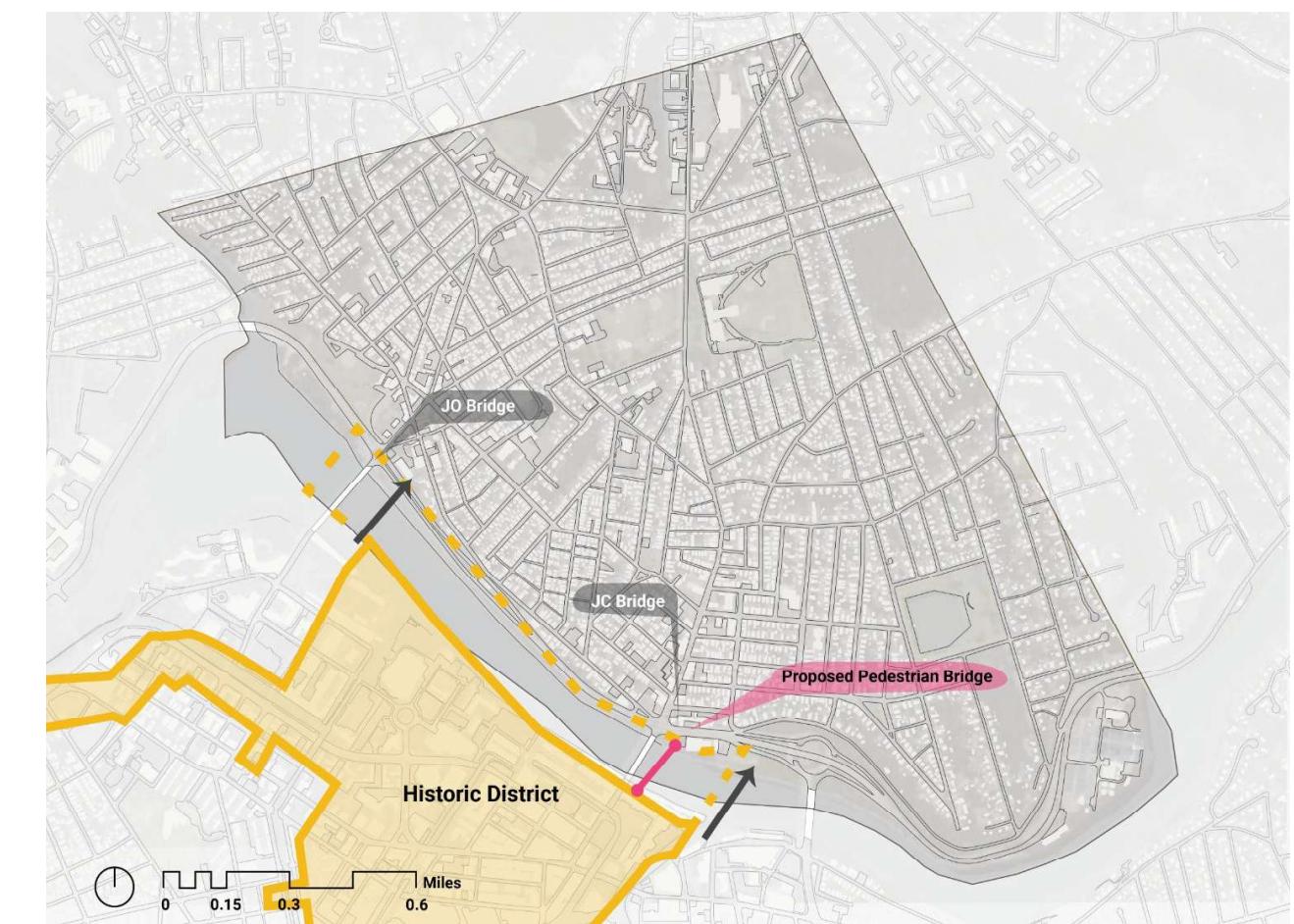


Figure 23 - Expanding Lowell's history district using the new pedestrian bridge

Conclusion

Reflections for Intervening

Based on current traffic and transit patterns, Centralville proves to be a unique section of Lowell with its considerable car dependence, the amount of traffic that travels through the neighborhood, and the limited access it has to existing public transit infrastructure.

Considering these aspects, our recommendations offer practicable options that do not require significant alterations to the existing physical landscape, but rather point to more funding on repairing and maintaining active transit options, emphasizing Centralville's identity as a historic destination for both residents and visitors, and to offer more transportation alternatives that rely less on personal cars.

Work Cited

Data Sources

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U.S. Census Bureau, American Community Survey, 2015-2019.

National Park Service

Google Streetview

Massachusetts Department of Transportation

Massachusetts Bureau of Geographic Information

Massachusetts Bay Transit Authority

Lowell Regional Transit Authority