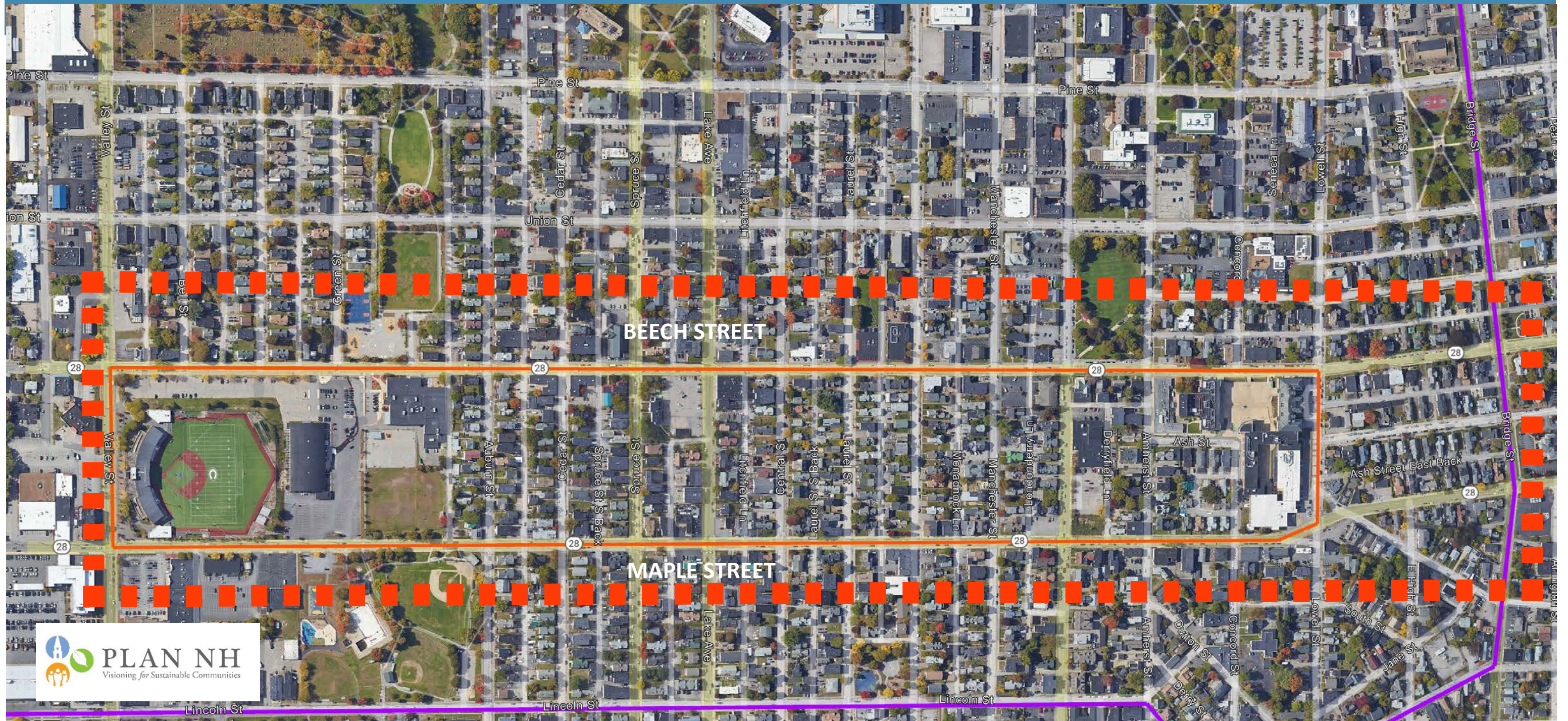


Maple & Beech Streets Community Design Charrette

Manchester, NH

July 21-22, 2023



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Maple & Beech Streets Charrette Acknowledgments

Thank you to the individuals who donated their time, energy, and expertise for this charrette.

The Plan NH Charrette Team

Tiffany Tononi McNamara
Plan NH, Executive Director

North Sturtevant (Charrette Co-Leader)
JSA Design

Robert White (Charrette Co-Leader)
GPI

Alissa Del Tufo
Plan NH staff

Cecilia Azzi
Plan NH staff

David Bartsch
Bartsch Landscape Architecture

James Vayo
Development Consultant

Jonathon Havey
Fuss & O'Neill

Julie Avenant
NHDOT

Kalle Maggio
Wright-Pierce

Karen Fitzgerald
Toole Design

Kate Osgood
Park Architecture

Katiemae White
GPI

Kien Ho
BETA Group

Linda Greer
Fuss & O'Neill

Randall Nielsen
Queerlective

Stephanie Verdile
State of NH Office of Planning and Development

Steve Hebsch
Caveney Architectural Collaborative

Tammy Zamoyski
Southern NH Planning Commission

Victor Azzi
Planning Consultant

Zach Swick
Southern NH Planning Commission



The Manchester Team

Without the support and participation of all of the following individuals, this charrette would not have been possible:

Conservation Law Foundation: Charrette Applicant & Host

Tom Irwin

Vice President and Director, CLF NH

Arnold Mikolo

CLF NH, Environmental Justice Advocate

City of Manchester

Jodie Nazaka

Economic Development Director

Kristen Clarke

DPW, Traffic Engineer

Caleb Dobbins

DPW, Highway Chief Engineer

Owen Friend-Gray

DPW, Deputy Director

Jonathan Golden

Planning & Community Development Department, Senior Planner

Plan NH is grateful for the special support of our 2023 Platinum Members:



Who is Plan NH?

Plan New Hampshire (Plan NH), is a 501(c)3 non-profit organization formed in 1989. Plan NH has a vision of a New Hampshire that is vibrant and healthy for its people, its economies, and the environment. To achieve that vision, Plan NH’s mission is to foster excellence in planning, design and development of New Hampshire’s built environment, because we believe that what we build, where we build, and how we build anything has a significant impact on that vibrancy and health.

Plan NH champions principles and ideas that balance the built environment - including buildings, roads, bridges, memorials, public sculpture - with:

- the needs of people, including where they live, how they get about, what services are necessary, what they value;
- maintaining a “sense of place” of our towns, cities, and villages that make them unique, including preserving historic assets, open spaces, agriculture, and farming;
- and protecting our air, water, flora, and fauna.

Among our signature programs is the Community Design Charrette Program, a participatory exercise that brings professionals from our membership together with New Hampshire communities to explore design ideas, usually around a village center or other significant neighborhood or community asset. Through recommendations made, Plan NH can demonstrate the role and importance of the principles and ideas noted above in concrete, real examples.



Plan NH in Manchester, NH

July 21 and 22, 2023



The charrette team takes a tour of the focus area



The charrette team holds listening sessions with the general public



The charrette team processes the input received during the listening sessions and tour



The charrette team works collaboratively to draft recommendations

What is a charrette?

Simply stated, a charrette is a brief, intense, brainstorming session in which ideas are brought together for the purpose of defining potential planning recommendations and possible design solutions for an identified need. For Plan NH, this is usually related to a town center or other significant neighborhood in a community.

Plan NH's community design charrettes take place over the course of two days: eight hours on a Friday spent touring the target area and listening to stakeholders and community members, and then another eight hours the next day brainstorming, crafting custom recommendations solutions, and presenting those recommendations to the community.

The process engages planning and design professionals in direct dialog and conversation with each other and with local residents to collect information needed in order to develop good and relevant recommendations about how to address a particular challenge. Plan NH sees this part of the process as a period of discovery: with the Charrette Team discovering who the community is, what they value, and what they really want. This community input is essential and critical to the value of the outcomes.

The results of a Plan NH charrette are general and overarching planning and design recommendations, rather than specific directions. Plan NH does not dictate but suggests. Most often, the outcome of a Plan NH charrette is described as a "vision" - an expression of how things might be, based on what the team saw, heard, and learned.

Charrettes blend the broad experience of planning and design professionals with local citizens' detailed knowledge of their own community to develop recommendations that address challenges and opportunities for a specific project area. These recommendations provide a framework within which more detailed solutions and plans of action can be developed.



The general public are invited back for a presentation of the charrette team's recommendations

Why did Plan NH come to Manchester?



Excerpt from the Maple & Beech Streets application:

A Plan New Hampshire charrette presents the perfect opportunity to engage the community to explore solutions for improving current two-lane, one-way streets in the center city to calm traffic and support cyclists and pedestrians, and to enhance quality of life for residents. Because Manchester's center city includes low-income neighborhoods with strong racial diversity, a charrette also would provide an important environmental justice opportunity by enabling historically marginalized communities to engage in a planning effort that could have tangible benefits for residents, potentially addressing adverse impacts disproportionately experienced by the community (such as fast traffic and associated safety and air pollution) and environmental benefits currently not widely enjoyed (such as street trees).



The Conservation Law Foundation (CLF), with support from the City of Manchester, submitted an application to Plan NH for a community design charrette in January 2023. The intent for this charrette study was to engage with the neighborhood surrounding the Maple and Beech Streets to study ways to improve traffic, bicycle and pedestrian safety, and overall quality of life through the built environment. As the charrette focus became clear the neighborhood's issues and concerns presented a fascinating but very challenging opportunity.

How to create a neighborhood design for street improvements that would have broader positive impact for the resident families, business owners, school children and aging resident population of Maple and Beech Streets.

Timeline

- January 2023 – CLF submitted an application to Plan NH with letters of support from the City of Manchester.
- March 2023 – Plan NH Staff and Charrette Committee members met with CLF and other local stakeholders for a site visit.
- May-June 2023 – Plan NH Charrette Team worked with CLF, City of Manchester Planning and Public Works staff, and Regional Planning Commission staff on both logistical and information coordination and sharing.
- A final coordination meeting with City of Manchester Planning and Public Works staff where Plan NH was charged to, “Please bring us creative and pragmatic design suggestions for this area of the city.”
- July 2023 – Plan NH Charrette Team came to Manchester for our 76th Community Design Charrette. Friday, July 21 was devoted to community listening and site familiarization. Saturday, July 22 included a graphic and verbal presentation of ideas and recommendations.

Area of Opportunity/Focus

- Engage the neighborhood south of Bridge Street along the north/south loop of Maple and Beech Streets.
- Explore the safety challenges for Maple and Beech Streets.
- Identify ideas to relieve safety and environmental concerns.
- Identify ideas to enhance quality of life by increasing walkability, bikeability, and access to transit.
- Suggest design ideas that could better integrate the streets into the fabric of the community.
- Increase greening, beautification, and creative placemaking opportunities that honor the identity of the community.

Site Tour Observations



What the Plan NH team saw: Friday, July 21.

The Plan NH Charrette Team and CLF, City of Manchester, and Regional Planning Commission staff numbering nearly 30 people arrived the morning of Friday, July 21 to view the project area and begin the charrette with a bus tour of the neighborhood.

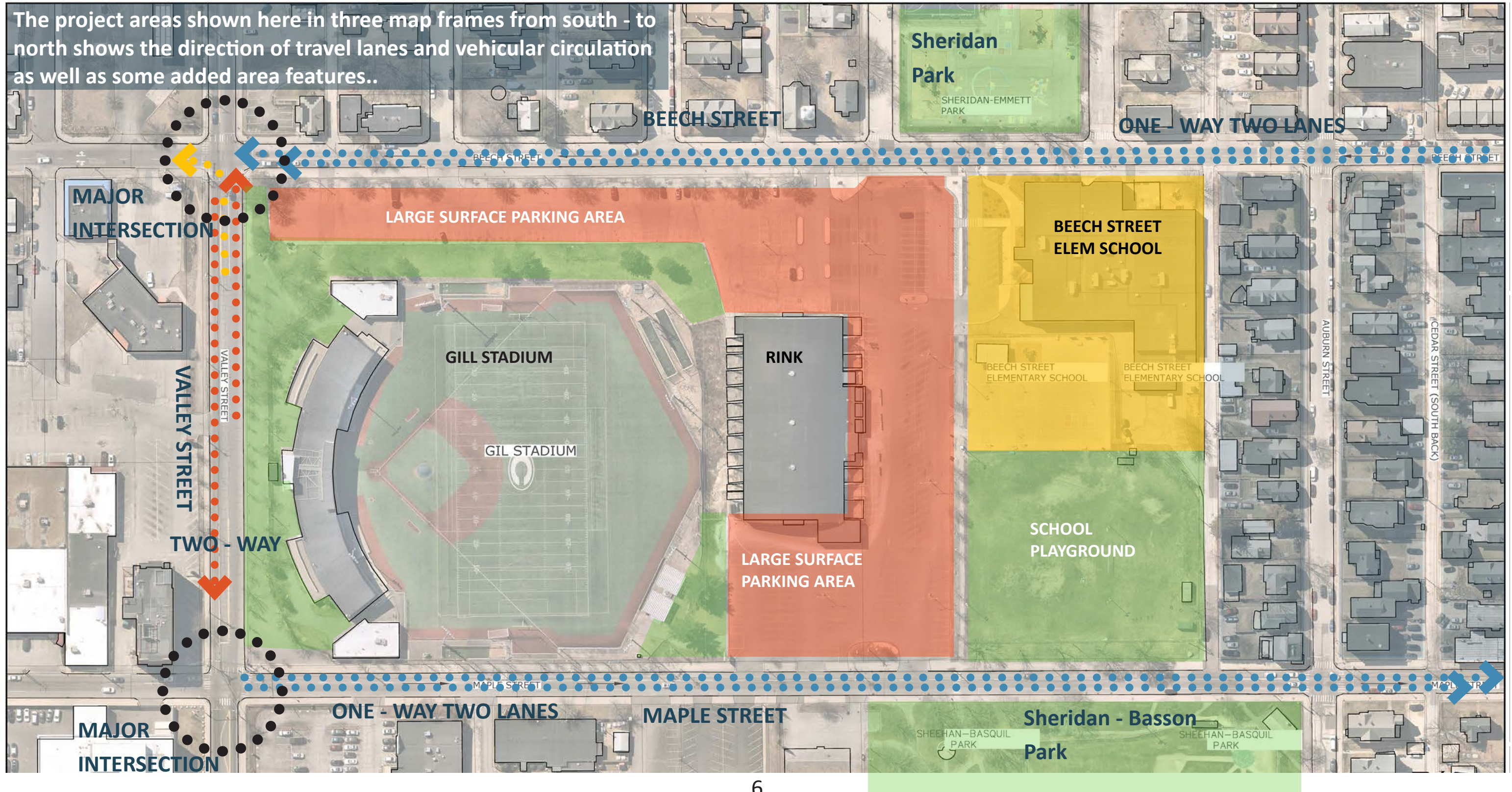
We learned about the history and demographics of the community and observed the challenges associated with walkability, bikeability, access to public transit, and overall quality of life as it related to the built environment.

- Beech Street and Maple Street and the connecting side streets are part of a grid neighborhood dating back to the late 1800s, associated with the City's industrial and population growth.
- Beech Street and Maple Street are both local city streets as well as State numbered highways- NH Route 28.
- As state highways, roadway changes were made in the early 1970's under various urban renewal policies aimed at making for easier and safer driving.
 - o Beech Street and Maple Street were changed to paired one-way streets with Beech Street directed southbound – and Maple Street directed northbound.
 - o Both streets were striped to have two lanes of traffic – essentially one travel lane and a second lane as a combined left-turn/passing lane.
 - o Associated traffic signage and crosswalks were installed with the one-way and two-lane changes but no other changes were made to sidewalks or other roadside features.
- Over the decades, vehicular traffic increased.
- Traffic speeding well in excess of posted speed limits began to be observed.
- Accidents became much more prevalent and more serious. A number of intersections began experiencing high accident rates unlike any other intersections in the city.
- Other neighborhood features were viewed in more detail including:
 - o Neighborhood housing,
 - o Quiet side streets with resident parking,
 - o Small-scale stores for goods and services,
 - o Deteriorating sidewalks and a lack of street trees on side streets,
 - o An elementary school, high school, and City recreation facilities,
 - o Several installations of public art.

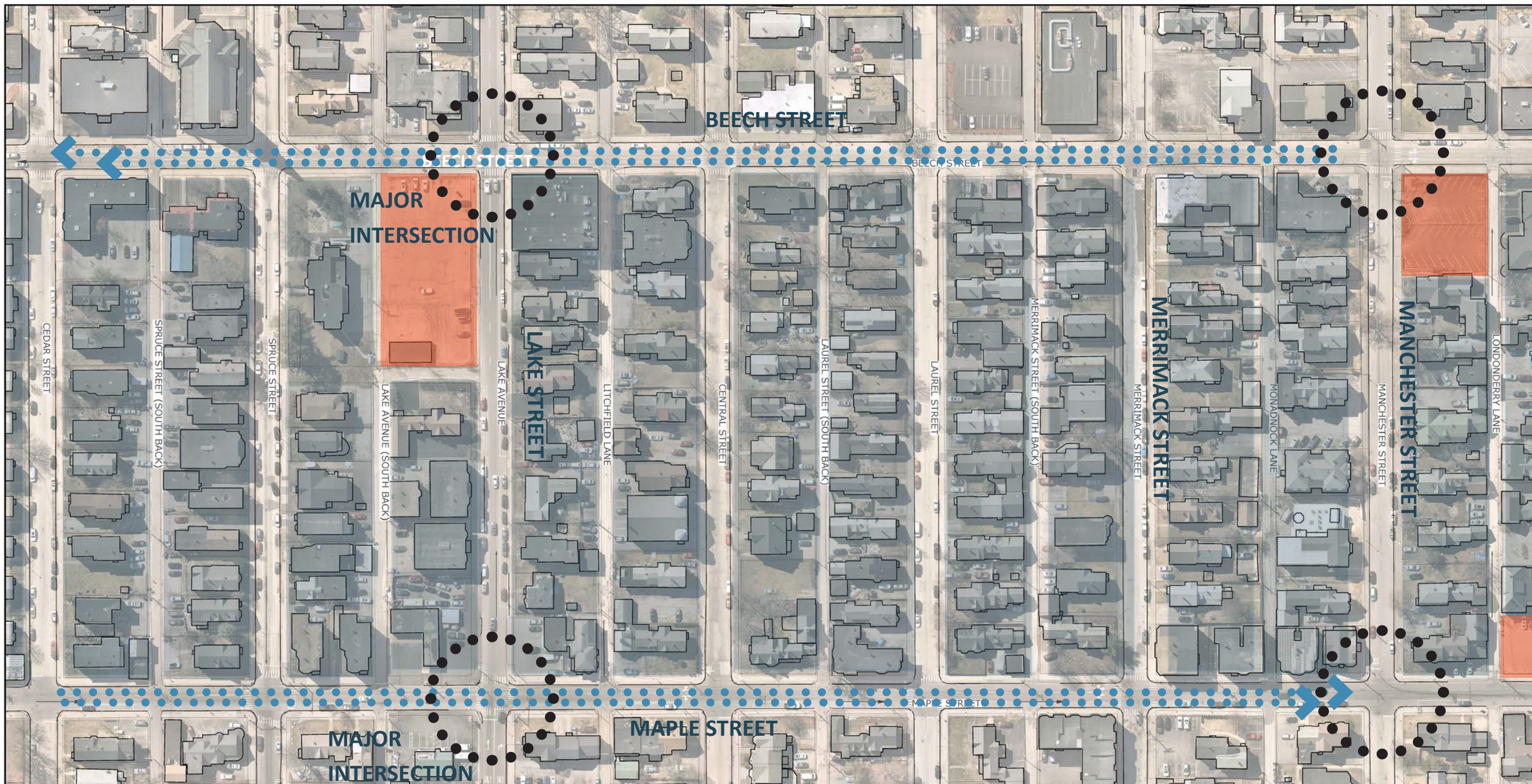
As a whole, we observed existing challenges and opportunities for improvement to help slow traffic, improve safety, and make the streetscapes better for pedestrians, bicyclists, and the neighborhood as a whole.

Site Overview

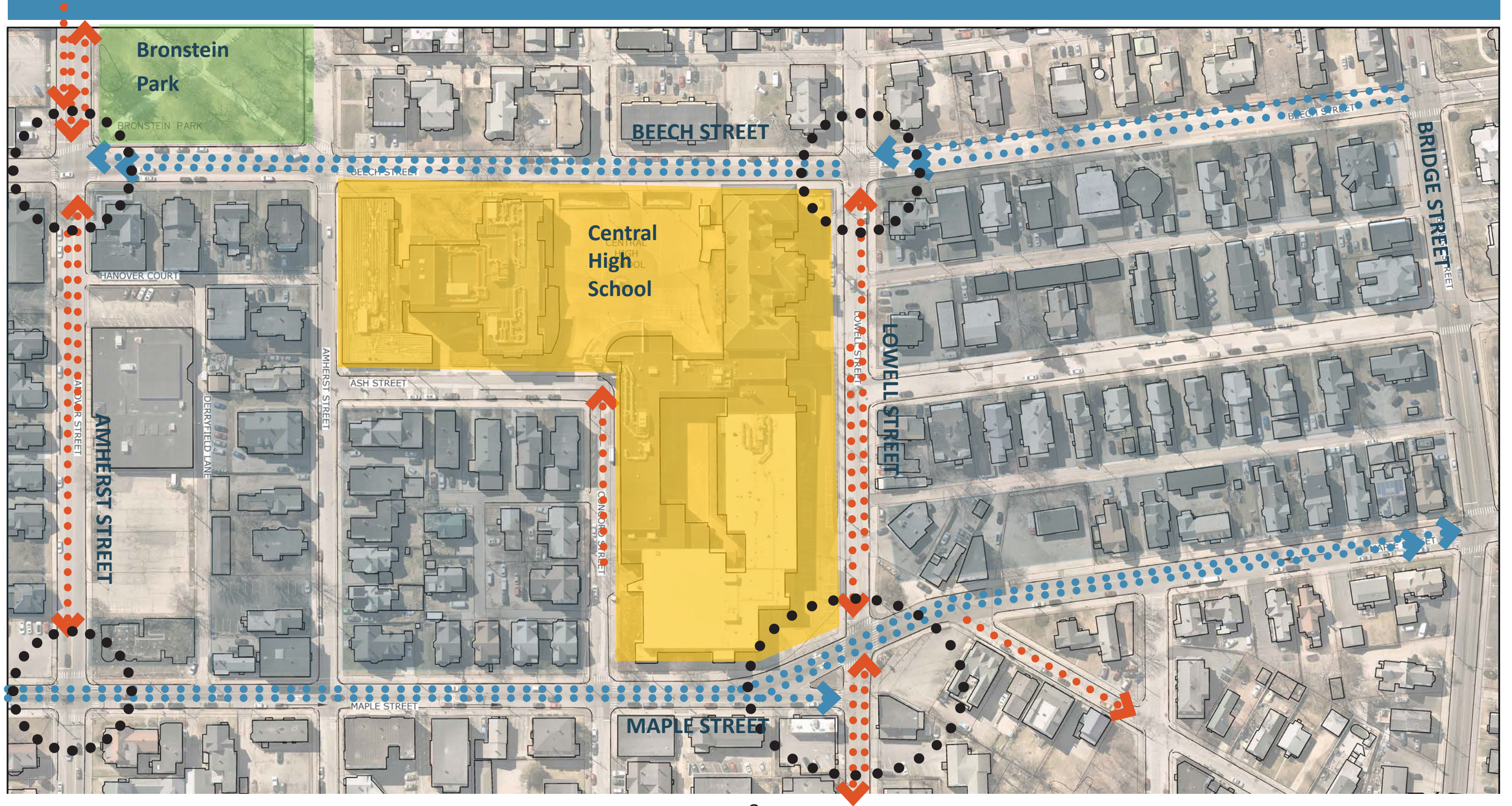
The project areas shown here in three map frames from south - to north shows the direction of travel lanes and vehicular circulation as well as some added area features..



Site Overview



Site Overview



What Stakeholders Told Plan NH

What Plan NH Heard from Community & City Leaders

After the tour of the area and a delicious lunch, the team met with key leaders of the community and the City of Manchester to learn about the challenges and opportunities from their perspectives.

Important considerations in transportation planning for the neighborhood:

- Funding was identified as a major impediment to improvements in general.
- A high priority on safety was identified.
- Comparisons were made between the project area for the charrette and recent work implemented along Beech Street just north of the study area. That work included strategies related to traffic calming with a road diet and bicycle lane delineation. While there was understanding that the sections of streets differed- there was general receptivity that the project area for the charrette could benefit by adding bicycle lanes and developing protected and comfortable sidewalks.
- City Public Works staff indicated receptivity about modifications to the two- lane, one-way street system with the assumption that signalized intersections would have to be improved.
- Many questions were raised. Should the streets be returned back to a two-way street or maintaining the one-way loop with single lane traffic? If it becomes a single lane of traffic, would that work for city traffic patterns? Could the lost lane be reallocated for other uses of the right of way such as transit stops or bike and pedestrian improvements?

Other traffic and transportation issues in the neighborhood:

- Vehicular crash history four times higher per capita than the rest of the city.
- The largest neighborhood in the city with a one-way street system.

- Pedestrian access to housing, schools, connection downtown.
- A history of pedestrian fatalities.
- Mostly older generation traffic signals that are currently unsynchronized though the City is pursuing funding to implement improvements to these signals.

Public transit system challenges:

- There is no bus service or designated stops on either Maple or Beech Street due to the safety concerns. The challenges of these streets with speeding, accidents, and safety are perceived as unsafe for public buses to pull over.
- The current bus system relies upon “flag down” for curbside pickup on side streets instead of designated bus stops. There were concerns about walking distances to designated bus stops because of physical vulnerability for some residents.
- The street loop has proven to be a challenge because the one-way traffic pattern causes duplication of circulation to serve the same area.
- Expansion/modification of the bus route in the area is under consideration for improvement. Perhaps a new street design could assist in that success.

Community profile and schools:

- A school consolidation plan is currently underway and may result in the closure of at least one high school in Manchester. There was concern that Central High School could be a candidate for closure and eventual demolition. This scenario would result in the loss of an important community resource, a site which under current regulations could never be developed to the same urban footprint and vibrancy, even if the use were modified to serve some community function as well as housing.

- Concerns were voiced about the impact of the current traffic upon the life, health, and educational conditions for the students in the neighborhood.
- There is a significant shortage of housing which has impacted the school department’s ability to attract and retain teachers.
- Over 72 different languages are spoken in the schools and while the diversity of this neighborhood brings many strengths, it also poses a variety of challenges related to information sharing, education, and other opportunities for residents and students.

Public art and placemaking:

- The neighborhood and community is anxious for opportunities for expression through culture, art, education, and other forms.
- The maintenance of public art appears to be a concern, if not an impediment to installation.
- Integration of community building education and engagement was placed as a high value opportunity for integration with the neighborhood and for other urban design measures in transportation, pedestrian, and green spaces.
- Concern about maintaining street and public placemaking installations was expressed and generally regarded as a limiting factor to the City’s ability to approve public projects without dedicated maintenance funding.

Conclusions:

With City resources limited, there is a high need for state and federal funding to support improvement measures related to street infrastructure, bicycle and pedestrian safety, and intersection and sidewalk accessibility.

Recommendations

The Plan NH Charrette Team gained a great amount of information from our walking tour and the stakeholder and community listening sessions. Community input was sincere and passionate. Input, information, and encouragement from City staff for the Plan NH team to think broadly and creatively was greatly appreciated.

With this in mind, the Plan NH Charrette Team developed a series of recommendations in response. These were presented in-person to the community on Saturday, July 22, and are included in this report.

The following recommendations to address the community's vision are presented:

- Traffic Information
- Street Design Concepts
- Placemaking Concepts
- Community Enhancements to Public Spaces and the Schools



Recommendations: Traffic - Context



Traffic Volumes (Maple & Beech Streets)

The City of Manchester and the Plan NH Team agreed that the charrette scope and focus would not include a detailed traffic analysis, but that any available traffic information in the context of the project area would be considered.

Information for traffic and safety was provided by the City of Manchester, Southern New Hampshire Planning Commission, and the New Hampshire Department of Transportation.

- Average Daily Traffic on Beech and Maple Streets is approximately 6,000 to 7,000 vehicles per day.
- Vehicles Per Hour during AM & PM peak commuting hours are approximately 400 to 500 vehicles per hour.
- The Plan NH Team reviewed the commuting and school peak periods.
- The Plan NH Team reviewed a federal SMART Grant application submitted, but not presently funded. The grant application featured extensive information which determined that a single lane traffic on Maple and Beech Streets could accommodate current and reasonable future traffic volumes.
- Traffic signal upgrades to modern signalized systems would be necessary for all signals in the project area to better manage traffic volume and speed and enhance pedestrian and bicycle safety.
- At least four intersections would require left turn lanes to serve turning traffic and avoid single lane traffic safety and congestion on:
 - Bridge Street
 - Lowell Street
 - Hanover Street
 - Lake Street
- Left turn lanes would be located in on-street parking areas.

Crashes on Maple and Beech Streets

- Review of crash data indicated 494 crashes in the 2017-2019 period.

Speed data (assumes a speed limit of 30 MPH)

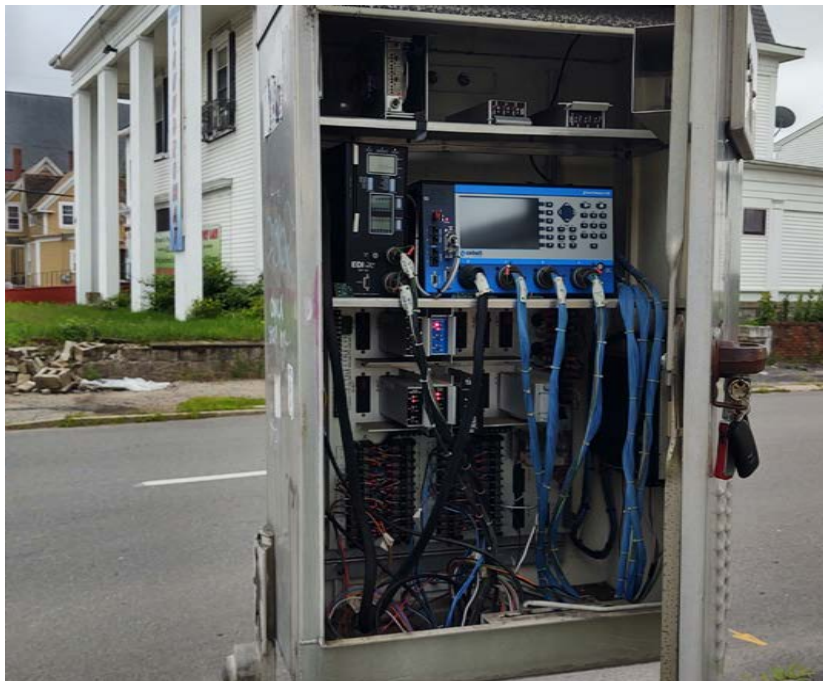
- Maple Street: 32 MPH
- Beech Street: 36 MPH

Traffic Signal Equipment

While most of the signal controllers are older. There is at least one newer cabinet on each street. Improvements to the eleven signalized intersections could ease extended and unnecessary driver waiting time and improve pedestrian safety at crosswalks.

- Most older signals lack coordination and modern detection, and as a result, that signal function does not change with the arrival of vehicles.
- Signals run on a set timing all the time, regardless of when vehicles approach the signal.
- Pedestrian safety signal controls do not currently exist in the project area.
- An emergency vehicle preemption system is present on the existing signals.

Recommendations: Traffic - Safety & Parking Improvements



Safety and parking were key traffic concerns that were raised in the stakeholder and listening sessions. The Plan NH Team outlined the following safety and equipment recommendations to mitigate these issues:

Pedestrian Safety

- Transitioning from two-lane to one-lane traffic could reduce the crossing distance for pedestrians at crosswalk locations.
- Curb extensions could also slow traffic specifically at intersections, enhancing pedestrian visibility and safety.

Speed

- Digital speed checks to raise driver awareness of their speed could be installed at these locations:
 - Maple between Hanover and Lake
 - Hanover and Lowell

Traffic

- Upgrading signal equipment will go a long way to addressing driver and pedestrian frustration and safety.

Parking

- Shifting parking from arterial streets (Maple and Beech) to side streets would facilitate arterial street redesign.
- Paint marking of parking spaces on side streets for clearer designation and better use of space by those parking on these streets.
- Allow parking within 20' of unsignalized intersections and 30' of signalized intersections per City of Manchester statute and sight distance requirements.
- Simplify and reduce parking signage in the area for clearer communication.

Recommendations: Street Design - Setting the Stage

The recommendations of the Plan NH Team related to street design are a direct result of listening to residents and stakeholders and following best practices of contemporary transportation planning while considering social and economic interests.

Setting the stage for creative street design:

The following were some priority decisions that came from public and City officials about the framework for creative street design:

- One lane or two? The reversal of traffic to be a fully functional traditional two-way street system, like much of the rest of Manchester, was still met with considerable concern.
- While many residents did not like the current one-way, two-lane racetrack configuration, the reversal of traffic to two ways also did not resonate with many residents. They wanted a different but workable design.
- Residents wondered what kind of improvements could be implemented if the one-way pattern was maintained but decreased from two lanes to only one lane of vehicular traffic. “Why not design street improvements that took the other lane of traffic and gave it over to other non-automobile purposes?”
- This was a challenging and inspired moment from the public and important guidance to the Plan NH Charrette Team.

Based on what we saw and heard about the project area, we felt that implementing considerable improvements to the current one-way street pattern would be the best path forward.

A framework for creative street design was devised:

- Design for fully functional single lane traffic in the traditional north-south one-way routing.
- Left-turn lanes should be positioned at traffic signals and some other intersections where left turns are warranted.
- Some intersections that are one way westbound may consider

a right turn lane.

- Preserve on-street parking for neighborhood and public use on the east side of Beech and Maple Streets.
- The reuse of the western lane on Beech and Maple Streets should be given over to a combined linear greenway park and shared-use pathway for bicycle and pedestrian access.
- This would become a framework for introducing more greenery, shade trees positioned on the west side of the street, opportunities for mini-parks and social corners at street intersections and other strategic places.
- In the future, this corridor of greenery could also become an integrated part of stormwater management before its entry into the new separated, storm water, sewer systems. The water could be filtered through rain gardens and bioswales before entering the municipal stormwater system.
- A narrower cross-section of the street in most cases would have crosswalks at intersections and potentially mid-block locations that would cross one single lane of traffic, significantly reducing exposure of pedestrians to vehicles for improved safety and comfort.

Compare the following:

- Under the current two-lane one-way system, each intersection crosswalk including a turn lane results in crossing distances of 36 to 40 feet, during which time pedestrians and cyclists are exposed to faster moving vehicles.
- Under the proposed street design, the exposure to continuous moving traffic lane would be one 12 foot travel lane and a turning lane in some locations for a maximum total of 24 feet of crossing distance. Under this scenario, without a second lane of traffic, traffic speeds should be reduced closer to posted speed levels. Speed will be controlled by the prudent drivers of the roads.



Recommendations: What about the bikes and transit ?

In a neighborhood with many residents without cars- bicycles are a viable transportation complement both within the neighborhood as well as adjacent areas to downtown and nearby services such as groceries, pharmacy, personal services, etc. But, the dangers of the current street design allow no space for protected bicycling which is both a safety and enjoyment disincentive.

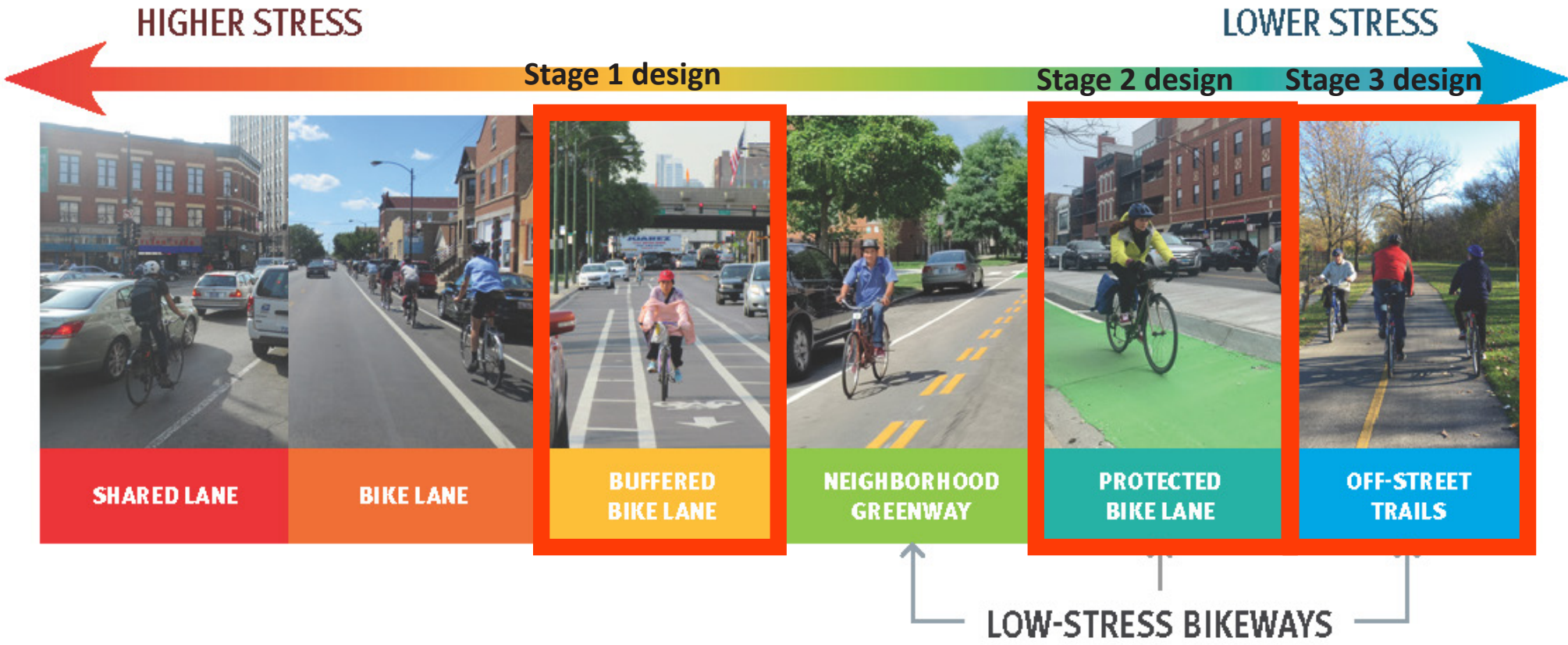
The illustration on this page suggests that a Shared Lane bike use is the most stressful- aka dangerous bike use of the street- much as the current conditions. Surprisingly though, a simple painted Bike Lane such as has been installed on Beech Street north of the study area may not offer much relief. The proximity of the bicyclist to the fast moving cars is just too close and dangerous. Note: the use of the “sharrow” is not even included in any of these options. Current research has rendered the sharrow as ineffective and a “false promise” of bicyclist safety.

More preferable are the bike designs that create separation on the pavement so that a buffer is created. We will show how this can be achieved on Beech and Maple Streets and how the Stage 1-2-3 street designs can evolve to have ever increased bike safety and comfort.

In a similar vein as bicycles- Transit access has the promise of enhanced service access for neighborhood residents. However, residents expresses fear for their safety because they had experienced bus stop aggression and solicitation. There was fear that bus stops were a magnet for unsocial and threatening behaviors. The alternative has become a curbside stop situation where residents basically requested pick up on demand curbside.

This has proven to be a challenge because many of these locations are not safe bus pullover sites dues to parked cars and intersections. Bus drivers under these circumstances were unable to or refused to stop under hazardous conditions. The speeding traffic and passing lanes added compounded dangers to this situation.

A new street design should incorporate transit as a visible and safe option. Security measures such as cameras and “blue poles” can be a part of new bus stop locations, and the locations should be organized with an optimal street design with adequate space for bus service pull-overs, shelter locations, and transit information.



Recommendations: Stage 1 of Street Design: Restripe to Single Lane

Setting the stage for a new single-lane street design:

- The goal is to reduce two traveled lanes on Maple and Beech Street to a single lane, thus allowing the extra lane space to be reallocated. This is to be achieved by the following:
- Signal upgrades and turn- lane designations.
- Generally retain on- street parallel parking on the east side of Maple and Beech Street.
- Position the through- lane of the street also along the eastern side next to the parallel parking.
- Turning lanes at intersections will have to remove on- street parallel parking to provide the slip lane for left turns.
- The second lane of traffic will be removed to allow the installation of a bicycle lane buffered from the traveled lane on the passenger side of the parked vehicles.
- Current sidewalks on both sides will remain until future stages create a more visionary greenway design.
- The future greenway will allow space for landscape buffers, lighting, pedestrian amenities, street trees, public art and wayfinding for a feeling of a linear park.

The result will be

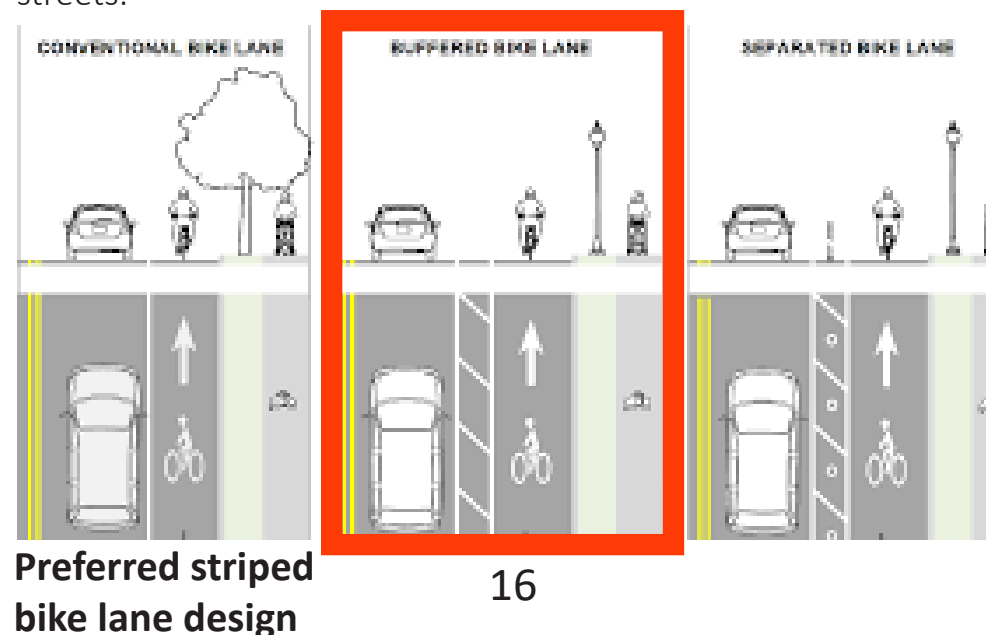
- A single lane of traffic where the prudent driver will set traveled speeds for everyone else.
- Speed should be reduced.
- Safety should be increased with reduced speeding.
- Bicycles are accommodated.
- This first stage is primarily directed to test the single lane of traffic configuration.

The stages of corridor design implementation:

Stage 1: A “light touch” approach could include:

- Retain the curb line and parallel parking on the east side of the - street.
- Identify the locations and the length and configuration of the left turn lanes at signals and intersections.
- Striping for a single travel lane in either north on Maple Street or south bound on Beech Street direction.
- Accompanying signage at intersections, etc. for the single lane of traffic.
- Paint a continuous bicycle lane along the western side of the street with accompanying signage, striping, and pavement markings. The specific alignment of the the bike lane to be determined.
- Strategic painting of “bulb out” locations at intersections for crosswalk length reduction.
- Retention where possible and improvement of existing sidewalks.

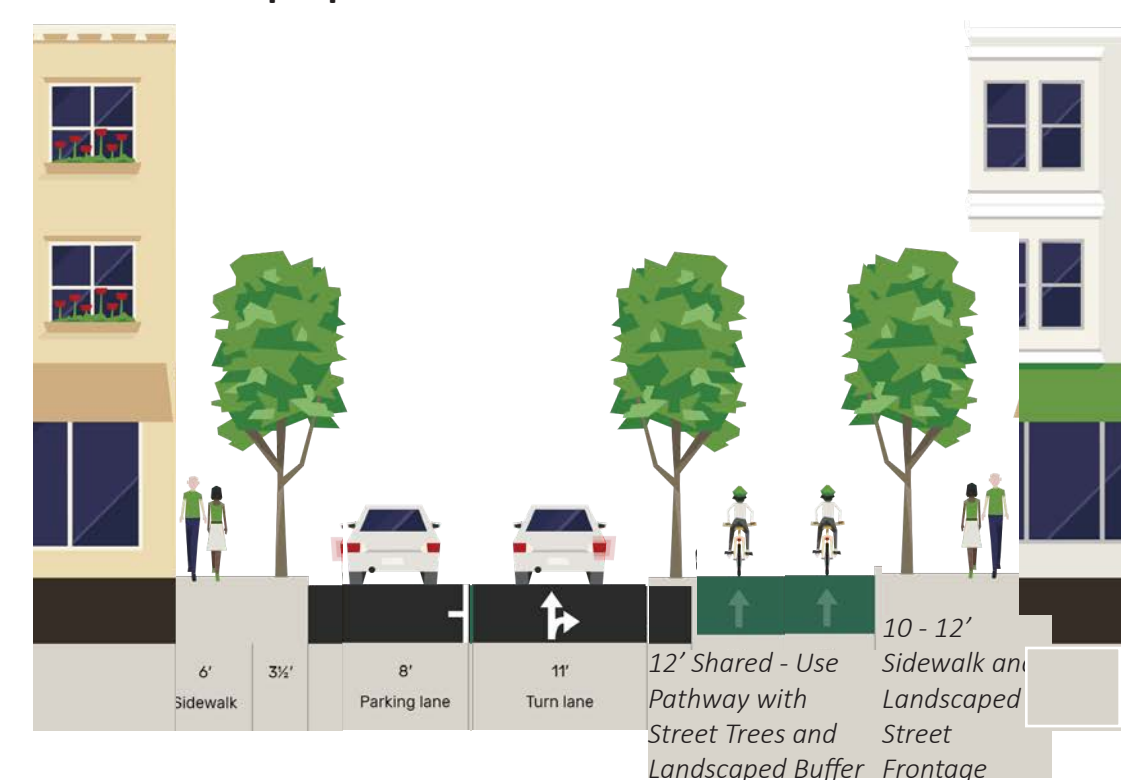
This will establish some initial benefits for bicycles and pedestrians, and remove the second line of travel to set up the framework for the long term greenway transformation of the streets.



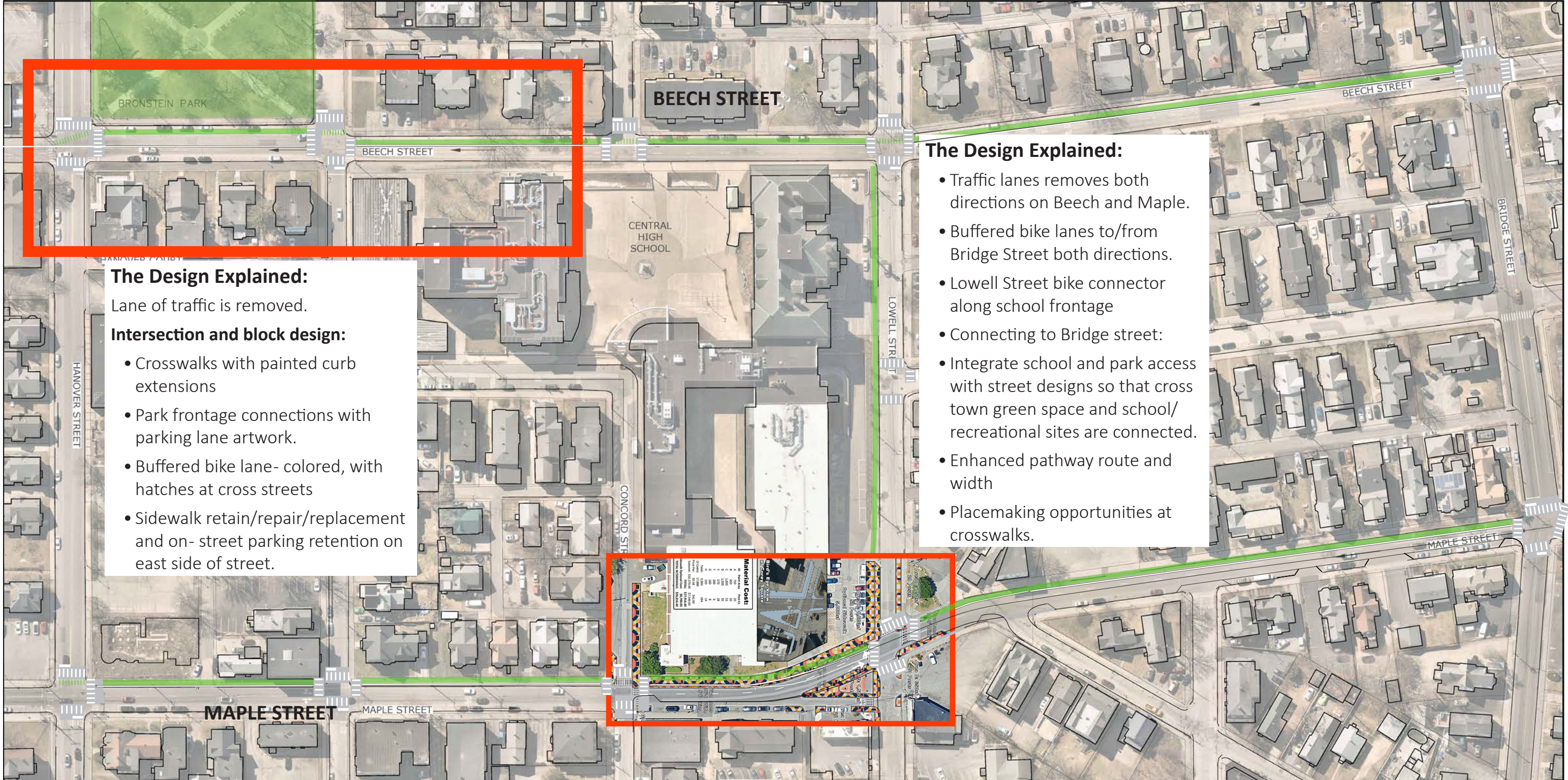
Beech Street existing:



Beech Street proposed:



Recommendations: Stage 1: Restriping the Street to One Lane



The Design Explained:

Lane of traffic is removed.

Intersection and block design:

- Crosswalks with painted curb extensions
- Park frontage connections with parking lane artwork.
- Buffered bike lane- colored, with hatches at cross streets
- Sidewalk retain/repair/replacement and on- street parking retention on east side of street.

The Design Explained:

- Traffic lanes removes both directions on Beech and Maple.
- Buffered bike lanes to/from Bridge Street both directions.
- Lowell Street bike connector along school frontage
- Connecting to Bridge street:
- Integrate school and park access with street designs so that cross town green space and school/ recreational sites are connected.
- Enhanced pathway route and width
- Placemaking opportunities at crosswalks.

Recommendations: Stage 1: Restriping the Street to One Lane



The Design Explained:

Lane of traffic is removed

Intersection and block design:

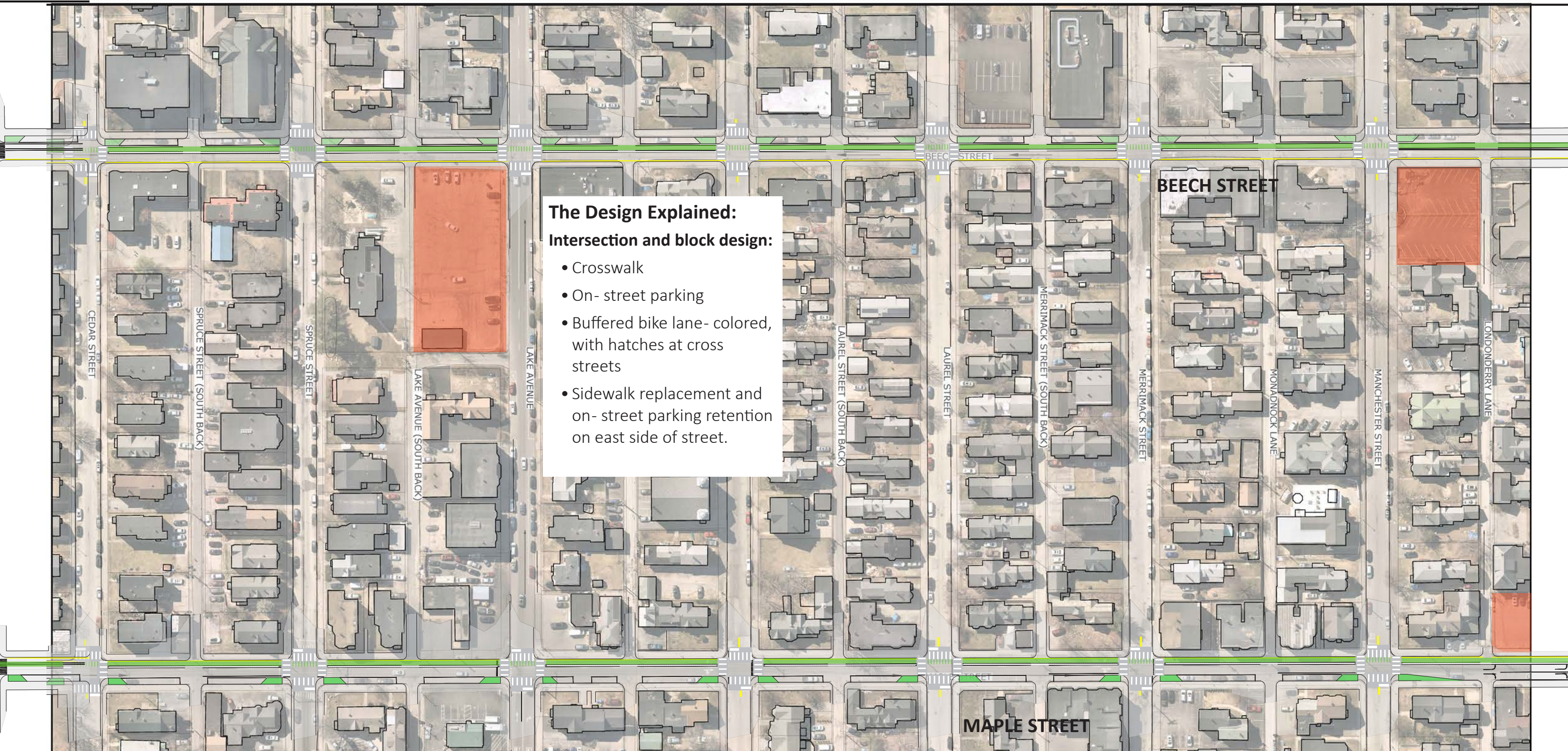
- Crosswalk
- On- street parking generally retained for now...
- Buffered bike lane- colored, with hatches at cross streets
- Sidewalk replacement and on- street parking retention on east side of street.

The Design Explained:

Mid - block crossings:

- Integrate school and park access with street designs so that cross town green space and school/ recreational sites are connected.
- Enhanced pathway route and width
- Placemaking opportunities at crosswalks

Recommendations:
Stage 1: Restriping the Street to One Lane



The Design Explained:
Intersection and block design:

- Crosswalk
- On- street parking
- Buffered bike lane- colored, with hatches at cross streets
- Sidewalk replacement and on- street parking retention on east side of street.

Recommendations: Stage 2: Reconstruct to Multi-Modal Street Balance

Setting the stage for a new Street design:

- The goal is to re-balance vehicle space with green space with pedestrian and bicycle space allocations.
- This is to be achieved by the following:
 - Generally retain on- street parallel parking on the east side of Maple and Beech Street.
 - Position the through- lane of the street also along the eastern side next to the parallel parking.
 - Turning lanes at intersections will have to remove on- street parallel parking to provide the slip lane for left turns.
 - The second lane of traffic on the west side of the street will be removed to allow the creation of the sidewalk in greenway design. This will include a shared use path, tree lawns, and green stormwater in strategic locations for stormwater.
 - The greenway will allow space for landscape buffers, lighting, pedestrian amenities, street trees, public art and wayfinding of a linear park.

The result will be

- Design for greening and humanizing the streets
- Street trees for shade- cooling hot summer streets
- Greenways for pedestrian and bicyclist comfort
- Balancing street space for vehicles and green space

Realizing that it may not be possible to achieve all of this in one single gesture of funding and implementation. The three stages have been identified to allow the benefit of street changes as funding can be made available.

This design builds upon the testing and staging of the traffic lane removal of Stage 1 - then makes changes for the longer term vision of the streets as redesigned to be a multi-modal balanced design.

These are the components of Stage 2:

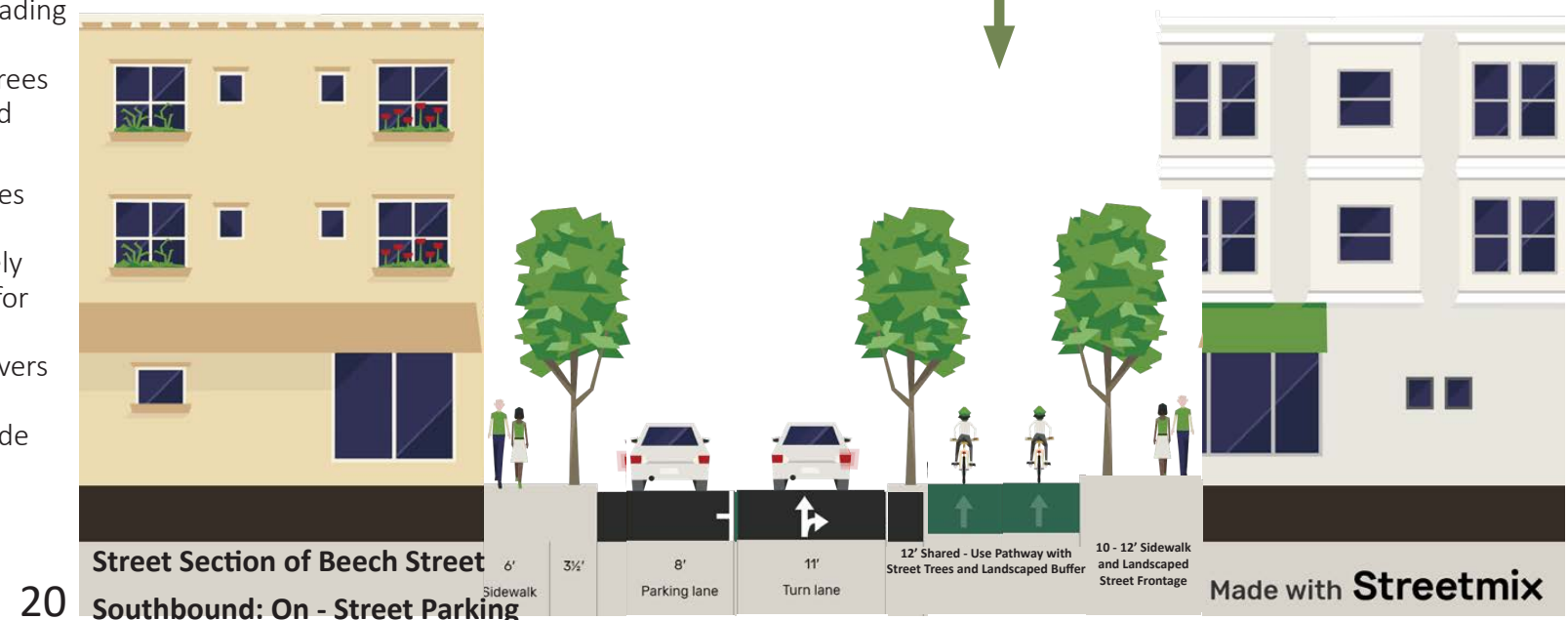
- Existing 5' sidewalks on the eastern side of the street which are severely deteriorated are replaced with new concrete sidewalks and where possible - widened to 6' in width.
- On- street parking is preserved on the east side of both Beech and Maple Streets, with the exception of specific intersections as determined by Stage 1, which may require left turn- lanes onto some of the heavier traveled cross streets. This would complete the benefit of the single line of travel, and the perceived width of the street as a one lane street to slow traffic speeds.

- The eastern traveled lane from the two- lane street is preserved as the vehicular route for all passenger and legal vehicles of use.
- Moving the curb for the length of the west side of the street will realign to the west side of the single lane of traffic.
- A shoulder off- set from the traveled lane to the face of a new street curb is defined to make a travel lane + shoulder adequate for emergency vehicle passage. This dimension is to be determined by city staff.
- Remaining on- street parking spaces on the west side of the street are generally relocated "around the corner" to on- street parking relocation on adjacent side- streets.
- Curb modifications are made for bulb outs at intersections and left turn lanes. Positioning the face of curbs to align to the traveled way edges instead of the parking curb line will reduce pedestrian crossing distances across the entire length of the neighborhood streets for all crosswalks. The average crossing distance will be reduced from as much as 40' of dangerous crossing to 24' length of shorter, slower intersections.
- The 20' of space previously occupied by the second travel lane and on- street parking on the west side of the street is converted to a landscaped and shared use pathway for protected- shaded bicycle and pedestrian use.
- For stage 2, the landscaped space can be a simple panel of grass with street trees graded to absorb sidewalk runoff. A panel of 6-8' in width should be ideal for excellent tree growth and prosperity.
- Nearly continuous street trees are placed along the west side of the street to create comfortable shading of the street in hot afternoon sunlight, with have additional trees along the street for comfort and heat island mitigations.
- The shared use pathway replaces the western side sidewalks which in many areas are severely deteriorated. Paving materials for this pathway do not have to be traditional asphalt. Pervious pavers would drain the pathway, slow bike traveled speeds, and provide stormwater mitigation.

Beech Street existing:



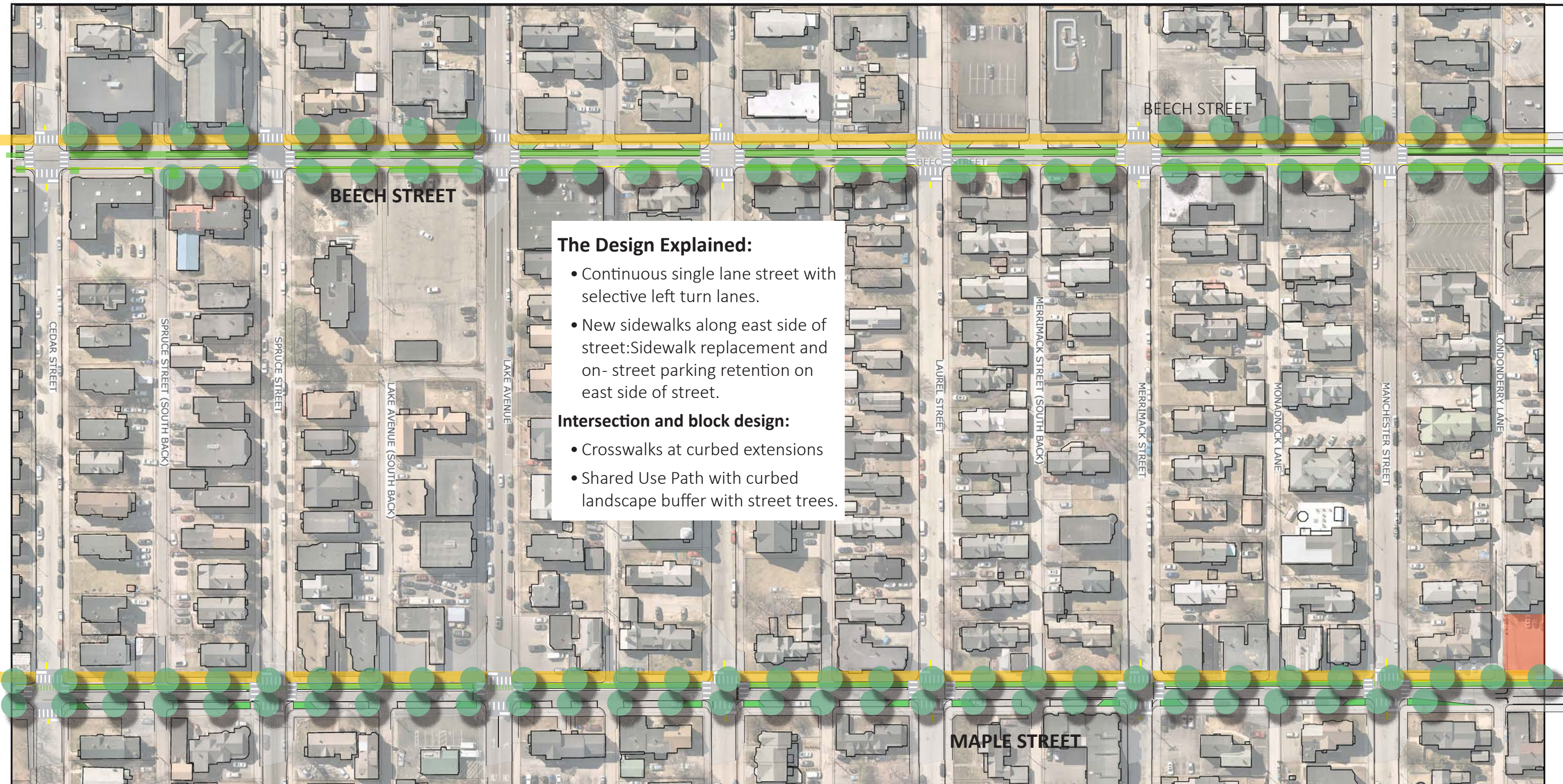
Beech Street proposed:



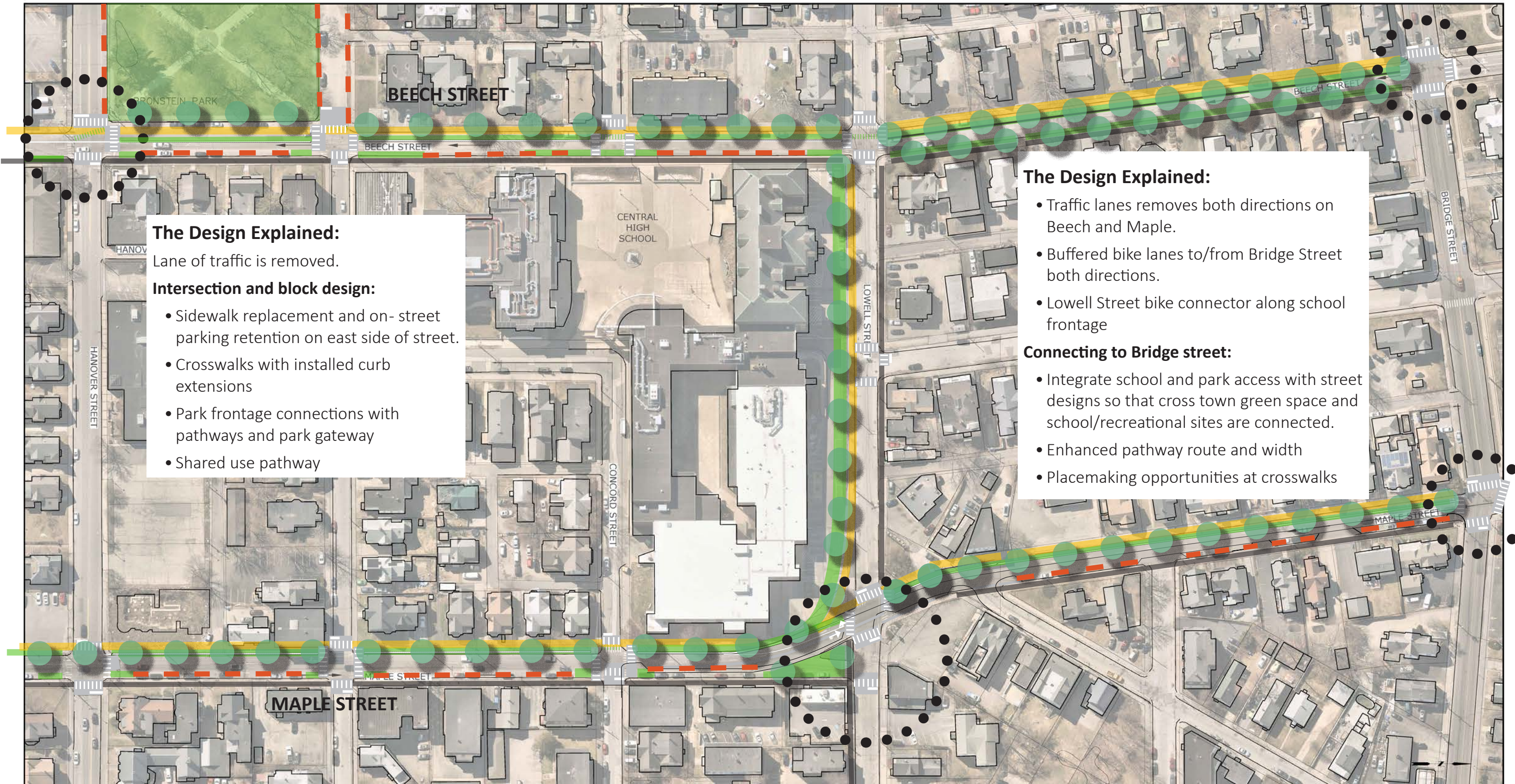
Recommendations: Stage 2: Reconstruct Balanced Plan



Recommendations: Stage 2: Reconstruct Balanced Plan



Recommendations: Stage 2: Reconstruct Balanced Plan



The Design Explained:

Lane of traffic is removed.

Intersection and block design:

- Sidewalk replacement and on-street parking retention on east side of street.
- Crosswalks with installed curb extensions
- Park frontage connections with pathways and park gateway
- Shared use pathway

The Design Explained:

- Traffic lanes removes both directions on Beech and Maple.
- Buffered bike lanes to/from Bridge Street both directions.
- Lowell Street bike connector along school frontage

Connecting to Bridge street:

- Integrate school and park access with street designs so that cross town green space and school/recreational sites are connected.
- Enhanced pathway route and width
- Placemaking opportunities at crosswalks

Recommendations: Stage 3: Community Greenway Streets

Setting the stage for a new street design:

- The development of the mature greenway Street for Beech and Maple focuses on the addition of other community elements of social, economic, environmental, and aesthetic development to take the stage 2 street plan and make it fantastic as a community space.
- Having rebalanced vehicle space with green space with pedestrian and bicycle space allocations the road space has been reduced with resulting safer slower streets.
- The residents of homes along the east side of the streets have the benefit of retained on- street parallel parking on the east side of Maple and Beech Street.
- The new through- lane of the street is also positioned along the eastern side next to the parallel parking so speeds will be slowed.
- Turning lanes at intersections will have to remove on- street parallel parking to provide left- turn lanes. Spaces can be reasonably shifted a short distance around the corner onto side streets, and resident's cars will be safer from passing vehicles.
- The second lane of traffic on the west side of the street- having been removed will allow the creation of the sidewalk in greenway design beyond the stage 2 design: This will include new sidewalks, shared use paths for pedestrians, children and bicyclists, tree lawns, and linear green stormwater gardens and permaculture and other functional native landscaping in strategic locations for stormwater and habitat attractions.
- The greenway will allow space for landscape buffers, lighting, pedestrian amenities, street trees, public art and wayfinding for a feeling of a linear park.

The result will be the final stage of the streets development.

- Design for greening and humanizing the streets
- Street trees for shade- cooling hot summer streets
- Greenways for pedestrian and bicyclist comfort
- Balancing street space for vehicles and green space

In addition:

- The large parking area south of the Beech Street School could propose development of a teachers neighborhood for the school district to partner with workforce housing to build teacher housing to attract more teachers to the district.

- Central High School can be redeveloped on- location for school or community purposes. Under no circumstances should Central be demolished.
- Beech Street School could also be a center of school re- development
- Numerous locations of neighborhood enhancement can be developed from parking lots and other under utilized areas.

These are the components of Stage 2:

- Existing 5' sidewalks on the eastern side of the street which are severely deteriorated are replaced with new concrete sidewalks and where possible- widened to 6' in width.
- On- street parking is preserved on the east side of both Beech and Maple Streets, with the exception of specific intersections as determined by Stage 1, which may require left turn- lanes onto some of the heavier traveled cross streets. This would complete the benefit of the single line of travel, and the perceived width of the street as a one lane street to slow traffic speeds.
- The eastern traveled lane from the two- lane street is preserved as the vehicular route for all passenger and legal vehicles of use.
- Moving the curb for the length of the west side of the street will realign to the west side of the single lane of traffic.
- A shoulder off- set from the traveled lane to the face of a new street curb is defined to make a travel lane + shoulder adequate for emergency vehicle passage. This dimension is to be determined by city staff.
- Remaining on- street parking spaces on the west side of the street are generally relocated "around the corner" to on- street parking relocation on adjacent side- streets.
- Curb modifications are made for bulb outs at intersections and left turn lanes. Positioning the face of curbs to align to the traveled way edges instead of the parking curb line will reduce pedestrian crossing distances across the entire length of the neighborhood streets for all crosswalks. The average crossing distance will be reduced from as much as 40' of dangerous crossing to 24' length of shorter, slower intersections.
- The 20' of space previously occupied by the second travel lane and on- street parking on the west side of the street is converted to a landscaped and shared use pathway for protected- shaded bicycle and pedestrian use.
- The landscaped space can be a simple panel of grass with street trees graded to absorb sidewalk runoff. A panel of 6-8' in width should be ideal

for excellent tree growth and prosperity.

- Nearly continuous street trees are placed along the west side of the street to create comfortable shading of the street in hot afternoon sunlight, with have additional trees along the street for comfort and heat island mitigations.
- The shared use pathway replaces the western side sidewalks which in many areas are severely deteriorated. Paving materials for this pathway do not have to be traditional asphalt. Pervious pavers would drain the pathway, slow bike traveled speeds, and provide stormwater mitigation.

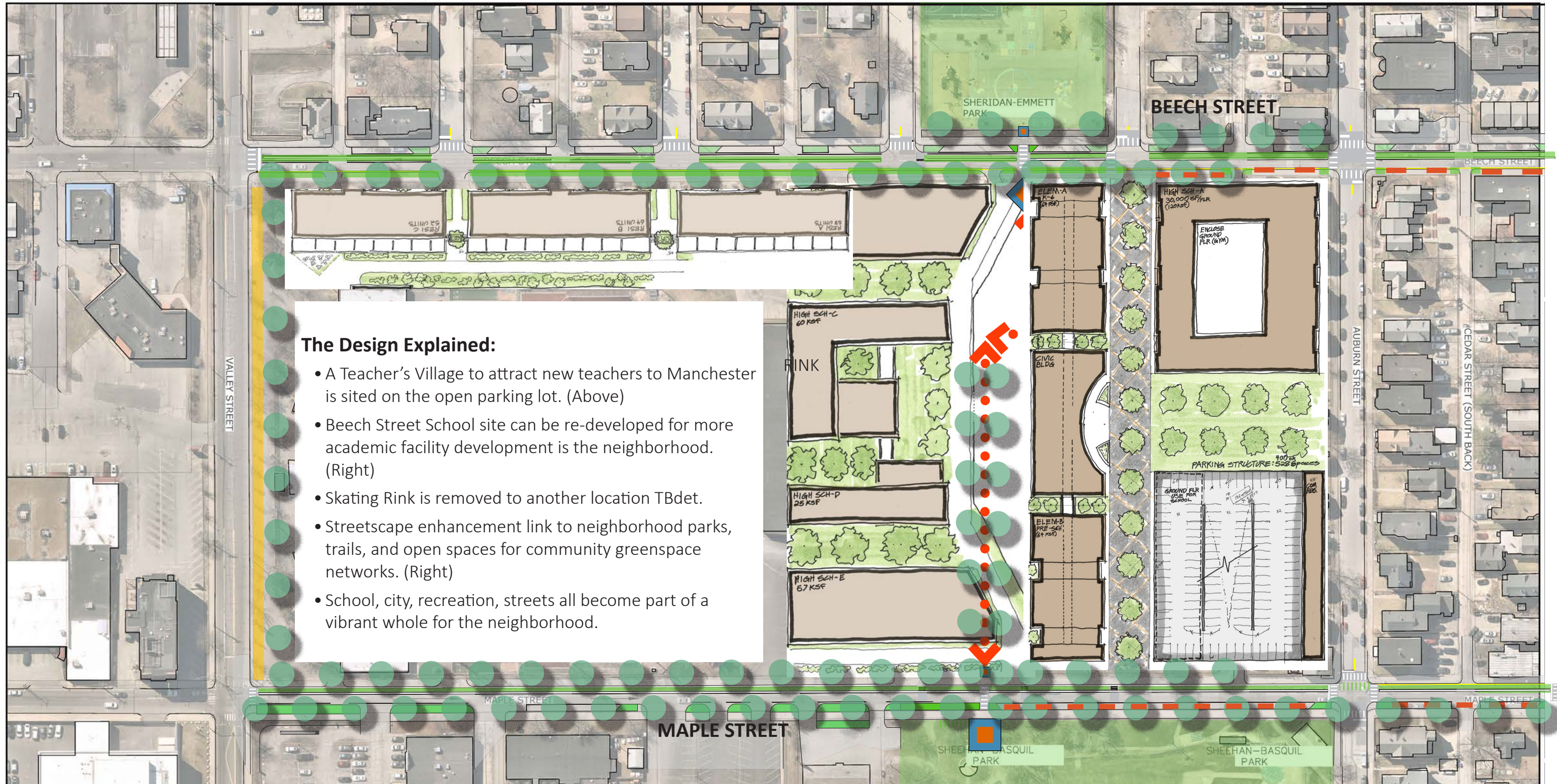
Beech Street existing:



Beech Street proposed:



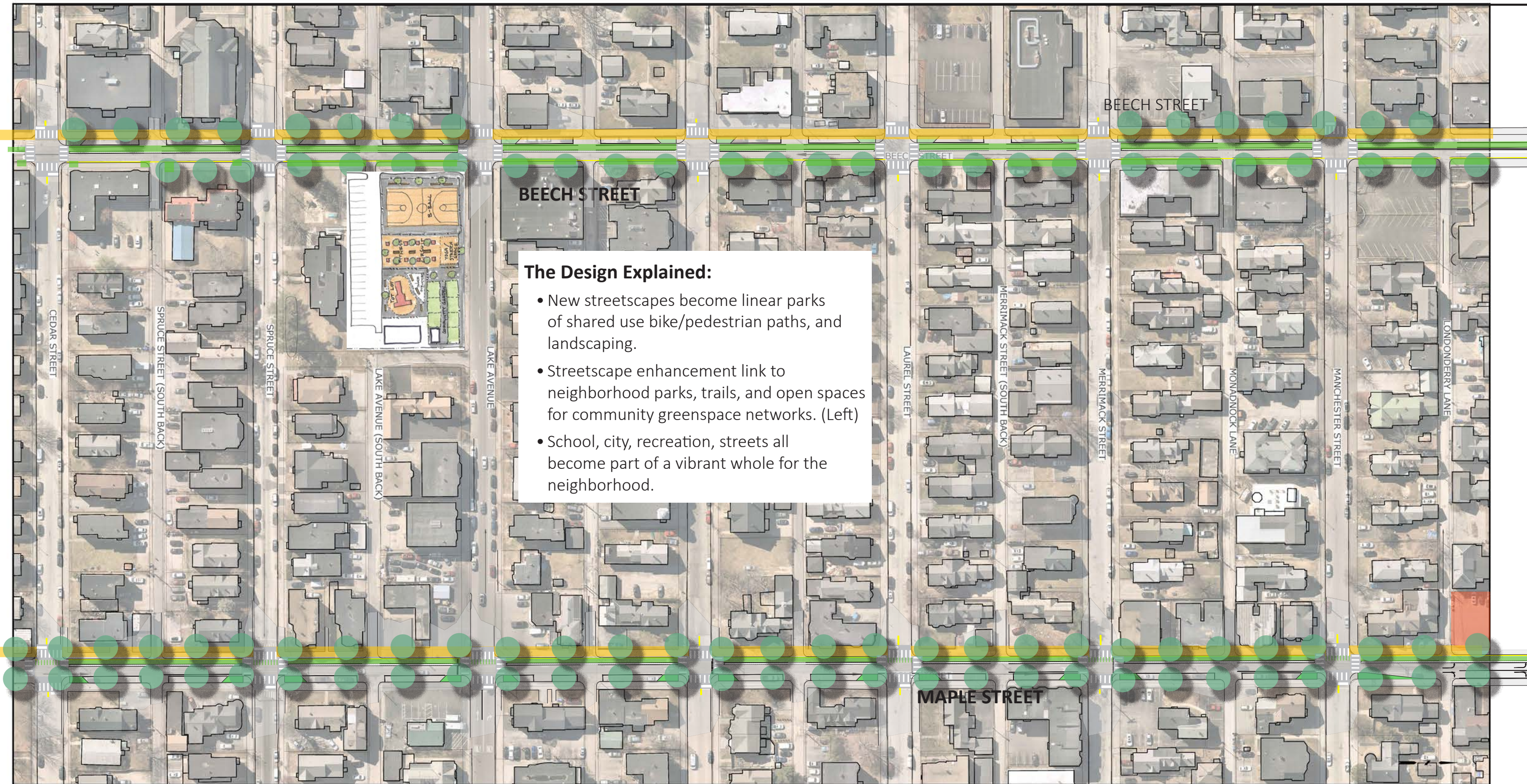
Recommendations: Stage 3: Community Greenway Streets



The Design Explained:

- A Teacher's Village to attract new teachers to Manchester is sited on the open parking lot. (Above)
- Beech Street School site can be re-developed for more academic facility development in the neighborhood. (Right)
- Skating Rink is removed to another location TBD.
- Streetscape enhancement link to neighborhood parks, trails, and open spaces for community greenspace networks. (Right)
- School, city, recreation, streets all become part of a vibrant whole for the neighborhood.

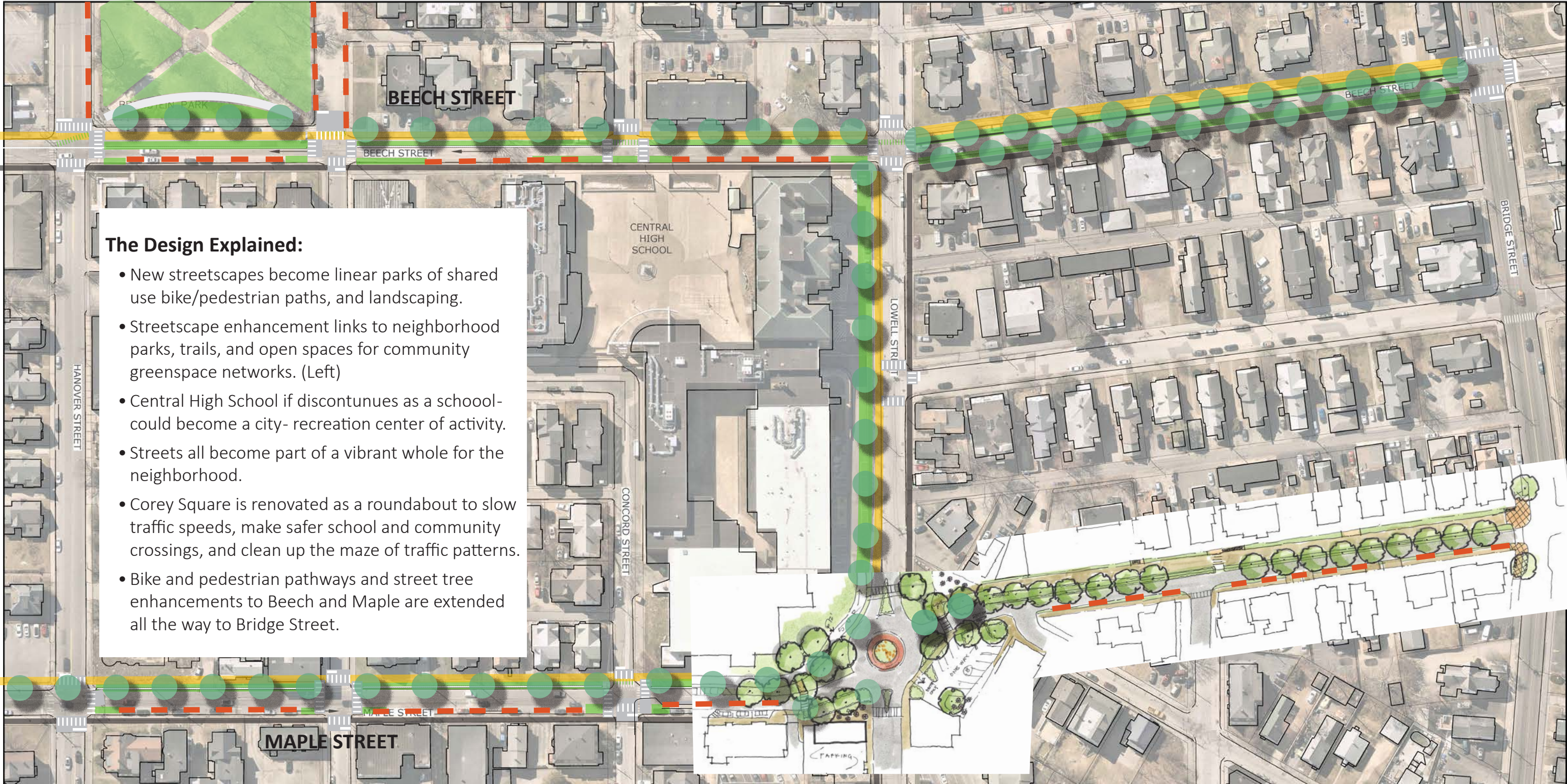
Recommendations: Stage 3: Community Greenway Streets



The Design Explained:

- New streetscapes become linear parks of shared use bike/pedestrian paths, and landscaping.
- Streetscape enhancement link to neighborhood parks, trails, and open spaces for community greenspace networks. (Left)
- School, city, recreation, streets all become part of a vibrant whole for the neighborhood.

Recommendations:
Stage 3: Community Greenway Streets



The Design Explained:

- New streetscapes become linear parks of shared use bike/pedestrian paths, and landscaping.
- Streetscape enhancement links to neighborhood parks, trails, and open spaces for community greenspace networks. (Left)
- Central High School if discontinued as a school- could become a city- recreation center of activity.
- Streets all become part of a vibrant whole for the neighborhood.
- Corey Square is renovated as a roundabout to slow traffic speeds, make safer school and community crossings, and clean up the maze of traffic patterns.
- Bike and pedestrian pathways and street tree enhancements to Beech and Maple are extended all the way to Bridge Street.

Recommendations: A New Greenway for the Neighborhood

IT'S SAFER:

Beech and Maple will be changed to give the streets more community space and traffic is designed to be slower and safer.

1. Deteriorated sidewalks are repaired and/or replaced. New durable pavements can be easier to plow and keep attractive.
2. Most on- street parking preserved on location or shifted nearby to side streets.
3. Two- lane “state numbered highway” narrowed to one with needed left- turn lanes at intersections.
4. The space of the second traffic lane is made into a bicycle lane.
5. Dangerous on- street bicycling is relocated to a protected continuously bike greenway.
6. Most intersections can have added bulb-outs to shorten crossing distances by almost 50%, eliminate speeding corners.
7. Bulb-outs provide additional social space so that “every corner has a bench”.
8. Some intersections can be made into “raised intersections” to slow traffic and enhance ADA accessibility.

IT'S BETTER CONNECTED:

Changing the streets to a design that brings the neighborhood together in safety and comfort.

1. Sidewalks are continuous and protected.
2. Parklands get connected and woven into a neighborhood “quilt” of green spaces such that the combined space of the greenway has opportunities for continuous street trees to bring shade and greenery back to the neighborhood.
3. The high school and elementary school presence as neighborhood anchors will be enhanced with better access, school facility and outdoor spaces, and take advantage of more community “greenspace” for neighborhood children.
4. Placemaking and public art opportunities celebrate connectors and streetscapes.
5. The transit system and neighborhood stops are safer and better used by being more visible and accessible.
6. Access to corner markets and services as well as schools are afforded by more walking/biking.

IT'S RETURNED TO GREENERY AND BEAUTY:

Return to become again- a “Tree Street neighborhood”, as literally hundreds of street trees can be added to both Maple and Beech Street in the greenway areas.

1. Side “Tree Streets” streets can have neighborhood block tree character.
2. Parks become activated parts of neighborhood life with better access and safety. Public arts add to contemporary park history and relevance.
3. Seasonal diverse landscaping can have multiple benefits from stormwater treatment, vegetable and fruit gardens, habitat pollinators, and native tree and shrub benefits for all.
4. Landscaping of the bike greenway makes an attractive vegetated buffer along the streets.

Recommendations:

Stage 3: Community Greenway Streets: Not many Trees!

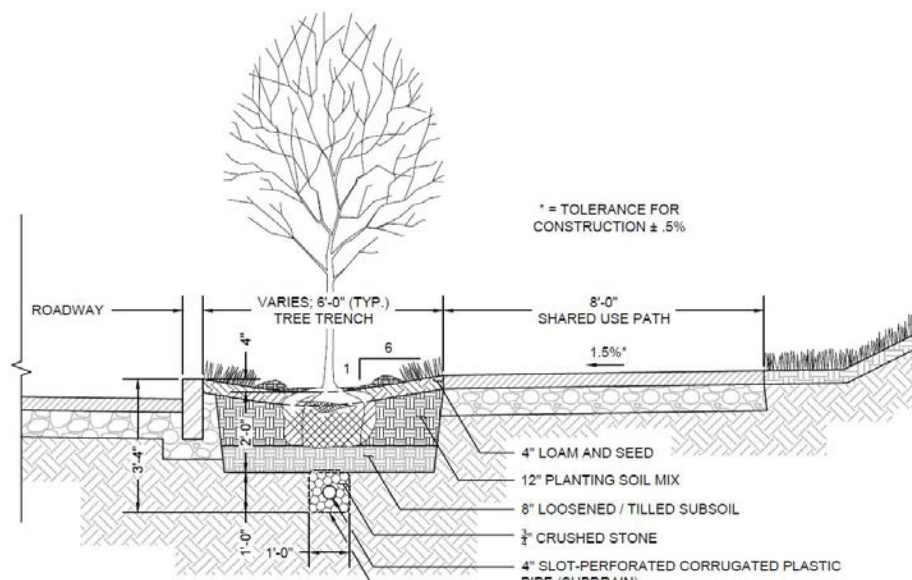
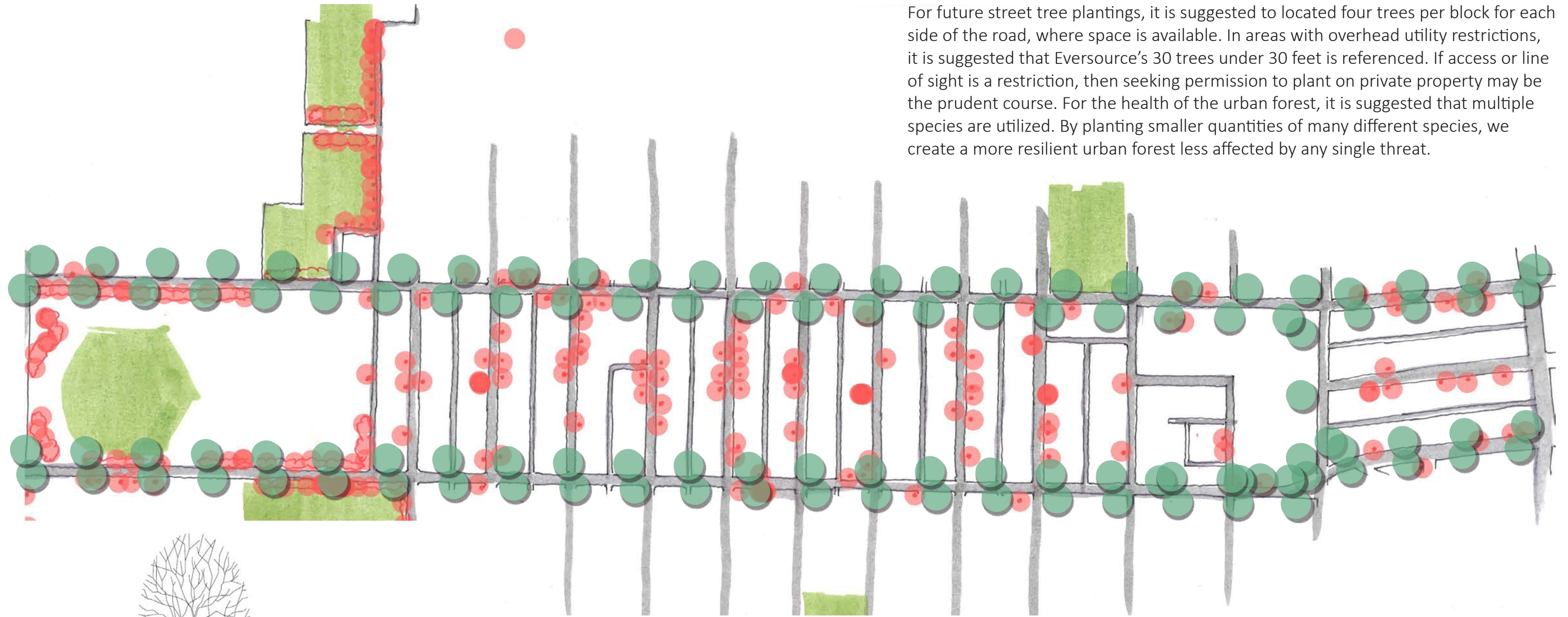


A visual inspection and inventory of the subject area green space was conducted through both in person analysis as well as by virtual means. The existing street tree inventory was noted on an area map to identify the available coverage. The locations identified are approximate, but clearly illustrate that both Beech and Maple Streets are significantly empty of street trees. The coverage on these streets looks to be around 10% of capacity. The cross streets running east/west are slightly better, but still only approximately 25% of capacity. This results in a heat island effect, and has a direct effect on residents. In addition, the lack of trees also is detrimental to the safety of the street.

Studies show that tree-lined streets encourage people to drive more slowly. A line of trees alongside a road alters our perception of how wide the road is, causing us to slow down. By contrast, a long stretch of open road makes most of us increase our speed. Trees also provide a psychological cue that lets us know we're in an area where people live, making us more conscious of children, animals and the possibility of unexpected incidents. This makes us slow down and pay greater attention to what's going on around us. Not only does slower driving make our streets safer, but it also reduces emissions, making them healthier too. In addition, tree lined streets create another layer of safety for pedestrians on the sidewalk.

Recommendations: Stage 3: Community Greenway Streets: Lots More Trees!

For future street tree plantings, it is suggested to located four trees per block for each side of the road, where space is available. In areas with overhead utility restrictions, it is suggested that Eversource’s 30 trees under 30 feet is referenced. If access or line of sight is a restriction, then seeking permission to plant on private property may be the prudent course. For the health of the urban forest, it is suggested that multiple species are utilized. By planting smaller quantities of many different species, we create a more resilient urban forest less affected by any single threat.



As the south end of the subject area has an extensive park system, safe access is still an issue with the current vehicular traffic. As part of a Health Department focus group in 2017, Planning & Community Development staff looked at a pilot program from Alley activation. HEAL: Healthy Eating Active Living. This program looked at using the alleys to add trees, organize and standardize trash

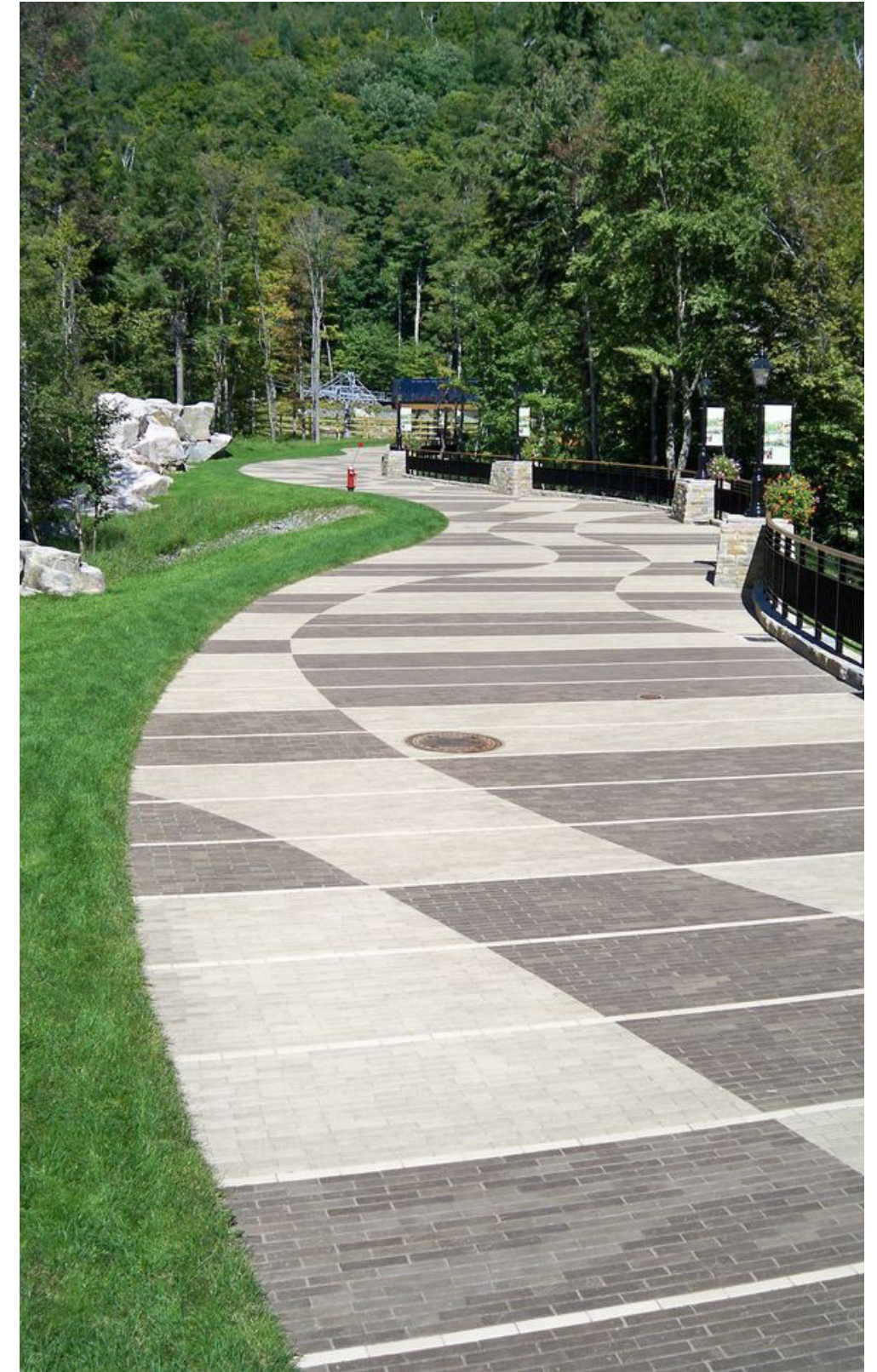
tote storage, delineate parking where available, add street art on Beech Street School, highlight cross walks, and slow cut through traffic. The main focus was on Auburn Street, and Auburn Street South Back from Pine Street to Maple Street. This initiatives safety concerns were certainly highlighted in the charrette of the subject area, but could be utilized throughout the city.

Recommendations: Putting the Pieces Together

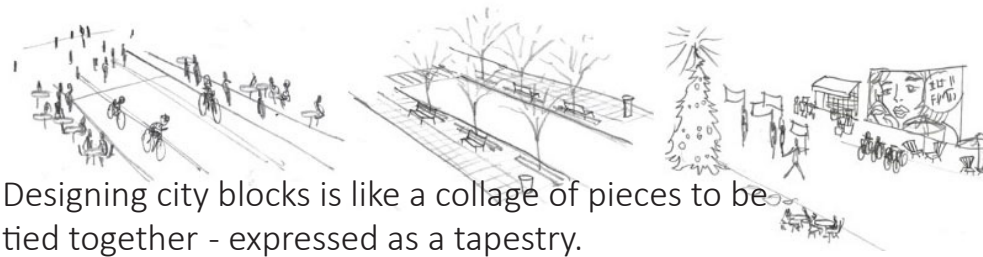
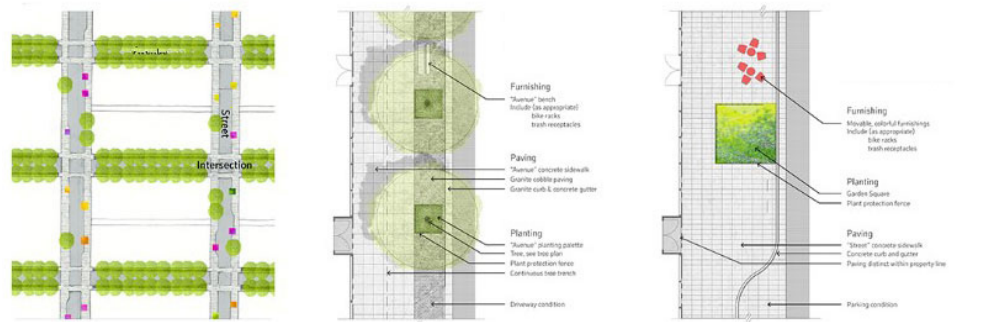


What is proposed:

- A coherent design process that is based upon placemaking and community design, economics environmental justice, and creativity.
- Streets must function for more than cars.
- Cars cannot be allowed to overwhelm a neighborhood and hurt people.
- Design should not just be about the least expensive solution- it should also accomplish the most in the best way.



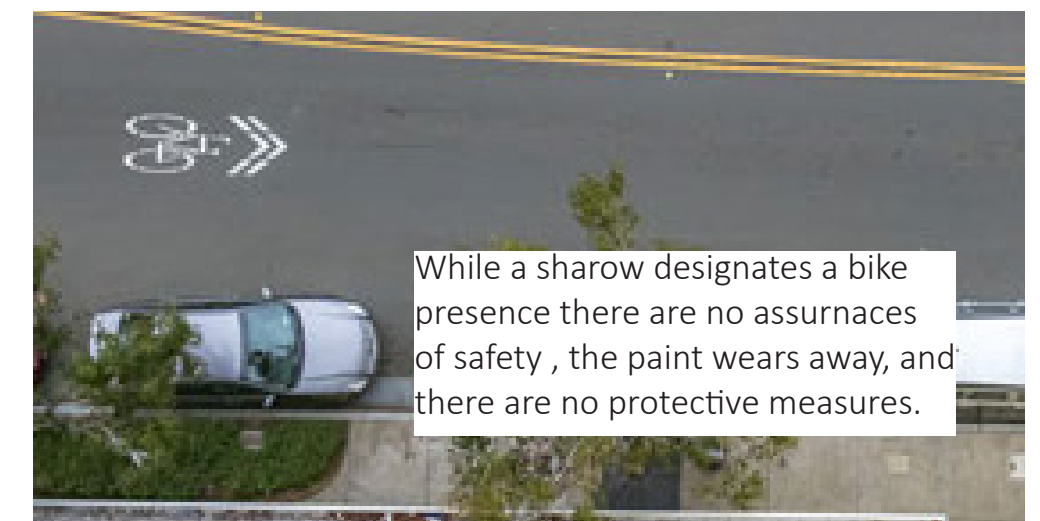
Recommendations: Putting the Pieces Together



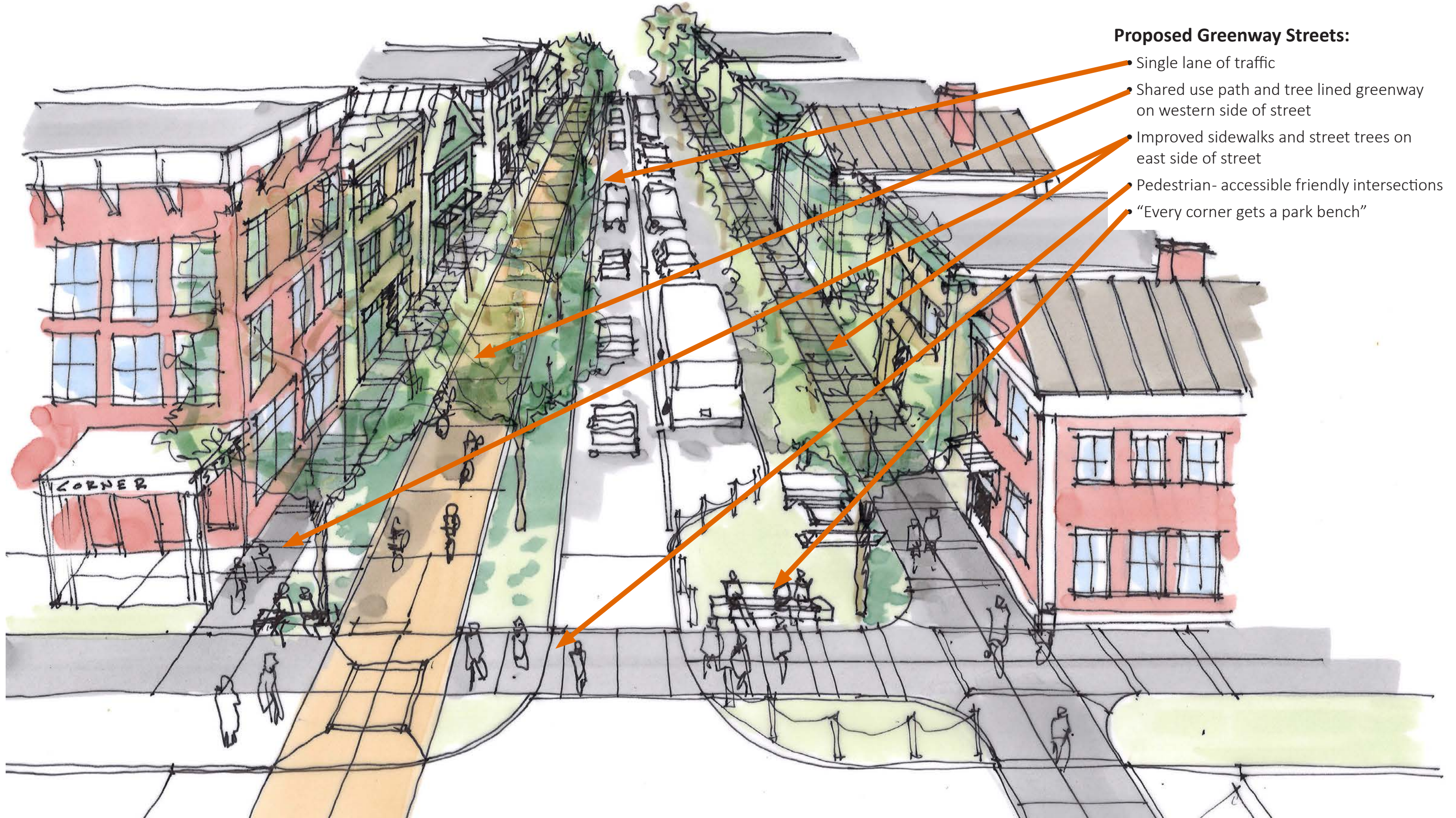
Not being proposed:

Painted lanes and wands may serve as interim bike designs but permanent bicycle design as page 31 is a complete solution.

Sharrows were once a sign of hope and advocacy for bicycle design, but recent studies have disproved sharrows as a viable and safe bike designation.



Recommendations:
Greenway Transformation - A closer look



Proposed Greenway Streets:

- Single lane of traffic
- Shared use path and tree lined greenway on western side of street
- Improved sidewalks and street trees on east side of street
- Pedestrian- accessible friendly intersections
- "Every corner gets a park bench"

Recommendations:
Greenway Transformation - A closer look



Recommendations:
Greenway Transformation Example



Existing



Proposed Greenway

- Adding shade trees
- Shared use path way
- High School landscape frontage
- High School renovated for either an improved school or Community Center

Recommendations:
Greenway Transformation Example



Existing



Proposed Greenway

- Adding shade trees
- Shared use path way
- Streetscape integrated with city park.
- Greenway amenities such as rain gardens and seating areas

Recommendations:
Greenway Transformation Example



Existing



Proposed Greenway

- Adding shade trees
- Concord Street Connector path way
- High School landscape
- High School renovated as next generation city school or as a Community Center

Recommendations: Greenway Transformation Example



Existing



Proposed Greenway

- Adding shade trees
- Shared use path way
- Seating and gathering areas
- “Every corner gets a park bench”
- Public arts opportunities.

Recommendations:
Greenway Transformation Example



Existing



Proposed Greenway

- Adding shade trees
- Safe intersection design
- Shared- Use Pathway

Recommendations:
Street Design - Intersection Examples



Slow Traffic & Look Nice!

The Plan NH team suggests using decorative paving at high traffic intersections to slow traffic and draw attention to pedestrians. While there are options for painting crosswalks, as shown with the book crosswalk design, decorative paving would not need the continuous refreshing of paint. Other cities in New Hampshire, including Concord and Portsmouth which are shown in the examples, have used decorative paving options to create pleasing and practical intersections.



Recommendations: Street Design - Street Intersections



The neighborhood within Maple and Beech Streets is regularly divided by intersections. These intersections offer the opportunity to create safer pedestrian crossings and regular spots for rest.

Bulb-outs at Corners

Bulb-outs at intersections, such as those in Concord, NH shown at left, provide multiple benefits with a simple design change. By extending the pedestrian space into the street, traffic is slowed down and crossing distances are reduced. Bulb-outs also give space to add street trees, lighting, benches, and trash receptacles.



Green Infrastructure

Intersections also provide the opportunity to include green infrastructure. Bulb-outs can be populated with street trees, which can reduce the heat island effect and improve air quality. Rain gardens could also be an option in areas where catching stormwater runoff and reducing local flooding is a priority.

Recommendations: Street Design - Corey Square Redesign Option



Concepts

Corey Square is the name of the neighborhood and intersection of Maple Street with Lowell Street, near one corner of Central High School. This intersection is confusing and often traversed at high speeds by vehicles. Plan NH's traffic group re-imagined Corey Square as a roundabout to slow traffic and prioritize non-motorized transportation.

Suggestions were also floated to lean into a theme for the square. Several pizza joints surround the square, so ideas were floated to make the landscaping at center of the roundabout pizza themed! A local alderman also informed the Plan NH team of an older name for the neighborhood: Janesville, which celebrated a famous local.



Recommendations: Street Design - Transit Considerations

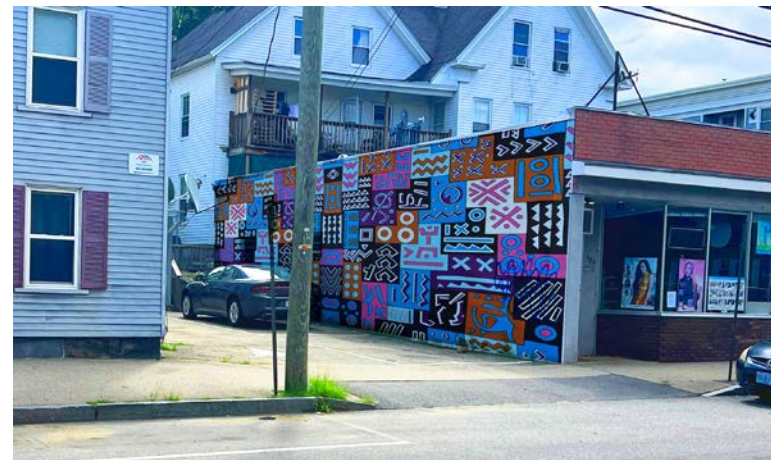
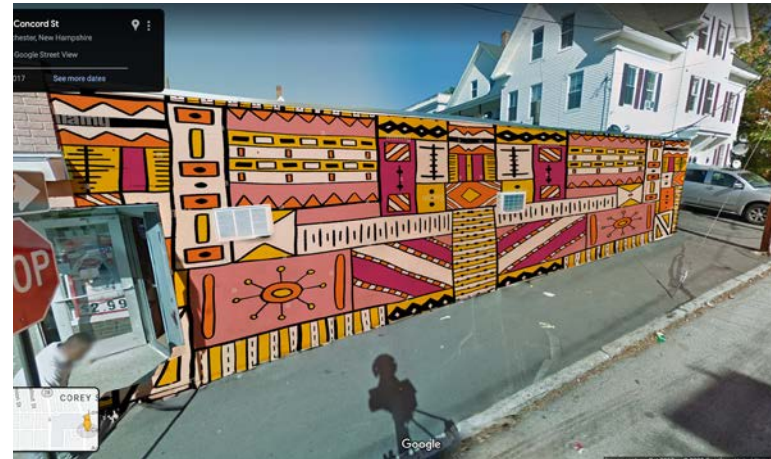
There is clear demand for transit within the neighborhood. Plan NH heard that there are no formal bus transit stops on either Beech or Maple Street in the neighborhood because of transit provider concerns for vehicular and passenger safety. Currently, while there are 5 stops along the edges of the area, a lack of transit locational identity and absent wayfinding challenges service providers and resident transit users. Residents also preferred where possible to “flag down the bus” along side streets travelled routes because of fear of groups and individuals hanging out at bus stops and abusive conditions. In the meantime, the team recommended some short term solutions.

Short term solutions

- Add clearer signage within the neighborhood to direct riders to existing stops on the exterior streets.
- Maintain those stops and designate preferred flag down locations that are found to be safer for entering and exiting the bus.



Recommendations: Placemaking

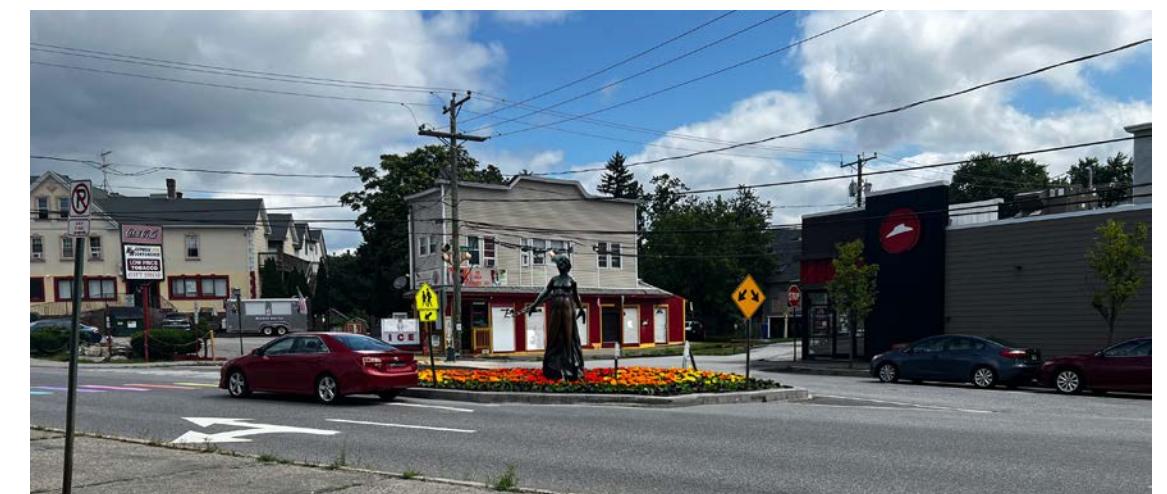


Let's Celebrate this Community!

Public art has the power to transcend language and cultural barriers, serving as visual narratives that reflect the unique identity and stories of a community. When local residents actively participate in the creation of these pieces, they contribute their personal experiences, perspectives, and voices to the collective canvas.

Utilizing art, particularly murals, as a means of community engagement can significantly enhance the sense of ownership and connection that local communities feel toward their spaces. This collaborative process not only fosters a sense of pride and accomplishment but also empowers community members to see their own creativity mirrored in the public space.

As a result, a mural becomes more than just a piece of art; it transforms into a shared symbol of unity, belonging, and the community's active role in shaping its environment. This connection to the mural and the process of its creation instills a deeper sense of ownership and stewardship over the space, encouraging community members to protect and enhance it for the benefit of all.



Images show mock-ups of locations in the project area with public art.

Recommendations: Community Enhancements

New Concepts:

The team saw several options to find new uses for under-utilized spaces within the project area. These spaces included the area immediately behind Gil Stadium and the Central High School campus.

These suggestions are meant to spark new ways of thinking about the space available to the community and how out-of-the box ideas could bring new opportunity and resources to the people who live and work there.

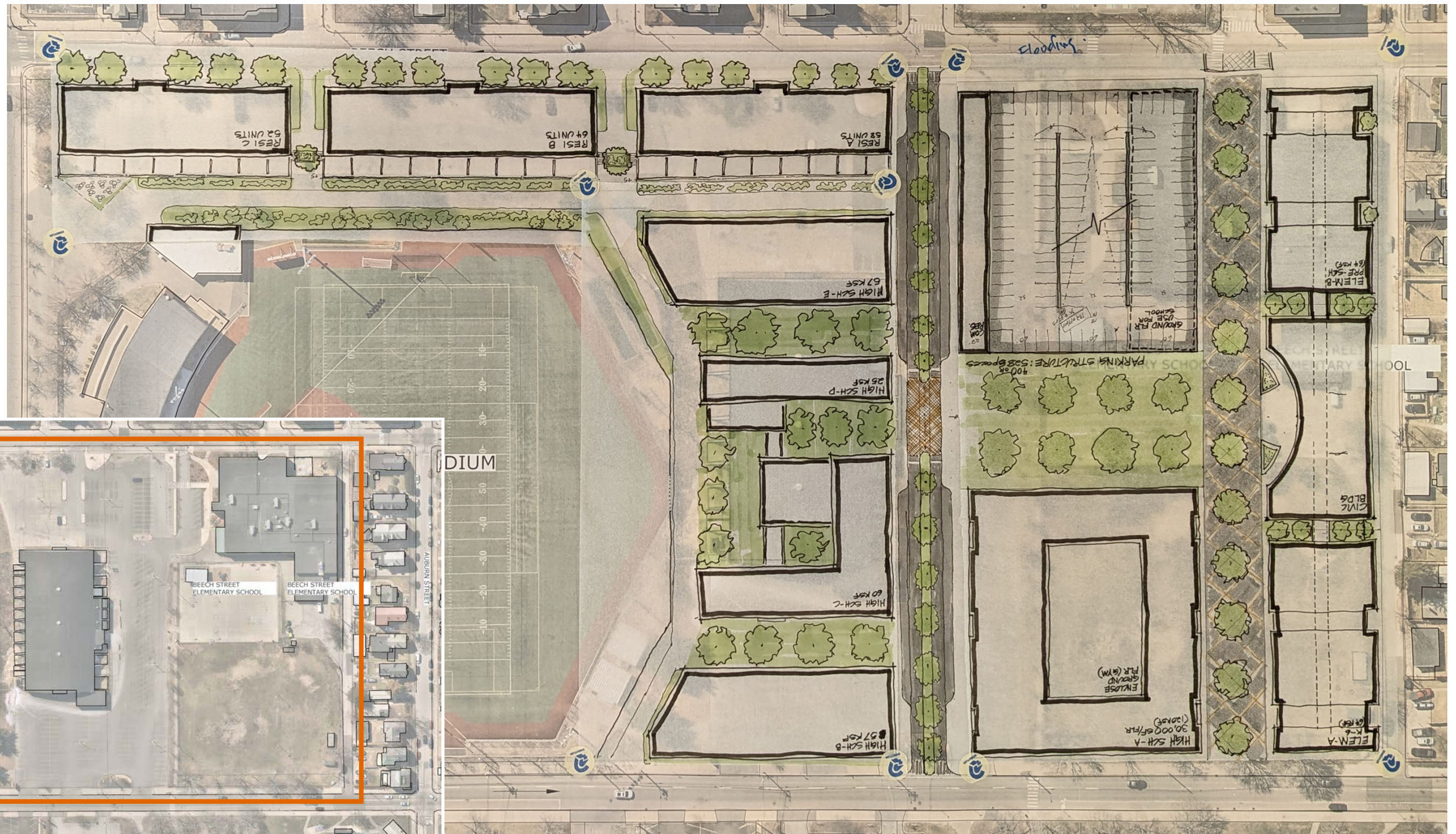
- Meet needs (affordable housing, work force living, schooling) while using the space you have.
- Beautify without gentrifying.
- Attract who you need (teachers, families, workers).



Recommendations: Community Enhancements - Gil Stadium & Teachers Village

Teachers are an essential piece of any community and particularly important in this neighborhood which currently houses two schools.

This conceptual design re-imagines the space around Gil Stadium to provide teacher housing, an elementary school, a high school, and supporting buildings while keeping the urban form and providing new green space. More details on the following page.



Recommendations: Community Enhancements - Opportunities around Gil Stadium

Exciting housing and school facility opportunities!

A conceptual design sketch for the Beech Street School and Gil Stadium area include:

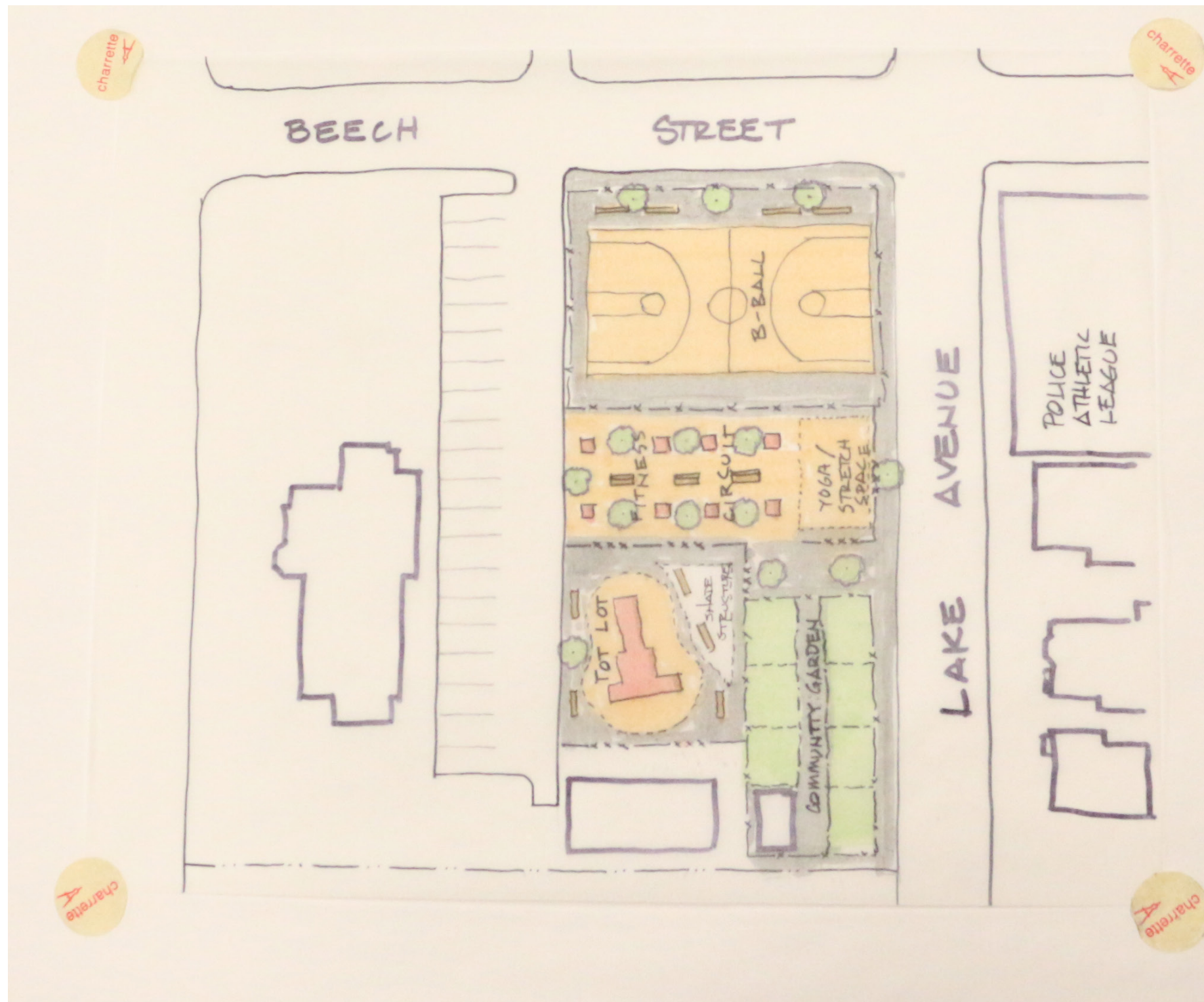
- A new high school building scaled at 319,000 sq ft. could be created, freeing up the current Central High School campus on the other end of the project area for community use. This new school would be oriented to Green Street with drop off and pick-up there.
- A new elementary/civic/community at 20,000sq ft could be reoriented to Summer Street. Community/civic uses would supplement the elementary school.
- 164 residential units along neighborhood streets for school teachers and city employees. Renovations to the site could make Summer Street

a pedestrian way connecting parks to schools. The residential buildings would be along Beech Street adjacent to the elementary school

- 528 parking spaces for both schools and the housing could be placed in a multi- purpose parking structure.
- Gil Stadium could be used as an ice rink Dec-Mar without impacting current use patterns.



Recommendations: Community Enhancements - In-Fill Example



A new park to bring local children, adults, and Manchester Police together:

While there are multiple opportunities to show how to strategically in-fill the neighborhood, the team was inspired by the underutilized lot currently owned by the Manchester Police Activities League. The current space could be transformed into an exercise and training focused park that provides a constructive interface for MPAL and the community.

An exercise park would provide both physical and mental health benefits to the members of MPAL and the residents nearby.



Recommendations: Community Enhancements - Current Use/Potential Use of Central High

A new era for the Central High School:

With the commencement of a study of consolidation of school facilities, elevated concerns for the Central High School as a community asset were raised as an added community consideration for the project area. A charrette team working group took on this additional consideration to hear residents hopes that Central High could be either renovated as a modern school structure - or repurposed as a significant community center and location for additional neighborhood housing.

The city's long investment in the school as public infrastructure could never be replaced in the density of uses and opportunities. The presence of accessible facilities such as elevators and access points would make the site and excellent public facility in the event that it is no longer a school building, and the schools location at a neighborhood crossroads has many opportunities.



Recommendations: Community Enhancements - Potential Uses Explored

Re-Establish Concord Street Connection

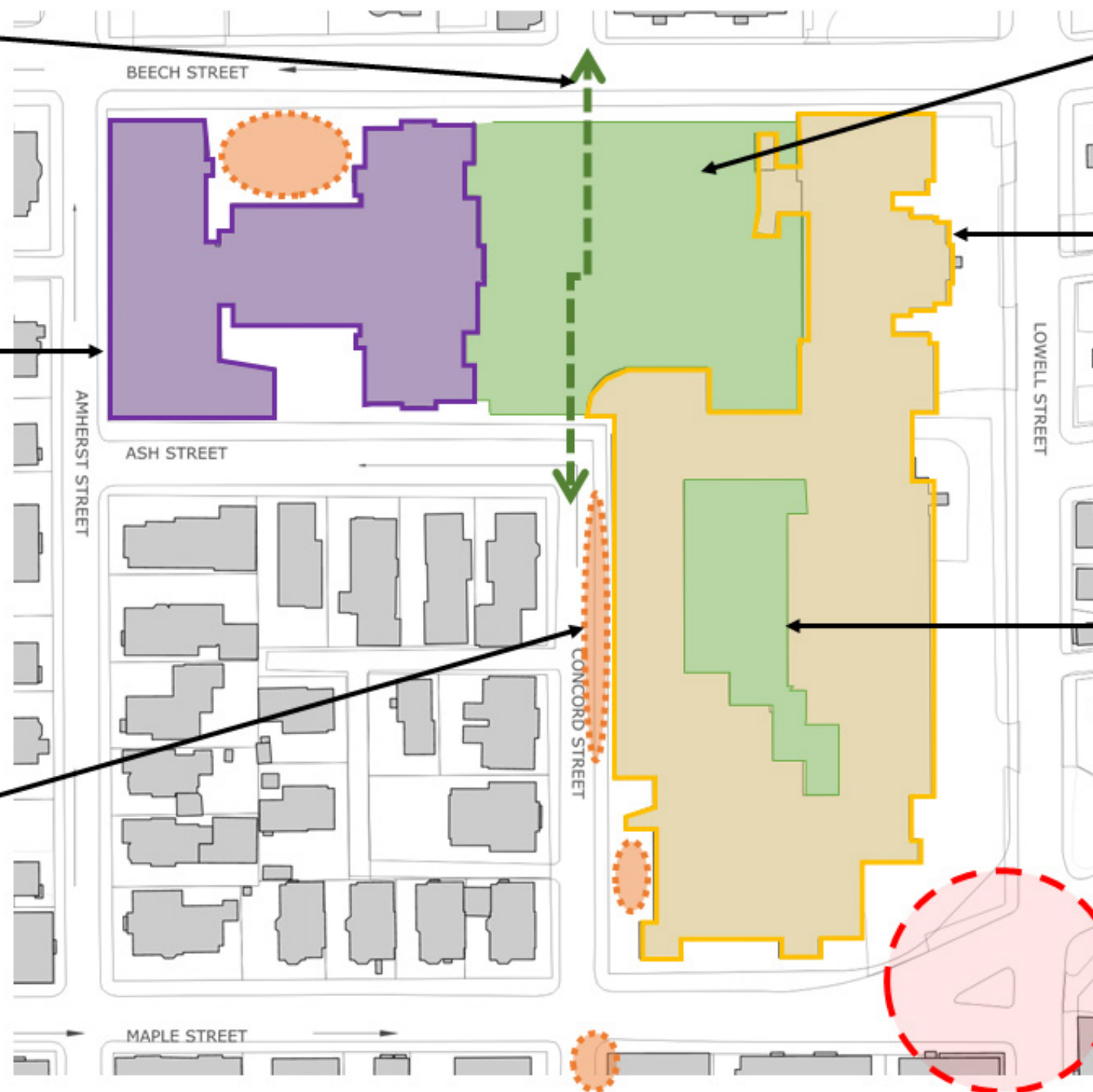
Recapturing the green square would provide the option to re-establish the street grid by creating a pedestrian pathway along the historic pathway of Concord Street.

Re-purposed Community Resource & Engagement Center

During the listening sessions, the team heard from community members who wanted to see better access to resources within the focus area. The old art building could be re-purposed to house needed community resources and outreach.

Placemaking Opportunities

The wide expanse of the building sides and small pockets of greenspace provide ample options for creating meaningful places that offer rest and reflection.



Greenspace Reclamation

Re-purposed Housing Opportunity

Should the high school be moved or consolidated, the opportunity arises to shift the use of the space to a residential space. School to apartment conversions are not unheard of and can result in affordable and comfortable housing.

Resident Greenspace

Maintain the courtyard space as a private greenspace for residents of the newly re-purposed building.

Corey Square Re-Imagined

Recommendations:
Community Enhancements - Potential Uses Explored

Re-purposed Housing Opportunity

Re-purposed Community Resource & Engagement Center

Ideas for the re-purposed community resource and engagement center include:

- Entrepreneurship training/opportunities
- Art and cultural connections
- Community services

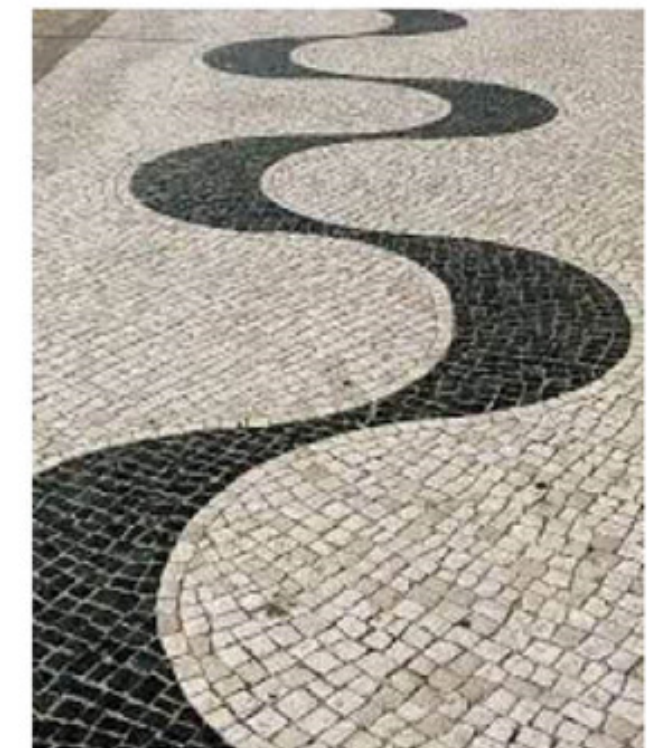
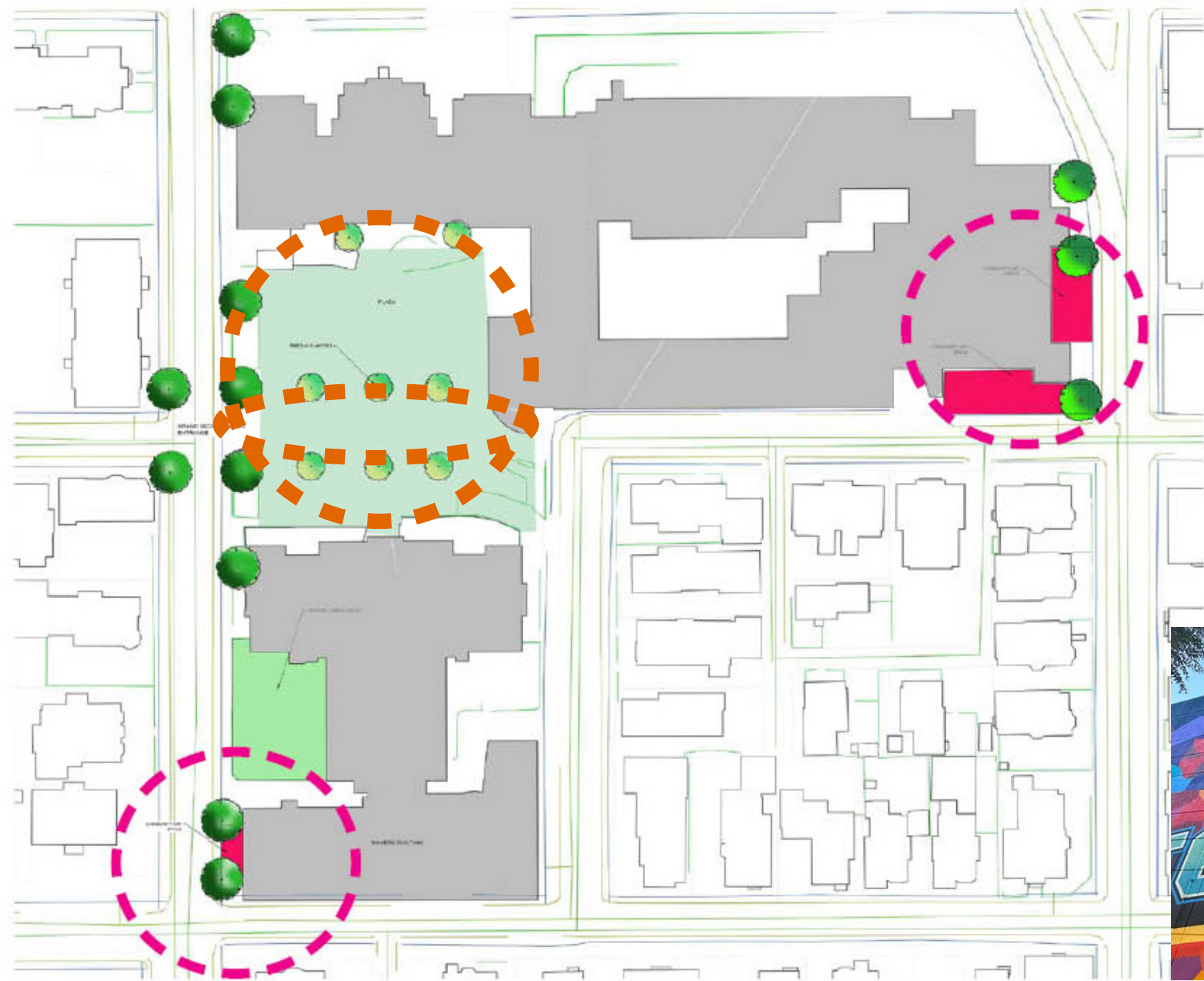
Vertical Expansion of Vocational Building

Expanding this building would provide room to expand community vocational training, maker-space/community repair shop opportunities, and space for career building and advancement services. It could also provide rooftop spaces with views of Bronstein Park and the city.



Bronstein Park

Recommendations:
Community Enhancements - Community Art Opportunities



Big Picture: A Community Quilt

Visioning for the Future

We saw opportunity!

The neighborhood between Beech and Maple Streets is a diamond in the rough. There are many ways to start small and build up to big changes that support the residents and improve their lives.

Energizing the neighborhood.

Residents at the listening sessions were ready to pitch in and make their community better for themselves and their neighbors. Taking advantage of that drive will build solutions that work with and for the community.

Weaving the community quilt.

From above, the neighborhood looks like a quilt of streets and greenspaces. Weaving together community spaces by connecting important places in ways that emphasize safe community movement will be key to making longterm, beneficial change for the community.





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PLAN NEW HAMPSHIRE
273 Corporate Drive, Suite 100, Portsmouth, NH 03801 (JSA)
603-452-7526 info@plannh.org www.plannh.org