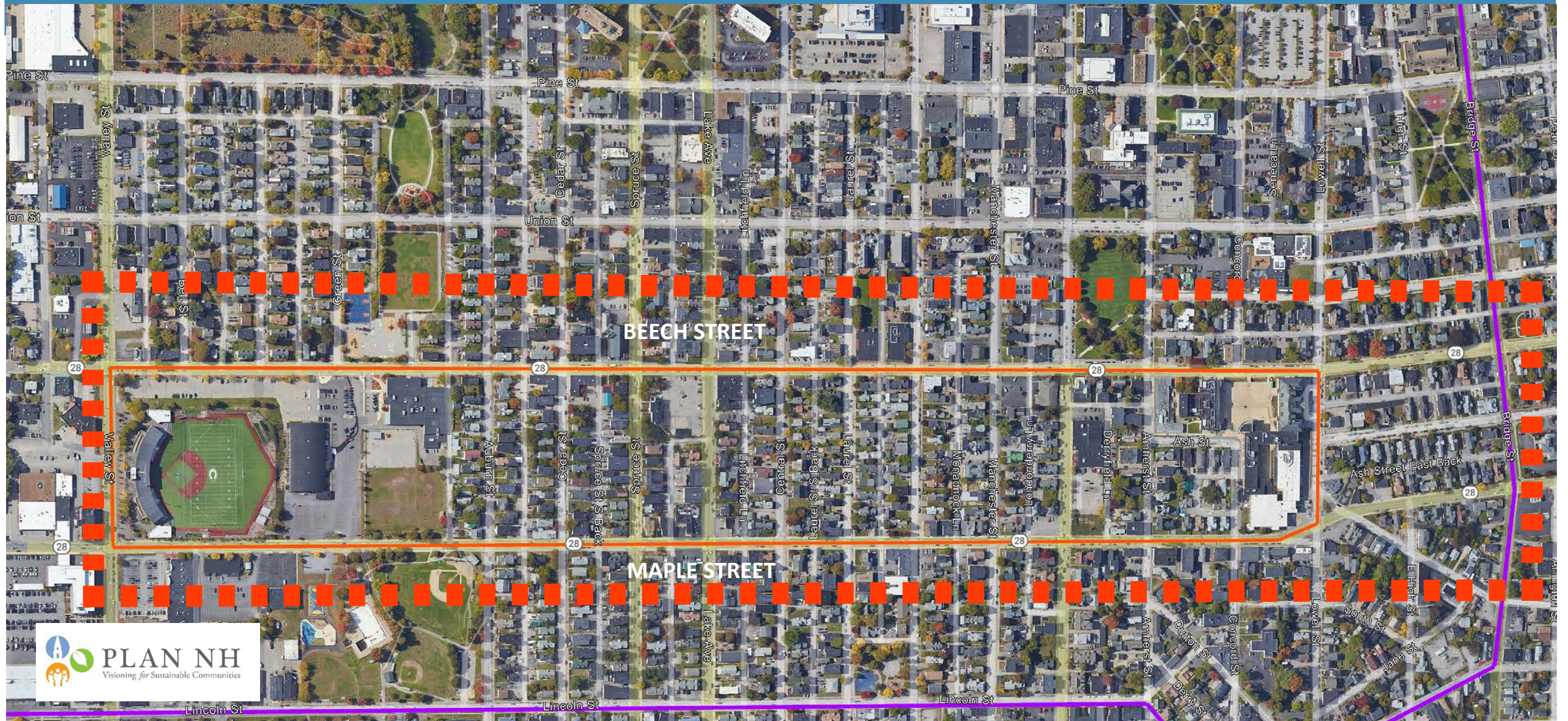


# Maple & Beech Streets Community Design Charrette

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

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## 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 Application & Host

**Arnold Mikolo**  
CLF NH, Environmental Justice Advocate

**Tom Irwin**  
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### City of Manchester

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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?



The Conservation Law Foundation (CLF), with support from the City of Manchester, submitted an application to Plan NH in January 2023 focused on safety and quality of life for the neighborhood surrounding the Maple and Beech Streets Corridor.

## Timeline

- January 2023- Conservation Law Foundation, with letters of support from the City of Manchester, submitted an application to Plan NH
- March 2023- Plan NH Staff and Charrette Committee members met with CLF and other local stakeholders for a site visit
- July 2023- Plan NH Charrette Team came to Manchester for our 76th Community Design Charrette

## Area of Opportunity/Focus

- Engage the neighborhood along Maple and Beech Streets, south of Bridge Street.
- Explore the challenges posed by unsafe streets and identify recommendations that could relieve the community of safety and environmental concerns.
- Enhance quality of life by increasing walkability, bikeability, and overall better integration of the streets into the fabric of the community.
- Increase greening, beautification, and placemaking opportunities that honor the needs and identity of the community.

## 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).*



# Site Tour Observations



## What the Plan NH team saw

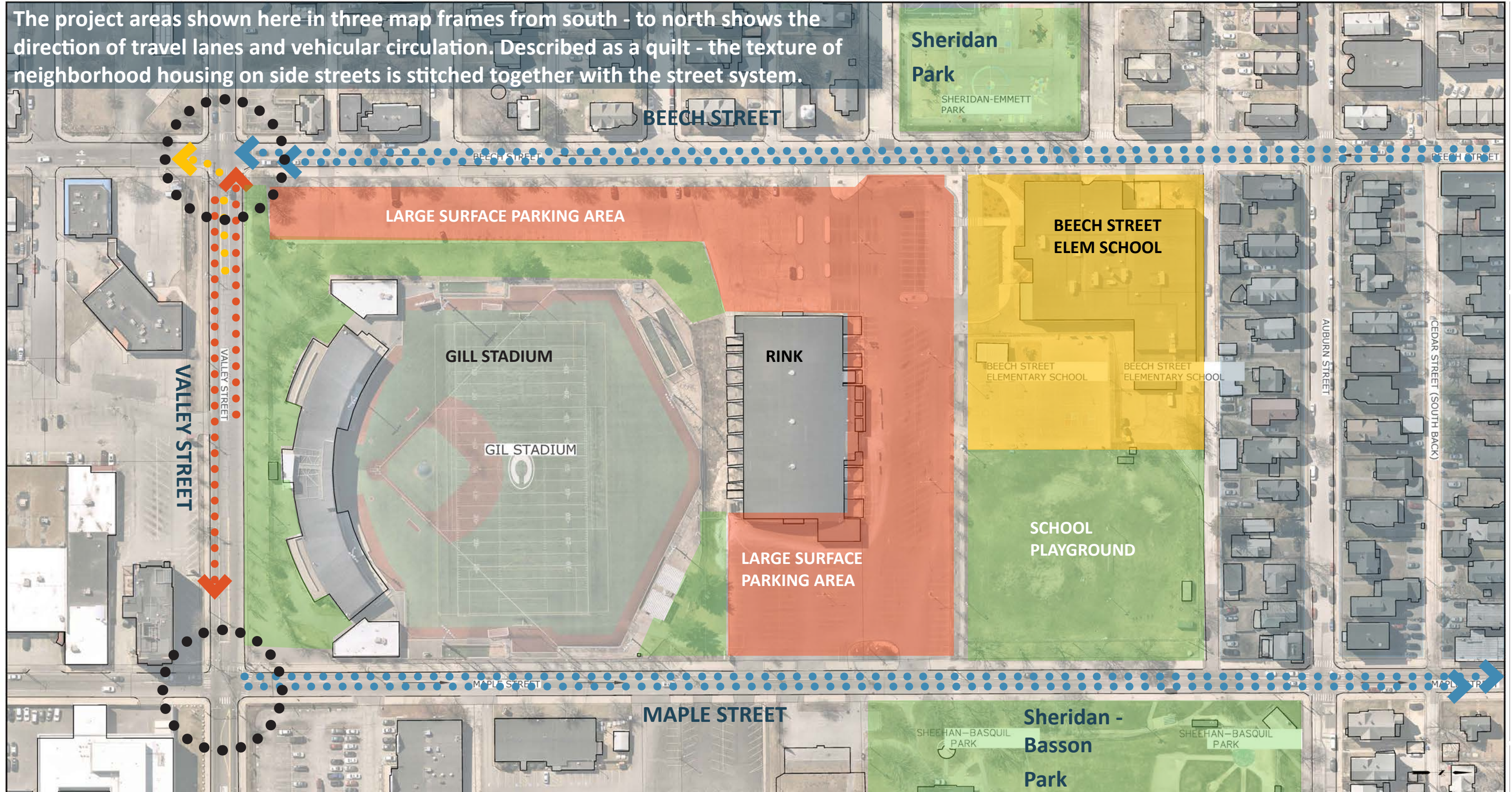
- Historic street grid blocks in the neighborhood dating back to the late 1800s.
- Learned of the “urban renewal” changes to the streets that transformed them to a two-lane – one-way street layout by the DOT in the early 1960s. This was a classic urban transformation of traffic patterns, emphasizing vehicular mobility with unforeseen results.
- The new traffic pattern offered the opportunity to observe speeding traffic well in excess of posted speed limits, and we passed a number of intersections with extremely high accident rates unlike any others in the city. Early Saturday morning one group even witnessed a sideswipe accident between two speeding vehicles.
- A wide variety of neighborhood housing both facing the north-south two-lane streets of Beech and Maple as well as the quieter side streets.
- A variety of small-scale stores for goods and services, as well as an elementary and high school and City recreation facilities.
- A large amount of deteriorated sidewalks and unmaintained green spaces.
- Several installations of community artwork.

As a whole, we found a neighborhood under the apparent stress of an unsafe street system, lacking public, open spaces and greenery, searching for a positive vision for its future.



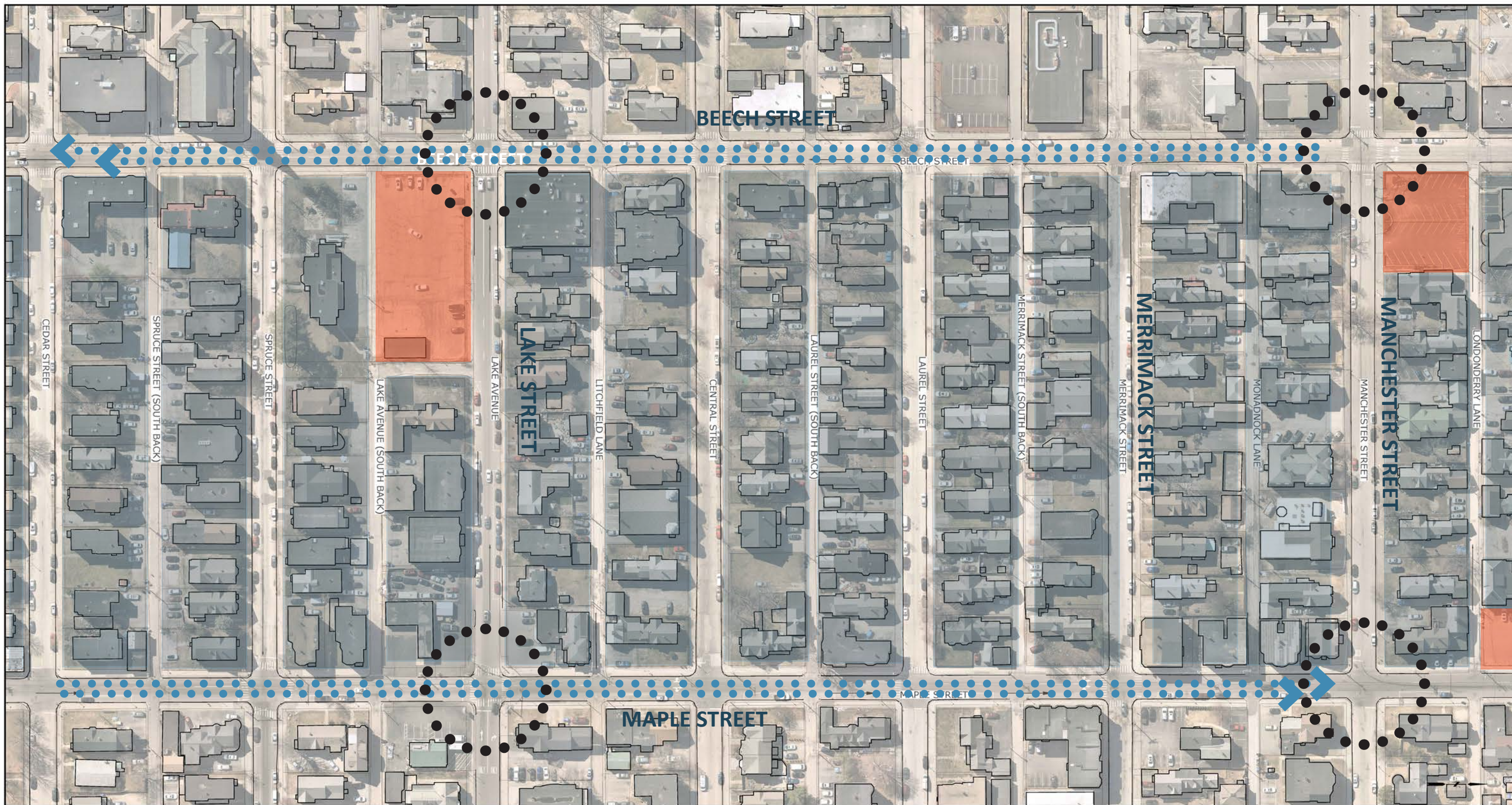
# Site Overview

The project areas shown here in three map frames from south - to north shows the direction of travel lanes and vehicular circulation. Described as a quilt - the texture of neighborhood housing on side streets is stitched together with the street system.



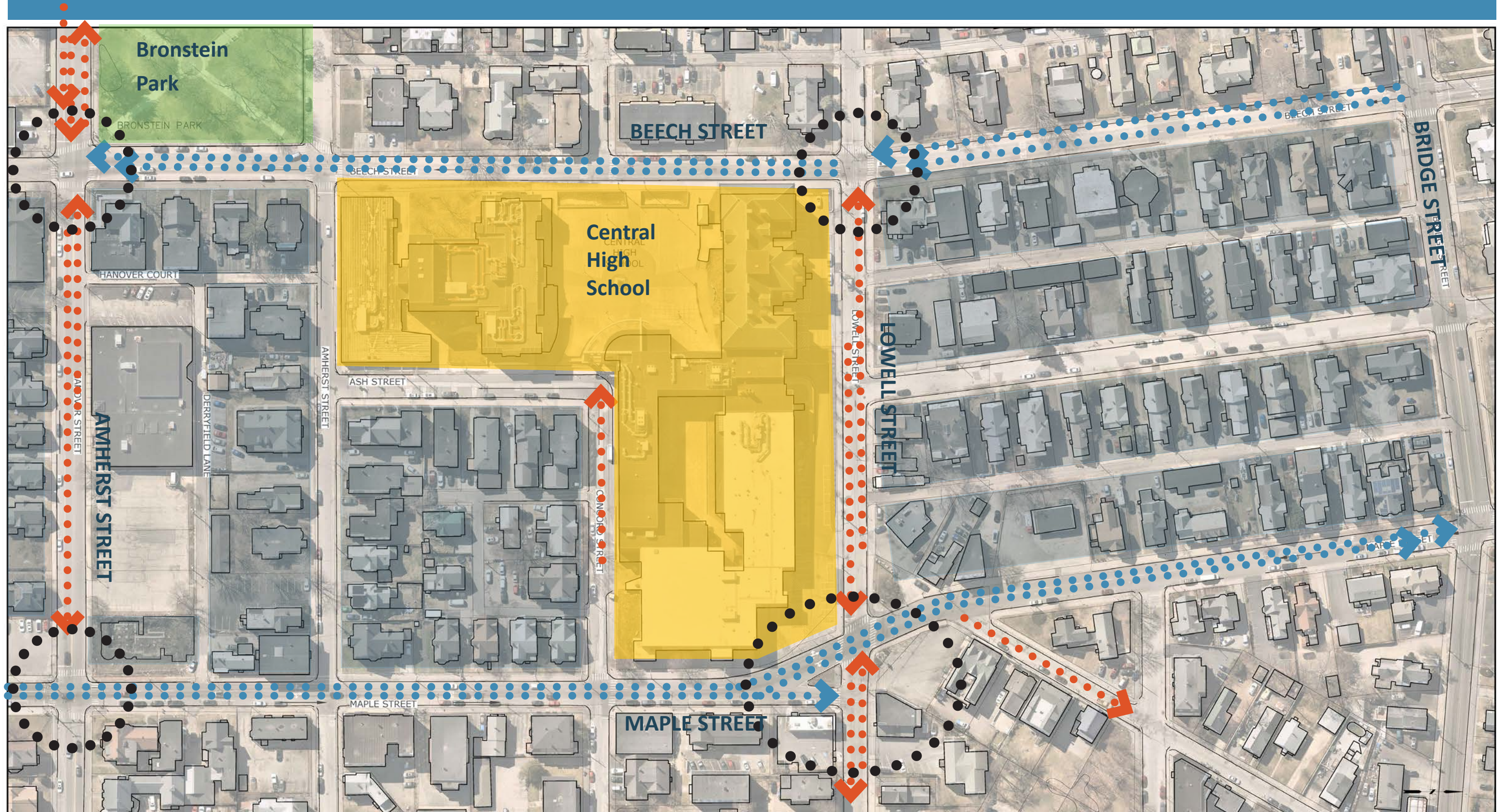


# Site Overview





# 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 to learn about the challenges and opportunities from their perspectives.

### The context of traffic and transportation in the neighborhood:

- This neighborhood has a history of crashes four times higher per capita than the rest of the city.
- This neighborhood is the only neighborhood in the entire city with a one-way street system.
- The density of housing, schools and connections to downtown makes this a neighborhood with a lot of pedestrians.
- Pedestrians and bicyclists are looking for safe routes to travel, but they often end up going the wrong way and there is a history of pedestrian fatalities.
- The traffic signals are currently unsynchronized and without cameras.
- The City is pursuing improvements to signals with funding applications
- The current bus system relies upon “flag down” where riders stand randomly on the curb to be picked up.
- This results in a transit system that is virtually invisible as a public resource.
- The configuration and possible expansion of the bus route in the area is under consideration for improvements.
- The public indicated hesitancy about walking distances to designated bus stops because of physical vulnerability.
- Information provided prior to the charrette as well as a report during the charrette proceedings indicated several important considerations in transportation planning for the neighborhood:
- A high priority on safety was identified.

- There was receptivity about modification to the two lane, one-way street system by City Public Works staff who were present.
- There was comparative discussion between the project area and recent traffic calming road diet and bicycle lane delineation on upper Beech Street on the northern segment of the study area going further north. There was general receptivity that this might be one way to restructure street design to offer more balance of mitigated Street speeding, accommodation for delineated bicycle lanes, the opportunity for better protected and comfortable sidewalks.
- The larger question of whether the streets should be returned to a fully functional two-way street system basically reversing the urban renewal racetrack- or the consideration of maintaining the one-way loop, and capturing the opportunity of the removal of the second lane of traffic such that the space could be reallocated for other uses of the right of way.

### Community profile and schools:

- The impacts of health and traffic upon the life and educational conditions for the students in the neighborhood was felt.
- There is a significant shortage of housing in the city, particularly felt by the school departments ability to attract and retain teachers.
- The diversity of the school system includes 72 languages spoken across the system, widely representative in this neighborhood area, poses a variety of challenges for information, education, opportunities for the residents and students.

### Public arts and placemaking:

- The neighborhood and community is anxious for opportunities for expression of 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.
- Funding for street infrastructure, bicycle, pedestrian intersection sidewalk accessibility measures on all of the neighborhood streets was identified as a major impediment to improvements.

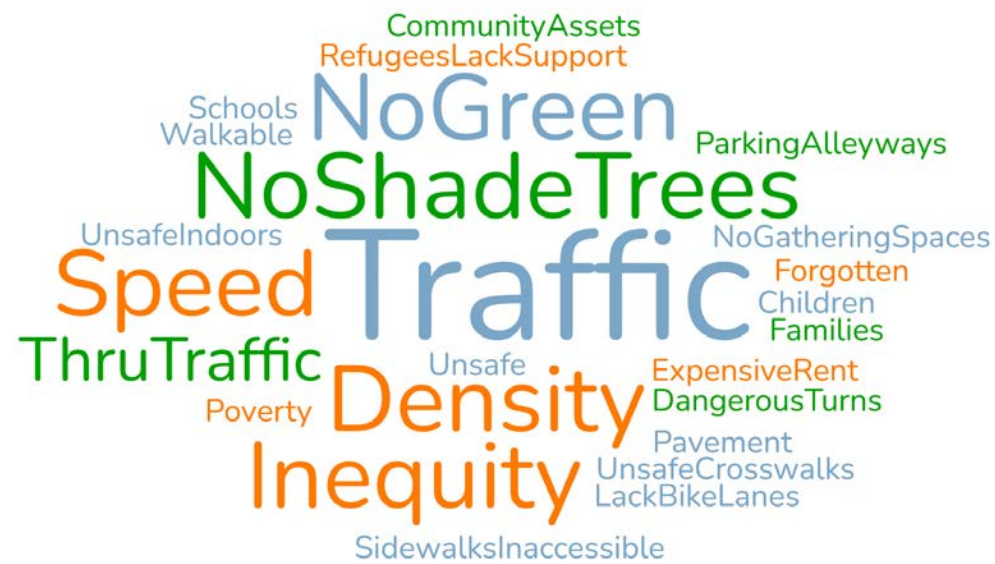




# What the Community Told Plan NH

Two public listening sessions were held during the afternoon and evening of Friday, July 21st. The sessions served as an opportunity for the public to share their comments and ideas about the neighborhood. Plan NH's process encouraged participation and input from everyone in the room. Attendees included residents who live in, or in close proximity to, the project area, as well as elected officials and other concerned community members.

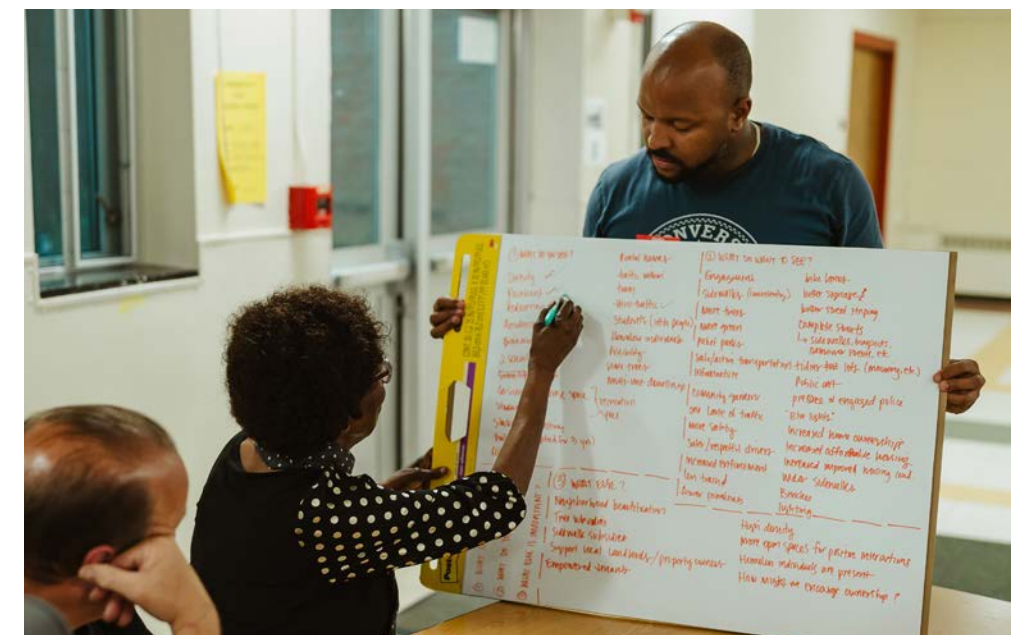
## What do you see?



## What do you want to see?



## What else does Plan NH need to know?





# Recommendations

Based on what the Plan NH Charrette Team learned from our walking tour and the stakeholder and community listening sessions, we developed a series of custom recommendations meant to address the concerns we heard about the target area. These recommendations were presented in-person to the community on Saturday, May 13, and are included in more detail in this report.

The Charrette Team developed the following recommendations for potential ways to address the community’s vision:

- Traffic- pages 13-15
- Street Design- pages 16-27
- Placemaking- page 28
- Community Enhancements- pages 29-37





# Recommendations: Traffic - Context



## Traffic Volumes (Maple & Beech Streets)

- Approximately 6000 to 7000 Average Daily Traffic
- Approximately 400 to 500 Vehicle Per Hour During Peak Commuting AM & PM Periods
- Reviewed the commuting and school peak periods.
- We reviewed the City's SMART grant application information, which determined that a single lane along Maple and Beech could accommodate the current traffic volume, however traffic signal upgrades would be necessary, as well as left- turn lanes at four intersections: Hanover St.

## Crashes

- Reviewed crash data for both Maple and Beech Street corridor.
- 494 crashes (2017-2019)

## Speed (town road = 30 MPH)

- Maple Street actual majority speed = 36 MPH
- Beech Street actual majority speed = 32 MPH

## Traffic Signal Equipment

- 11 signalized intersections
- Lack of signal coordination
- Lack of signal detection, meaning signal function does not change with the arrival of vehicles. The signal runs on a set timing all the time, regardless of when vehicles approach the signal.
- Emergency Preemption System is present on the existing signals
- Some Outdated controllers, most of the signal controllers are old. There is at least one newer cabinet on each street.





## Recommendations: Traffic - One or Two?



A fundamental question entering the charrette was- if the two lane one-way race track of circulation was basically the dominant negative effect of traffic and safety on the neighborhood- maybe we should just make the traffic go to a to a system, and look for a simple redirection and reconfiguration of the streets?

Of course, that is a simple expression of a complex problem. The possibility of detailed traffic analysis was considered an information was pursued in advance to the Charrette in consultation with city project team, with traffic experience, and other expert advisors.

The conclusion was that a highly calibrated technical study of traffic was going to be on the scope of work Plan New Hampshire would undertake in a charrette.

The city and CLF were very clear regarding the desire to define and articulate creative designs for the project area. They were looking for a creativity and the communities receptivity to change in the design of the streets and public spaces.

It was very clearly articulated by the city and CLF that the preference for transportation in street designs should not just be limited by selecting the least expensive option. There was a place and considerable receptivity for higher cost, but higher effective solutions. This may not have been shared unanimously, but it was a significant preference.

This part of the city, subjected for almost 50 years of highway traffic speeds through a neighborhood environment, is a clear indictment that two-lane, one-way is a traffic scenario that must be changed for the future. The people in this neighborhood have suffered injury and even loss of life.

There could be successful safe slow and efficient travel through the neighborhood for people needing to traverse this part of the city, while at the same time accommodating and making

the environment for people who walk and bicycle, people in wheelchairs and walkers and other disabilities. All could have as much space for their important transportation needs as the vehicles, most of whom are traversing the neighborhood rather than coming to it for any form of business or neighborhood activity.

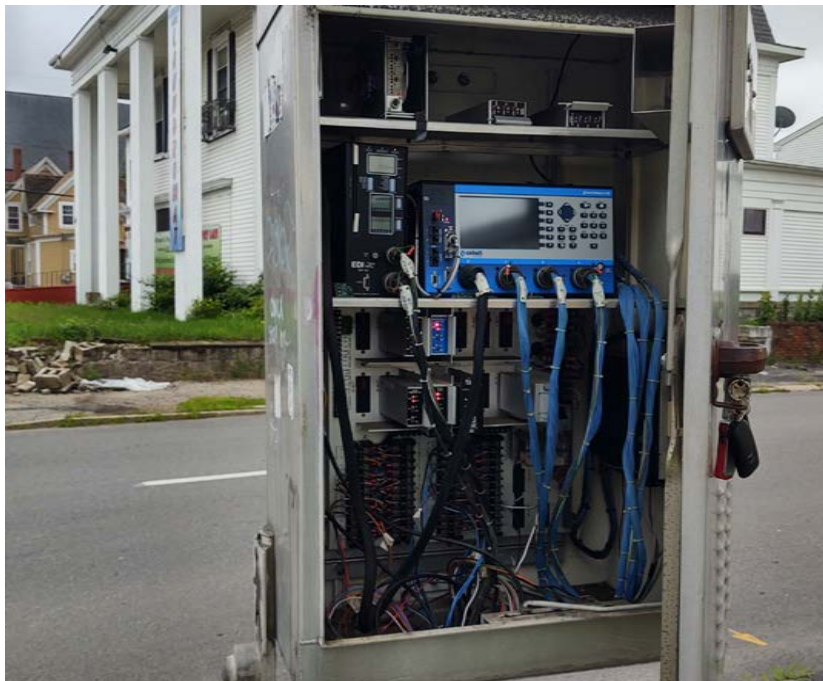
The vision the PLAN NH effort has brought forth new ideas as the result of listening to the residents and stepping to the side of bureaucratic hurdles. The recommendations generated were based upon the best practice of contemporary transportation planning in partnership with social and economic equity. The recommendations return environmental, social, economic, aesthetic values to a part of the city that has been sorely impacted.

It is the promise of a future for the families of this neighborhood.





# Recommendations: Traffic - Safety & Parking Improvements



Safety and parking were key traffic concerns that were raised in the stakeholder and listening sessions. The traffic part of the team brainstormed the following recommendations to mitigate these issues.

## Safety & Equipment

### Safety

- Lane reductions to slow traffic and reduce the distance pedestrians need to cross.
- Curb extensions slow traffic specifically at intersections.

### Speed

- Speed check signs can be used to raise driver awareness of their speed. Suggested locations:
  - o On Maple between Hanover and Lake
  - o On Hanover and Lowell

### Traffic

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

### Parking

- Shift parking from arterial streets (Maple and Beech) to side streets to facilitate arterial street redesign.
- Mark parking spaces on side streets with paint to utilize available space.
- Allow parking within 20' of intersections (no signal) and 30' of signalized intersections per Manchester statute.
- Parking sign overload- need simplification and reduction in signage for clearer communication.



## Recommendations: Street Design - Setting the Stage

The vision the PLAN NH effort has brought forth new ideas as the result of listening to the residents and stepping to the side of bureaucratic hurdles. The recommendations generated were based upon the best practice of contemporary transportation planning in partnership with 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 the city was still met with considerable concern. There was felt that it would be much more challenging than just changing the directions of travel. Signal changes and culture of travelers through the whole area could be resistant, and prove to have some really challenging periods of transitions.
- While the residents did not like the results of the one-way, two lane race track configuration, the reversal of traffic to two ways also did not resonate with many residents. They wanted a different but workable design.
- With that in mind, the residents asked: “if it’s acceptable to have one lane of traffic going in the one-way routing” (understanding that they would need to be some defined left, turn lanes at signals and other intersections- “why not design a Street improvement 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 charrette design team.

### So a framework for Creative Street Design was devised:

- Design for fully functional single lane traffic in the traditional north-south one-way routing.
- Assume that there would be turning lanes positioned at traffic signals, and some other intersections where left turns warranted the turn lanes.
- Preserve on-street parking for neighborhood uses and public spaces on at least one side of the street.
- The reuse of the second travel lane 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 to shade the street, opportunities for mini parks at social corners that street intersections and other strategic places.

This quarter of greenery could also in the future become an integrated part of stormwater management for that part of the street before its entry into the new separated, storm water, sewer systems. The water could actually be cleaned by Rain gardens and bio swales before it hit the municipal stormwater.

A narrower cross-section of the street in most case it would have crosswalks at intersections and potentially mid block locations that would basically cross one single direction and the 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 could have a crossing distance of 36 to 40 feet all of which could have been highly exposed to faster moving vehicles.
- Under the proposed Green 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 total of 24 feet of crossing distance. Under this scenario without a second lane of traffic, that is essentially a sanctioned “passing lane” traffic speeds should be reduced to close 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.

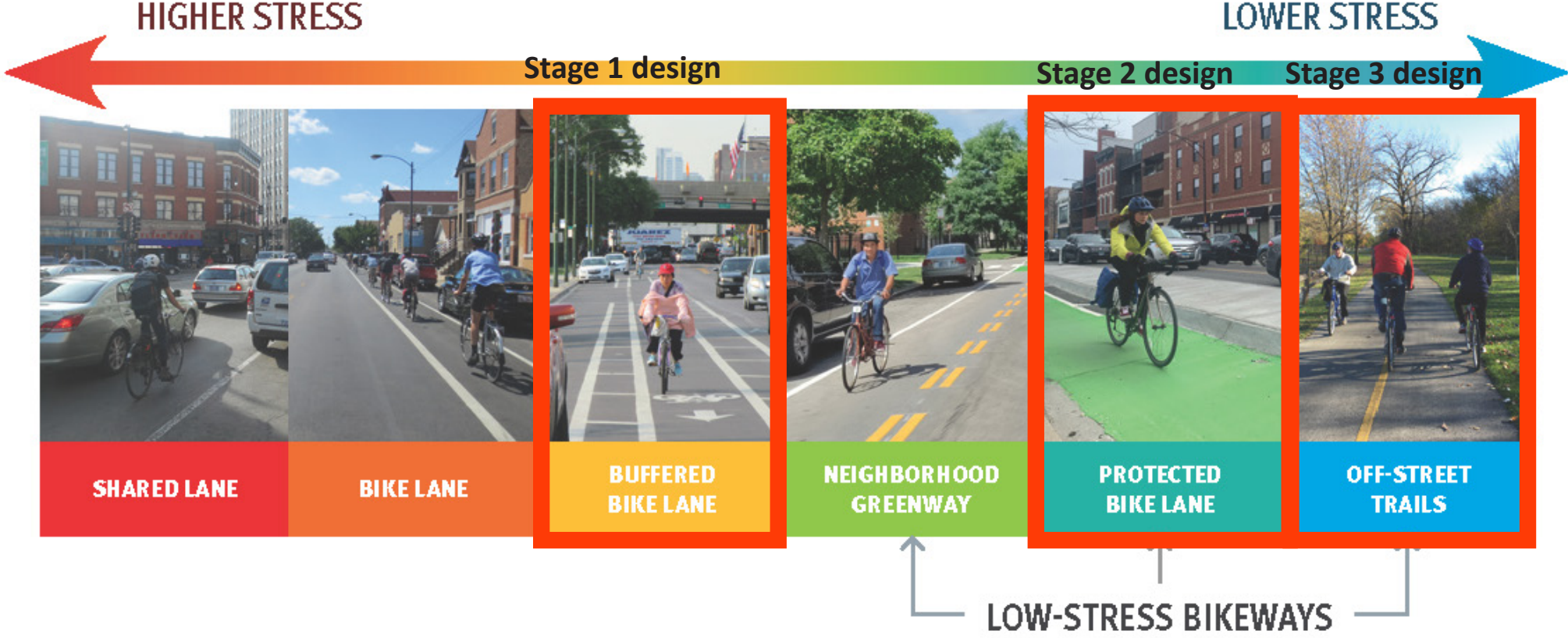
The illustration on this page suggests that a Shared Lane bike use is the most stressful- aka dangerous bike use of the street- much as the current conditions. Surprisingly though, a simple painted Bike Lane such as has been installed on Beech Street north of the study area may not offer much relief. 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 express 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 due 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:
- Generally retain on- street parallel parking on the east side of Maple and Beach 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 stripe a bicycle lane buffered from the traveled lane.
- 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.

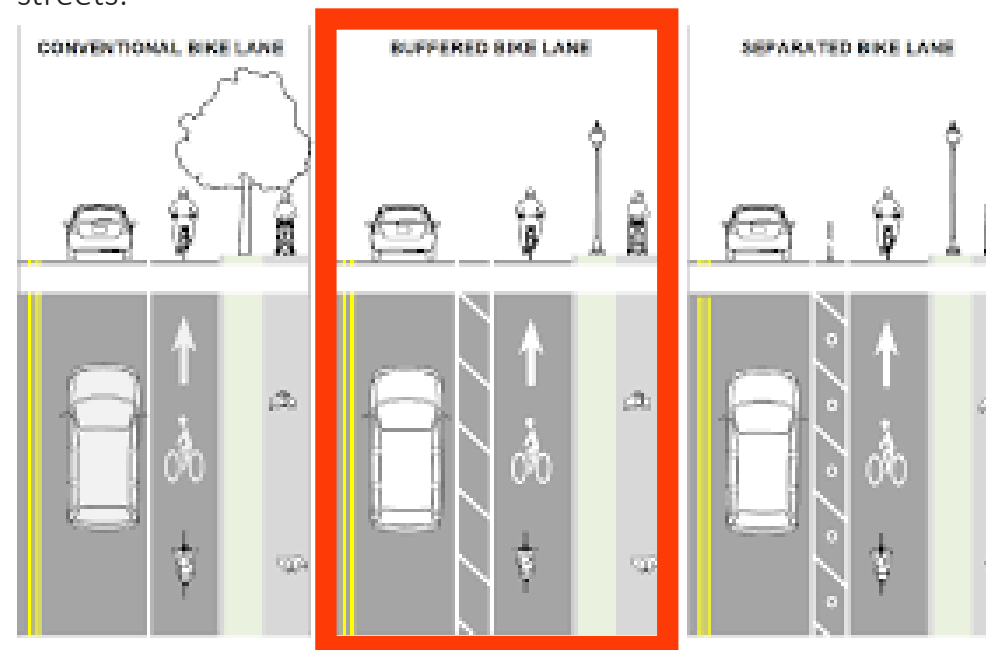
**Preferred striped bike lane design**

## 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 Beach 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 colors.
- This bicycle lane could be on either outside or inside of any on street parking along the west side of the street.
- Strategic painting of “bulb out” locations at intersections for crosswalk length reduction.
- Retention 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.

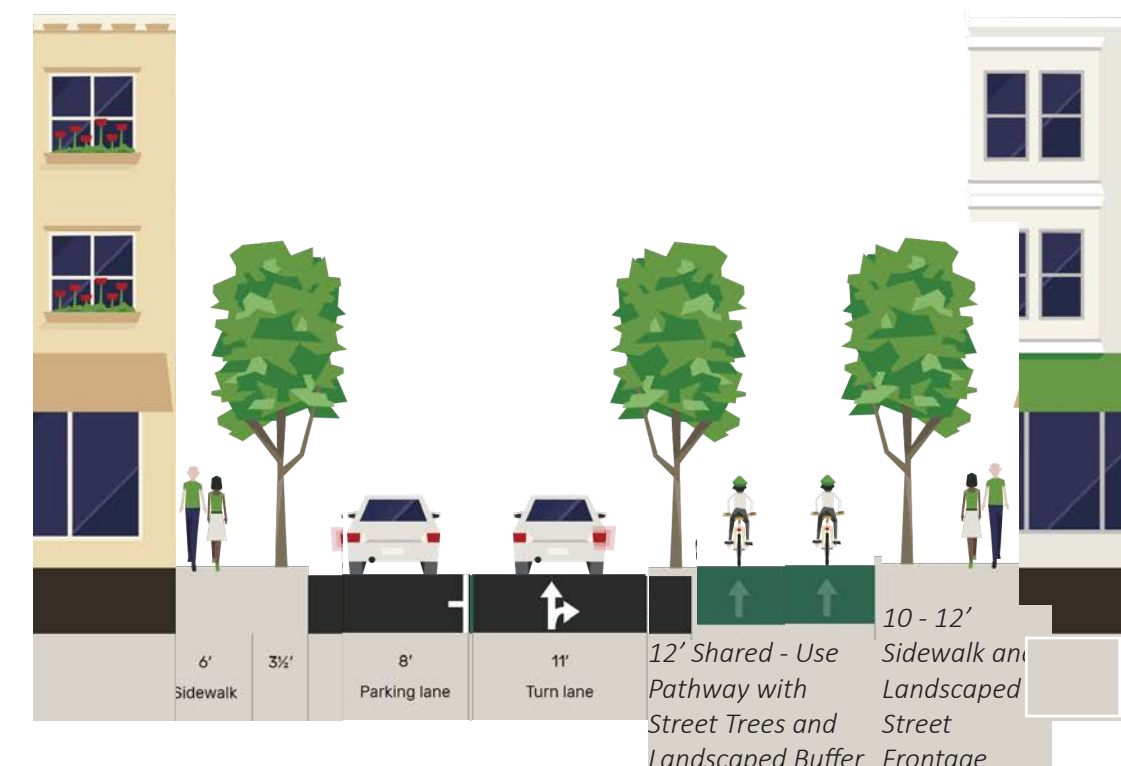


## Beech Street existing:



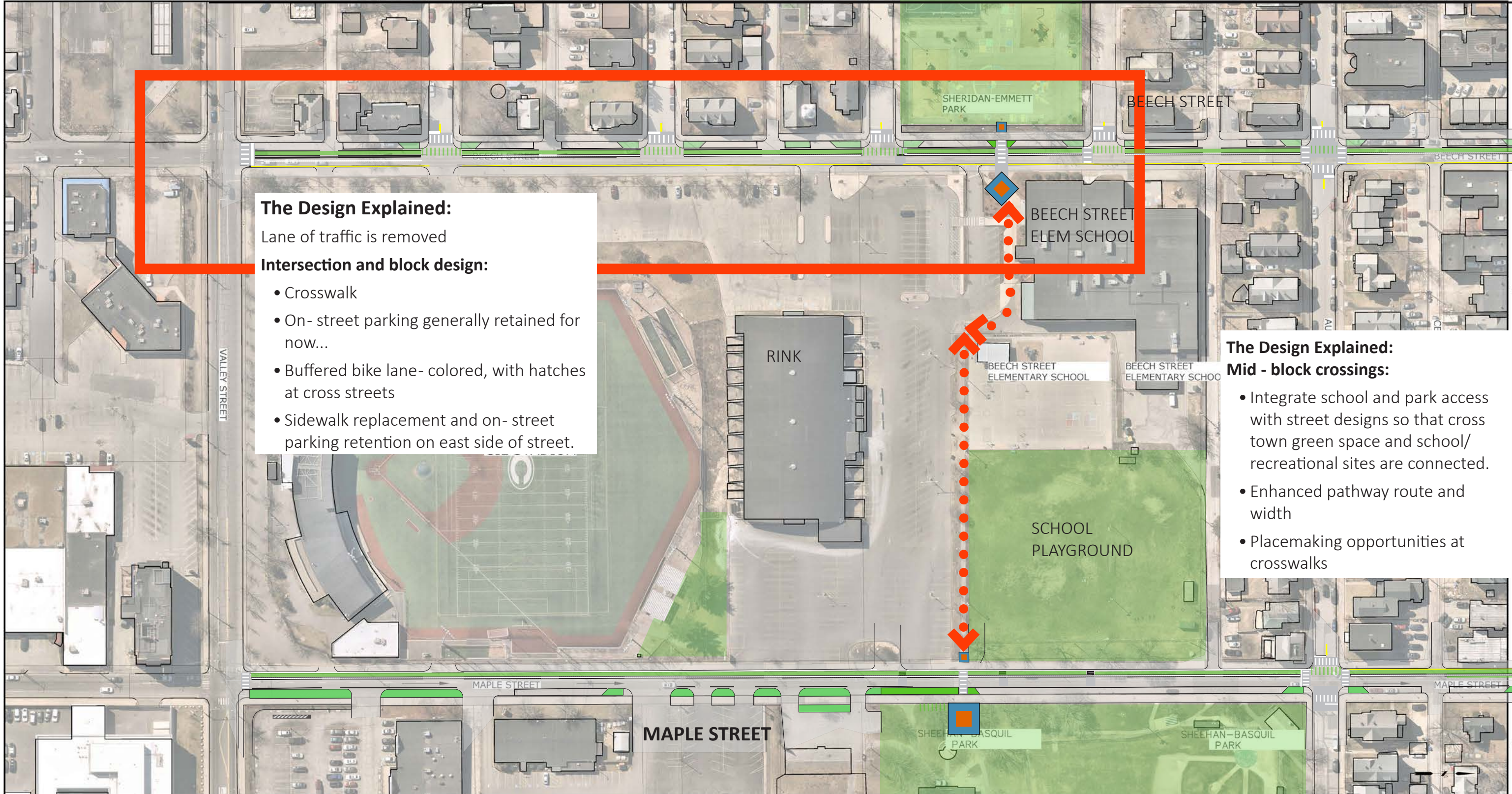
2 One- Way- Two- Lane  
Traveled Lanes- 26- 30' Wide

## Beech Street proposed:





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.

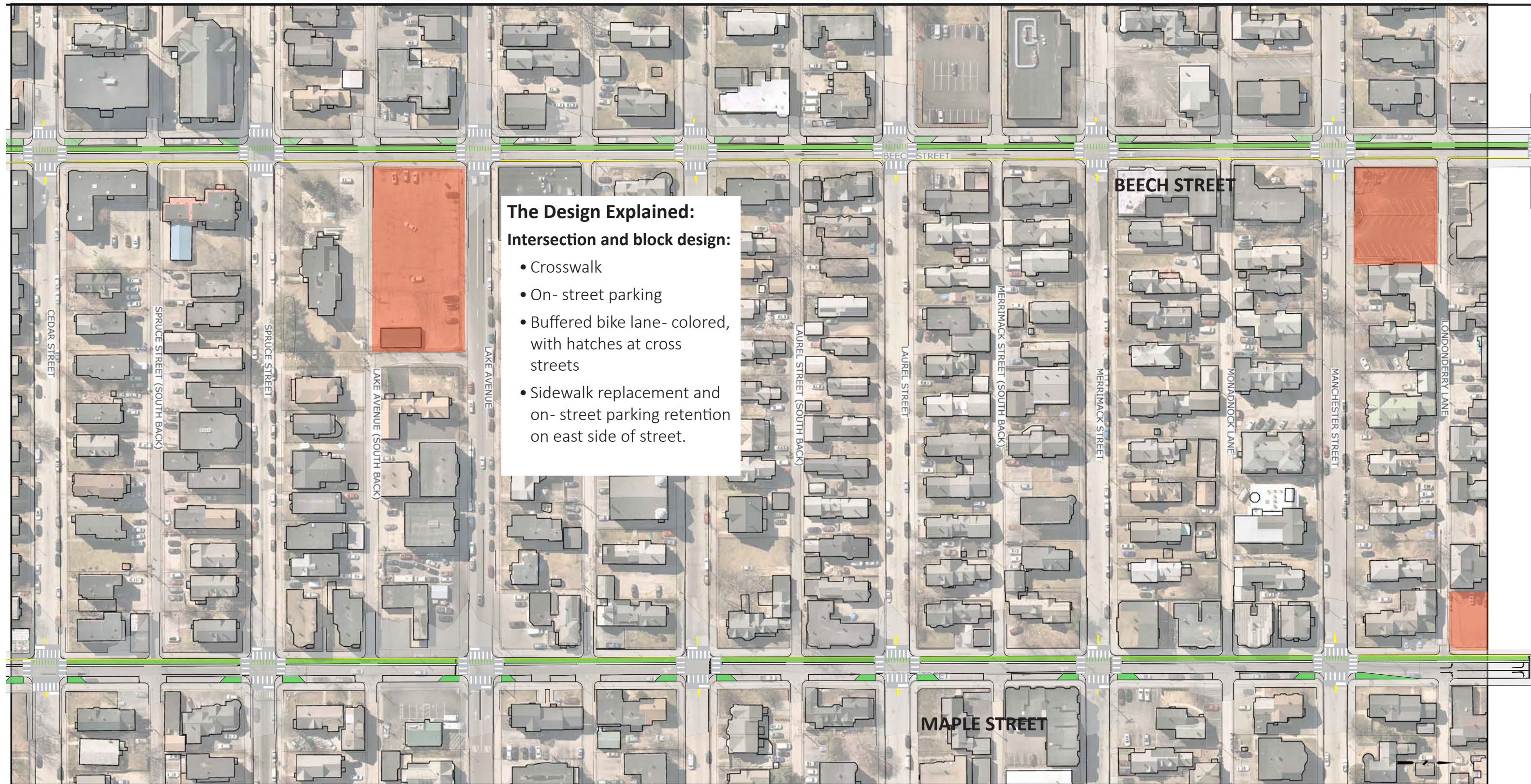
**The Design Explained:**

**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**

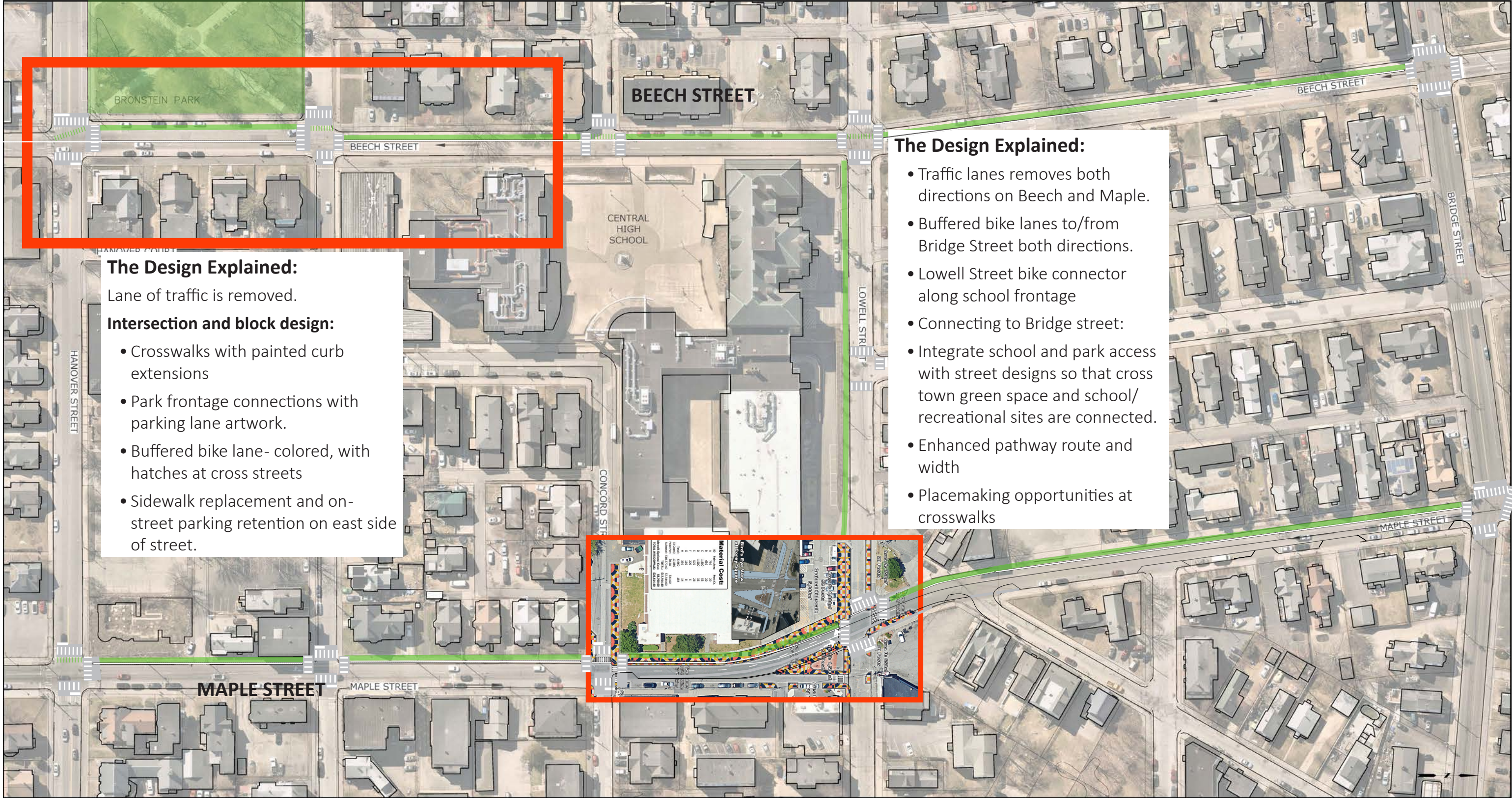


**The Design Explained:**  
**Intersection and block design:**

- 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 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 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

**Material Cost**

Item	Quantity	Unit Price	Total Price
1. Concrete	100	100	10,000
2. Asphalt	200	50	10,000
3. Gravel	300	30	9,000
4. Sand	400	20	8,000
5. Paint	50	100	5,000
6. Signage	10	500	5,000
7. Labor	1000	10	10,000
8. Equipment	100	100	10,000
9. Permits	10	1000	10,000
10. Other	100	100	10,000
<b>Total</b>			<b>87,000</b>



# 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 Beach 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: new sidewalks perhaps designed as a shared use paths, tree lawns, and green stormwater in strategic locations for stormwater 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

- 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

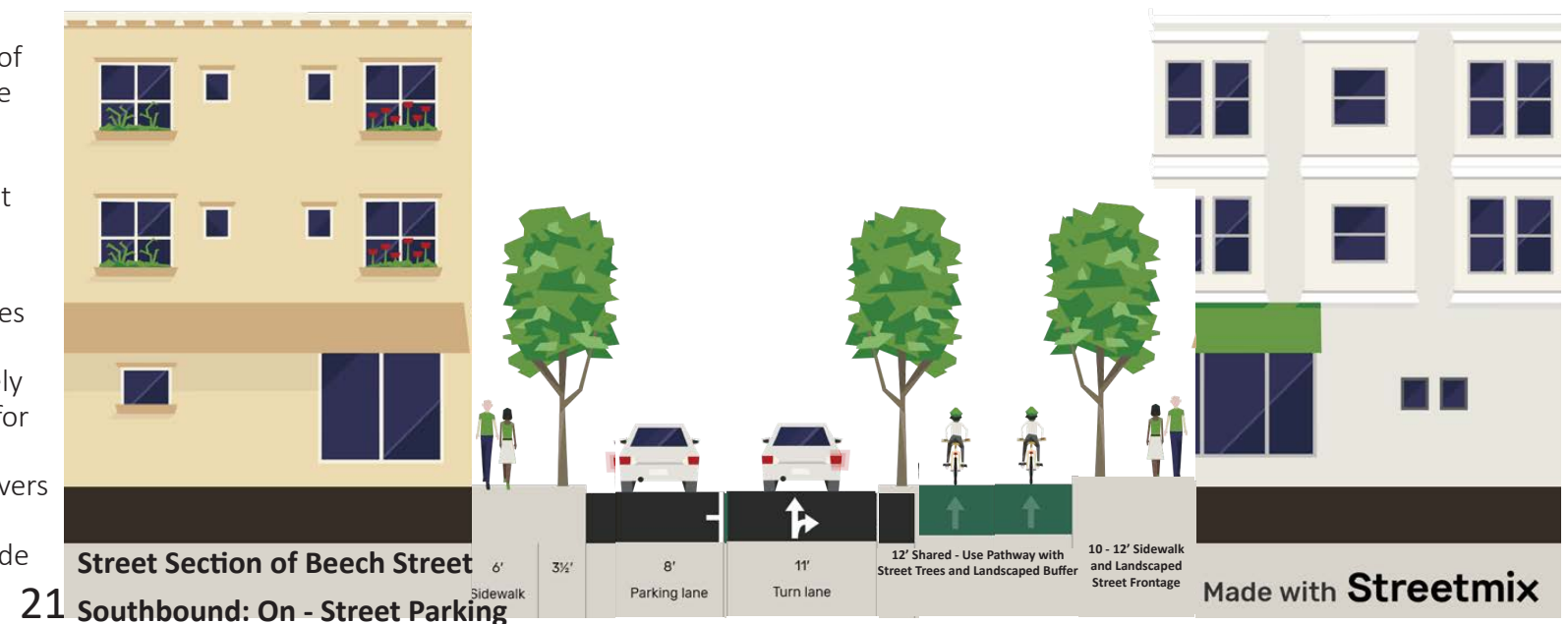
speeds.

- 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:





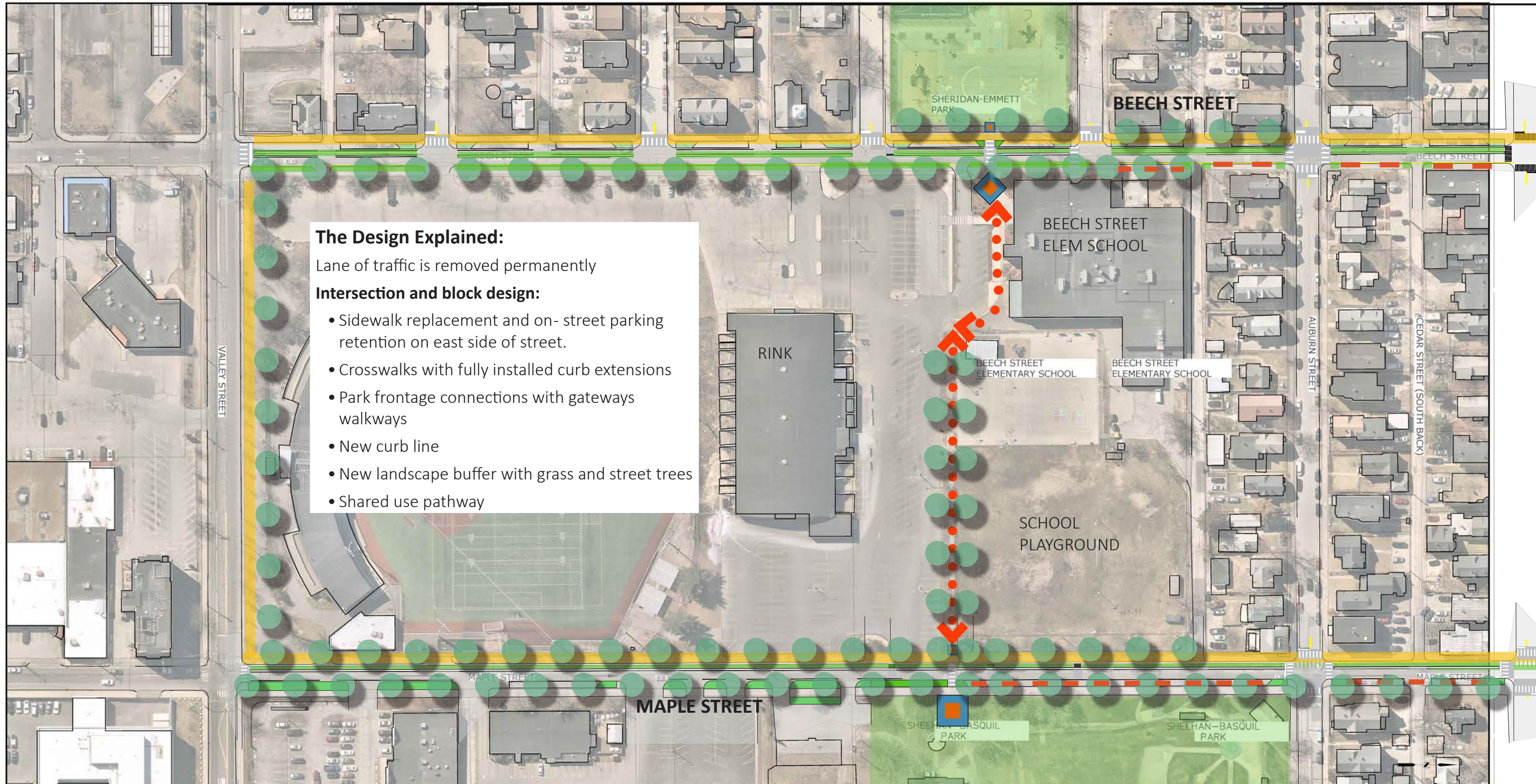
# Recommendations: Stage 2: Reconstruct Balanced Plan

## The Design Explained:

Lane of traffic is removed permanently

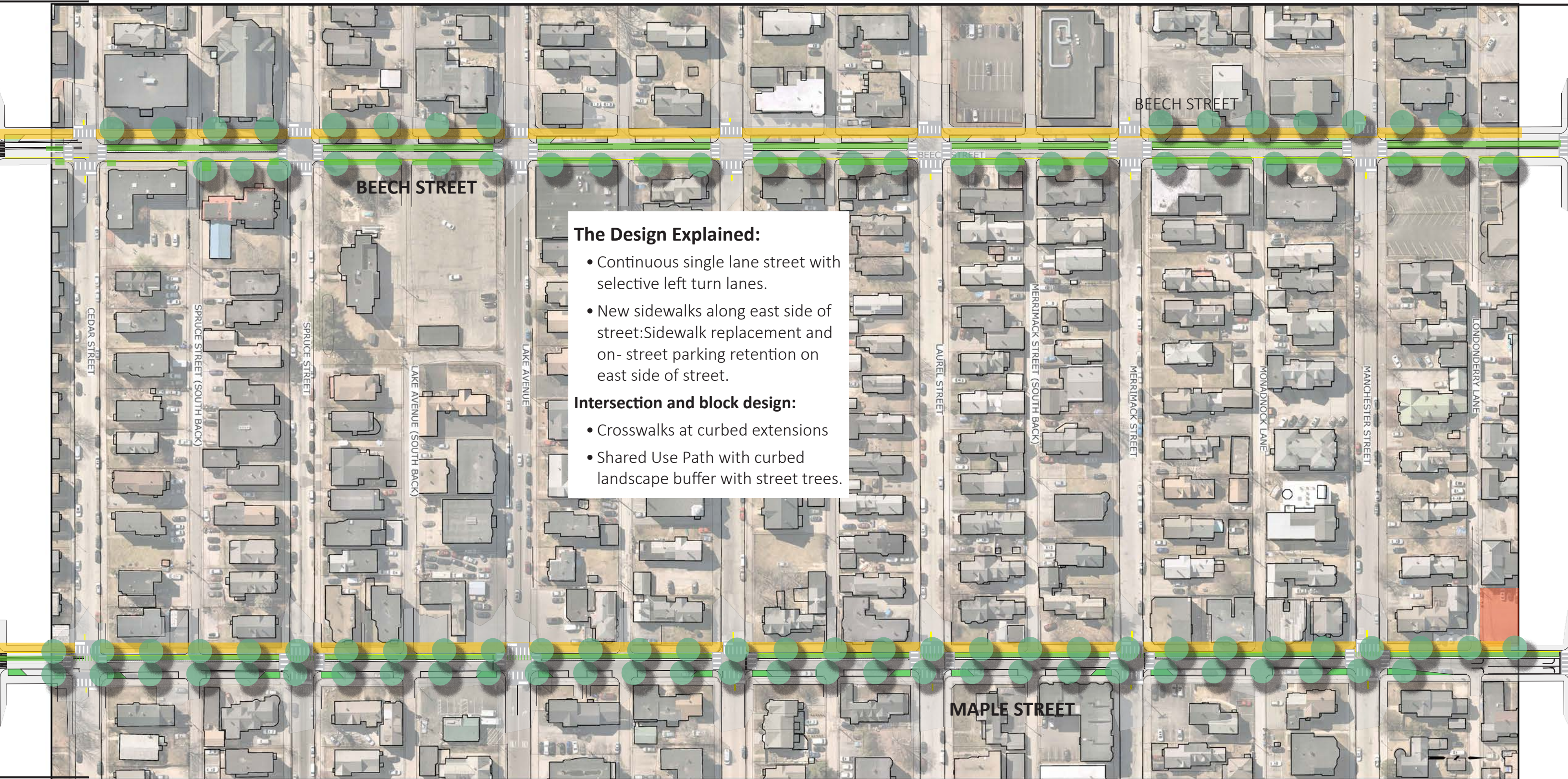
### Intersection and block design:

- Sidewalk replacement and on- street parking retention on east side of street.
- Crosswalks with fully installed curb extensions
- Park frontage connections with gateways walkways
- New curb line
- New landscape buffer with grass and street trees
- Shared use pathway





# Recommendations: Stage 2: Reconstruct Balanced Plan



### The Design Explained:

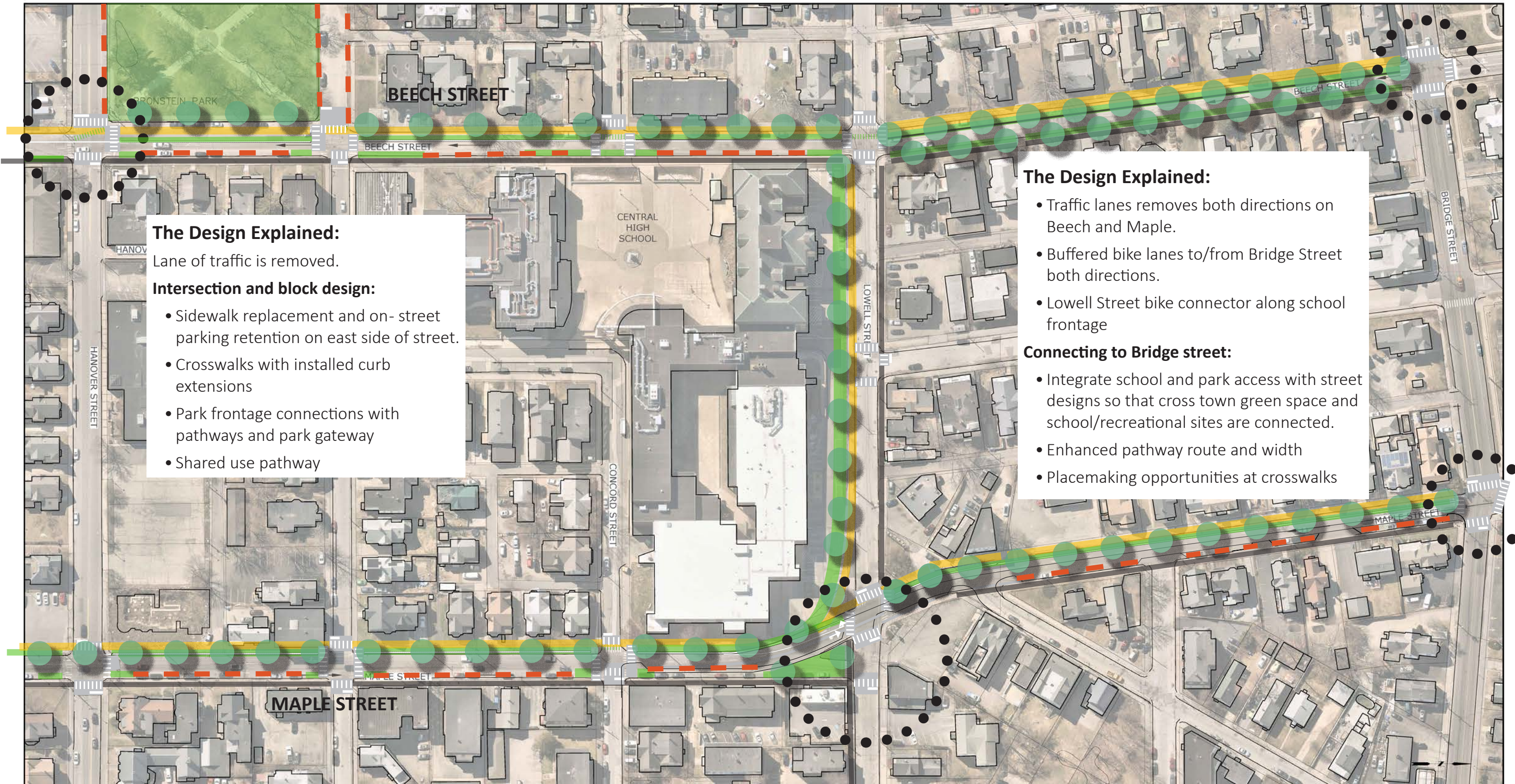
- Continuous single lane street with selective left turn lanes.
- New sidewalks along east side of street: Sidewalk replacement and on-street parking retention on east side of street.

### Intersection and block design:

- Crosswalks at curbed extensions
- Shared Use Path with curbed landscape buffer with street trees.



# 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 Beach 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 the slip lane for left turns. Spaces can be reasonably shifted a short distance around the corner onto side streets, and residents 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.

## 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.
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- 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:

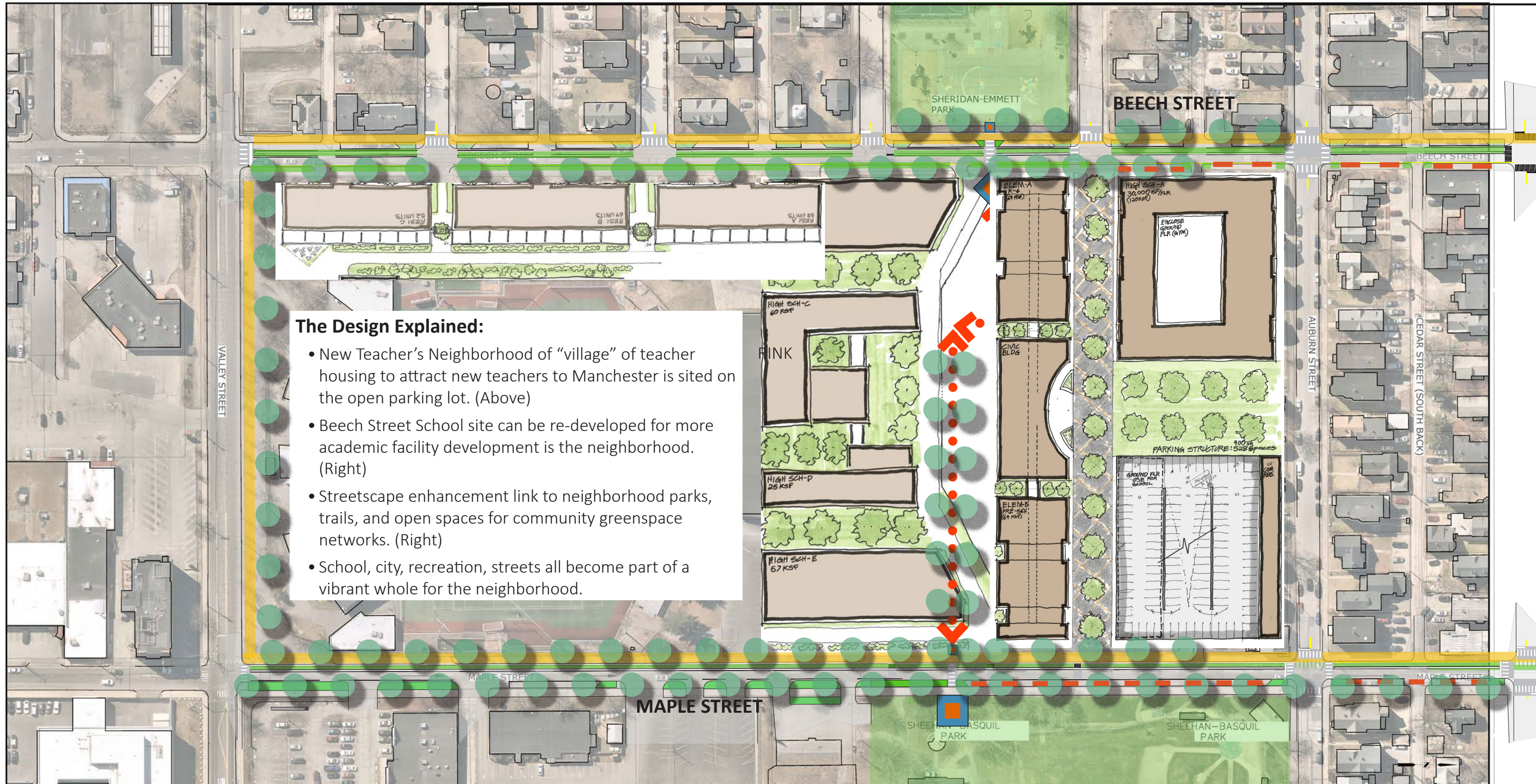


## Beech Street proposed:



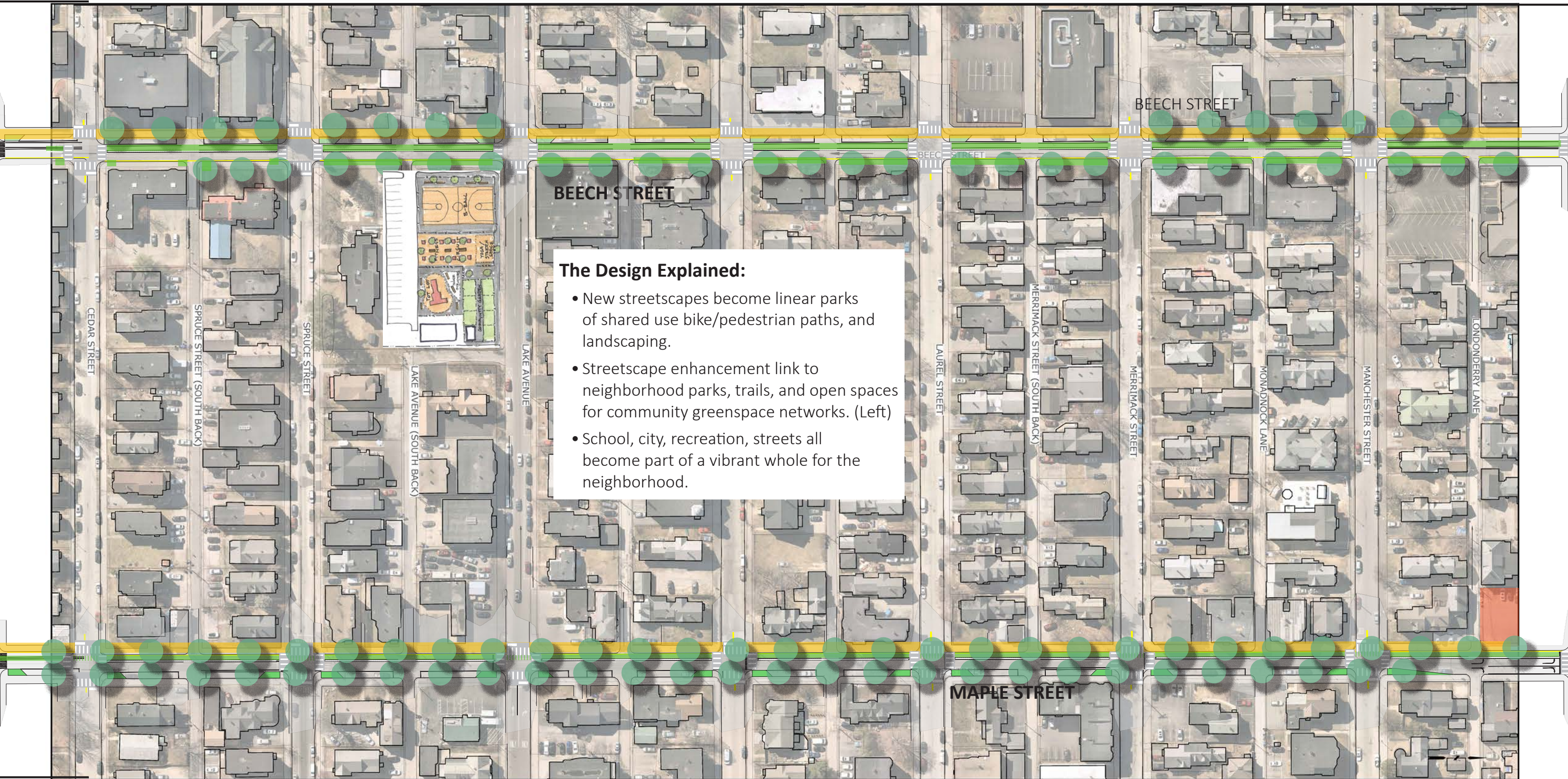


# Recommendations: Stage 3: Community Greenway Streets





# 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 link to neighborhood parks, trails, and open spaces for community greenspace networks. (Left)
- Central High School becomes a city- recreation center of activity.
- Streets all become part of a vibrant whole for the neighborhood.
- 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: Whats it like?

### **IT'S SAFER:**

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

1. Broken sidewalks repaired and 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 "highway" narrowed to one- lane and needed left turn lanes. The space of the second lane is made into a bicycle lane.
4. Dangerous street bicycling become a protected continuously raised bike greenway.
5. Most intersections can have added bulb-outs to shorten crossing distances by almost 50%, eliminate speeding corners. Bulb-outs provide additional social space so that "every corner has a bench".
6. Some intersections can have added "speed tables" 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.

7. Sidewalks are continuous and protected.
8. 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.
9. 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.
10. Placemaking and public art opportunities celebrate connectors and streetscapes.
11. The transit system and neighborhood stops are safer and better used by being more visible and accessible.
12. Access to corner markets and services as well as schools are afforded by more walking/biking.

### **IT'S RETURNED TO GREENERY AND BEAUTY:**

13. Return the streets to the "Tree Street neighborhood", as literally hundreds of street trees can be added to both Maple and Beech Street in the greenway areas. This will create shaded, comfortable environments for all.
14. Side "Tree Streets" streets can have neighborhood block tree character.
15. Parks become activated parts of neighborhood life with better access and safety. Public arts add to contemporary park history and relevance.
16. Seasonal diverse landscaping can have multiple benefits from stormwater treatment, vegetable and fruit gardens, habitat pollinators, and native tree and shrub benefits for all.
17. Landscaping of the bike greenway makes an attractive vegetated buffer along the streets.



# Recommendations: Stage 3: Community Greenway Streets: Not many Trees!

## Existing Street Trees Explained:

Most of Beech and Maple Street are void or depleted of public street trees. Shown in Red.

Many side streets have trees in yards but very few in public domain.



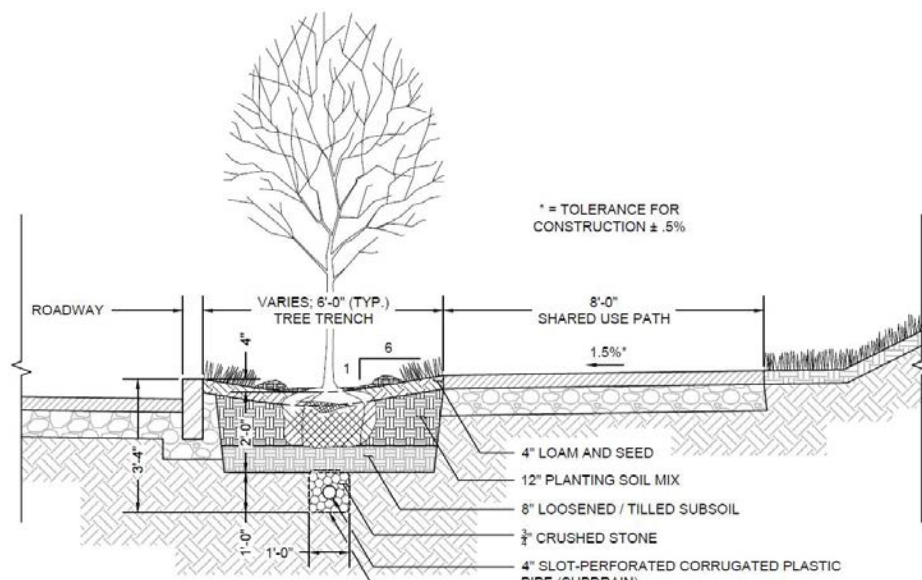
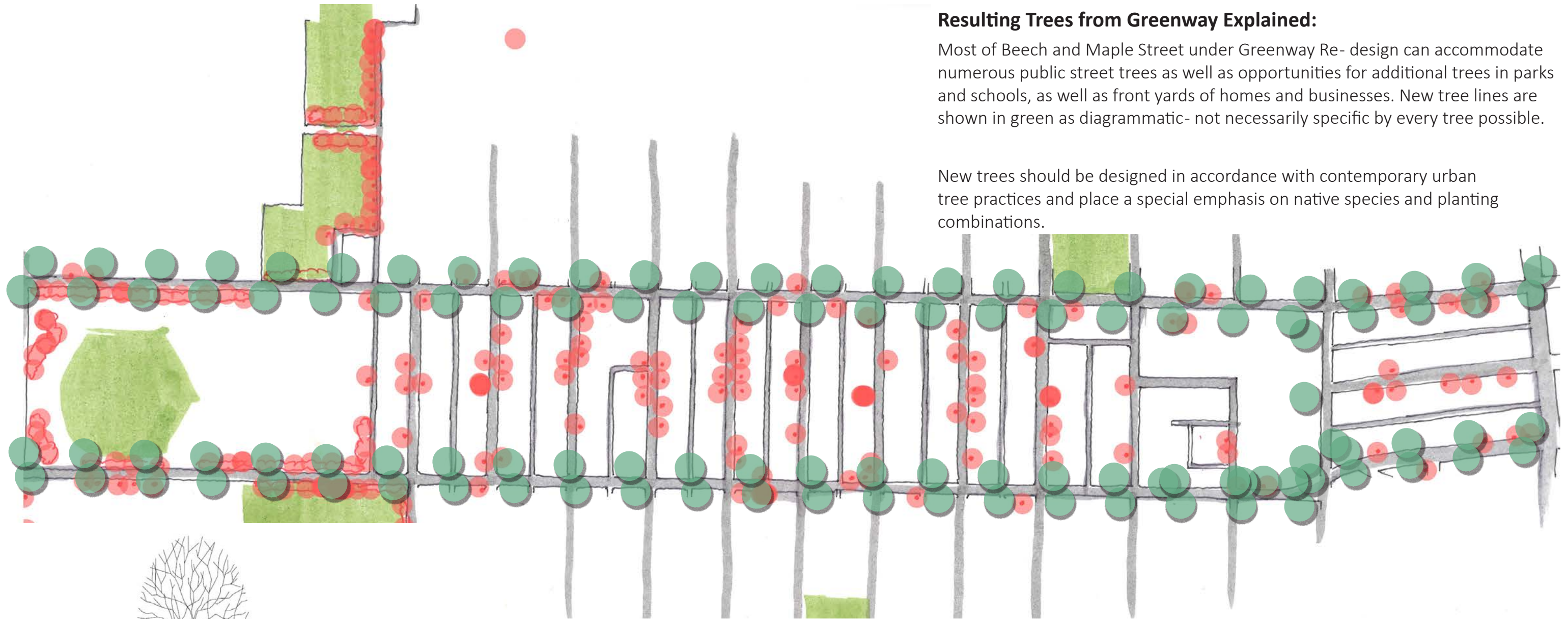


Recommendations:  
**Stage 3: Community Greenway Streets: Lots More Trees!**

**Resulting Trees from Greenway Explained:**

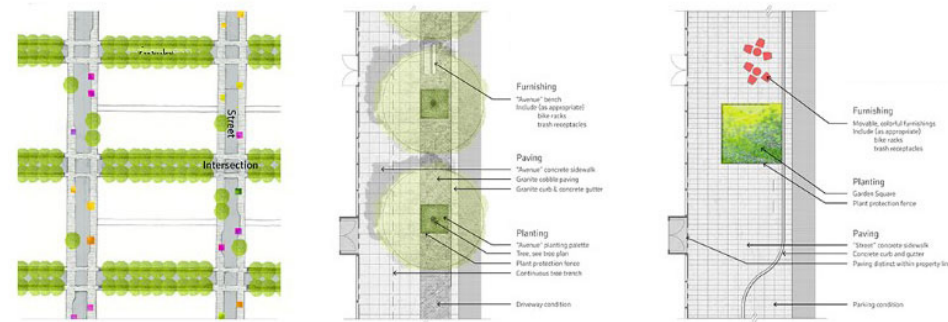
Most of Beech and Maple Street under Greenway Re- design can accommodate numerous public street trees as well as opportunities for additional trees in parks and schools, as well as front yards of homes and businesses. New tree lines are shown in green as diagrammatic- not necessarily specific by every tree possible.

New trees should be designed in accordance with contemporary urban tree practices and place a special emphasis on native species and planting combinations.

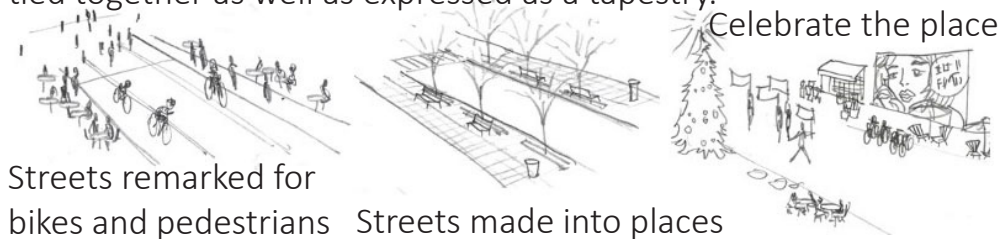




# Recommendations: Putting the Pieces Together



Designing city blocks is like a collage of pieces to be tied together as well as expressed as a tapestry.

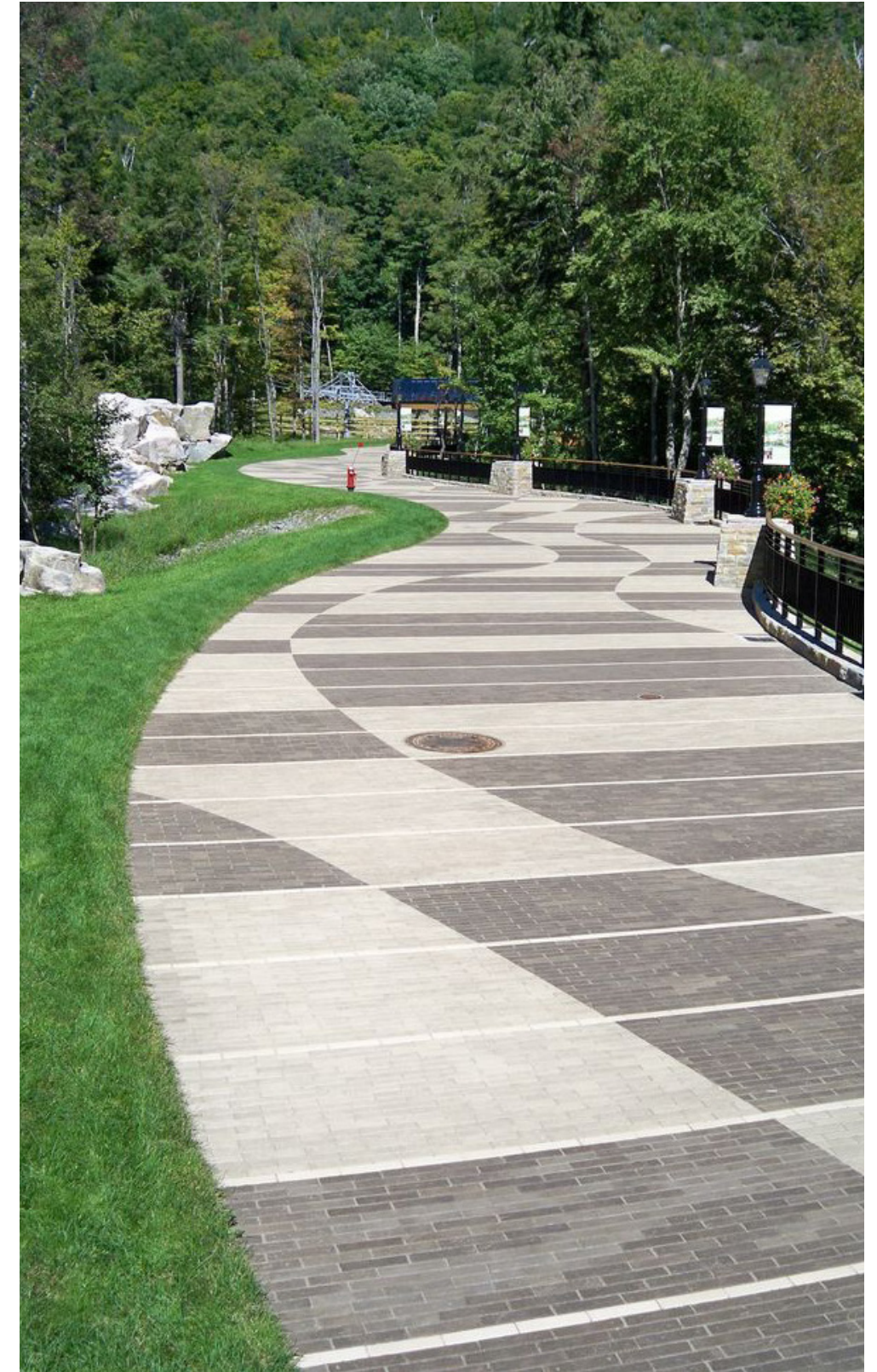
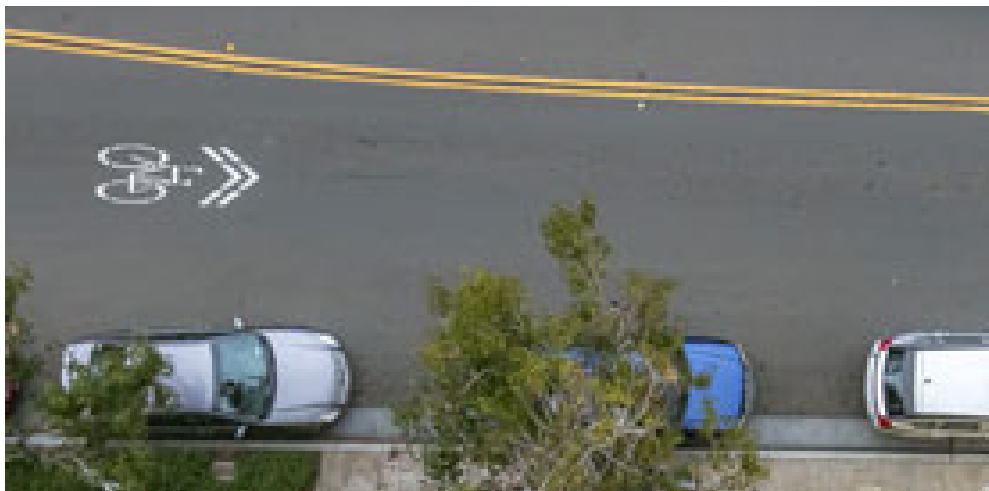


Streets remarked for bikes and pedestrians Celebrate the place  
Streets made into places

## Not being proposed:

While research is suggesting that parking buffered bike lanes are safer- they are not yet ready as accepted by the public.

Sharrows have been recently disproved as a viable and safe bike designation- they are neither.





# 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:  
**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 enhanced as community Center



Recommendations:  
**Greenway Transformation Example**



**Existing**



**Proposed Greenway**

- Adding shade trees
- Shared use path way
- High School landscape frontage
- High School enhanced as community Center



Recommendations:  
**Greenway Transformation Example**



**Existing**



**Proposed Greenway**

- Adding shade trees
- Concord Street Connector path way
- High School landscape frontage
- High School enhanced as 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.



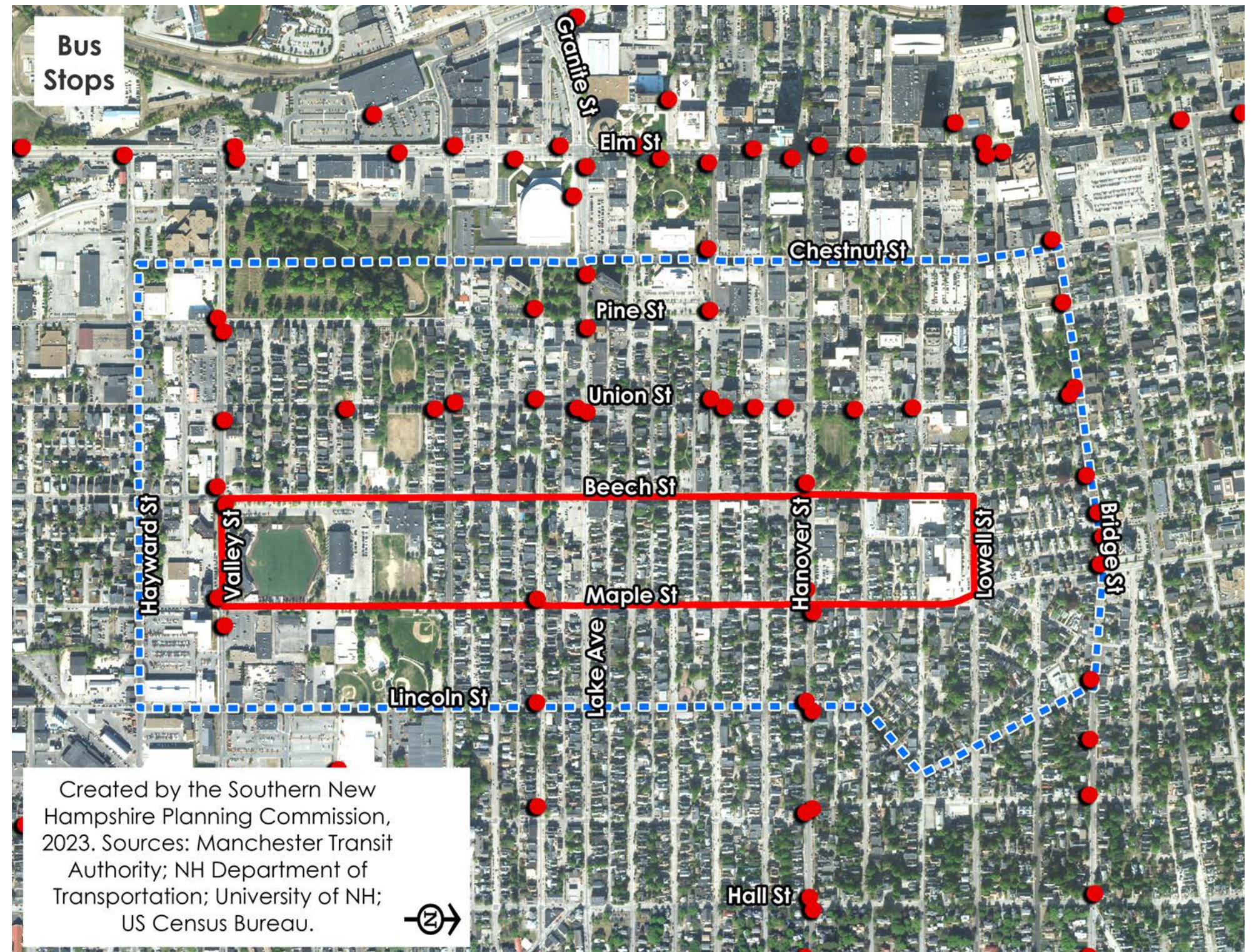


# Recommendations: Street Design - Transit Considerations

Currently there are no formal stops within the Beech and Maple Street neighborhood. There are 5 stops along the edges of the area, but there is a lack of clear wayfinding. Within the community, transit riders flag down the bus to ride and be dropped off. There are limited safe places from which to do this. There is clear demand for transit within the neighborhood. Plan NH heard that the long term plan is to add stops when the streets are re-designed and it is safe to do so. In the meantime, the team recommended some short term solutions.

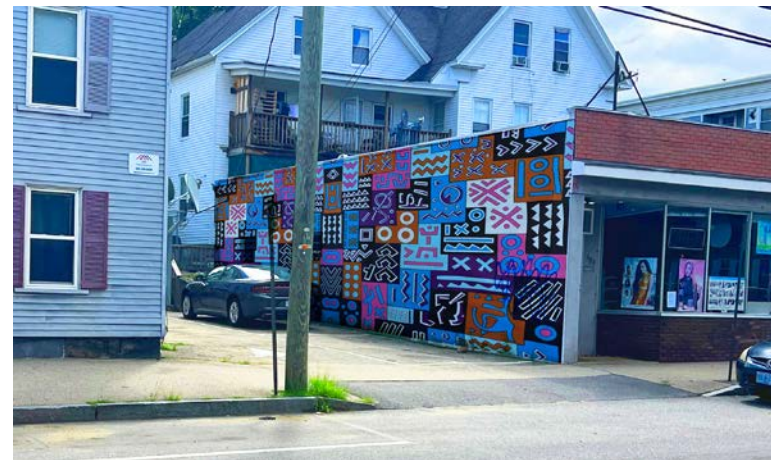
## Short term solutions

- 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!

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. 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. 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

The team saw several options to find new uses for under-utilized spaces within the project area. These spaces included the area immediately behind Gill 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.

### Concepts

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

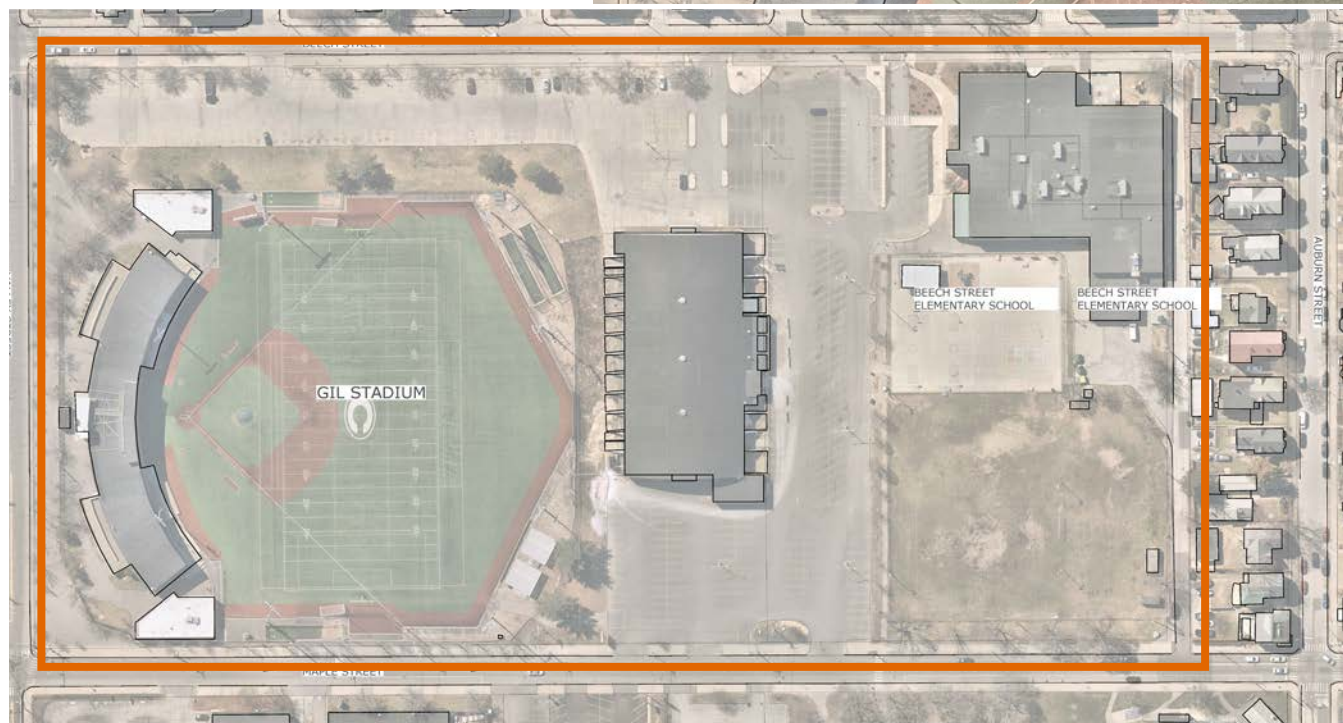
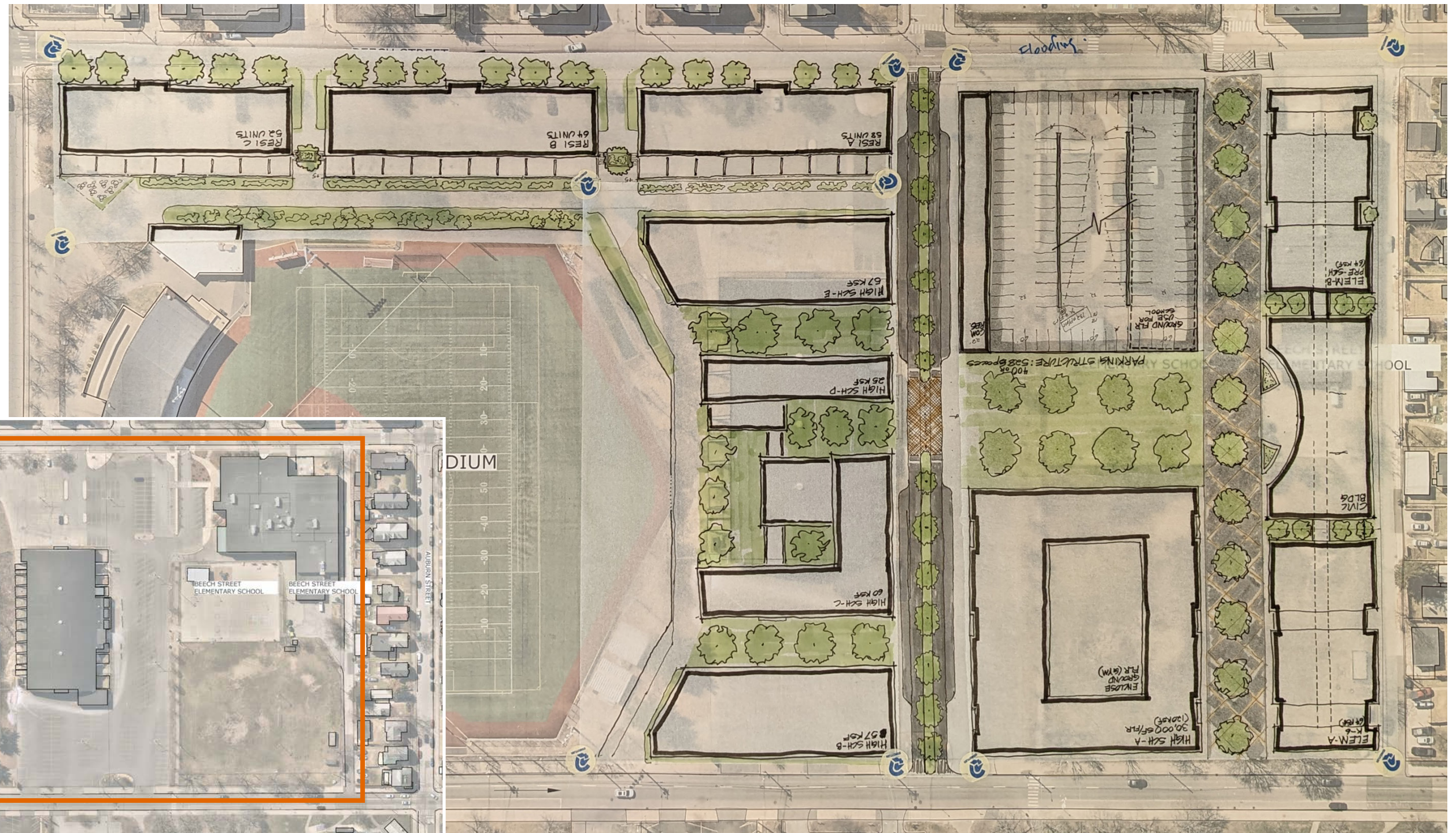




# Recommendations: Community Enhancements - Gill Stadium & Teachers Village

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 Gill 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 Gill Stadium

## Endless Opportunities!

The conceptual design for the Gill Stadium area include:

- 319,000sq ft high school
- 20,000sq ft elementary/civic/community
- 164 residential units
- 528 parking spaces

Ideally, the design would restore street grid with a two-way street and using Summer Street as pedestrian way connecting parks to schools. The residential buildings would be along Beech Street while the elementary school would be reoriented to Summer Street. Community/civic uses would supplement the elementary school.

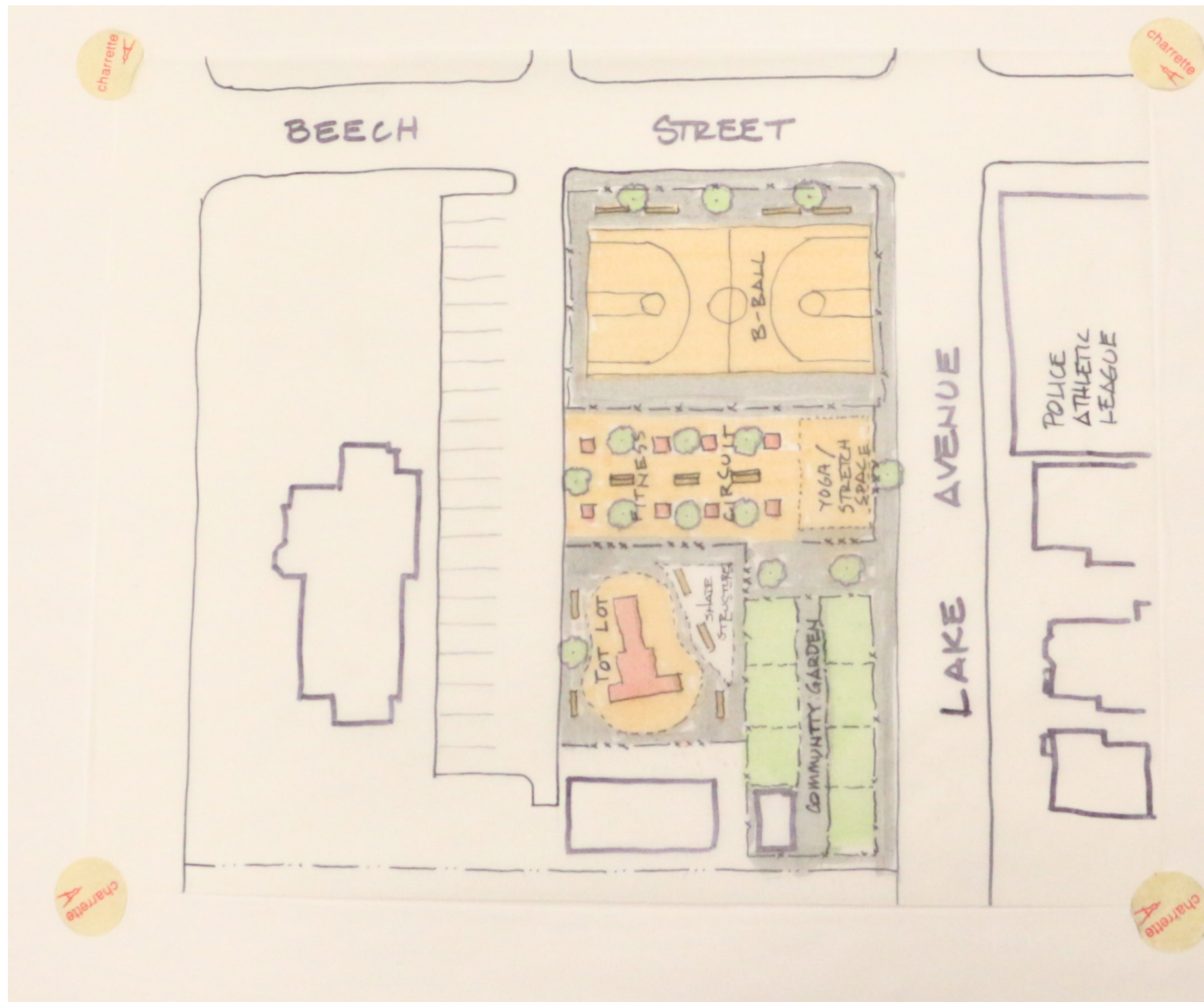
A new high school building would be created, freeing up the current Central High School campus on the other end of the project area for community use. This new school would be oriented to Green Street with drop off and pick-up there.

Gill Stadium could be used as an ice rink Dec-Mar without impacting current use patterns.





# Recommendations: Community Enhancements - In-Fill Example



While there multiple opportunities to show how to strategically in-fill the neighborhood, the team was inspired by the mostly empty lot currently owned by the Manchester Police Activities League. The currently under-used 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.



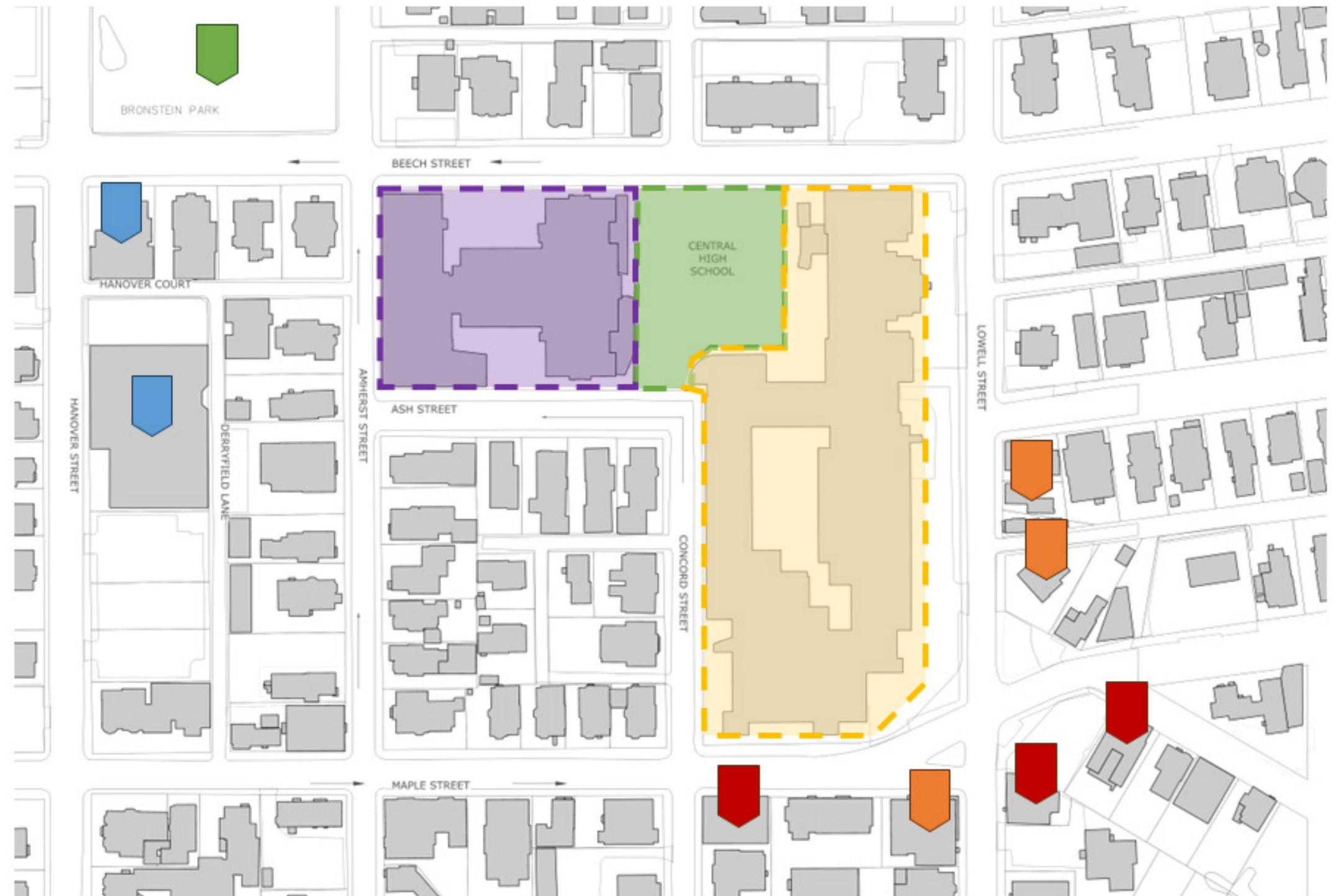


# Recommendations: Community Enhancements - Current Use/Potential Use of Central High



**LEGEND:**

-  PARKS
-  EATERIES
-  RETAIL
-  SOCIAL SERVICES
-  HOUSING
-  COMMUNITY
-  NEW GREEN SPACE





# 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. See page 26 for more about placemaking.

## Greenspace Reclamation

See page 35 for more about greenspaces.

## Re-purposed Housing Opportunity

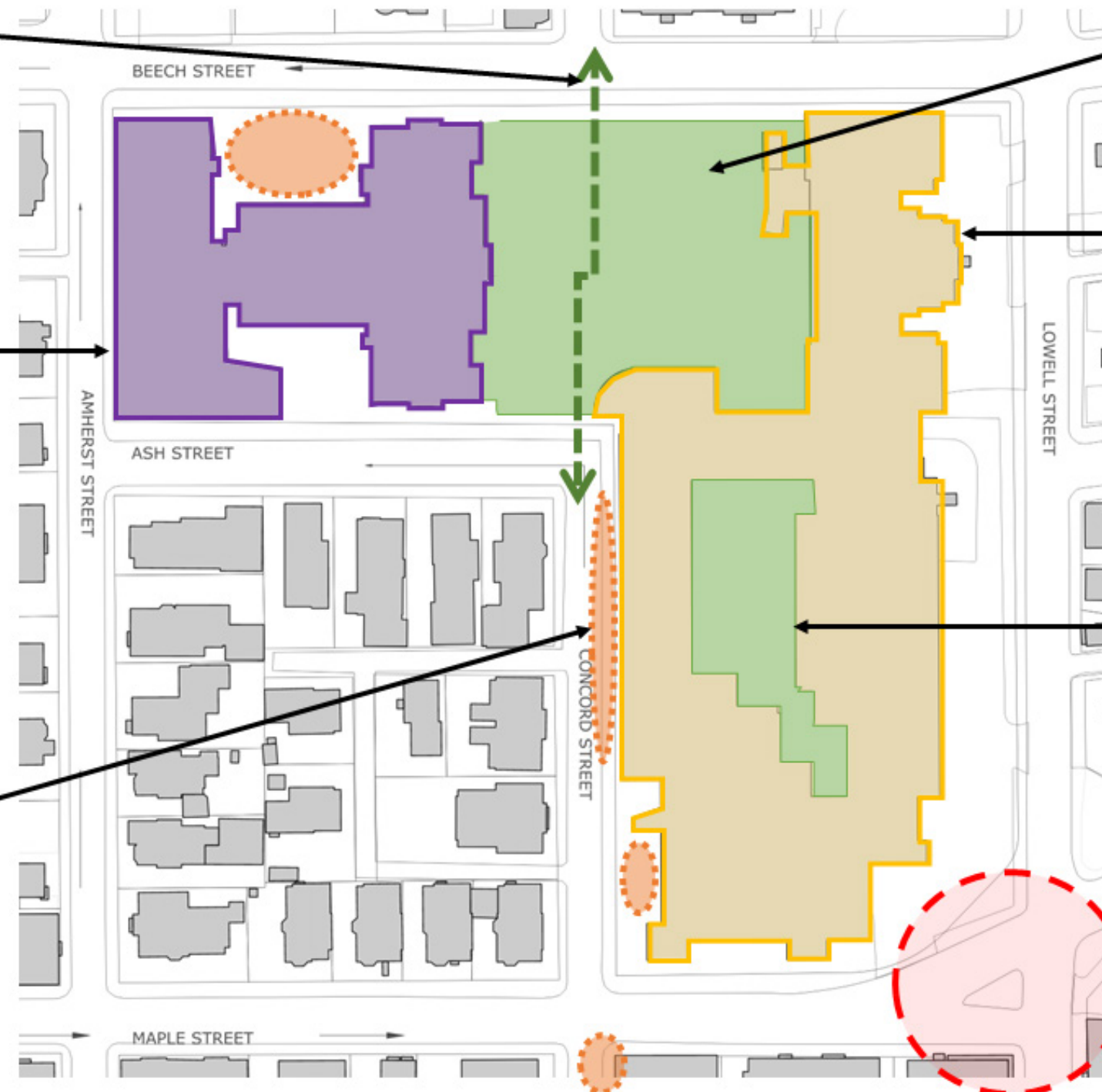
Should the high school be moved or consolidated, the opportunity arises to shift the use of the space to a residential space. School to apartment conversions are not unheard of and can result in affordable and comfortable housing.

## Resident Greenspace

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

## Corey Square Re-Imagined

See page 23.





Recommendations:  
**Community Enhancements - Potential Uses Explored**

**Re-purposed Housing Opportunity**

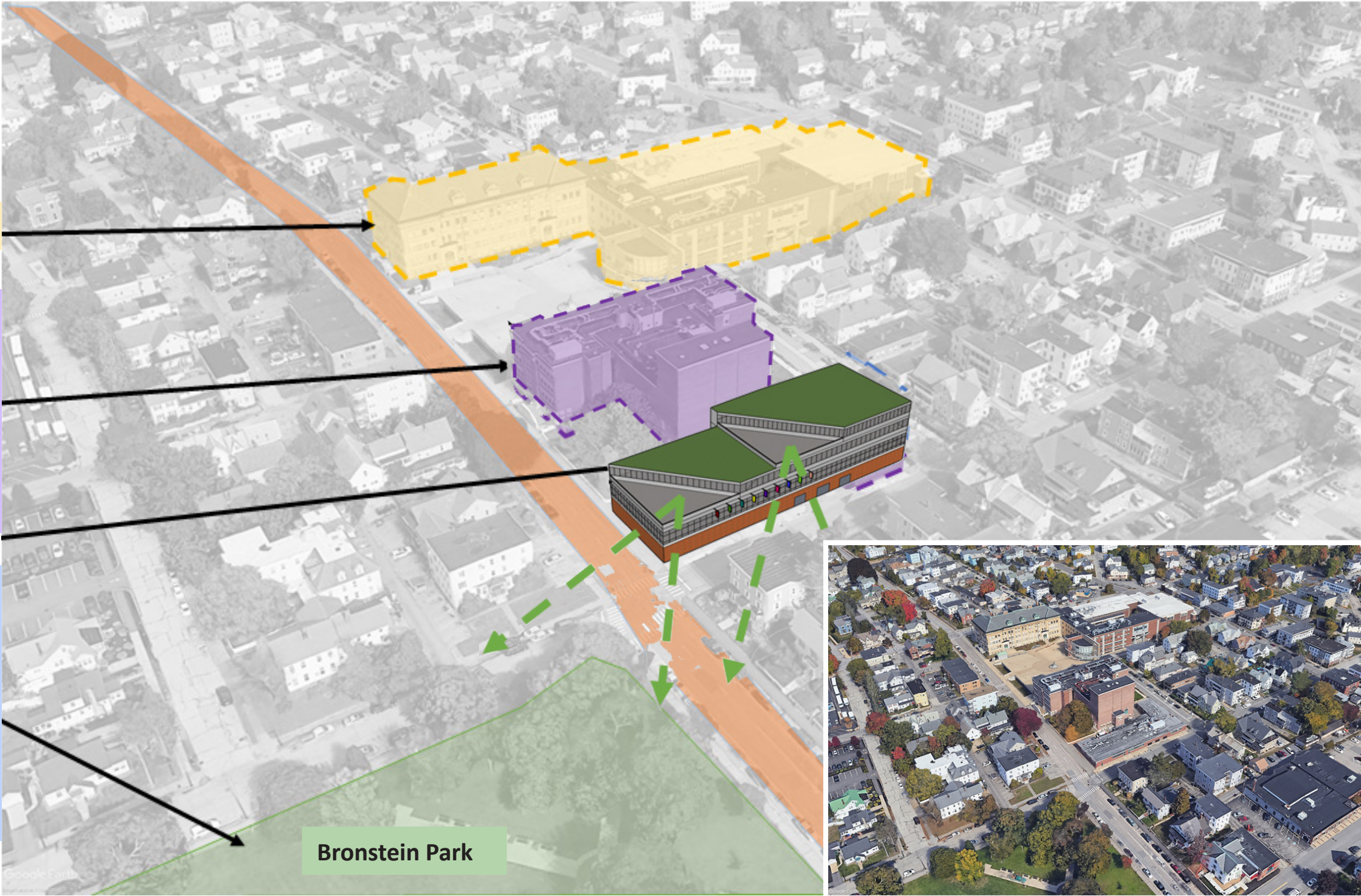
**Re-purposed Community Resource & Engagement Center**

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**

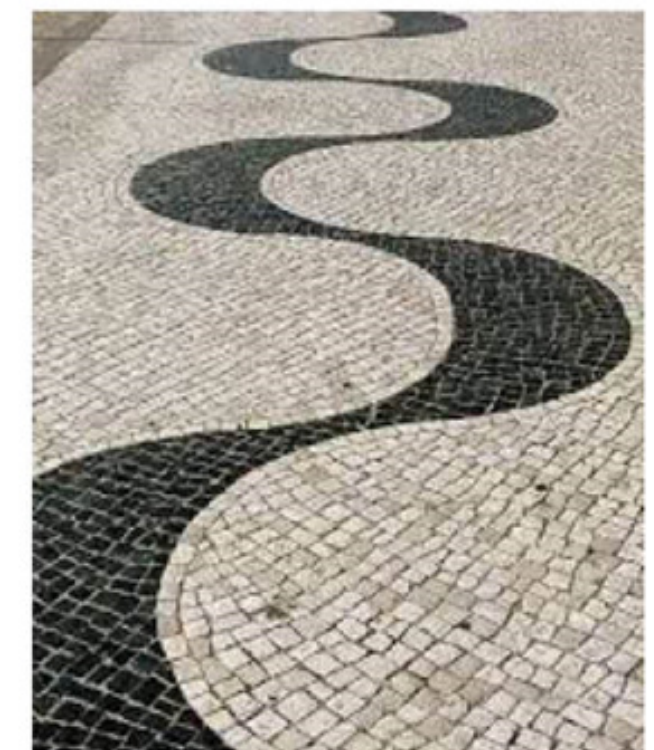
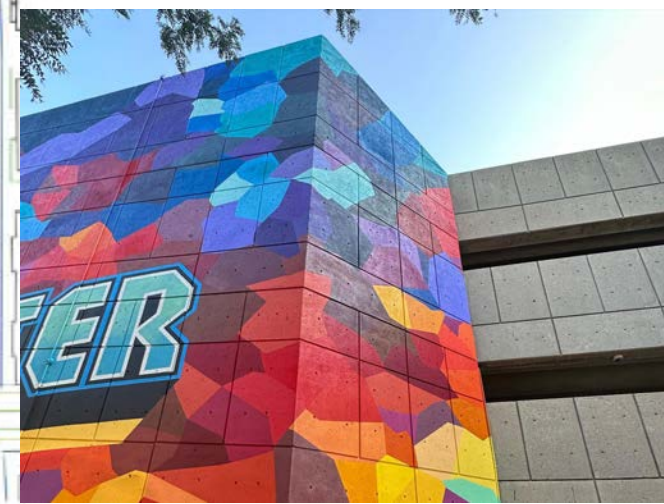
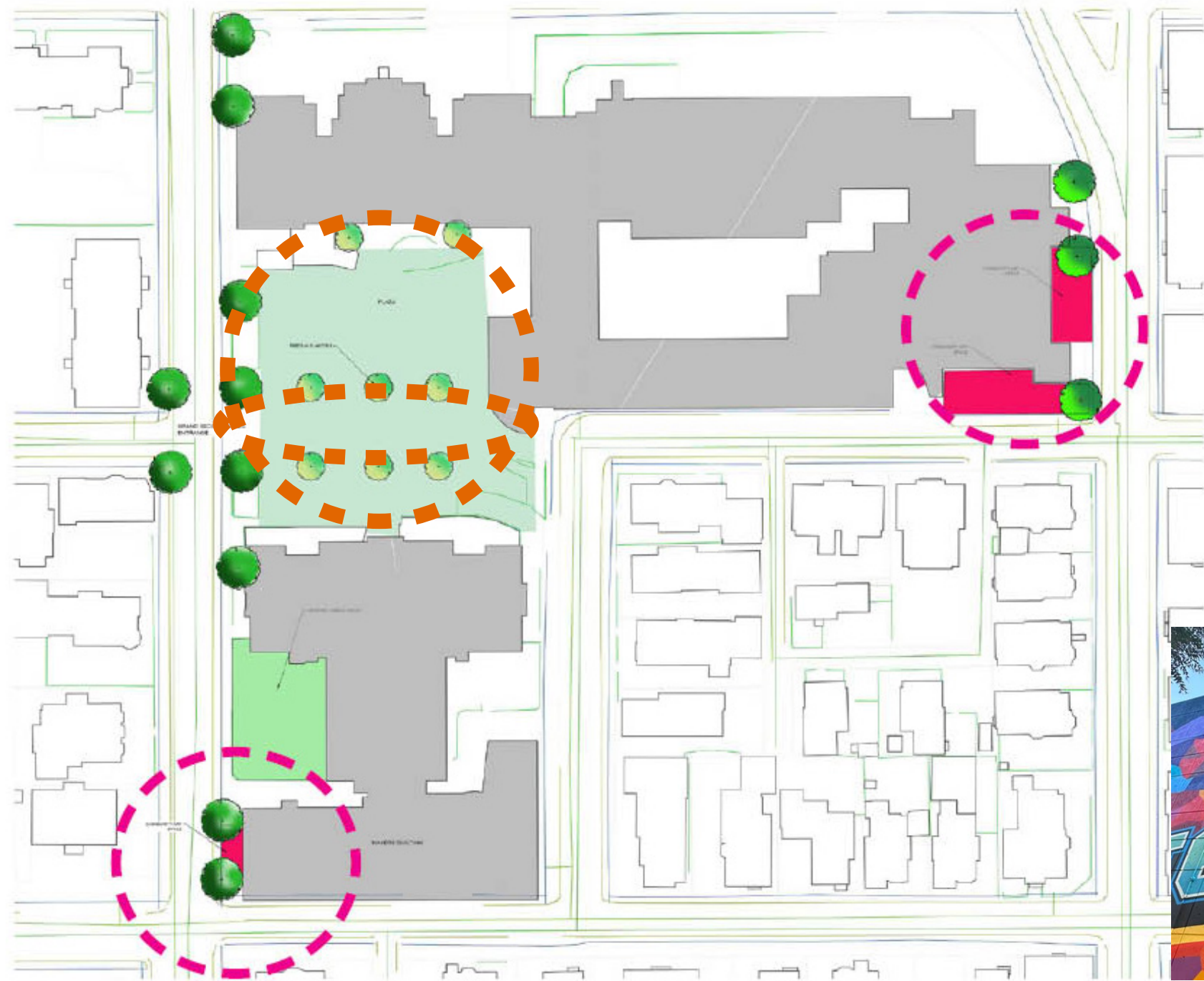
Expanding this building would provide room to expand community vocational training, maker-space/community repair shop opportunities, and space for career building and advancement services. It could also provide rooftop spaces with views of Bronstein Park and the city.



**Bronstein Park**



Recommendations:  
Community Enhancements - Community Art Opportunities





# Recommendations: Community Enhancements - Green Space Connectivity

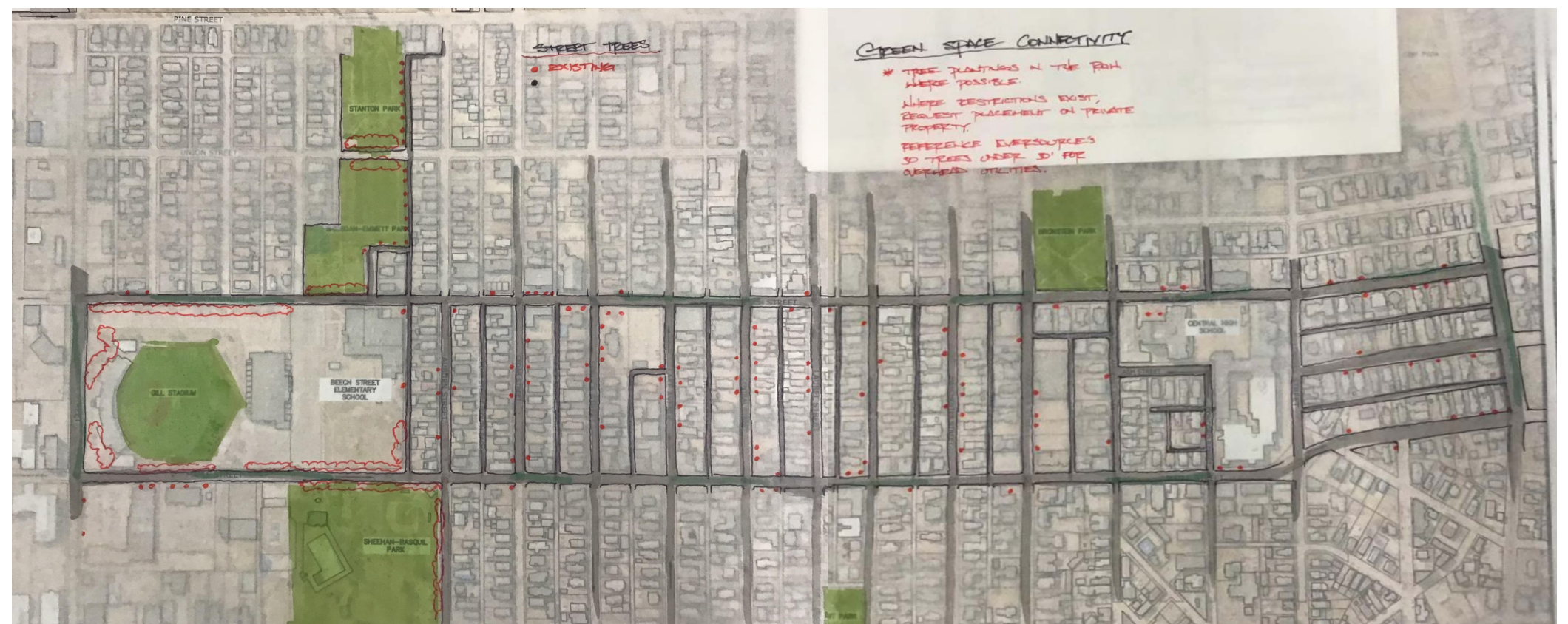
A visual inspection and inventory of the subject area green space was conducted through both in person analysis as well as by virtual means. The existing street tree inventory was noted on an area map to identify the available coverage. The locations identified are approximate, but clearly illustrate 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.

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.





# Big Picture: A Community Quilt

### Visioning for the Future

The Plan NH team has given some specific recommendations (speed check signs and wayfinding), along with some sketched concepts, so to end, we want to emphasize a few big picture points.

### 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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