



ULI TECHNICAL ASSISTANCE PANEL REPORT

WBDC GREENDALE REVITALIZATION INITIATIVE

WORCESTER, MA

JUNE 20, 2023



Boston/
New England

URBAN LAND INSTITUTE (ULI)

The Urban Land Institute is a 501(c)(3) nonprofit research and education organization supported by its members. The mission of ULI is to shape the future of the built environment for transformative impact in communities worldwide. Founded in 1936, the Institute has grown to over 45,000 members worldwide, representing the entire spectrum of land use and real estate development disciplines working in private enterprise and public service. ULI membership includes developers, architects, planners, lawyers, bankers, economic development professionals, and other related fields.

The Boston/New England District Council of ULI serves the six New England states and has over 1,400 members. As a preeminent, multidisciplinary real estate forum, ULI Boston/New England facilitates the open exchange of ideas, information, and experience among local and regional leaders and policymakers dedicated to creating better places.

TECHNICAL ASSISTANCE PANELS (TAPs)

The ULI Boston/New England Real Estate Advisory Committee convenes TAPs at the request of public officials and local stakeholders of communities and nonprofit organizations facing complex land use challenges which benefit from the pro bono recommendations provided by the TAP members.

A TAP consists of a group of diverse professionals with expertise in the issues presented in the sponsor's application. The Panel spends one to two days visiting and analyzing existing conditions, identifying specific planning and development issues, and formulating realistic and actionable recommendations to move initiatives forward consistent with the applicant's goals and objectives.

An independent study by Rivera Consulting surveyed municipalities that received assistance from the TAP programs and reported a positive impact by the TAP process on communities. Eighty-two percent of participating municipalities said their behavior and approach to municipal planning and economic development strategies were affected; 67% said there were increased municipal investments related to the stated goals and recommendations of their TAP report; and 62% said at least one key developable asset addressed in their TAP report had been redeveloped, consistent with ULI Boston/New England recommendations.

Learn more at: <https://boston.uli.org>

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Executive Summary

ULI and the TAP Process

Provides an overview of ULI's District Council and its Technical Assistance Panels (TAPs) and includes a list of the panel members and stakeholders who took part in the information-gathering sessions. The section also highlights key elements of the tour of the project area for the TAP and describes the process undertaken by panelists and stakeholders to arrive at their recommendations.

Purpose of the TAP and Project Background

Gives a brief synopsis of the purpose of the TAP, including the specific questions that WBCD asked the panel to address. The chapter also provides a thumbnail history of the City and an overview of the study area, as well as transportation, population, and demographic information.

Assets and Opportunities

Identifies the strengths of the study area, which include being well-located with access to multiple interstate highways; a large, level site with an existing, robust utility system; proximity to a walkable neighborhood and strong community support for the redevelopment of the site.

Challenges

Outlines the potential problems of the site, including flooding issues within and adjacent to the study area; the proximity of the site to the charter school and the safety and traffic issues involved with student pick-up and drop-offs; and decisions on a preservation strategy for the historical elements of the site.

Recommendations

Proposes a redevelopment scenario that would attract industrial/manufacturing users while increasing greenspace and adding amenities to the site; suggests infrastructure changes that would improve traffic safety and flow; discusses potential placemaking elements that could incorporate historic preservation elements; and outlines sustainability measures for the site.

Funding Sources/Resources

Provides a list of potential funding sources through federal and state agencies pertinent to redeveloping the WBCD site.

Conclusion

Provides a brief summation of the findings of the panel.



The TAP study area.

ULI and the TAP Process

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Panel Members

ULI Boston/New England convened a volunteer panel of experts whose members represent the range of disciplines necessary to analyze the challenges and provide guidance to help the WBCD achieve its goals. Member practice areas included architects, engineers, developers, a real estate attorney, a transportation planner, and a construction professional. The following is a list of panelists:

Chair

Jim Heffernan, real estate attorney, Rich May Law

Panel

Neal Carey, principal environmental scientist, GeoEngineers

Amelia Casey, senior transportation planner, ARUP

Mike D'Angelo, landscape architect, Michael D'Angelo Landscape Architecture (MDLA)

David Dixon, VP, urban places fellow, Stantec

John Giovannone, senior VP, Whiting-Turner Contracting Company

Tim Lescalleet, executive VP, INDUS Realty Trust

Derek Masionis, site and civil designer, VHB

Caroline Shannon, AIA, strategist, Gensler

Ed Starzec, director of development, Charter Development

Panelists have donated their time.

ULI Staff

Timothy Moore, manager

TAP Writer: Mike Hoban, principal, Hoban Communications



Site area with Greendale Revitalization Area highlighted.

Stakeholders

The TAP also benefited from the participation of several stakeholders representing the business district and Greendale neighborhood, including property and business owners, City officials, members of neighborhood associations, and residents. The following is the list of stakeholders:

- Brett Bartelson, owner, VIP Landscaping
- Sandra Burgers, Worcester resident
- Jenny Pacillo, Worcester resident, Burncoat neighborhood
- Paul Curci, owner, City Welding & Sheet Metal Fabrication
- Peter Dunn, chief development officer, City of Worcester
- Tony Economou, president, North Worcester Business Association
- Kayanna James, district director, Senator Kennedy, Commonwealth of Massachusetts
- Michelle Johnstone, senior preservation planner, City of Worcester
- Robyn Kennedy, Senator, First Worcester, Commonwealth of Massachusetts
- Diane Mohieldin Fratoni, treasurer, Indian Lake Watershed Association

Heidi Paluk, executive director, Abby Kelley Foster Public Charter School

Michelle Smith, assistant chief development officer, City of Worcester

John Stockton, general manager, Saint-Gobain

Bill Talcott, manager, McGovern's Greendale Package Store

Project Area Tour

Panelists gathered at the Saint-Gobain administration building at 10 New Bond Street, located within the study area, and were greeted by Worcester Business Development Corp (WBDC) executive VP Roberta Brien. Before the meeting, panelists had been given a comprehensive briefing book designed to familiarize them with the project site, including maps, property and zoning information within the project area, and a community profile. Following a short briefing, Brien led panelists on a walking tour of the study area and was joined by deputy director of construction/ senior project manager Jason J. Kruckas and senior project manager Julie Holstrom.

Panelists walked up New Bond Street to W. Boylston Street (Route 12), a busy corridor comprised primarily of convenience and support retail (package stores, nail and hair salons, banks, restaurants, sandwich shops, etc.) and stopped in front of Building 202. The building was previously used for manufacturing, then as classroom space for Worcester Vocational Tech (which occupied the top three floors). For the last three years, it has been mainly used for storage by Saint-Gobain, which will vacate the property by November 2025, per the sale agreement with WBDC. Between W. Boylston Street and the building is a rail line operated by CSX.

The tour proceeded to the rear of the Abby Kelley Foster Charter School (which closed for the summer before the week of the TAP), where panelists were told that frequent flooding occurs in the parking lot, sports fields, and the school basement. The flooding originates from Weasel Brook, but the precise cause of the flooding has yet to be determined. The tour continued up Brooks Street past a National Grid substation (which panelists were told will most likely remain in place) to the intersection of Brooks and Ararat Streets. At the intersection, there is a railroad bridge that also floods frequently. The bridge has a very low clearance, which inhibits large vehicular traffic to the project site. Panelists were informed that while the WBDC would like to see the bridge lowered to grade level, the Worcester Fire Department favors raising the bridge.

The tour moved back up New Bond Street to the back of the Central Massachusetts Collaborative (CMC), a public day school for students in need of specialized services, and observed a large number of smaller buses picking up/dropping off students. Panelists also observed a pair of smokestacks behind the study area that the historical commission may be interested in preserving (at least one) and some industrial (manufacturing/warehouse) buildings leased to United Rentals and the MassDEP Central Regional Office, as well as a multi-tenanted building housing companies including Reed Machinery and the Thermo Energy Corporation, owned by Liberty Companies. The tour then crossed a small bridge over Weasel Brook to the rear of the Saint-Gobain administration building, where they observed an untended courtyard in the center of the building. (Later in the day, panelists toured Norton Hall in the administration building, which celebrates the legacy of the Norton Company through a collection of artifacts and murals painted by renowned muralist Arthur Covey in 1927).

The group returned to the administration building and conducted interviews with key stakeholders. Panelists then reconvened to assess the information and to develop potential strategies for the WBDC to prepare the site for redevelopment. The panelists made their recommendations to the WBDC and the public in the administration building conference room that evening.

Purpose of the TAP and Project Background

The WBDC sought the help of the ULI TAP to provide guidance in developing specific strategies for the redevelopment of a 51-acre contiguous parcel of former industrial land that the WBDC acquired from Saint-Gobain in November 2022. The goal of the WBDC is to prepare the site for the redevelopment of one million square feet of new manufacturing space as part of a larger plan by the WBDC to redevelop Worcester's Greendale neighborhood. One of the goals of the WBDC is to integrate the redevelopment into the Greendale neighborhood by improving access to and through the site. The adjacent areas along Rte. 12 would also benefit from a corridor study to improve the corridor's aesthetics, the utility of the narrow parcels, and a study to synthesize uses in the area.

The panelists were asked to address the following questions:

1. Land-use/Zoning: What are the highest and best uses that also meet the needs and priorities of the community? Please include any recommendations relative to the existing zoning in the area. In addition:
 - Review existing building and zoning regulations for the area.
 - Identify deficiencies in available activities and uses.
 - Assess adjacent development proposals that will impact the area.
2. Transportation/Infrastructure: What are the considerations relative to parking, traffic flow, pedestrian access, and connections through the campus? Are there infrastructure remedies to address flooding in the area? Can other

sustainable and resilient design elements be incorporated into the development?

- Review access connections to and within the study area.
 - Identify barriers or deterrents to connectivity (pedestrian, vehicular, etc.).
3. What is the market feasibility for Higgins Industrial Park and the former Saint-Gobain campus? What are the considerations relative to the proposed vision or land use, and how does that relate to current market conditions in Worcester specifically and beyond? And is the vision consistent with other adopted plans or goals of the City of Worcester at large (advanced manufacturing, green technology, and clean technology)?

The City of Worcester Snapshot

The City of Worcester is the second most populous city in New England, located within 40 miles of the major metros of Boston and Providence and 50 miles east of Springfield. Named after Worcester, England, its geographic location in the middle of Massachusetts has earned the city the moniker "The Heart of the Commonwealth."

Incorporated as a town in 1722 and a city in 1848, Worcester became a thriving industrial hub in the 19th century following the opening of the Blackstone Canal in 1928 and the completion of the Worcester and Boston Railroad in 1835. The city features many examples of Victorian-era mill architecture from that era, many of which have undergone conversions into multifamily and office

space in recent years. After World War II, Worcester began to decline as the city lost its manufacturing base to less expensive alternatives across the country and overseas. The city has rebounded economically over the last few decades on the strength of its focus on healthcare (the UMass Memorial Medical Center is the largest hospital in central Massachusetts) and biomedical research, with the development of the Massachusetts Biotechnology Research Park. The City is also home to nine colleges and universities, providing an educated talent pool for the tech and biomedical industries.

More recently, the City has begun to focus on becoming a biomanufacturing center with the development of The Reactory, a 46-acre park with approximately 500,000 SF of biomanufacturing capacity within the City of Worcester. Galaxy Life Sciences is constructing a 95,000-square-foot flexible facility and recently purchased a second parcel within the park. The latest addition to The Reactory is the 189,500-square-foot state-of-the-art facility being built by WuXi Biologics, set for completion in 2024.

Over the last 25 years, the City has invested heavily in the revitalization of its downtown and neighborhoods, including the renovation of the city's convention venue, the DCU Center; the revitalization of the Canal and Theater Districts, including the Hanover Theatre for the Performing Arts; the renovation of Union Station, the MBTA commuter rail and bus terminal; and more recently, Polar Park, home to the WooSox.

Transportation and Highway Access

Highways – Interstate 290 (I-290) runs through the heart of the City, providing access to I-190 (north), I-495 (north and south), and Route 146 (south). The Massachusetts Turnpike I-90 (east and west) and I-84 (south) are easily accessible via these highways.

Train and Bus Service – Union Station is an inter-modal hub providing train and bus service. The MBTA Framingham-Worcester Commuter Rail Line provides service between Worcester and Boston. The

Worcester Regional Transit Authority provides bus service throughout the City and into surrounding towns from the transportation hub adjacent to Union Station. There are also private bus lines to accommodate travelers going outside of the City. However, the bus service to the study area does not adequately serve the area, according to stakeholders.

Population, Demographics, Housing Data

According to the U.S. Census Bureau, the City of Worcester is the fastest-growing population of any New England city. Worcester has seen a steady population increase in the last decade-plus, from 181,045 in 2010 to 205,918 in July of 2021, a 13.7% increase. The population is 53.6% White (alone); 23.9% Hispanic/Latino (any race); 12.7% Black; 7.2% Asian; and 9.8%, Two or more races. The median household income is \$56,746, with a poverty rate of 19.3 percent. According to Zillow, the average Worcester home value is \$390,815 as of July 2023, up 2.6% over the past year, with the average two-bedroom rental unit priced at \$1,800 per month.

The Study Area

The study area comprises the 51-acre site, the surrounding neighborhood, and the adjacent office/industrial uses. It is worth noting that the neighborhood is served by several volunteer residents and business groups who focus on traffic, environment, safety, and cleanliness.

The site dates back to 1885 when the Norton Company purchased farmland in the Greendale section of Worcester and began constructing its first grinding wheel plant. As the company grew, so did the campus. According to stakeholders, the company employed as many as 9,000 workers well into the 20th century and was an essential component of the surrounding neighborhood, with many residents employed by the company. The campus was also used as a recreation area and pass-through for pedestrians until the company was purchased by Saint-Gobain in 1990.

The study area is currently home to 45 structures, many of which are not suitable for renovation. Adjacent to the site is the Abby Kelley Foster Public Charter School (K-12), two separate active rail lines and buildings tenanted by office and manufacturing entities. Portions of the site are subject to major flooding incidents.

According to the WBDC, the area has been the focus of a significant change to the landscape in the southern portion of the district. The longstanding Greendale Mall was purchased by developer Finard Properties, who demolished it and constructed a new Amazon Distribution Center. The neighborhood was active in trying to convince the developer to modify the traffic pattern to solve some safety and access concerns. The development also needs to be better connected to the Route 12 corridor.

In terms of future uses, a [2023 market report](#) by Worcester-based brokerage firm Kelleher & Sadowsky states that life sciences was one of the region's strongest commercial real estate asset classes in the past few years. Lab space in Worcester at the UMass Medicine Science Park is 100% occupied with a waiting line. Additionally, the 55 private incubator lab spaces at MBI are fully committed to "graduate companies" needing space.

And biomanufacturing and hybrid lab space are expected to continue drawing interest from biopharma companies in Cambridge/Boston looking to manufacture nearby. As Massachusetts biopharma companies continue to ratchet up their manufacturing capabilities in the region, competition for the state's limited industrial real estate may increase even more, backfilling space previously eyed by e-commerce giants.

Initial Observations

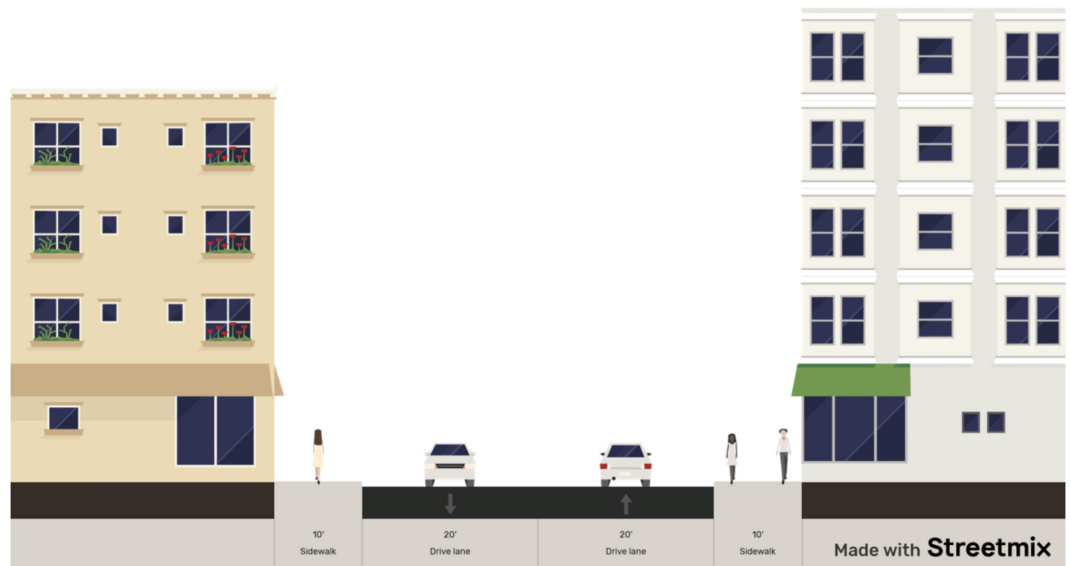
Flooding – During the tour, panelists were made aware of the repeated flooding that occurs around the Abby Kelley Foster Charter School and the railroad bridge (at the intersection of Brooks and Ararat Streets), with multiple incidents occurring at the school and its playground in recent years. The flooding

originates from Weasel Brook, which flows throughout portions of the site. Panelists were informed that the flooding may be due to undersized culverts, vegetation overgrowth, or clogging from trash and debris accumulated over the years. In addition, the bridge's poor condition at Brooks and Ararat Streets and its low clearance also present significant traffic concerns. While the intersection and the bridge are not within the boundaries of the WBDC property, the flooding and traffic issues may impact planning for future development on the site.

Preservation – During the site walk, it was also noted that from an urban architectural perspective, there is much history embedded in the structures. While not all of the structures should be preserved in their entirety, there are opportunities to represent and honor that history by extracting and incorporating some of those elements into the redevelopment of the site.

Pedestrian Safety – The charter school uses New Bond Street as its primary access point, with restricted access along C Street. Safe pedestrian circulation is impeded by several factors, including a disconnected and unprotected sidewalk network that is in poor condition and disrupted by curb cuts; a limited number of crosswalks; lack of directional/informational wayfinding signage, and streetscape amenities such as adequate lighting, seating, and greenery; and the high traffic volume of passenger vehicles, commercial vehicles, and school buses that create a less than ideal pedestrian environment. With the redevelopment plan, there will be abundant opportunities to improve these conditions to allow pedestrians to better interact with street traffic and to move more freely throughout the campus.

Bus Traffic Issues – Safe and efficient school bus circulation is another critical component of any future redevelopment plan. Panelists identified the following as key mobility challenges: The site's informal routes lead to congestion on New Bond Street and the internal campus network; the school buses are often in conflict with personal vehicles and pedestrians; and there



are no formalized drop-off/pick-up zones or associated signage. These issues will need to be addressed throughout the process as the space becomes more open to traffic and the redevelopment plan takes shape.

Site Access – There is no public access to most of the site, so as the plans for the site are being formulated, it's essential to consider how access can be improved to create a more holistic, multi-modal experience for all of the users of those streets. Panelists identified the following as key mobility challenges for all vehicular circulation: There are circuitous routes for those entering the school and Saint Gobain facilities; there are frequent delays and congestion along New Bond St. (particularly during AM/PM peak times); and pedestrians, commercial vehicles, and school buses are often in conflict with vehicular traffic.

- No dedicated bicycle facilities
- Uncomfortable walking experience
- Limited lighting/greenspace/signage
- Lack of flex areas for school pickup/drop-off

Zoning Issues: What is Allowed? (Applicable Uses Only)

Below is a list of uses allowed By Right and By Special Permit

By Right:

- Research Lab (without manufacturing)
- Research and Development with manufacturing
- Wholesale Business or Storage (not including Self-storage)
- Manufacturing, assembly, processing, packaging, research, and other industrial operations, including alternative and/or renewable energy systems
- Hotel/Motel

By Special Permit:

- Accessory Storage of Flammable Liquid/ Gas
- Manufacturing, assembly, processing, packaging, or other industrial operations not otherwise permitted above, including alternative and/or renewable energy systems
- Library/Museum

It is important to note that residential is NOT permitted on the site (but hotel/motel uses are).

High-Level Planning Overview

When considering redevelopment scenarios, it is essential to consider how much the world has changed in terms of demographics,

technology, and how our economy works. These changes have actually expanded the range of opportunities for redeveloping this site.

The global supply chain issues that surfaced during the pandemic spurred a trend towards re-shoring, and that has created a boom in industrial manufacturing in the U.S. According to a [Q1 CBRE report](#), the availability rate for manufacturing space hit a record low last year despite 28.5 million square feet of construction completions – the most since 2001. The average annual net asking rent for manufacturing space increased by 23% to \$8.39 per square foot – nearly double the asking rent growth for distribution facilities.

Worcester’s opportunity, particularly for this site, is greater than in many regions because we live in a world of growing labor shortages throughout the entire developed world. Without immigration, our workforce would be shrinking, and when our workforce shrinks, corporate growth stagnates. In our current economy, jobs and investment go where the workforce is. Workers no longer have to go where the jobs are, which is a complete reversal from the decades following World War II. Instead, today’s workforce increasingly chooses to live in places that support their lifestyles – and long commutes, particularly to suburban workplaces isolated from eating, shopping, and other amenities – do not

correlate well with most workforce lifestyle goals. The proximity of Greendale and other nearby diverse neighborhoods represents an important advantage for attracting companies, jobs, and investment across a broad spectrum of industries.

Lifestyle factors are particularly important for the more highly skilled and educated workers representing the lifeblood of rapidly growing innovation industries. Competition for this workforce is already intense and will likely grow stronger for at least the next two decades. This workforce is drawn to living and working in cities or regions with mixed-use, walkable neighborhoods with a strong sense of community – like the Greendale neighborhood around this site. Cities and regions increasingly compete for this workforce, and the most important advantage they can offer is affordable, mixed-use, walkable neighborhoods within close proximity to higher-paying jobs.

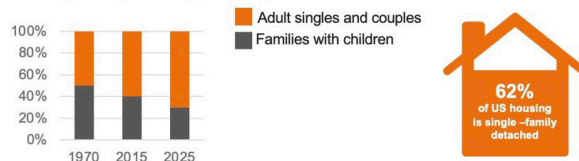
Despite the accelerating trend toward hybrid work, employers who bring higher-paying jobs related to advanced manufacturing, innovation, and technology increasingly want to be part of the community where their workforce lives for several reasons. First, R&D and HR directors report that workers who live near where they work tend to be more loyal and stay with a company, whether they come into their workplace or not or not. It also



Demographics are Destiny: walkable, mixed-use places will face unprecedented demand for two decades

- Households with kids dominated North American growth—and therefore housing markets—for decades
- For the next 2 decades ~80% of net new households will be singles and couples
- 62% of US housing stock is single-family detached

The great housing mismatch--traditional single-family market—households with kids—is shrinking while large majority of available housing is single-family detached



increases the likelihood of “creative collisions” detailed in a [report by the Global Institute on Innovation Districts](#) – the chance meetings between people who work for different companies where they have conversations and generate ideas with others in the innovation industry. These creative collisions, in effect, provide the “raw material” that fuels the innovation side of the economy.

Another trend to consider is that for the next 20 years, it is projected that 80-plus percent of new households in this country will be single or couples without kids. And by 2040, US Census data projects that fewer than one out of four households in the US will have children. This will create more demand for walkable urban neighborhoods, giving cities like Worcester – and neighborhoods like Greendale – a fundamental advantage for companies seeking an educated and skilled workforce.

Stakeholder Themes

The redevelopment process represents an excellent opportunity to remedy some of the issues that exist within the site and the larger neighborhood. In conversations with stakeholders, several dominant themes emerged:

- **Flooding** – The periodic flooding generated by Weasel Brook at the school and the intersection of Brooks and New Bond Streets causes damage to the school and makes the playground unusable at times. The flooding at the bridge results in access issues for the campus and surrounding neighborhood.
- **Railroad Bridge Safety and Access** – Stakeholders indicated that the bridge is unsafe and the low clearance impedes traffic flow, particularly for larger vehicles.
- **Lack of Neighborhood Connectivity** – Since the 1990s, when Saint-Gobain purchased the Norton Company, the campus has been cut off from the neighborhood. The Norton campus was once considered an integral part of the neighborhood, both as a source of recreation and as a pass-through.
- **Traffic Issues** – The pedestrian, car, bus, and truck traffic create congestion, particularly during peak hours (morning, 7:30-8:30, and afternoon, 2:30-3:30) for school drop-off/pickup.
- **Historic Legacy Should be Preserved** – Stakeholders emphasized that although the buildings themselves may not be suitable for adaptive reuse, the legacy of the Norton Company should be commemorated through the use of artifacts or materials associated with the company, with special attention given to the preservation of Norton Hall.
- **Pedestrian Safety for School** – The high volume of multi-modal traffic (cars, buses, and trucks) throughout the campus, combined with a disconnected and unprotected sidewalk network that is in poor condition, creates an unsafe pedestrian environment.
- **Greenspace and Lighting Needs to be Improved** – Greenspace needs to be enhanced and expanded, and street lighting needs to be upgraded. Stakeholders also expressed interest in seeing bike lanes throughout the campus and a park/recreation area.
- **Need for Skilled Employees** – Stakeholders emphasized that the redevelopment of the campus should be targeted toward attracting an educated and skilled workforce, preferably for advanced manufacturing, robotics, cleantech, or semiconductor chip production.
- **Bolster Business Development Along Route 12** – The redevelopment should also create opportunities for the surrounding neighborhood. Stakeholders would like to see a diversity of businesses as opposed to uses such as discount stores and gas stations along W. Boylston Street.

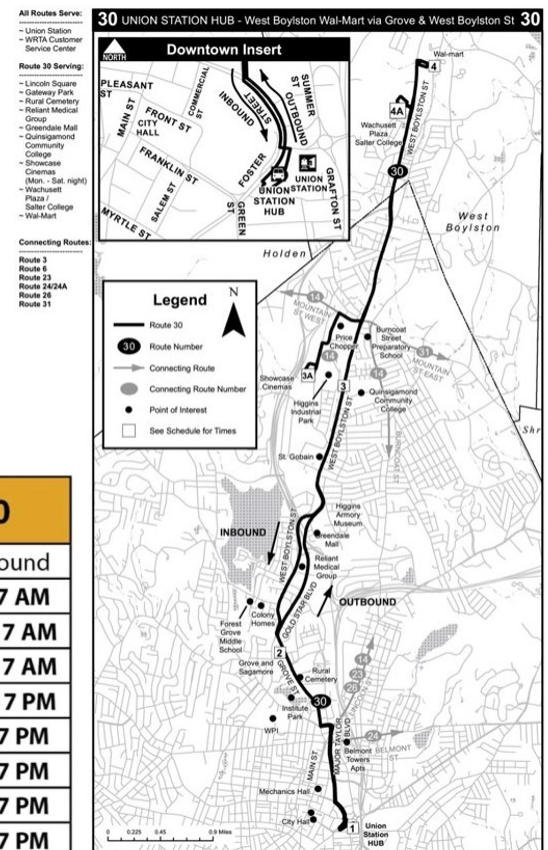
Assets and Opportunities

- **Large, Level Site** – At 51 acres, the contiguous parcel is well-suited to large-scale development. From a topographical standpoint, the site is level, and the sheer size allows for construction laydown and equipment storage areas while eliminating the need for a tower crane.
- **Location** – The site has direct access to and visibility from I-190 and is close to Interstates 84, 90, 290, and Route 146. The airport and commuter rail are also close, and there is easy access to freight through the CSX Intermodal Railyard and the Port of Worcester.
- **Robust Utility System** – The existing Saint-Gobain campus provides an in-place utility system.
- **Access to City of Worcester Technology Cluster** – Worcester County is home to over 60 Biotech companies, the City has a rapidly growing biomanufacturing/GMP sector, and Worcester is deemed a Platinum-Rated BioReady Community by MassBio.
- **Proximity to Residential/Walkable neighborhoods** – The site is located in a well-amenitized walkable neighborhood, with easy access to the revitalized Downtown Worcester.
- **Community support for redevelopment** – Based on stakeholder meetings, there appears to be widespread support for the site's redevelopment.
- **Manufacturing History – Norton Saint-Gobain** – The site's Manufacturing history is a plus, despite environmental and remediation concerns, especially regarding soil removal, disposal, and proper handling.
- **Favorable zoning (use and dimensional)**
- **Opportunity to improve existing bus route**
- **Manageable environmental conditions (based on current data)** – Preliminary soil testing on the site does not indicate the need for extensive remediation.

Challenges

- **Flooding/Drainage/Flood Plain**
- **Proximity to School/School Bus/Pick-up and Drop-Offs** – Construction plans will require extraordinary planning and safety measures as the school will remain operational during redevelopment.
- **Railroad Crossing on New Bond Street** – Low overhead clearance will impact construction vehicles from accessing from this side of the construction site.
- **Deed Restrictions on Use**
- **Isolating Physical Barriers (Highway/ Railroad)**
- **Infrequent Bus Routes/Times** – The current bus routes do not adequately serve the workforce for the location (the buses run hourly), and most school and St. Gobain employees drive to work. This may provide an opportunity for the City to re-assess the bus system as a whole, as the current routes do not adequately serve large sections of the City.
- **Preserving History** – Decisions on what will be preserved and demolished will require input from several entities, including community groups and preservation committees. A practical plan for the preservation of Norton Hall must be devised.

Route 30	
Outbound	Inbound
8:45 AM	9:17 AM
9:45 AM	10:17 AM
10:45 AM	11:17 AM
11:45 AM	12:17 PM
12:45 PM	1:17 PM
1:45 PM	2:17 PM
2:45 PM	3:17 PM
3:45 PM	4:17 PM



Recommendations

Infrastructure

Install Signalized Intersection at C Street and Ararat Street – This will enable the developers to re-route truck traffic, avoid school buses and railroad tracks, and create a connection to Higgins Industrial Park.

Remove Stores Street – The elimination of this street will allow for the creation of larger parcels for industrial development along 1-190.

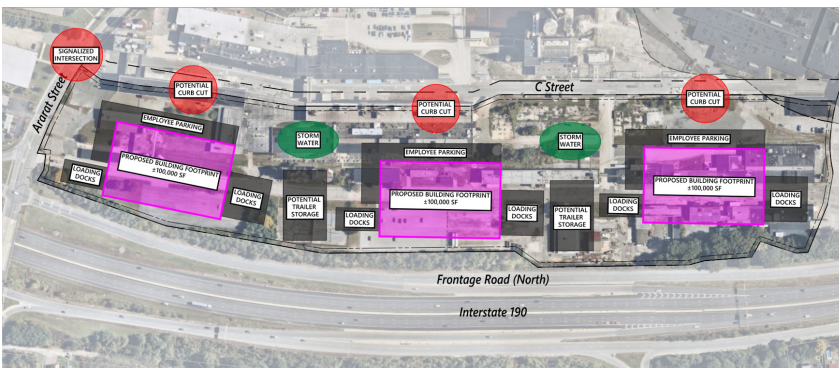
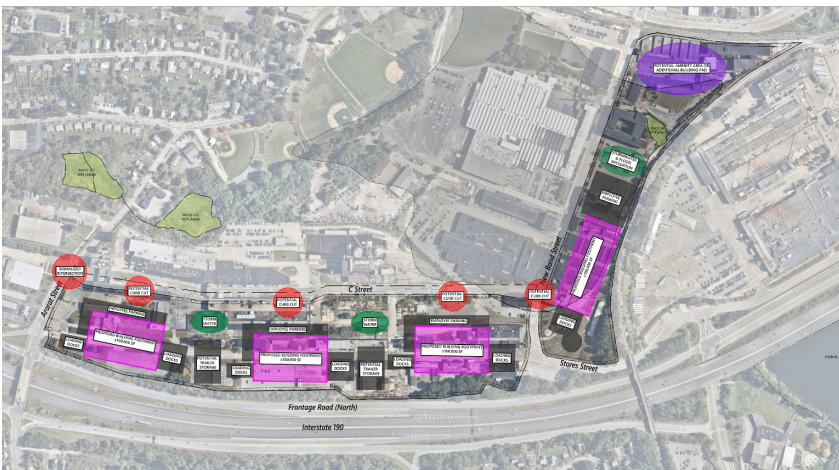
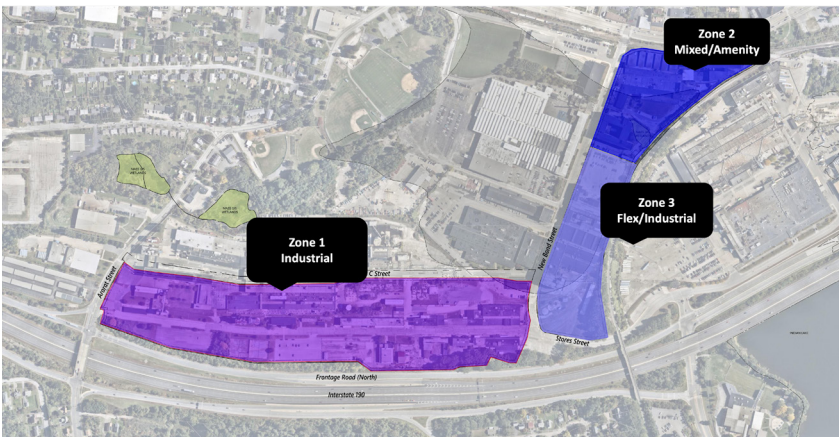
Devise Construction Management Plan (CMP) – A CMP must be in place to ensure an orderly process that allows for a phased redevelopment. The CMP is a formal document that outlines how a construction project will be executed, controlled, and monitored. Components of a CMP can include detailed information on project personnel and contact information, responsibilities of the various parties involved in the project, schedule of activities (start and completion dates), site amenities, construction hours, noise control, air and dust management, stormwater and sediment control, minimizing impacts to neighbors, and waste management among other items. The CMP ensures that project data, information, and progress of the construction project are appropriately reported to designated individuals in a timely manner.

Continue Environmental Pre-characterization Process – There has been extensive, comprehensive testing done on the site in recent years (approximately 100 soil borings and over 60 monitoring wells on the site), and the soil and groundwater test results have indicated that the extent of impacts appears to be limited. But as the construction process draws closer and as the location of the buildings and utilities are established, more focused testing will be needed.

Conduct a Pre-Demolition Level Survey – Surveys are performed by Massachusetts-licensed professionals. The mandatory process determines the level of hazardous building materials that might be present within a building (e.g., asbestos and lead) and other materials that would require special handling prior to building demolition or renovation. This survey is required before obtaining a demolition permit.

Determine Specifications (Soil and Groundwater Management, H&S, Abatement) – The soil and groundwater management plans are developed to ensure that these media are managed per the requirements contained in the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The Health and Safety Plan (HASP) is developed to ensure construction activities and personal protective equipment follow OSHA guidelines. The abatement specifications outline procedures to be followed should abatement (e.g., asbestos) and hazardous building materials be removed before abatement so that applicable laws, codes, and local requirements are met. In addition, given that the buildings were constructed in the late 1800s, there are likely to be buried structures/obstructions below the surface soil, which may need to be evaluated and removed to allow construction. The soil management plan typically includes a section outlining procedures to be followed should unknown conditions be encountered.

Construction Release Abatement Measure (RAM) – As there are open Massachusetts Department of Environmental Protection listed disposal sites on the property, an MCP RAM Plan will need to be prepared before construction to allow MCP response actions to be performed at the property



during construction. RAMs are performed to remediate limited or localized releases of oil and hazardous material (OHM) and/or mitigate the impacts of larger releases until a more comprehensive remedial action can be initiated. Components of the RAM Plan will include the soil and groundwater management plans and HASP.

Possible Redevelopment Scenario

The panel suggests creating three separate zones within the site: Industrial (Zone 1), Mixed-Use/Amenity (Zone 2), and Flex/Industrial (Zone 3).

The Zone 1 development area offers high visibility from I-190 while providing truck access via Frontage Road. Creating a signalized intersection at C and Ararat Streets would allow for improved vehicular and truck circulation in and around the site.

Zone 2 presents an opportunity for mixed-use redevelopment designed to interact with other businesses along Route 12 (W. Boylston Street) and the adjacent Abby Kelley Foster Charter Public School and reconnect the campus to the neighborhoods to the east. WBCD could explore what amenities would best serve the campus and the surrounding area.

Zone 3 would be reserved for flex industrial space or advanced manufacturing uses. However, development in a portion of this zone may be contingent on mitigating the intermittent flooding in the area.

Zone 1 – Zone 1 could consist of three approximately 100,000-square-foot industrial pads suited for manufacturing use with adequate loading capability on both sides to import and export materials. Employee parking in the rear of the building would allow for company branding signage and visibility facing I-190. Shared trailer storage and stormwater management best management practices (BMPs) are located between the buildings. A signalized intersection at C and Ararat Streets would allow for improved vehicular and truck circulation in and around the site.

Zone 2 – One of the themes heard in the stakeholder meetings was the loss of adjacent

business and neighborhood connectivity to the campus over the last few decades. Zone 2 could be re-imagined as a mixed-use connector to the neighborhood while maintaining Zones 1 and 3 as job-generating industrial uses.

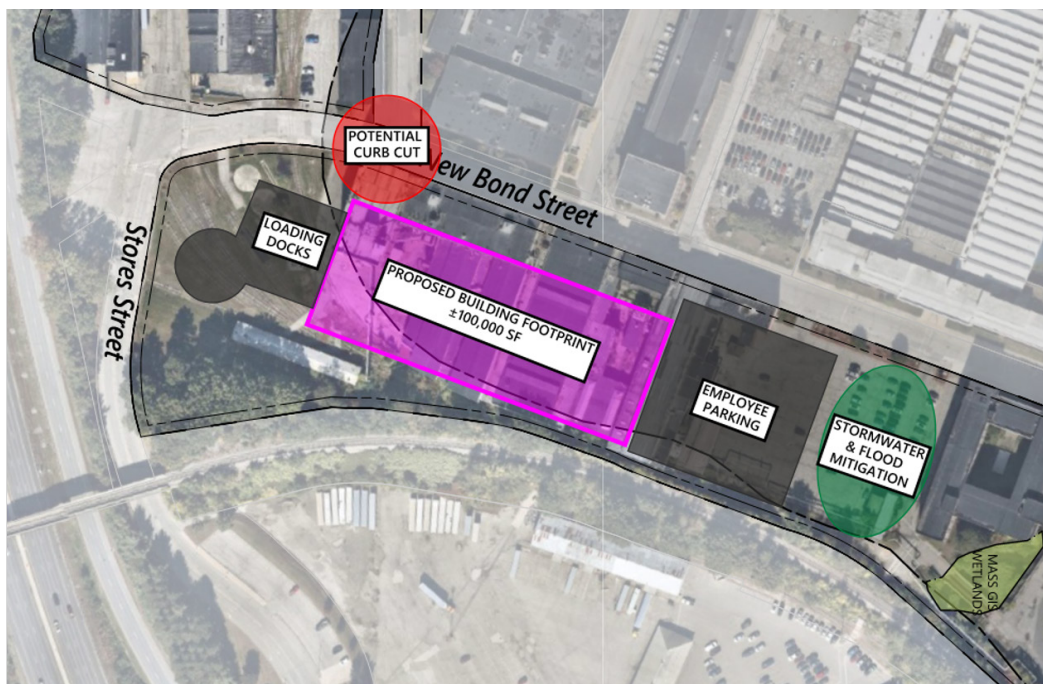
With Weasel Brook running through portions of the parcel – notably behind 10 New Bond Street – and some challenging topographical elevation changes (portions of the site are significantly below existing street grades), Zone 2 and 3 present the most constraints related to maximizing the development opportunity. The proposed stormwater management plan will need to address significant flooding issues and an extensive wetland system.

Despite these issues, Zone 2 could be redeveloped as a separate component from the industrial/manufacturing uses. A unique opportunity exists to engage the area’s small businesses and create a gateway from that area to Route 12 back into the campus. The challenge will be creating an area within the redevelopment project that can provide amenities for the existing and new businesses and reconnect the adjacent neighborhoods in a way that is not capital-intensive. Below are some proposed uses for Zone 2 and the larger area encompassing New Bond Street and Route 12.

Prospective Uses

- **Eateries** – Food hall, food trucks, shared kitchen, chef incubator, micro-breweries/distilleries
- **Gym**
- **Hotel**
- **Function Room**
- **Outdoor/Public Realm**
Performance/Exhibit Space/
Seating
Leisure
Interpretative/Historic Walking Trail (incorporating Norton Company history and the community it helped to build)
- **Innovation/Incubator space**
- **Maker space (industrial arts, cabinetry, textiles, commissary)**
- **Showrooms (designer studio, art gallery, retail, manufacturers)**
- **School internships & workforce training**

The WBCD consulted with local brokerage firm Kelleher & Sadowsky, who indicated that most, if not all, of the campus buildings should



come down. Panelists believe that because of some of the logistical constraints in this area, it may make more sense to keep some of the buildings and then use the area behind the preserved buildings to create additional space or develop public realm space.

The buildings that should be considered are those with frontage along Route 12 – buildings 201, 202, and 205. Two of the buildings are very deep and have been renovated or added to. The select demolition of some of these buildings (the back appendage of Building 202, the rear portion of Building 205, and all or a portion of Building 201 at 10 New Bond St.) could bring them back to a more traditional configuration that could be adapted for other types of uses (innovation/maker space, showrooms, workforce training, etc.).

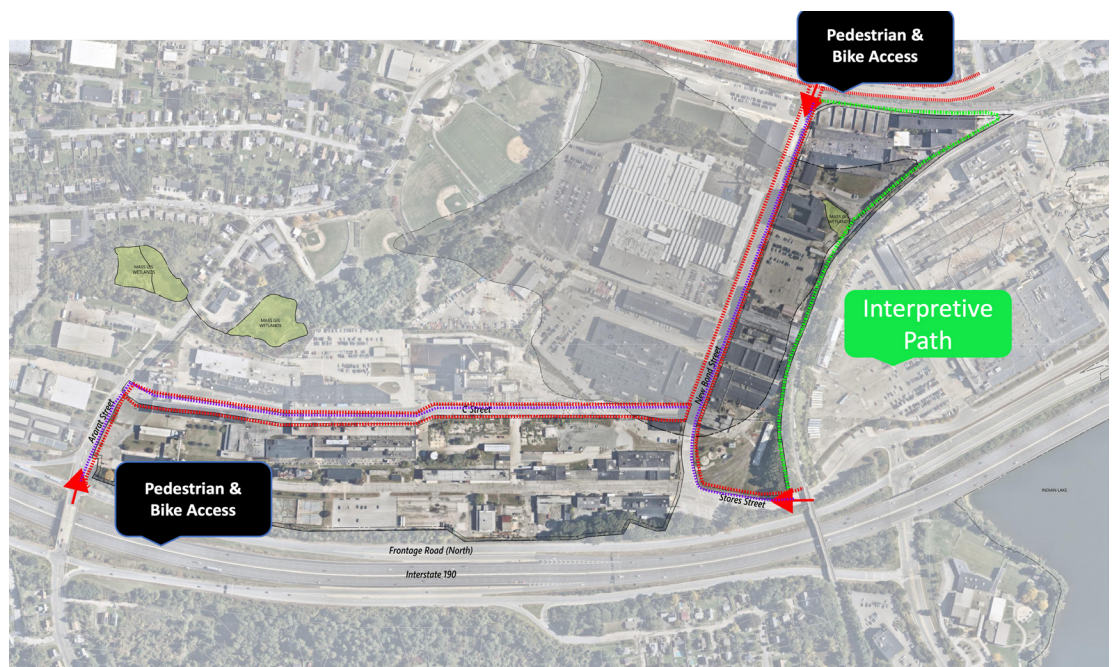
By demolishing that area, a much larger space could be created behind these buildings far below street grade. While this may be very cost-prohibitive in terms of building the grade up to create another platform to develop another industrial building, there may be an opportunity to embrace these constraints and potentially turn the area into a privately owned amenity for the workers in the park as well as the adjacent neighborhoods – one that also improves accessibility from and across Route 12 and New Bond St.

Weasel Brook

Weasel Brook runs through large portions of Zones 2 and 3 to a culvert, creating a choke point that leads to flooding of the school and the intersection near the railroad bridge. One option would be to cover the brook, while another would be to daylight the brook, enlarge it, and incorporate it into a drainage system. It could also be transformed into a rain garden, with grassy areas and outdoor seating, or become a natural feature for an outdoor performing arts venue. (It should be noted that although a public park is prohibited through deed restriction, open space is an allowable use for the site.)

Such enhancements could be the types of amenities that would not only serve the campus occupiers but as a destination for the area as a whole. The transformation could also include the re-purposed campus buildings along Route 12, one of which could be adapted into a showroom, an art gallery, or a training space. These alternative uses could serve as an identity for the new park while creating destination opportunities for the larger community.

Zone 3 – Potential development for Zone 3 is similar to that of Zone 1, with a 100,000-square-foot building pad, loading docks on one side, and employee



parking on the other. A portion of this zone is in floodplain, resulting in the area adjacent to the employee parking to be reserved for stormwater management and flood mitigation.

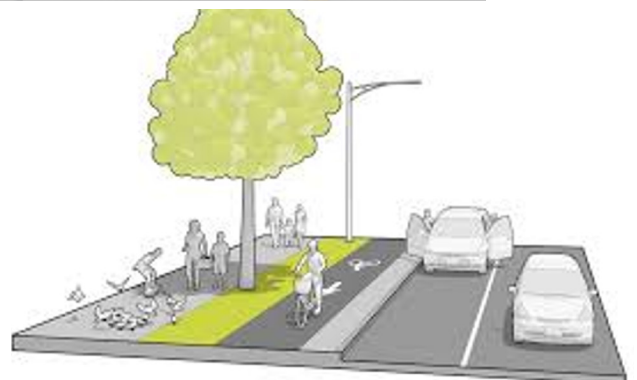
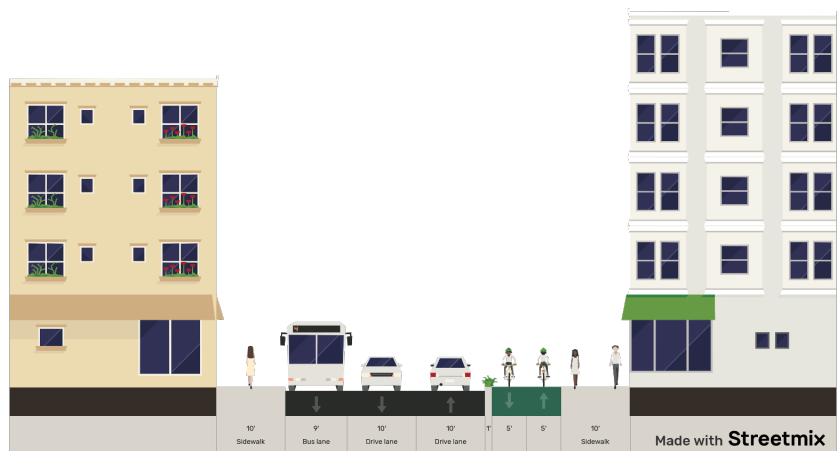
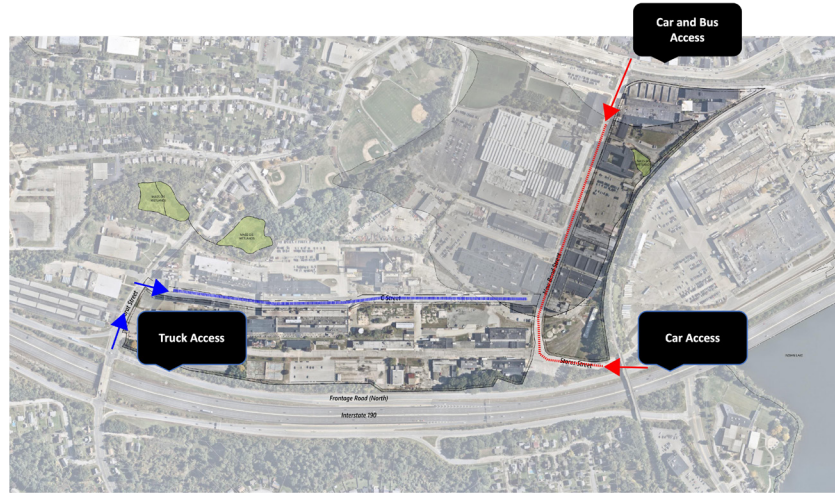
Improve Traffic Flow

There are competing demands regarding accessibility to the site for all modes – vehicles, bicyclists, pedestrians and students, trucks, and school buses. An option to improve traffic flow includes maintaining C Street as truck access only. The Frontage Road and I-190 directly about the proposed industrial area in Zone 1. It would be advantageous to widen that street to create a new grid that would allow only trucks to come in and out of that area in a circular loop, allowing for portions of the right-of-way to be dedicated for protected bicycle facilities (in future development phases). Cars and buses would access the site via New Bond Street and Shore Street to connect to Route 12 and the adjacent neighborhoods. These changes would streamline and consolidate existing traffic routes and improve vehicular flow.

In terms of pedestrian and bike access, any improvements are subject to the grading issues that exist on the site. Opening the front area would create a gateway on both sides of Shore Street that would connect to the Indian Hill communities and Route 12. An interpretive path adjacent to the industrial and mixed uses in Zones 2 and 3 could also be created along Route 12 that would incorporate the historic components of the Norton Company and its relationship with the surrounding community. This interpretive path should act as a shared-use path, buffered by buildings and the CSX railbed, to create a safe and accessible facility for vulnerable users (those who walk and bike).

New Bond Street

As depicted in slide 45, New Bond Street can be planned to be a bright and inviting space for bicyclists or pedestrians accessing the site from transit stops. With a 60-foot sidewalk-to-sidewalk width (40 feet curb-to-curb with 10-foot-wide sidewalks if utility placement allows), a shared, multimodal street could accommodate a flexible bus lane, two car lanes in either direction and a raised two-way cycle track for bicyclists, possibly with some green space buffer that could be incorporated into the stormwater infrastructure.





The bus lane (or flex-lane) would be designed to be flexible depending on the time of day (peak AM versus peak PM), recognizing that peak times would be for an hour in the morning and afternoon but be available for other vehicular and multimodal traffic during non-peak hours. Thoughtful curbside management practices should be incorporated to prioritize the safety of the students as they get on and off the buses. The two-way cycle track and expanded sidewalk network will increase connectivity for the neighborhood and the adjacent communities in a safe and inviting manner.

With the increased pedestrian volume and the safety of the students in mind, installing raised crosswalks to discourage speeding should be installed, including flexible delineator posts, temporary and/or permanent curb extensions (through planters, pavement markings, and paint), raised crossings, and associated pedestrian warning signage.

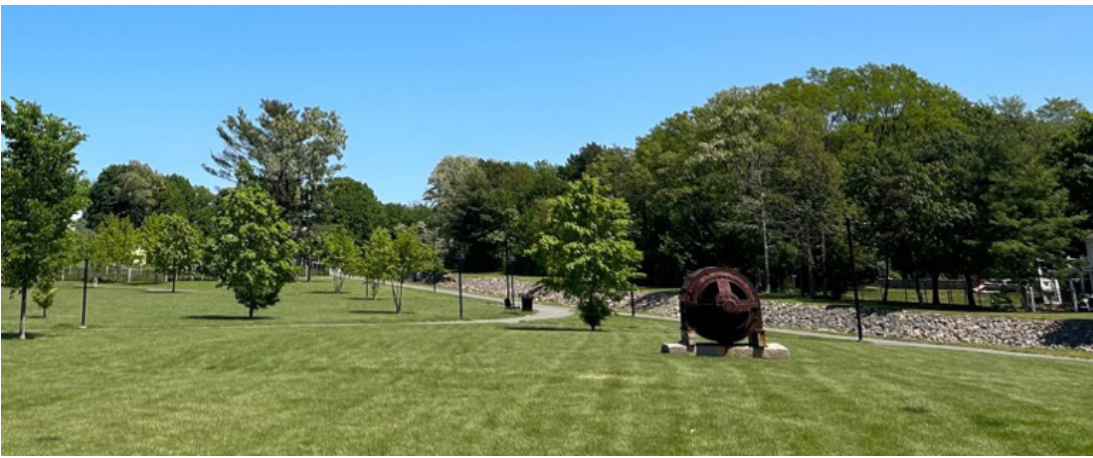
Placemaking & Public Art With Historic Industrial Elements

Slides 50 & 51: Examples (Building in Devens/ Amenity Building in N. Carolina)

With a manufacturing site that dates back to the late 1800s, there are ample placemaking opportunities that can reflect the storied history of the Norton Company/Saint-Gobain and the community that was built around it. Artifacts from the manufacturing process and structural elements from the buildings can be transformed into public art or incorporated into wayfinding markers or signage.

Daylight Weasel Brook (Insert Slide 52) – As discussed earlier, the daylighting of Weasel Brook could anchor a greenspace area within the campus.

Add Pop-Up Stores and Food Trucks to Zone 2 (Insert Slide 53) – Much like Boston's South End and the Seaport, pop-up stores, artists' galleries, and food trucks could be set up in Zone 2 early on in the development

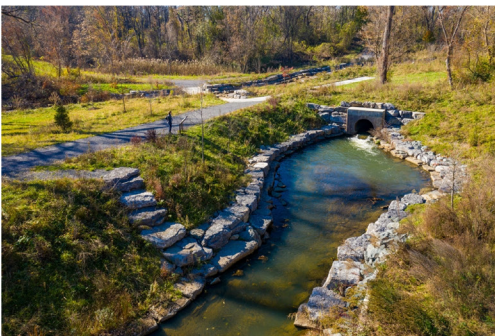


process on weekends. This could create excitement about the coming development and augment the existing businesses along Route 12.

Green Considerations – To reduce the impact of development and the amount of maintenance (lawn mowing, fertilizing, etc.), many corporate campuses are incorporating pollinator gardens and sustainable flowering meadows in place of traditional lawns.

Green Spaces/Corporate Amenities – Creating greenspace and amenities like

outdoor games and bike/pedestrian trails enhance a campus' appeal and helps employers attract and retain employees. In today's job market, it is not enough to create a functional industrial park; there needs to be an environment where people want to come to work. It is also important to be mindful of creating an environment where the increasingly diverse workforce feels comfortable coming to the workplace. One suggestion is to diversify the amenity offerings and incorporate thoughtful hiring practices for facility management.



Transportation and Infrastructure

1. Create an Accessible & Connected

Campus – One of the dominant themes in the stakeholder meetings was to create a safe and accessible campus for both the direct users (occupiers) and the indirect users (the surrounding community).

The stakeholders also stressed that the new campus should be connected to the services and roadway networks and be fully integrated into the fabric of the Greendale community. This can be best accomplished by:

- **Creating Dedicated Pedestrian and Bike Facilities** – These would preferably be protected/buffered and off-street, following the guidelines outlined in the NACTO/MassDOT Separated Bike Lane Planning & Design Guide. When designing the sidewalk network, be mindful of creating wide, inviting sidewalks with green features and adequate buffers to protect vulnerable users from conflicting with fast-moving vehicles (if space allows).
- **Incorporate Pedestrian Safety/Traffic Calming Mechanisms** – Implement a street design allowing for expanded pedestrian safety and comfort. These measures would include wider sidewalks, adequate lighting, high visibility signage, pavement markings, raised intersections and crossings, pedestrian warning signage, Rectangular Rapid Flashing Beacons (RRFBs), additional accessibility features, and street trees/plantings.
- **Future Proof Transportation Modes to Accommodate Last Mile Solutions** – Coordinate with WRTA for possible expansion and improved frequency for existing routes and explore public-private partnerships for shuttle/on-demand style services that some regional transit authorities in the Commonwealth have already adopted.

- **Add Wayfinding Signage for All Transportation Modes** – Also incorporate vehicular and multimodal “intercept” signage to establish a gateway from Shore Street and West Boylston Street to attract multimodal users to the interpretive path and protected shared-use path. The WBCD may also consider branding signage that reflects the historic legacy of the campus.

2. Implement “Green” Parking Solutions

- **Implement Shared Parking** – The existing zoning allows for shared parking, which could eliminate the need for a parking garage, reducing project costs and freeing up additional development space.
- **Implement Pervious Parking Lots** – pervious asphalt/concrete pavement provides natural rainwater filtration and reduces the number of pollutants found in runoff while helping to ease drainage issues within the site.
- **Create Spaces for EVs** – Installing EV charging stations in a percentage of parking spots anticipates the trend toward broader adoption of EVs.

3. Streamline Vehicular Flow Within the Internal Network

- **Install Intercept Signage** to reduce congestion on C Street/New Bond Street. Intercept signage, particularly for vehicles, will help alleviate traffic on congested roads, moving them to other minor roads to reach the same destination. For multimodal users, intercept signage helps those who bike and walk reach protected and safe multimodal facilities faster, decreasing conflicts with high-speed vehicles.
- **Curbside Management** – Implement flex zones during peak school hours to alleviate congestion in travel lanes and W. Boylston Street.

- **Formalize Routes** – With so many competing vehicular demands on New Bond Street, there should be formalized truck/school bus/POV routes to create a more streamlined environment for those driving and walking within the site.

Sustainability Strategies

As companies think through and implement their ESG and carbon neutrality strategies, there's an increasing demand for sustainable and resilient campuses and facilities that allow firms to achieve those goals. This is especially true for the types of users that this development will be geared to attracting – advanced manufacturing, cleantech, robotics, and GMP/biomanufacturing. Implementing sustainable practices during site development could prove to be a differentiator for companies engaged in their site selection process. Below are some of the strategies to consider.

Energy:

- On-site renewables
- PV (rooftop)
- Geothermal – requires a feasibility study
- EV Charging – Day 1 & Day 2
- District Micro-grid – Efficiency & Resilience
- Demand Response coordination with grid (on-site storage)

Material:

- Material Circularity & Reuse from Existing Buildings
- Biophilic Design / Natural & Reclaim Materials – especially in landscape
- Low carbon materials – mass timber, low carbon steel & concrete

Landscape:

- Daylighting of Weasel Brook
- Drought tolerant plantings
- Meadows (instead of maintained lawn)
- Pollinator gardens
- Diverse & native plantings
- Rain gardens/Stormwater management
- Permeable paving (where possible)
- Complete streets / Street trees

Community & Connectivity:

- Multi-modal site access restored – vehicular, pedestrian, bike
- Interpretive path
- Complete Streets – Improved pedestrian & bike connectivity
- Ongoing community engagement in the development process

Supplemental Funding and Financing Resources

Note: This list is a starting point and not all programs may be relevant or available depending upon the type of development, timing, and owner entity type i.e., some are available to public entities only, others are open to public/private/non-profit entities, etc. The resources the entities pursue would be dependent upon their goals and the circumstances at the time, as well as the party that is applying.

MassWorks – Capital funds for public infrastructure projects that support and accelerate housing production, spur private development, and create jobs throughout the Commonwealth.

Site Readiness Program – Funding for site preparation and predevelopment and permitting activities for large-scale industrial, commercial, and mixed-use sites.

Brownfields Grants – Finances the environmental assessment and remediation of brownfield sites.

Underutilized Properties Program – Predevelopment and capital funding for projects that will improve, rehabilitate or redevelop blighted, abandoned, vacant or underutilized properties.

Real Estate Technical Assistance – Small grants for re-use of municipally owned properties.

Community Planning Grant – Technical assistance for Community Planning i.e. corridor studies.

Community Preservation Act (CPA) Funding – Helps communities preserve open space and historic sites, create affordable housing, and develop outdoor recreational facilities.

Housing Choice – Flexible grant for planning, site prep, building, and infrastructure activities.

District Improvement Financing (DIF) – A locally-enacted tool that enables a municipality to identify and capture incremental tax revenues from new private investment in a specific area and direct them toward public improvement and economic development projects.

Housing Development Incentive Program (HDIP) – Tax incentives to developers to undertake new construction or substantial rehabilitation of properties for lease or sale as multi-unit market-rate residential housing

Brownfields Loans – Up to \$250,000 for environmental assessment and \$750,000 for environmental clean-up.

MA Brownfields Tax Credit (BTC) – MA tax credit for cleaning up contaminated property.

Tax Exempt Bonds – Tax-exempt financing for 501(c)3 nonprofit real estate and equipment, affordable rental housing, public infrastructure projects etc.

The Infrastructure Investment Incentive Program “I-Cubed” Program – A public-private partnership that allows new state tax revenues generated from private economic development projects to cover the costs of the public infrastructure improvements needed to support the project.

Massachusetts Municipal Modernization Act, Parking Benefit District – A specified geography in which the parking revenues raised are then reinvested back into the district for a wide range of transportation-related improvements.

Conclusion

This site represents a unique opportunity to merge two of Massachusetts' – and increasingly Worcester's – strongest assets: a rapidly expanding innovation economy and a highly skilled and well-educated workforce. Why? Because together these two resources unlock the ability to build an economy around advanced manufacturing. The companies in this sector, who build the products that emerge from our innovation and tech economy, depend on the availability of a skilled and educated workforce for their success and strongly prefer locations that help attract and retain this workforce. Direct proximity to mixed-use, walkable neighborhoods represents a significant advantage. At the same time, the existing industrial buildings on the site, as well as the adjacent community's support for manufacturing jobs on this site, represent

additional tangible advantages. And there are relatively few cities where industrial buildings are allowed to take center stage. The city's active support for reinvigorating its industrial heritage and commitment to creating an inviting environment on this site further enhance its competitive edge.

Finally, it is worth noting that startups, rather than mature companies, represent a significant share of growth for advanced manufacturing. The site offers relatively inexpensive space, the ability to grow in place, and strong city interest that, in combination, constitute an important locational advantage for these companies.

Given the economic and demographic trends summarized above, this is the right initiative, at the right time, in the right place.



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