



# Highland Heights Small Area Plan

City of Memphis  
Division of Planning +  
Development

**November, 2021**





Prepared For:

**City of Memphis**  
**Division of Planning and**  
**Development**

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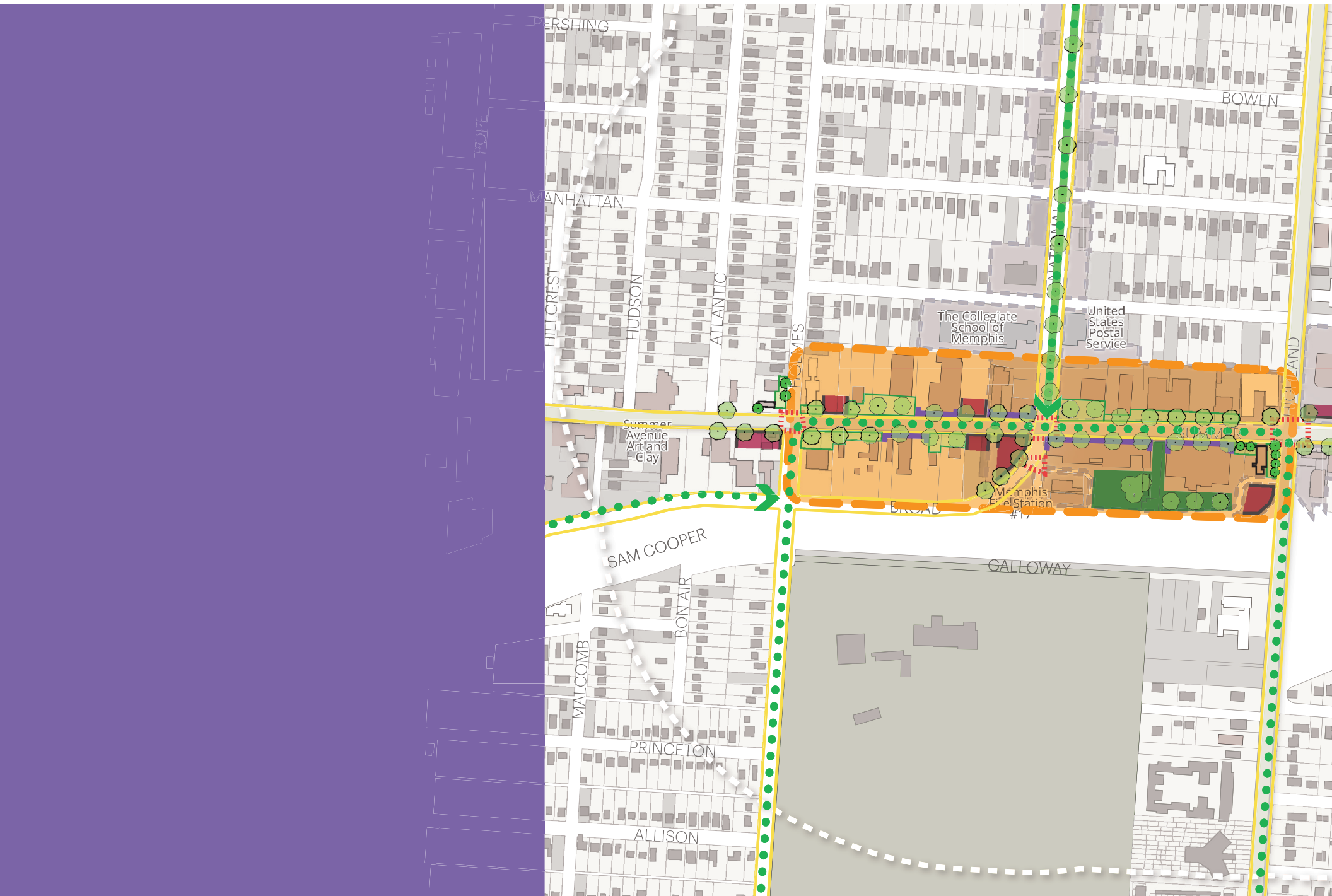
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# Project Overview

## CHAPTER 1



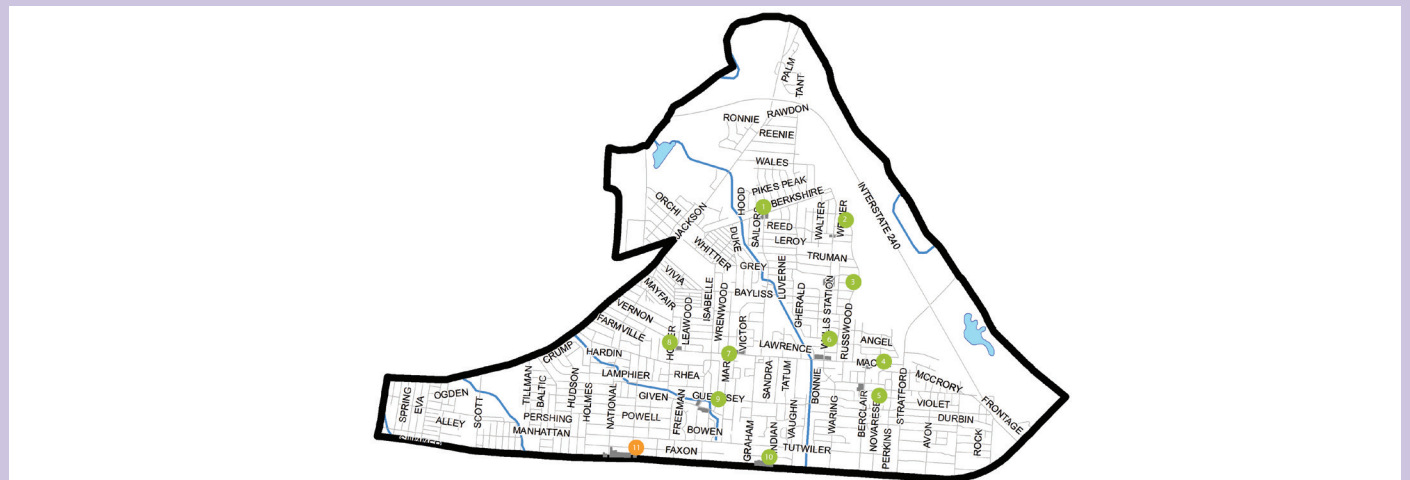
# Planning Policy + Background

## Memphis 3.0

In 2016, the City of Memphis embarked on a two-year comprehensive planning process. The plan, known as Memphis 3.0, was the first for the City since 1981. The planning process and subsequent adoption of the Memphis 3.0 Comprehensive Plan in 2019 signaled a new era for the City. No longer planning in an ad-hoc manner, the Plan established a roadmap for future development and a new vision: Build Up, Not Out. Memphis 3.0 aims to transform Memphis into a more prosperous and inclusive city by guiding growth and policy for the next 20 years.

The planning process identified 14 distinct planning districts in the City. A unique and unified vision, with shared goals and strategic actions, was developed with residents and community stakeholders with the intention of guiding future investments and land use decisions. With Memphis 3.0 and the applicable planning district's vision, priorities, and actions as a foundation, small area planning further engages community members to develop implementation plans for public realm improvement projects in their community. The small area planning process provides a deeper level of site-specific analysis, design standards,

**Figure 1** Anchors in the Jackson District as established during the Memphis 3.0 Comprehensive Planning Process.



and detail that a citywide plan cannot—resulting in a targeted guide for community investment projects.

### **Anchor Strategy**

Memphis 3.0 identifies how different degrees of change - accelerate, nurture, and sustain - captured through goals and recommended actions, can impact different anchors in Memphis. Anchors are the places where communities do things together. In some cases, they are places where Memphians from across the city gather to work, shop, learn, play and celebrate. In others, anchors might serve primarily the people who live nearby. Anchors are where the action is or has been, and where it will be in the future. Just as an anchor steadies a ship, community and citywide anchors in Memphis are meant to provide steady support for the neighborhood around them.

Anchors generally include a mix of uses where commerce, services, and civic activities intersect

and where higher densities of housing, commercial activity, employment and community uses are desired. Anchors provide an opportunity for new investment and services to bring positive and meaningful impact to a larger number of Memphians. The three degrees of change identified in this plan establish expectations for how much change will be encouraged in anchors and which forms of funding will likely benefit each anchor area. The plan recognizes each anchor has unique opportunities and challenges. The degree of change designation helps to identify the types of policies, actions and investments that best support success in development or preservation of the anchor.

### **Accelerate Memphis**

Accelerate Memphis was launched in 2021 under the Strickland administration to activate projects identified in Memphis 3.0 and serve as a road map for where and how to invest in communities to build up and not out. Projects include transportation improvements, park renovations, and neighborhood development. As part of Accelerate Memphis, Comprehensive Planning is focusing on nine large investment anchor areas and 35 early stage investments at targeted anchors around the city.





# Community Engagement + Small Area Plan Process

During the Small Area Planning Process, community engagement was crucial to the ideation of design concepts and recommendations for neighborhood improvements and development. The Division of Planning and Development (DPD) partnered with Opticos Design to create a vision for each of the anchor-focused Small Area Plans. After several meetings with community members and other interested parties Opticos Design, DPD, and stakeholders compiled suggestions to create plans for anchor and neighborhood revitalization.

## Initial Marketing

*Week 1 | Lead: City; Support: Opticos Design*

Community stakeholders served as experts on specific issues that later transformed into goals and ideas for action. DPD recognized the need to hone in on existing community discussions with neighborhood leaders and conducted focus group interviews. Opticos Design Inc. and DPD discussed neighborhood initiatives and prioritized projects while listening for opportunities to focus design interventions. Focus group meetings were held for Hollywood-Hyde Park, South City/Soulsville, Klondike, Orange Mound and Summer Ave. and National St. during the week of March 08, 2021. These group interviews included City Division leaders, City Council members, nonprofit and other neighborhood organizations, and identified neighborhood leaders.

## Initial Workshop Marketing

*Week 5 | Lead: City; Support: Opticos Design*

The usage of social media and the Memphis 3.0 Website became vital during the COVID-19 pandemic. Facebook and the Memphis 3.0 Website were updated two weeks before virtual public meetings with event links and

registration. Upcoming meeting information was added to the quarterly Memphis 3.0 Newsletter and monthly DPD Newsletter.

## Initial Workshop with Stakeholders and Public

*Weeks 6-8 | Lead: Opticos Design; Support: City*

The first community engagement meetings were held via Zoom throughout the month of April. The virtual workshop consisted of Opticos Design, community leaders, members of neighborhood associations, DPD staff members, and residents. The workshop introduced the Small Area Planning Process and its growth out of the Memphis 3.0 Comprehensive Planning Process. Opticos Design utilized Conceptboard, an online whiteboard, to present the focus anchor areas, recommendations and design options that were developed after initial stakeholder group interviews and Memphis 3.0 anchor ideas. Attendees were polled to prioritize various design interventions, and afterwards discussed options for redevelopment, focus projects, projected outcomes, etc. The virtual meetings provided a platform to generate ideas and give immediate feedback to the City and Opticos Design.

Some of the recommendations that were suggested during the meetings were:

- Street lighting;
- Community resources;
- Benches;
- Park improvements;
- Housing;
- Retail development;
- Grocery stores.

After feedback was reviewed, Opticos Design and subconsultants Toole Design and Malasri Engineering altered designs to better coalesce into visions for the anchors.

### **Final Design Concept Presentation Marketing**

*Weeks 17-19 | Lead: City; Support: Opticos Design*

As previously noted, social media, the Memphis 3.0 Website and newsletters were used as primary communication tools during the COVID-19 pandemic. Public meetings were live-streamed and then made available on the Memphis 3.0 Website and Facebook. Concept ideas and recommendations were printed and placed at important community spaces identified by stakeholders.

### **Final Design Concept Presentation**

*Weeks 20-21 | Lead: City; Support: Opticos Design*

This workshop served as a follow-up meeting for community members, stakeholders, and property and business owners to provide feedback regarding the refined design concepts and recommendations based on comments received from the previous public workshop. The Planning team and Opticos Design presented implementation items and potential costs for various items and concepts. Comments and suggestions were gathered from the Final Design Concept Presentation for Opticos Design and subconsultants Toole Design and Malasri Engineering to refine designs for the Final Plan development.

### **Final Plan Marketing**

*Week 25 | Lead: City; Support: Opticos Design*

Virtual publications were used to advertise the release of the Final Plans in November. All virtual methods conducted in previous engagement phases were utilized, along with the addition of paper plans and concepts printed and left at various important community spaces in the anchor areas. Emails to various stakeholders, Council members and neighborhood leaders assisted in spreading the word of the Final Plans, along with the advertisement of their addition to the Memphis 3.0 Website.



# Plan + Project Area Overview



**Summer + National Intersection**



**Highland Heights United Methodist Church**



**The Collegiate School of Memphis**

**Figure 2** Existing landmarks and important places in Highland Heights. Images courtesy Google Street View.

## Growth and Change

In the 1830s, the Highland Heights neighborhood was to the east of Memphis and largely controlled by the Pope Cotton Plantation. In 1929, the neighborhood was annexed into the city with an area of 4.13 square miles (source courtesy: High Ground News). Access to public transportation sparked commercial and retail development centralized along Summer Ave., National St., Highland St. and Macon St.

Recently, Summer Ave. was rezoned to lower intensity commercial use to prevent an oversaturation of auto use businesses and to encourage infill development consistent with the neighborhood vision developed in the Memphis 3.0 Comprehensive Plan. The rezoning provides an opportunity for the creation of new businesses that would better support the neighborhood's local economy and vision.

## Project Area Overview

Today, the Highland Heights Anchor Neighborhood is bounded by Summer Ave. to the south and National St. and Holmes St. to the west. The Highland Heights neighborhood is in the Jackson Memphis 3.0 Planning District. The community's vision for the Jackson Planning District includes strong, culturally diverse neighborhoods that are supported by local businesses and institutions, have access to vibrant, well-maintained open spaces and parks, and are connected

by safe, pedestrian-friendly streets throughout the district and the rest of the city.

## Anchors in Highland Heights

The Highland Heights neighborhood Anchor at Summer Ave. and National St. is an accelerate anchor. Accelerate anchors encourage beneficial change that is underway or identified as part of the future vision for that neighborhood but requires additional support to realize its full potential. A mix of investments by the City, philanthropies and the private sector drive transformative change to realize the community's vision for a place. In most cases, change in accelerate anchors is led primarily by private and philanthropic sectors but supported by public resources.



**A** Summer Ave. + National St.  
Anchor

**Figure 3** Aerial image and designated anchor in Highland Heights.

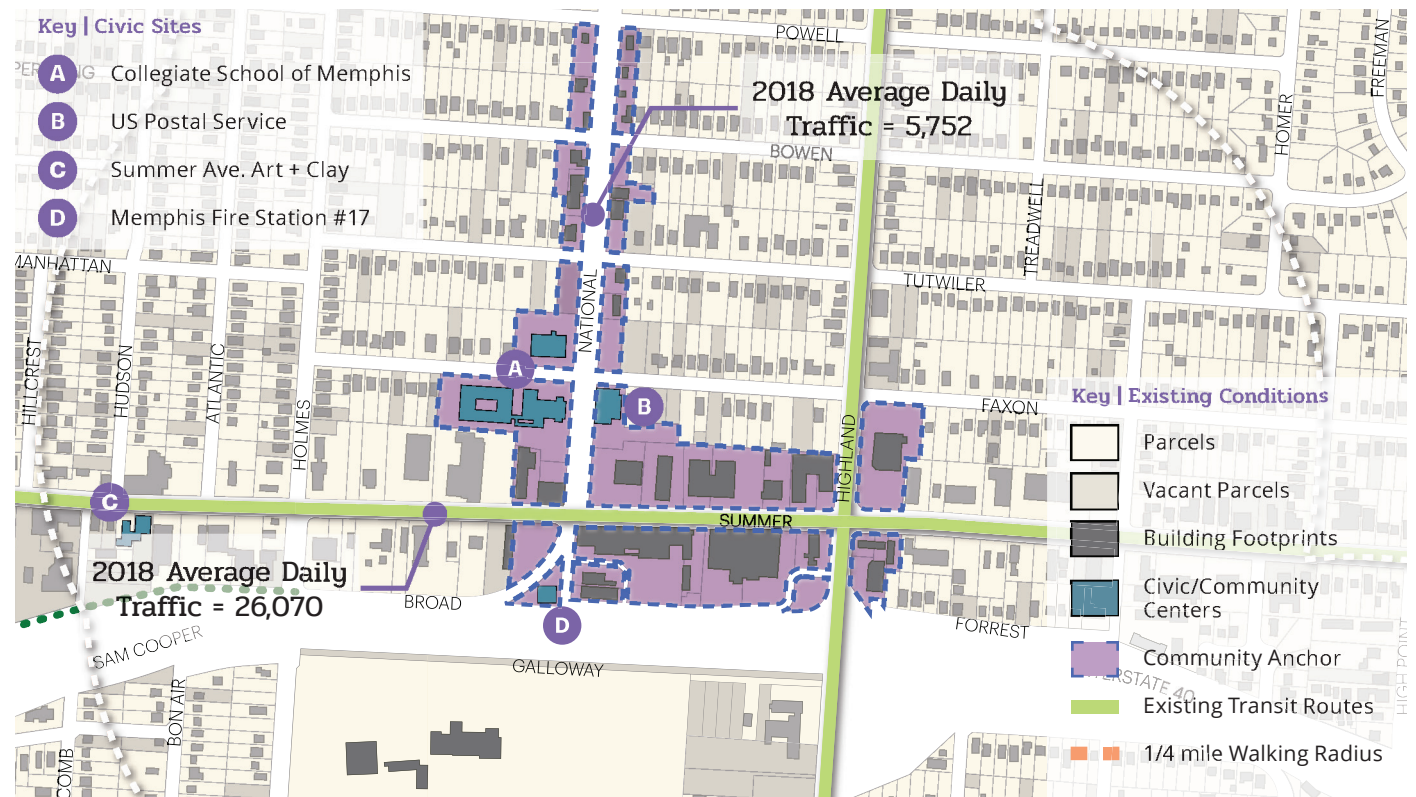


# Focus Area + Planning Priorities

## Focus Area

The intersection at Summer Ave. and National St. is the focus area for this Small Area Plan, as it serves as the Highland Heights neighborhood Anchor. The Highland Heights area exhibits a strong need for accessible,

open, public spaces for community gatherings, enjoyment, and recreational opportunities, as well as the need for a more efficient transit system.



**Figure 4** Map showing existing building footprints and transit routes in Highland Heights, as well as traffic volume on the major streets.

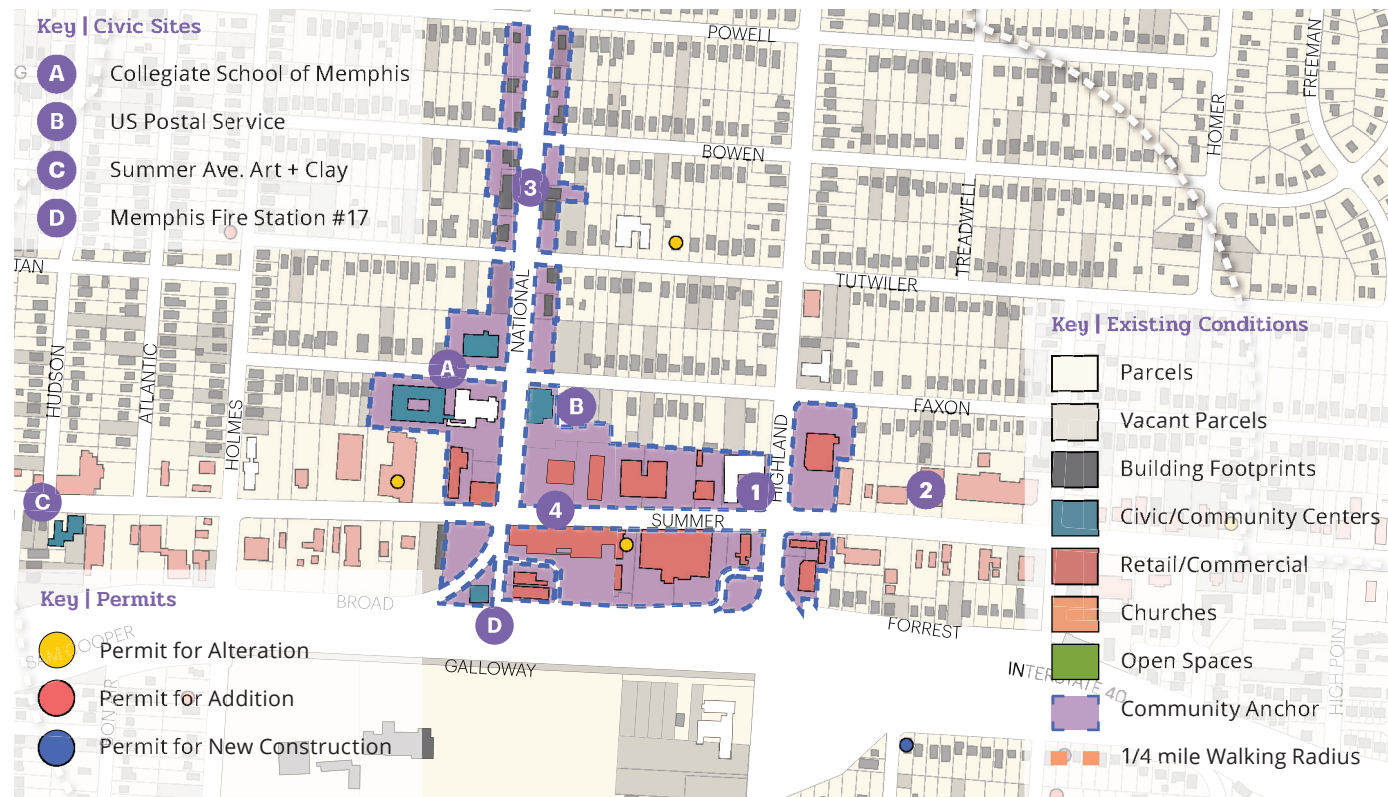
## Planning Priorities

During the Memphis 3.0 Comprehensive Planning Process, the following Highland Heights neighborhood priorities were identified:

- Increase access to open space through greenway development and the greening of vacant parcels;
- Improve pedestrian and cyclist infrastructure with a focus on safety and accessibility;
- Promote urban design standards in commercial and residential areas.



**Figure 5** *The Heights Line - Reimagine National St.*  
Image courtesy Heights Line Design Studio.



## Ongoing Projects

- 1 Highland Heights United Methodist Church Adaptive Reuse.
- 2 Rezoning along Summer Ave. to CMU-1 and MU to encourage development consistent with the vision in the Memphis 3.0 Comprehensive Plan.
- 3 The Heights Line. A neighborhood initiative to create the longest linear park with bike trail in Memphis along a former trolley line.
- 4 Summer Ave. Complete Streets Corridor Study.

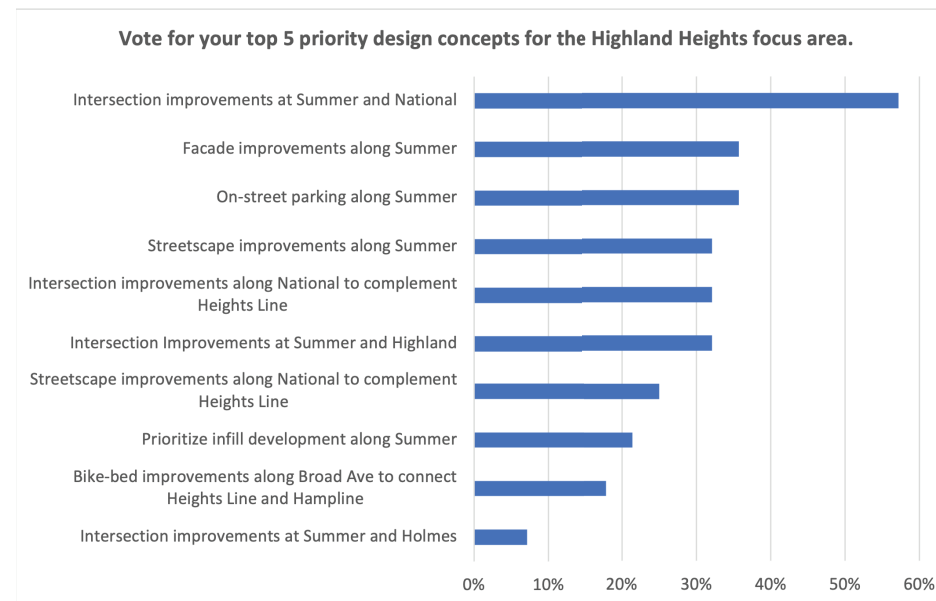
**Figure 6** *Map showing active uses and ongoing projects in Highland Heights.*

# Introduction of Small Area Planning Concepts

## First Public Workshop

A virtual public meeting was held via Zoom on April 15, 2021 to initiate the Small Area Planning Process for the Highland Heights anchor at Summer Ave. and National St. Opticos Design introduced the origins of the Small Area Plan and its connection to the Memphis 3.0 Comprehensive Planning Process. The meeting consisted of a review of general public infrastructure improvements including street re-design, pedestrian safety, and greenspace for the anchor and anchor

neighborhood. Examples of potential private investment and growth along the anchor and street corridor were presented to stakeholders, community leaders, and planning staff. Participants were asked to participate in a poll to prioritize improvements specific to the anchor. The poll options and results are listed below.



## Community Feedback

During the meeting, the top priority was intersection improvements at Summer Ave. and National St. to provide greater crossing safety for pedestrians and to notify drivers this is a high-traffic intersection. Residents agreed façade improvements to private businesses along Summer Ave. and providing on-street parking for these businesses would allow for more commerce and encourage future small business development in the neighborhood.

## Top Results

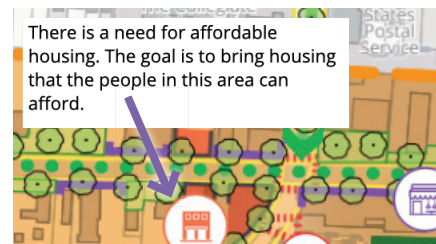
1. Improvements at Summer Ave. and National St.;
2. Façade improvements along Summer Ave.;
3. On-street parking along Summer Ave.

Based on the poll results and needs of the community, Opticos Design drafted a plan reflecting the priorities of the neighborhood with design options specific to the character and history of Highland Heights.



# Revised Design Concepts

**Figure 7** Comments on the conceptual plan during the public workshops.



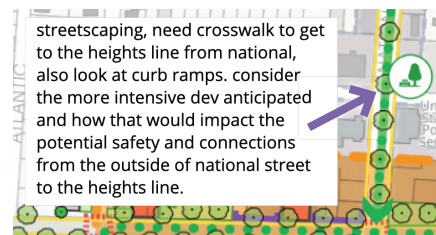
**Affordable Housing**



**Walking/Biking Instead of Driving**



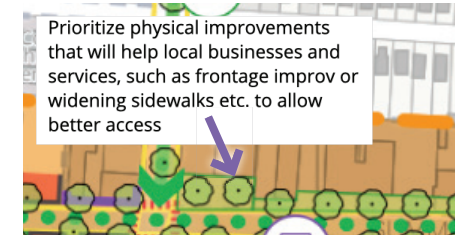
**On-street Parking**



**Safe, Accessible Connections**



**Open Space Network**



**Supporting Local Businesses**

## Second Public Workshop

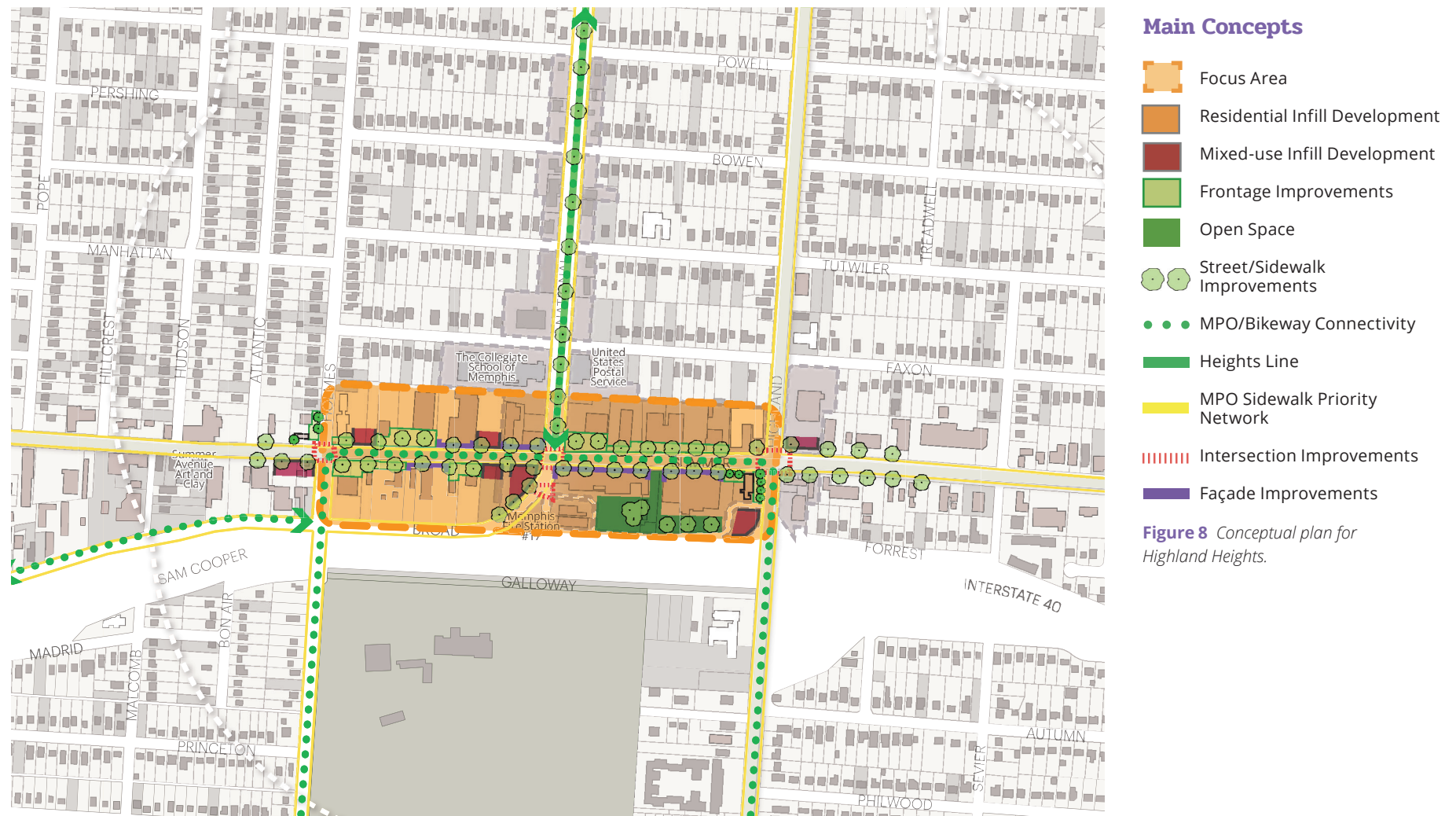
A second public meeting was held via Zoom on July 22, 2021 to present the revised design concepts and conceptual illustrations to the public, highlighting proposed implementation investments for the community anchors in Highland Heights. The revised design concepts were developed by Opticos Design based on the poll responses and comments received from the initial public meeting in April. The major comments from the public included pedestrian safety improvements at National St., future maintenance

of any new greenery, and the design concepts not reflecting a broad enough mix of building types and new housing.

After the July meeting, design concepts were revised further to reflect the additional public comments received. The result is a refined vision for the community anchor in Highland Heights that highlights implementation investments in infrastructure and the public realm.

# Conceptual Plan

This image maps high-level ideas about investments that could be made to the public realm. These concepts were refined to create the design concepts that are detailed in this plan.









# Design Concepts

CHAPTER 2



# Anchor Improvements at Summer Ave. + National St.

## Vision for Highland Heights

The Heights Line, a landscaped shared-use path in the median of National St. provides the opportunity to create a distinctive gateway for the core of the Highland Heights neighborhood anchor. Between Summer Ave. and Faxon Ave., a “shared space” environment along National St. makes it possible for community events to safely spill out from the Heights Line into the street, which can be closed to traffic during special events. Streetscape improvements along Summer Ave. and National St., along with a reconfigured intersection where National St. meets Summer Ave. and Broad Ave., provide safer access to the Heights Line as well as to the two-way separated bike lane that connects the Heights Line with the Hampline.

The increased presence of people walking and biking supports mixed-use infill development with active ground-floor uses along Summer Ave. This, combined with improvements to existing sidewalks, façades, and frontages, enhances the experience along the street. At key destinations along the Heights Line,

such as Highland Heights Baptist Church and the Collegiate School of Memphis, improvements to landscaped green spaces link the greenway with the surrounding community. The transformation of National St. into a destination greenway makes it a desirable location for a range of new housing options and helps to strengthen the sense of community among residents.

## Accelerate Memphis Funding

Design concepts in this plan that will be funded through Accelerate Memphis are listed below and described in more detail on the following pages. Additional funding and implementation details can be found in the Implementation Roadmap section of this plan document.

- Heights Line Gateway Plaza from Summer Ave. to Faxon Ave.;
- Intersection improvements on National St. at Tutwiler Ave. and Bowen Ave.;
- Street improvements on Broad Ave. from Summer Ave. to North Holmes St.;
- Summer Ave. sidewalks from National St. to Highland St.

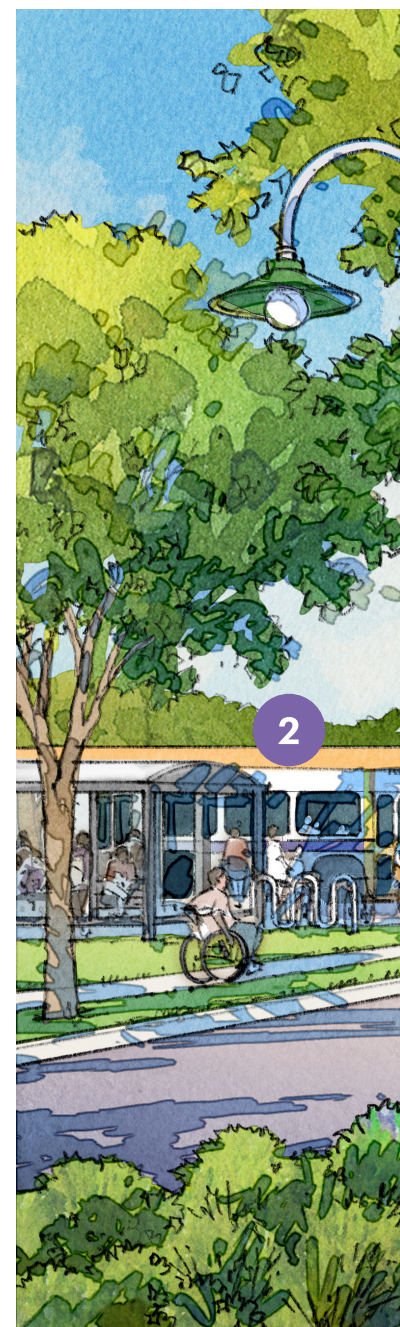
**Figure 9** Illustrative perspective drawing showing the Heights Line at the intersection of National St. and Summer Ave., highlighting improved bicycle and pedestrian connections.

### Public Investments

- 1 Shared-use path along landscaped median provides an attractive route for walking and biking.
- 2 Heights Line connects to transit routes.
- 3 Curb extensions at intersection slow traffic and reduce crossing distances, providing safer connections among bike and pedestrian routes.
- 4 Two-way bike lane along Broad Ave. connects Heights Line to Hampline.
- 5 Reconfigured intersection at Broad Ave. and National St. slows traffic and improves safety for users.

### Private Investments

- 6 Façade improvement program for existing buildings to improve streetscape.
- 7 New mixed-use infill with active ground floor uses offers additional housing options and amenities for locals.









**Figure 10** Illustrative plan at Summer Ave. and National St. in Highland Heights.

#### Public Investments

- 1 Heights Line\*
- 2 Curbless Heights Line Gateway Plaza
- 3 Expanded sidewalks
- 4 Potential for street trees and on-street parking
- 5 Intersection redesign for Broad Ave. and National St.
- 6 Bike connections to Hampline

#### Private Investments

- 7 Mixed-use infill with active uses at the street level
- 8 Façade improvements along Summer Ave.
- 9 Landscape improvements along Summer Ave. and National St.

#### Known Institutions

- A The Collegiate School of Memphis
- B Highland Heights Baptist Church
- C Post Office
- D Highland Heights United Methodist Church







**Figure 11** Illustrative plan of National St. north of Summer Ave. in Highland Heights.

**Public Investments**

- 1 Heights Line\*
- 2 Curb extensions at intersections and high-visibility crosswalks
- 3 Street trees in mid-block curb extensions along National St.

**Private Investments**

- 4 Mixed-use buildings and live/work units along National St.
- 5 New housing options (see Infill Housing Strategy beginning on p. 40)

*\*Image courtesy Heights Community Development Corporation, subject to change.*



## Heights Line Gateway Plaza

With a flush street that can easily be closed to through traffic for special events, the intersection of Faxon Ave. and National St. will serve as a Gateway to the Highland Heights area. Using materials that are cohesive, yet distinct is key to delineating thresholds between different zones (e.g., the travelway vs. the building frontage zone). The cross sections on pages 30-31 provide additional detail about this unique streetscape.

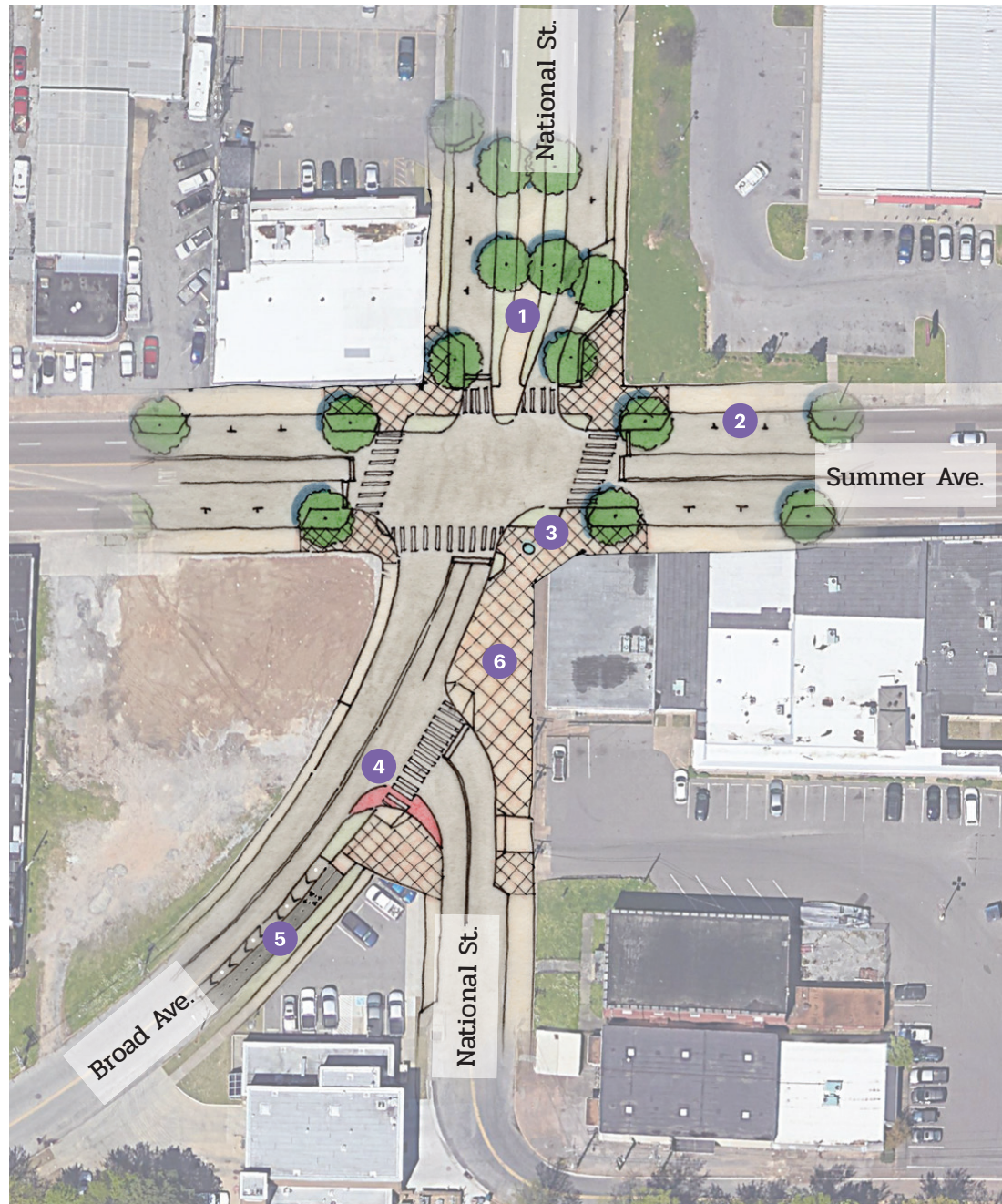
- 1 Bollards keep vehicles out of Heights Line.
- 2 Curb extensions reduce turning speeds.
- 3 Flush street where users share space.
- 4 Ramp for transition to flush street.
- 5 Heights Line shared-use path.

**Figure 12** Plan for Heights Line Gateway Plaza.

## Existing Conditions







### Intersection Improvements at Summer Ave. + National St.

Narrowing and reducing travel lanes at the Summer Ave. and National St. intersection creates an opportunity for new civic spaces at this commercial center of the Highland Heights area. Curb extensions at the intersection and a two-way separated bike lane on Broad Ave. create a seamless connection between the Heights Line and Hampline.

- 1 Heights Line shared-use path.
- 2 Travel lanes converted into on-street parking.
- 3 Curb extensions reduce turning speeds.
- 4 Mountable truck apron.
- 5 Two-way separated bike lane.
- 6 Gathering space/cafe seating.

**Figure 13** Plan for Intersection Improvements at Summer Ave. and National St.

### Existing Conditions





# Gateway Improvements at Summer Ave. + National St.

Placemaking features can help to reinforce this intersection as an important gateway for Highland Heights by incorporating signage, public art, and branding elements to complement improvements to roadways, intersections, bicycle and pedestrian facilities.

*Top row, L-R: Images courtesy Street Plans; Atlanta Department of City Planning; Sasaki. Bottom row, L-R: Images courtesy site design group, Ltd.; City of Memphis; Robert Steuteville.*



Permanent Curb Extensions



Place-themed Bus Shelter



Street Lights + Banners



Public Art

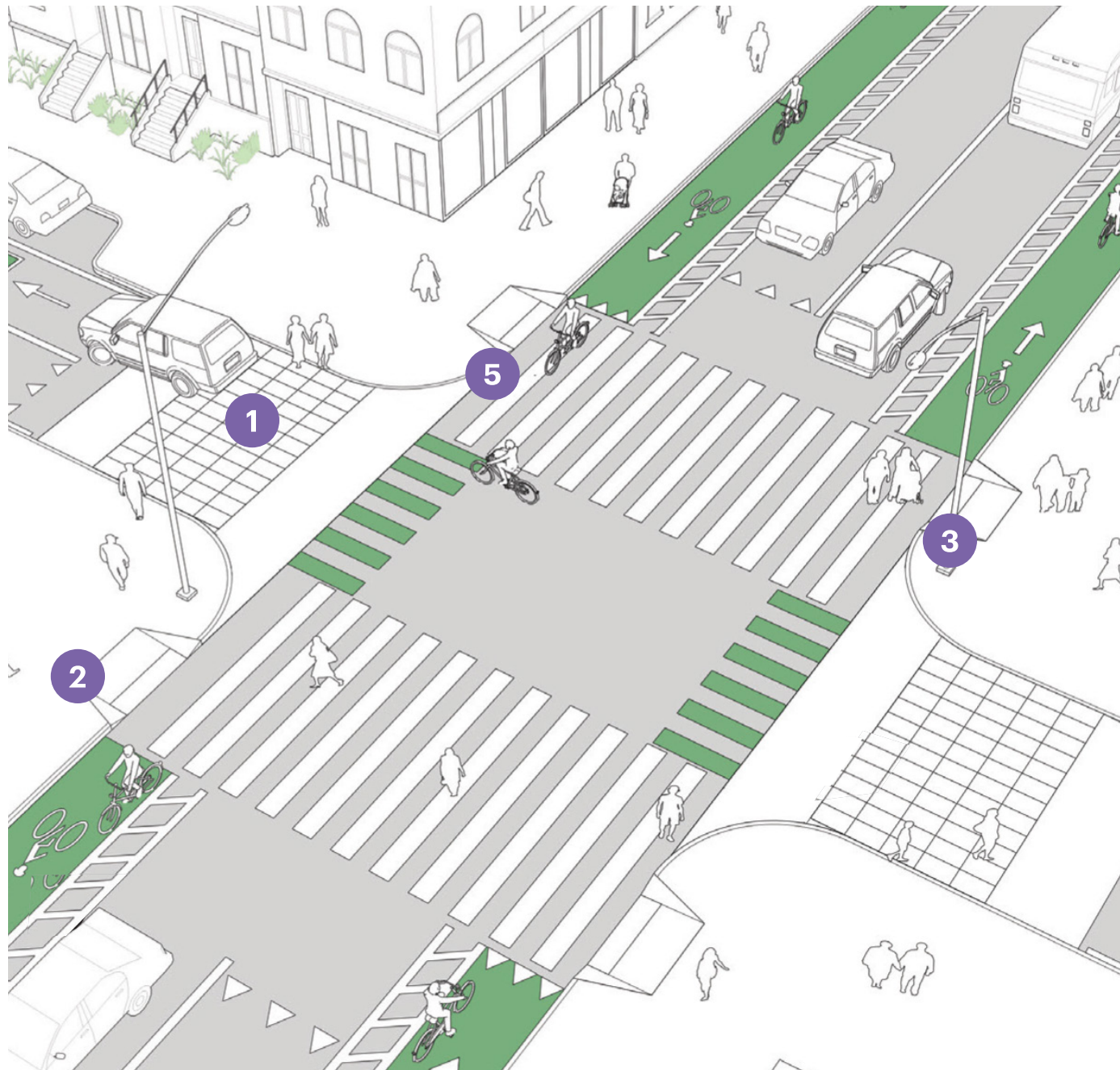


Gateway Signage



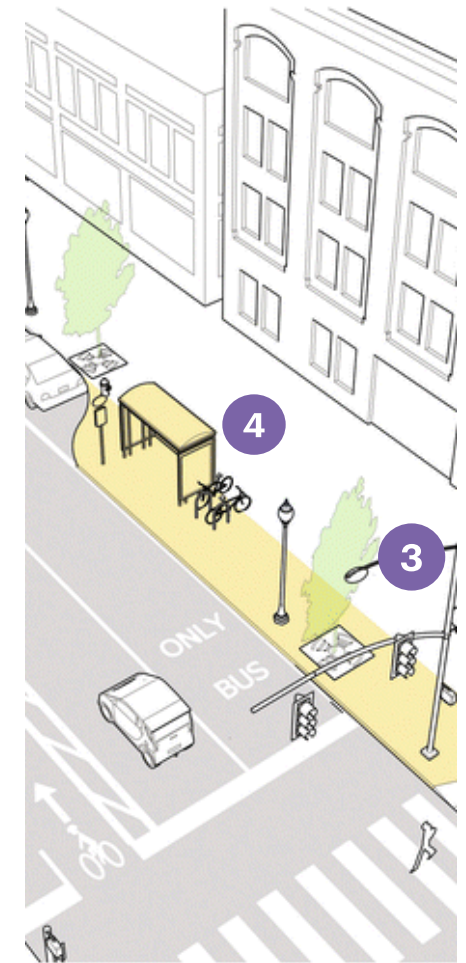
Artistic Crosswalk + Mid-block Crossing

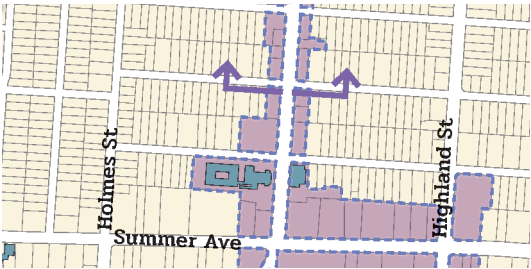




**Figure 14** Elements for a gateway neighborhood intersection.  
Images courtesy NACTO.

- 1 Artistic Crosswalk
- 2 Curb Extensions
- 3 Street Lights + Banners
- 4 Place-themed Bus Shelter
- 5 Paved Intersection or Street Mural

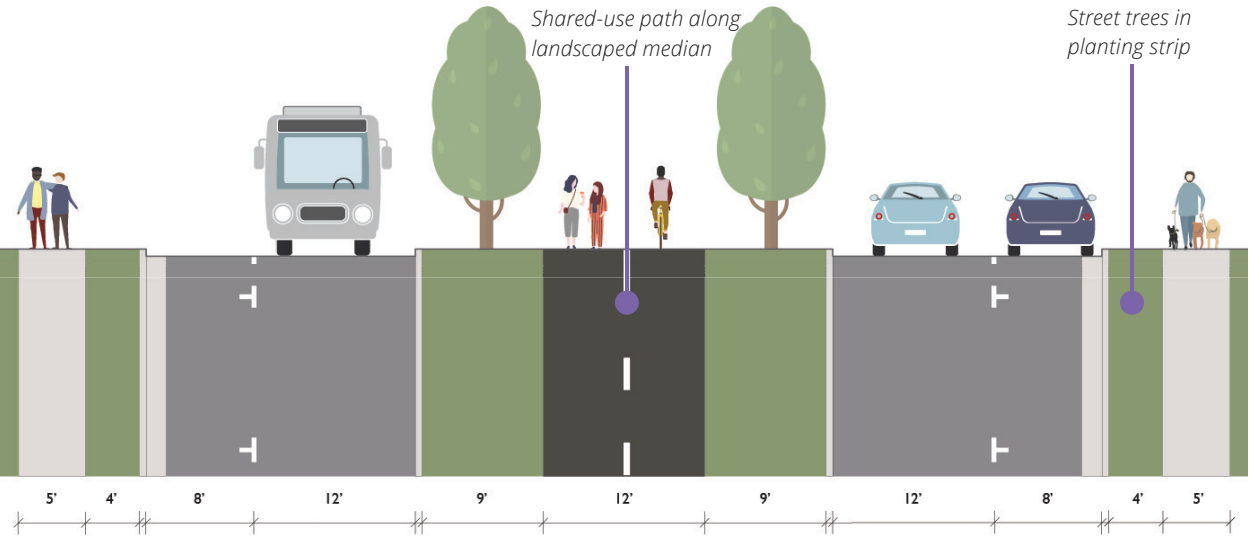




# Street Improvements along National St. with Road Diet

## Summary

Street redesign in Highland Heights creates comfortable pedestrian and bicycle facilities that connect commercial destinations to the planned trail of the Heights Line and the completed Hampline. Converting travel lanes into on-street parking serves local businesses and provides traffic calming as well as street tree planting opportunities. Cross sections illustrate options for transforming the street with and without a road diet/lane repurposing.

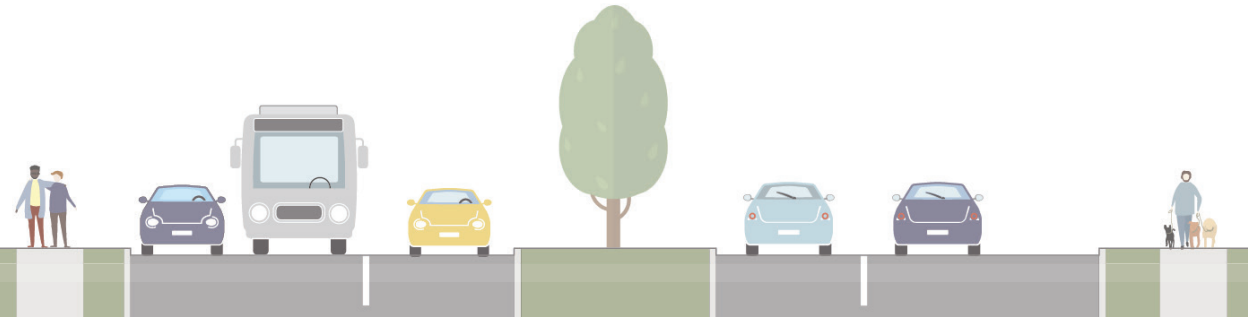


**Figure 16** Proposed street improvements along National St.

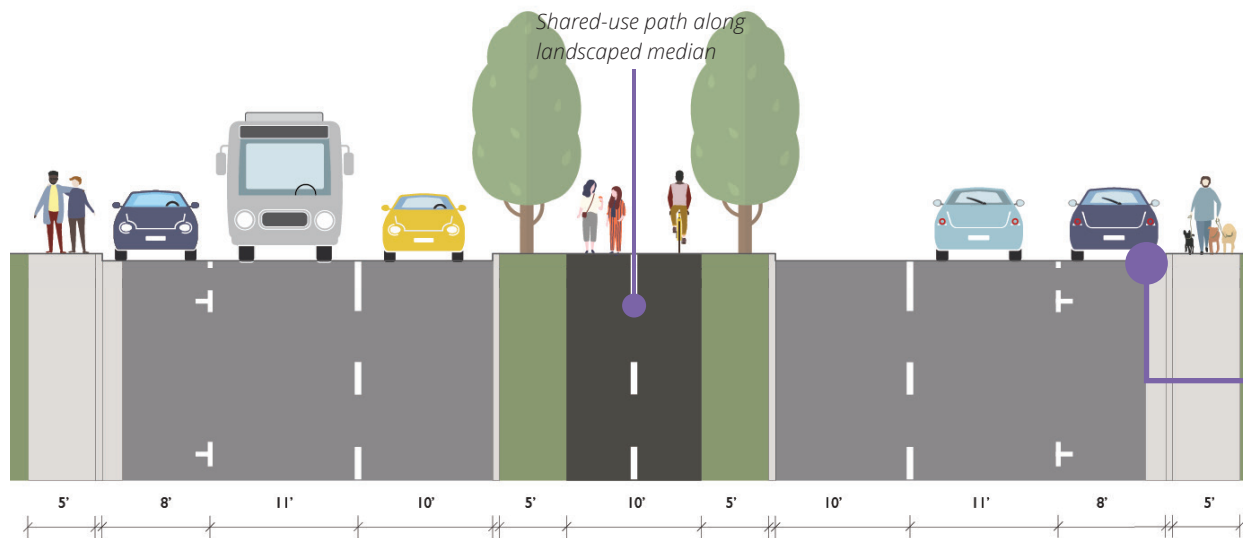


**Figure 15** Existing conditions on National St. between Summer Ave. and Faxon Ave.

## Existing Street Section



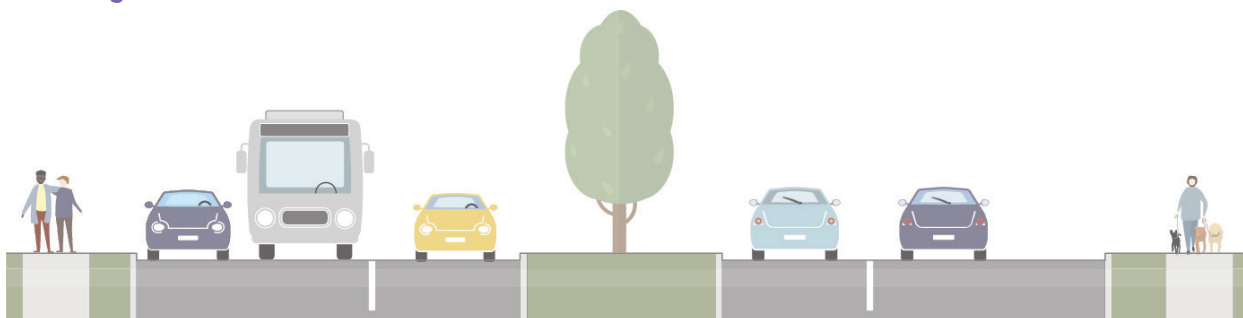
# Street Improvements along National St. without Road Diet



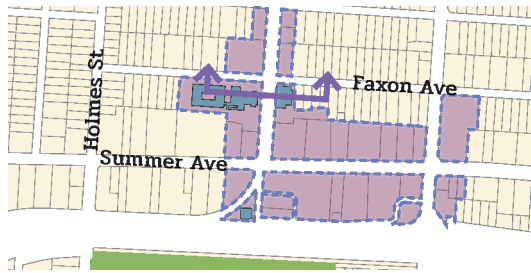
**Figure 17** Proposed street improvements along National St.



## Existing Street Section



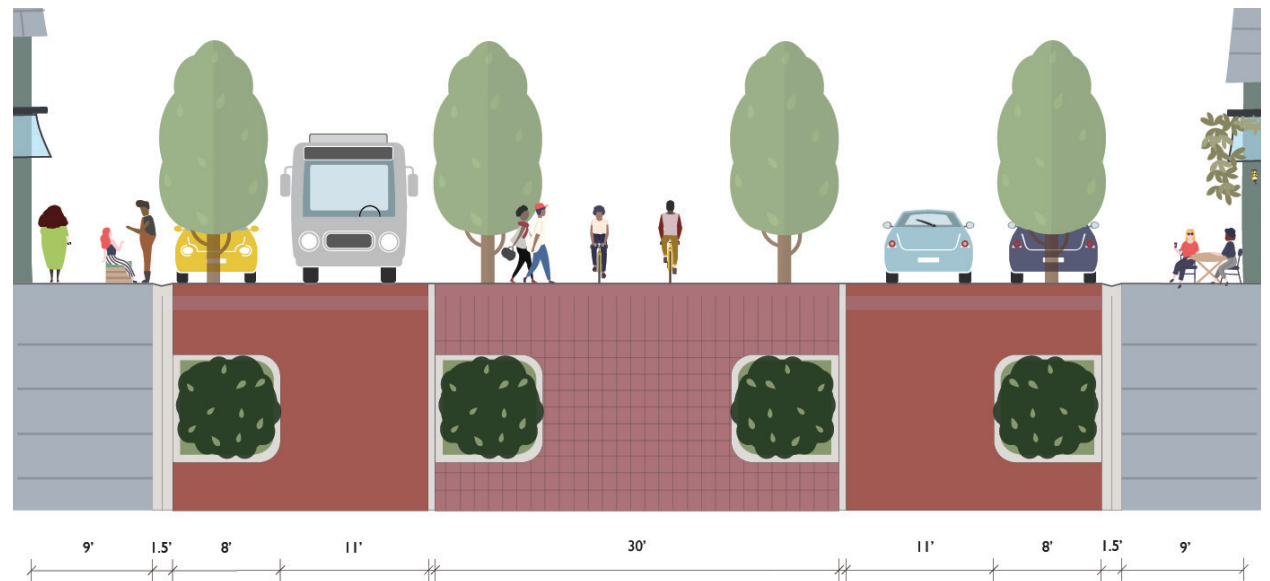




### Shared Space on the Heights Line

In contrast to other thoroughfares designed as vehicular routes, the Heights Line Gateway Plaza is envisioned as a public space first, which drivers share with people walking and biking—all at low speeds. The flexibility of the travelway reflects the flexibility of the space as a whole, which accommodates a variety of activities and furnishings and can even be closed to vehicles entirely during special events.

## Heights Line Gateway Plaza Concept A



**Figure 19** Proposed Gateway Plaza at Heights Line.



Image courtesy Google Street View.

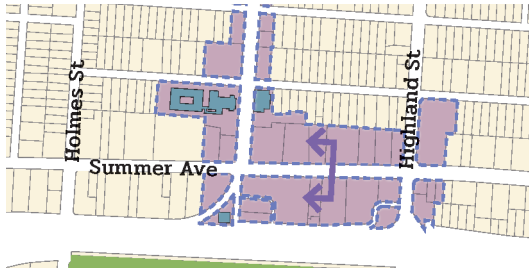
**Figure 18** Existing conditions on National St. at Faxon Ave.

### Existing Street Section





## A stylized illustration of a road scene. On the left, two pedestrians (a man in a yellow shirt and a woman in a blue shirt) stand on a sidewalk. A dark blue car is parked on the road. Next to it is a large white bus. Then a yellow car is parked. In the center, a large green tree stands on a grassy area. To the right of the tree, a light blue car and a dark blue car are parked on the road. On the far right, a pedestrian (a man in a blue shirt) stands on a sidewalk with a small black dog and a small brown dog. The background is a solid light blue color.

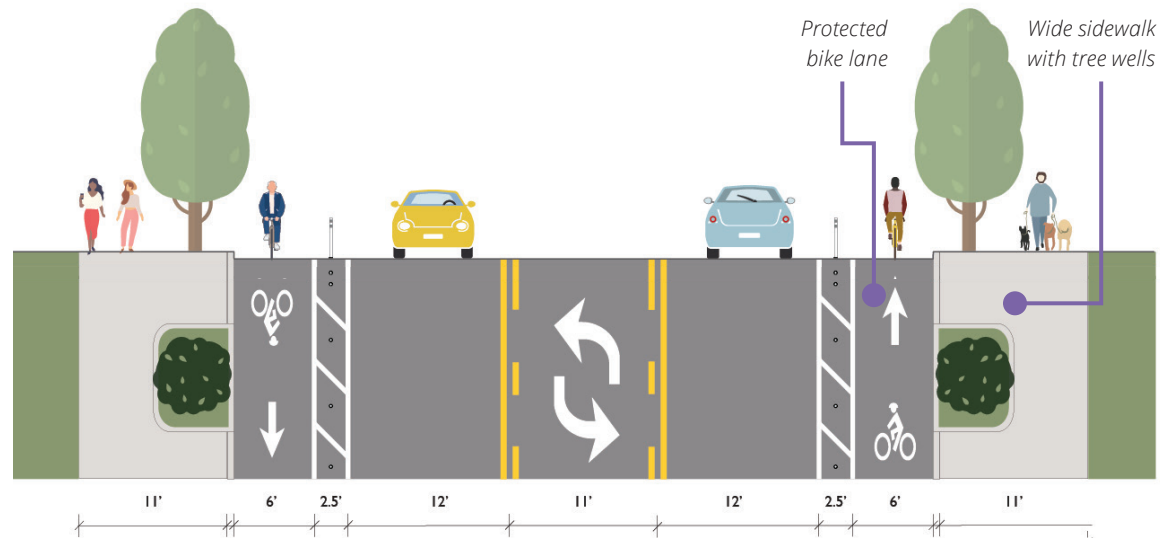


## Street Improvements along Summer Ave. without Parking

### A Walkable, Bikeable Corridor

This design creates a safer, more comfortable environment for people walking and biking by introducing a number of complementary features. These include wide sidewalks, street trees providing shade, and bike lanes separated from traffic by simple buffers.

*Note: Any changes to the cross section require TDOT approval, but review is underway now.*

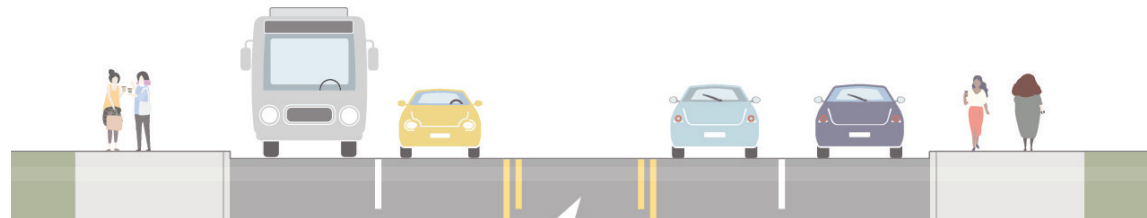


**Figure 22** Proposed street improvements along Summer Ave.



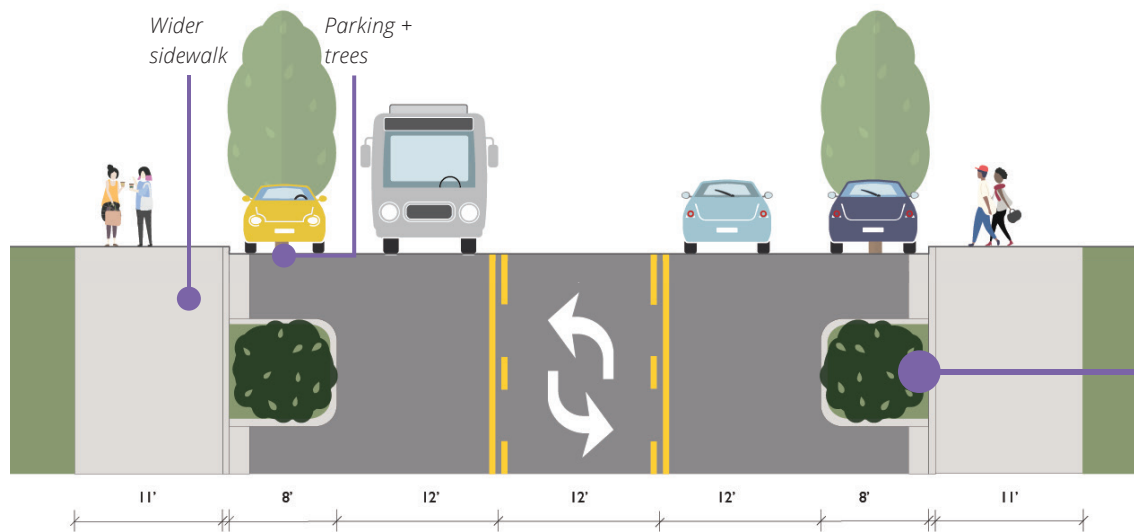
**Figure 21** Existing conditions on Summer Ave., east of National St.

### Existing Street Section





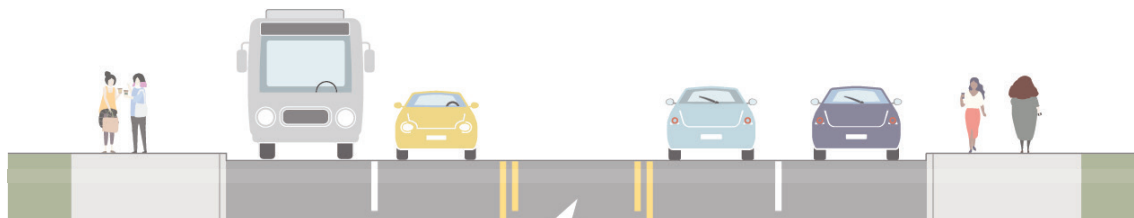
# Street Improvements along Summer Ave. with Parking



**Figure 23** Proposed street improvements along Summer Ave.



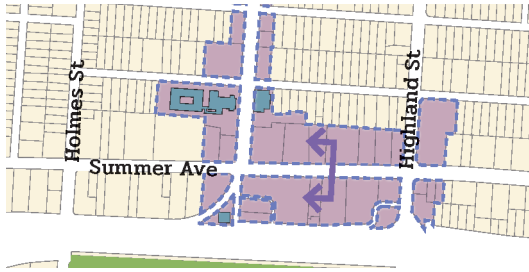
## Existing Street Section



## Pedestrian-Focused Redesign

On-street parking provides a double benefit by offering easy access to local businesses as well as increasing the sense of safety for people on the sidewalk.

*Note: Any changes to the cross section require TDOT approval, but review is underway now.*

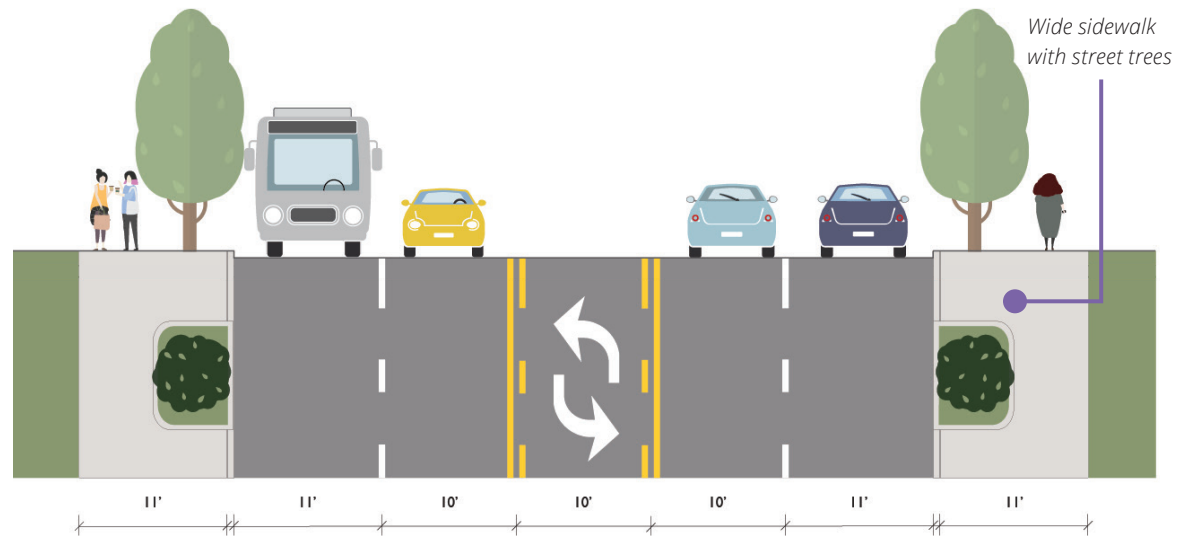


## Street Improvements along Summer Ave. without Road Diet

### A Lighter Touch

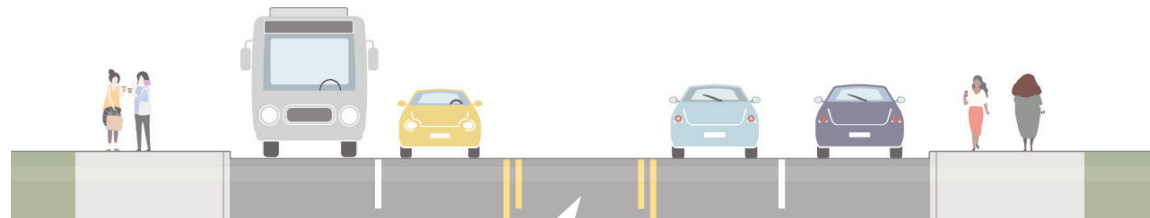
Even if two vehicular lanes in both directions are maintained, the environment for people on the sidewalk can still be improved through the addition of street trees, which provide protection from traffic as well as from the sun.

*Note: Any changes to the cross section require TDOT approval, but review is underway now.*



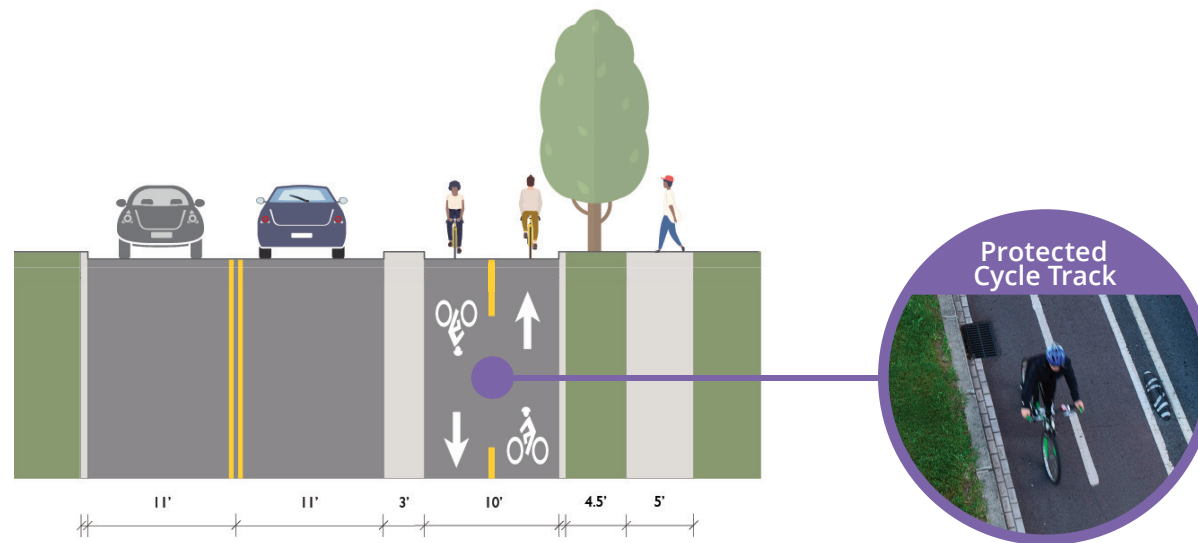
**Figure 24** Proposed street improvements along Summer Ave.

### Existing Street Section



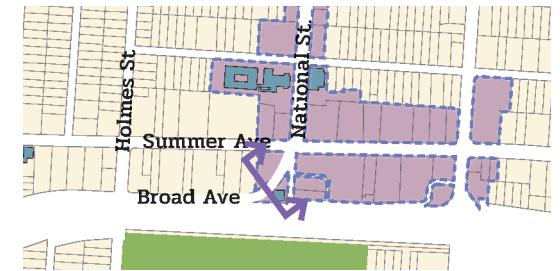
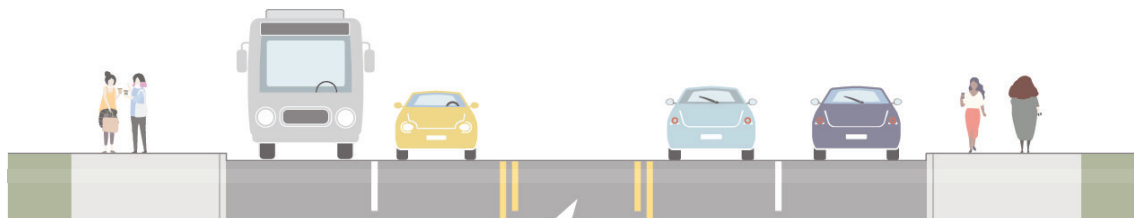


# Street Improvements along Broad Ave.



**Figure 25** Proposed street improvements along Broad Ave.

## Existing Street Section



## Connection to the Hampline

The addition of a protected two-way cycle track along Broad Ave. provides a safe, navigable connection between the Heights Line and the existing Hampline.



**Figure 26** Existing conditions on Broad Ave. between Holmes St. and Summer Ave.

# Street Improvements Glossary

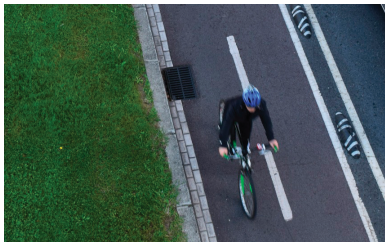
## Improvement Type

## Benefits



**Curb Extensions.** Also known as “bulb-outs,” these help to slow traffic by reducing the distance between curbs.

- Safer pedestrian crossing, since the length of the crosswalk is minimized.
- Provides space for landscaping, public art, and street furniture.



**Protected Bike Lanes.** A dedicated facility for use by bicycles and other low-speed mobility devices that is physically separated from vehicular traffic.

- Improves ride safety through the use of physical elements such as bollards, planters, and flex-posts to separate riders from car traffic.



**Rain Gardens.** Landscaped areas along the edge of the street – sometimes behind curb extensions.

- Acts as a sponge to absorb and filter runoff from rain that falls on the street.
- Helps to beautify a street, and reduces demand on storm sewers.



**On-street Parking.** Parking adjacent to the curb.

- Provides convenience for people visiting nearby businesses and residences.
- Slows traffic by reducing the perceived width of the street.

*Images courtesy Toole Design Group.*



## Improvement Type

## Benefits



**Curbless Environment.** Areas where the sidewalk and street are at the same level. These environments can be closed to car traffic to extend the pedestrian area from the sidewalk onto the street during special events.

- Slows traffic when combined with curb extensions and other traffic-calming tools.
- Allows easier access for pedestrians with limited mobility by avoiding stepping up onto a curb if crossing the street or exiting a parked car.



**Shared-Use Paths.** Wider than a typical sidewalk, these paths are meant to accommodate a variety of users including people walking, riding bikes, riding scooters and using wheelchairs or other mobility-assist devices.

- Can be either separated from car traffic by physical barriers or completely separate from the street.



**Raised Intersections.** Intersections that are elevated to the sidewalk level.

- Slows traffic and reduces barriers for pedestrians by eliminating the need for a curb ramp to access a crosswalk.



**Crosswalk Improvements.** Crosswalks with enhanced visibility features.

- Features like street lighting and painting can improve pedestrian safety and integrate public art through creative crosswalk painting.
- Curb extensions at the crosswalk help to minimize crossing distance for pedestrians.

*Images courtesy Toole Design Group.*

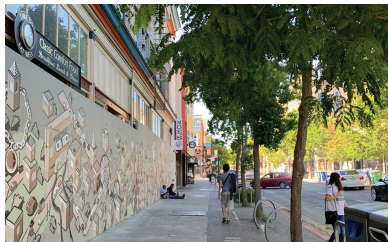
### Improvement Type

### Benefits



**Mid-block Pedestrian Crossings.** Crosswalks located at the middle of a block.

- Reduces the distance a person must walk to cross the street.
- Provides better access along corridors with few intersections or crosswalks.



**Street Trees.** Trees planted along the sidewalk.

- Helps to beautify a street.
- Provides shade for people walking along the sidewalk.
- Absorbs rainfall to reduce storm sewer demand.
- Reduces the urban “heat island” effect.



**Road Diets.** When traffic lanes are narrowed or when one or more traffic lanes on a multi-lane road are eliminated.

- Makes more room for other street features such as on-street parking, bike lanes, transit lanes, or wider sidewalks.
- Helps to slow vehicle traffic by reducing the street width.

*Images courtesy Toole Design Group.*





Mid-block crosswalks facilitate crossings to places where people want to go but that are not well served by the existing traffic network.

Source: [www.nacto.org](http://www.nacto.org)

# Infill Housing Strategy

## Density

This refers to the number of people living within a certain area, and is usually measured by counting the number of dwelling units per acre. Higher densities generally make walking, biking, and transit easier to use, help support local businesses by putting more customers within walking distance, and make delivery of City services more efficient.

## Approach to Housing Development

The public investments detailed in Chapter 2 Design Concepts will improve the quality of life for area residents while catalyzing private-sector infill development and redevelopment in anchors and anchor neighborhoods. New development on vacant lots and redevelopment of existing buildings will help to stabilize neighborhoods, support local businesses and services in anchors, and support the Memphis 3.0 vision of “building up, not out” by focusing growth in existing neighborhoods.

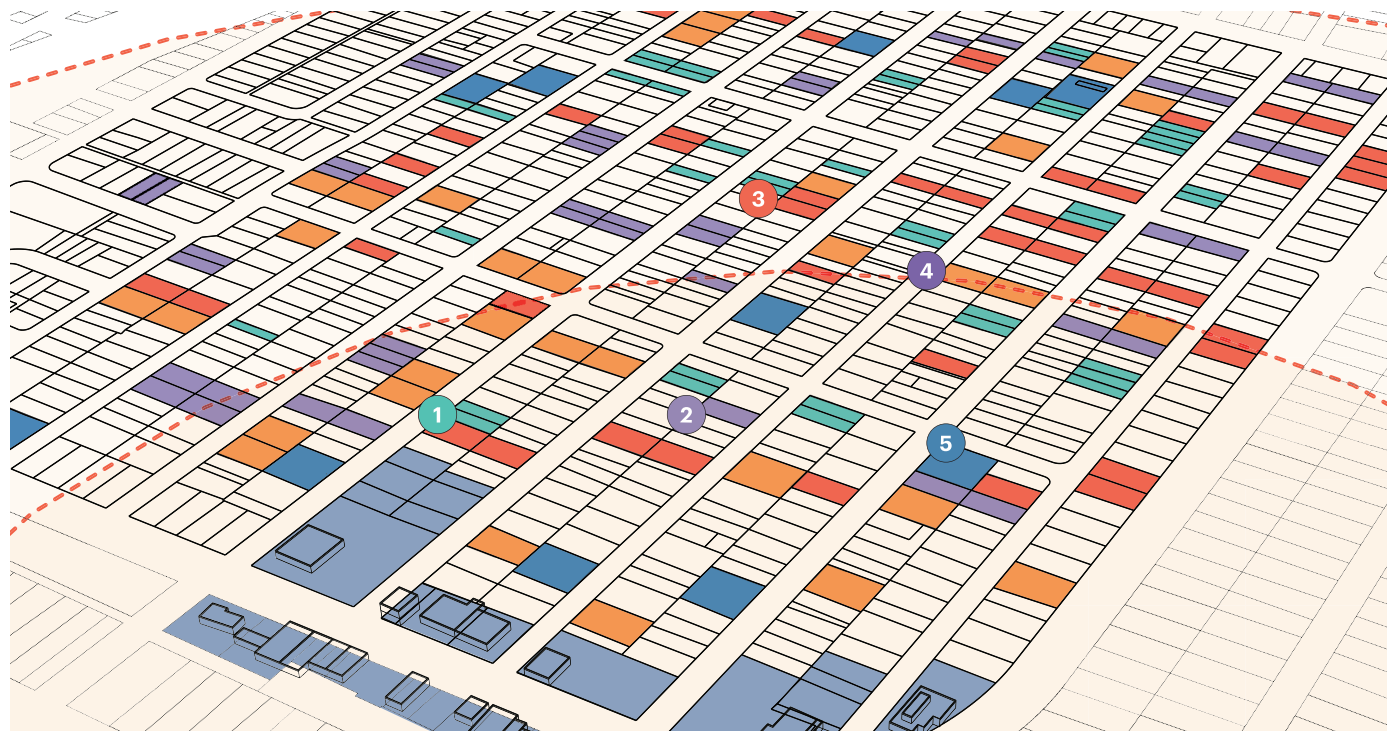
The following analysis demonstrates feasible residential and mixed-use building types for area neighborhoods within walking distance of community anchors. Typical lot dimensions were tested to identify building types appropriate for different lot sizes, according to standards in the zoning code (this approach is illustrated on the following page). Financial analysis demonstrates the financial feasibility of different building types. In some cases, current market conditions do not support the type of infill development or redevelopment that is needed to satisfy community housing needs, so alternative forms of funding such as philanthropic or public funding grants may be needed to realize development in these areas.

## “Missing Middle” Housing

To “build up, not out” new housing will need to be added in neighborhoods around community anchors. The types of housing may vary according to community needs, but in many cases “Missing Middle” housing types will be good options for adding housing in these areas in a manner consistent with the neighborhood’s physical character. “Missing Middle” housing refers to multi-unit residential buildings that look like large single-unit houses. Numerous examples of Missing Middle types such as duplexes, fourplexes, and courtyard apartments exist throughout Memphis’ historic neighborhoods. These buildings occupy the middle ground between single-unit houses and larger apartment complexes. Due to changes in zoning rules and financing, few of these building types have been constructed since the 1940’s – that’s why they’re “missing.”

For Memphis neighborhoods adjacent to community anchors, Missing Middle types provide an opportunity to increase housing choice by offering a variety of unit sizes that give people options other than a single-unit house or an apartment in a larger complex. Additionally, such types will enable these neighborhoods to house more people, improve walkability, and support local businesses—all while maintaining their historic physical character and scale.





**Figure 27** Residential Infill Approach

- 1 18' wide lots
- 2 25' wide lots
- 3 26'-41' wide lots
- 4 41'-65' wide lots
- 5 66'-95' wide lots
- Anchor parcels

*The illustration is an example and it is not representative of the subject area.*

### **“Maker-plex”**

To support local entrepreneurialism, the “maker-plex” building type is proposed for areas where home occupation and mixed-use is encouraged by the zoning code and the Memphis 3.0 land use plan. This building type is meant to provide a flexible option for adding workspace to a new or existing residential building. This can be less costly than building a new commercial building or leasing a separate commercial space and can help to reduce upfront costs for new small businesses.

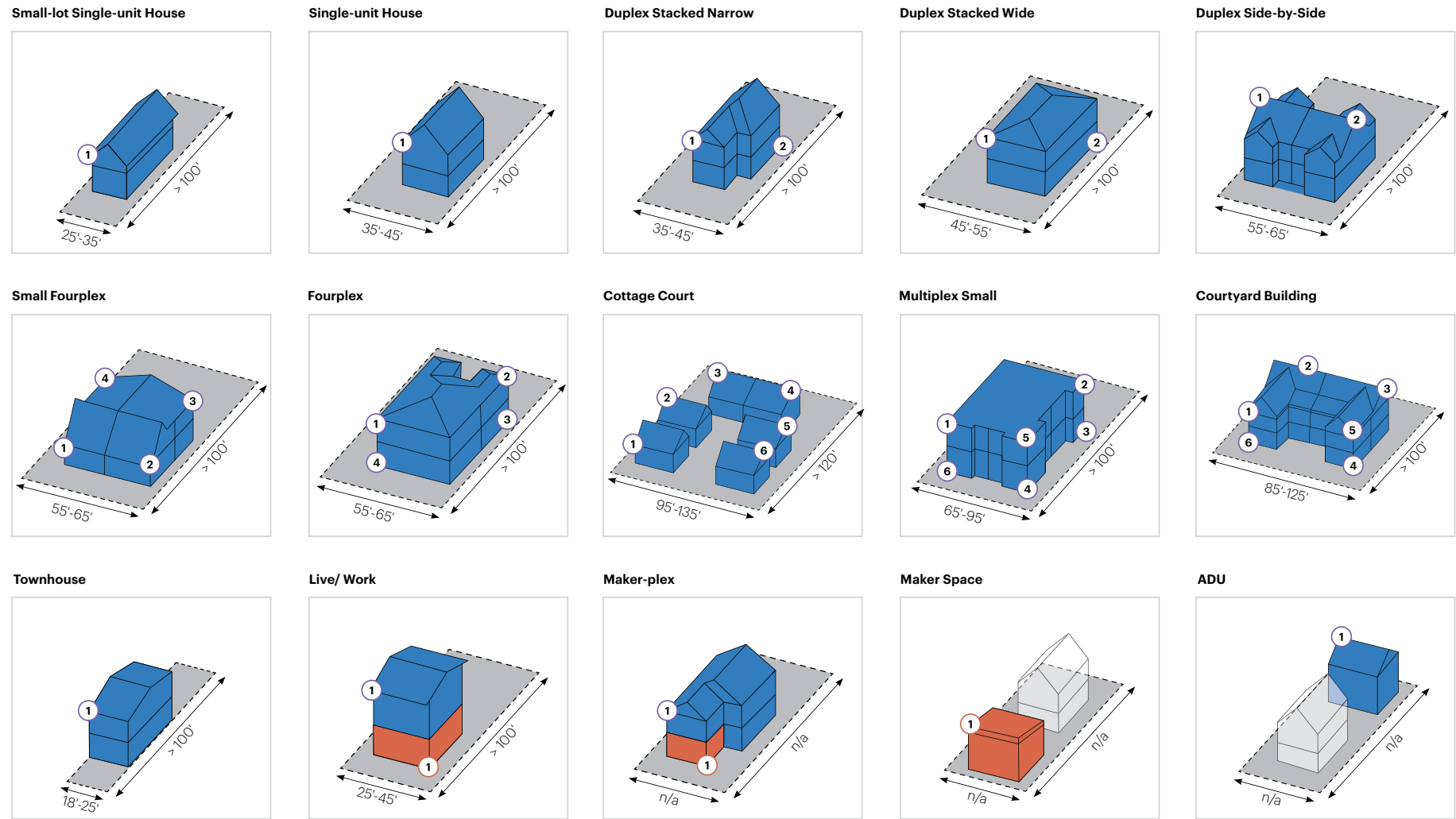
The maker-plex building type consists of a small workspace or “maker” space with frontage along the sidewalk to provide visibility from the street. This building type can help to activate street frontages and support a “main street” environment in the near-term if larger-scale mixed-use buildings are not feasible. In primarily residential areas, setbacks can help to maintain a neighborhood environment while diversifying uses and creating opportunities for new economic activity.

### **Pocket Neighborhoods**

A pocket neighborhood is a way to arrange residential infill development around a shared common space to strengthen community and provide an attractive address for new development. Typically, a pocket neighborhood consists of cottages or smaller Missing Middle buildings gathered around a common space within a larger surrounding neighborhood – think of it as a mini-neighborhood within a neighborhood. A pocket neighborhood can help to make infill development more attractive in neighborhoods with limited market activity and provides an efficient development approach for large or deep lots. In neighborhoods with a high number of vacant lots, multiple adjacent lots could be combined or further subdivided to create a pocket neighborhood.

Development standards for pocket neighborhoods should emphasize building frontage along the street and the shared common space, pedestrian access between the sidewalk and all units, and high-quality design of the shared common space. A well-designed pocket neighborhood will use a variety of building types to frame the shared open space, creating an attractive outdoor area that beautifies the street and nurtures community. Infill options for pocket neighborhoods are detailed at the end of this section.

# Overview of Building Types

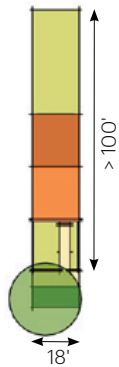
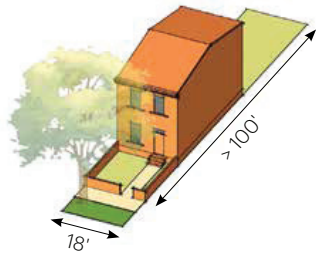


**Figure 28** Overview of feasible residential and mixed-use building types.



# Infill Options for 18'-wide Lot

**Townhouse**  
Front-loaded



**Small-lot Single-unit House**  
Alley-loaded

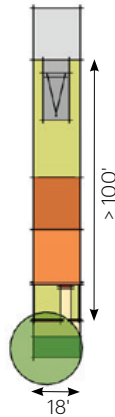
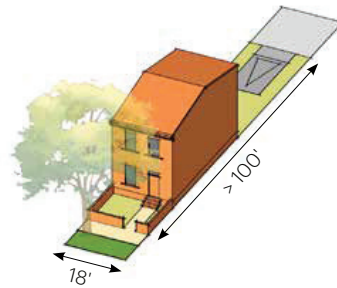


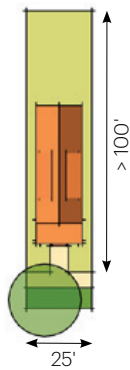
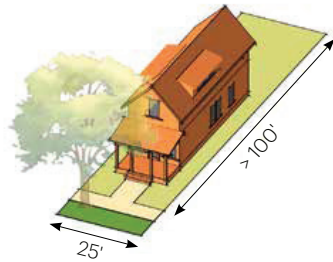
Table 2.1. 18' wide lot	< 100' and > 120' deep	< 100' and > 120' deep
	Front-loaded	Alley-loaded
Building typology	Townhouse	Townhouse
Residential units	1	1
Parking spaces	n/a	1



**Figure 29** Photos of Townhouses in a Row.

# Infill Options for 25'-wide Lot

**Small-lot Single-unit House**  
Front-loaded



**Small-lot Single-unit House**  
Alley-loaded

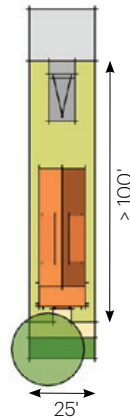
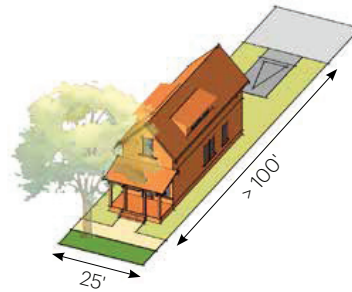


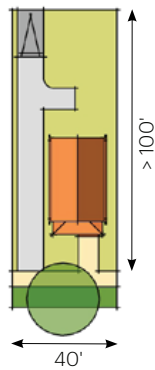
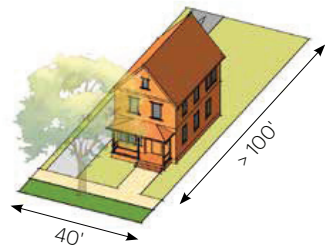
Table 2.2. 25' wide lot	< 100' and > 120' deep	< 100' and > 120' deep
	Front-loaded	Alley-loaded
Building typology	Small-lot Single-unit House	Small-lot Single-unit House
Residential units	1	1
Parking spaces	n/a	1



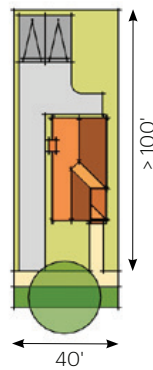
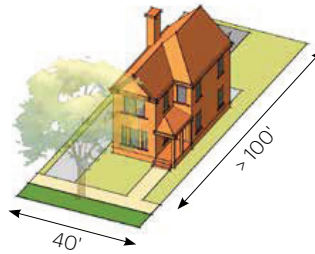
**Figure 30** Photos of Single-unit Houses.

# Infill Options for 40'-wide Lot

**Single-unit House**  
Front-loaded



**Duplex Stacked Narrow**  
Front-loaded



**Duplex Stacked Narrow**  
Alley-loaded

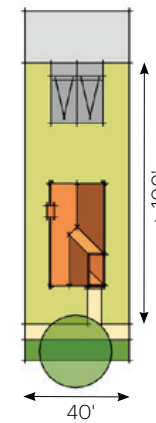
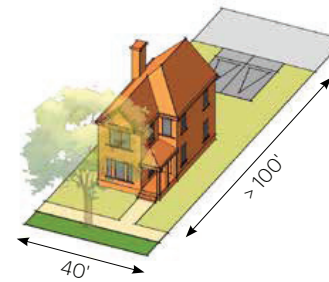


Table 2.3. 40' wide lot	< 100' or > 120' deep	< 100' or > 120' deep	< 100' or > 120' deep
	Front-loaded	Front-loaded	Alley-loaded
Building typology	Single-unit House	Duplex Stacked Narrow	Duplex Stacked Narrow
Residential units	1	2	2
Parking spaces	1	2	2

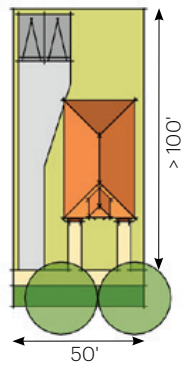
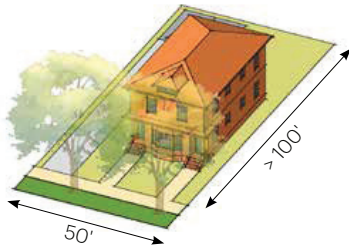




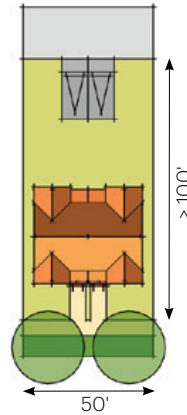
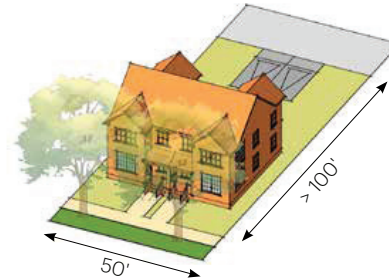
**Figure 31** *Photos of Duplexes Stacked Narrow.*

# Infill Options for 50'-wide Lot

**Duplex Stacked**  
Front-loaded



**Duplex Side-by-Side**  
Alley-loaded



**Side Cottage Court**  
Alley-loaded

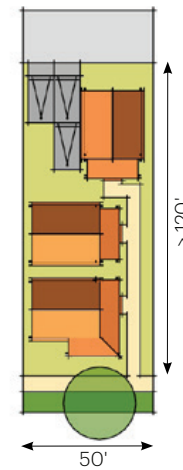
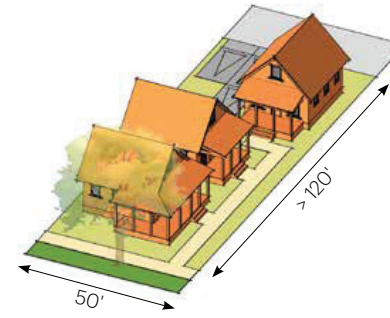


Table 2.4. 50' wide lot	< 100' deep or > 120' deep	< 100' deep	> 120' deep
	Front-loaded	Alley-loaded	Alley-loaded
Building typology	Duplex Stacked	Duplex Side-by-Side	Side Cottage Court
Residential units	2	2	3
Parking spaces	2	2	3



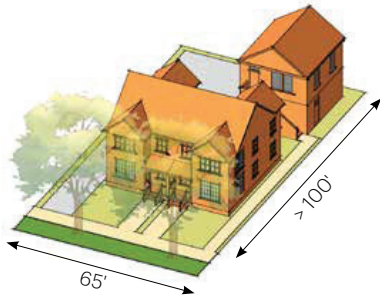


**Figure 32** Left: Photo of a Duplex Stacked. Right, from top to bottom: a Duplex Stacked, a Duplex Side-by-Side, and a Side Cottage Court.

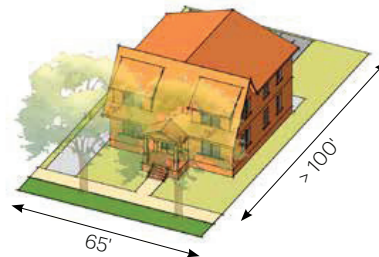


# Infill Options for 65'-wide Lot

**Duplex Side-by-Side + ADU**  
Front-loaded



**Small Fourplex**  
Front-loaded



**Fourplex**  
Alley-loaded

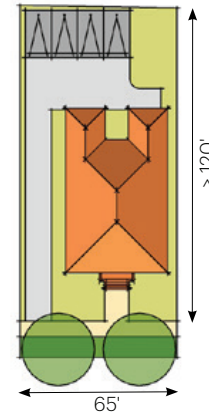
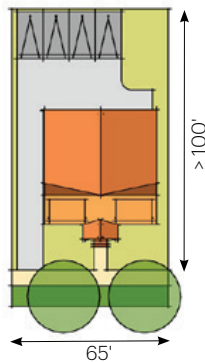
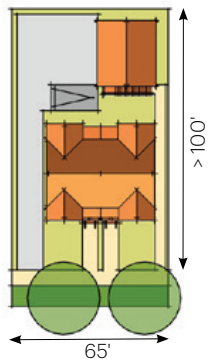
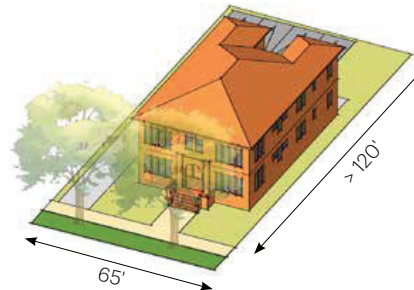
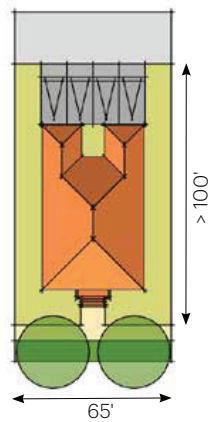
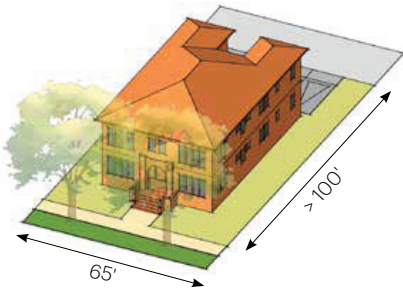


Table 2.5. 65' wide lot	< 100' deep	< 100' deep	< 120' deep
	Front-loaded	Front-loaded	Front-loaded
Building typology	Duplex Side-by-Side + ADU	Small Fourplex	Fourplex
Residential units	3	4	4
Parking spaces	3	4	4

**Fourplex**  
Alley-loaded



**Multiplex Small**  
Alley-loaded

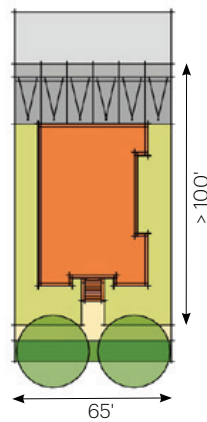
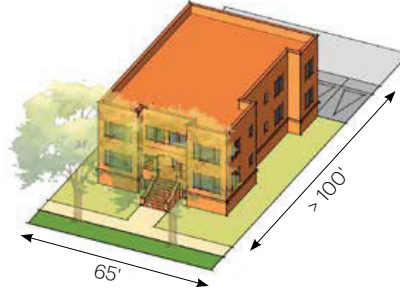


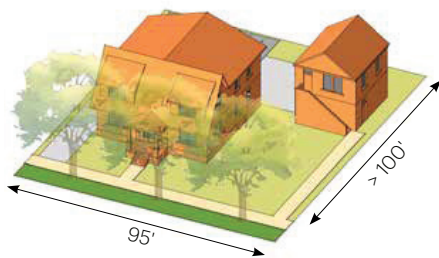
Table 2.6. 65' wide lot	< 100' deep Alley-loaded	< 100' deep Alley-loaded
Building typology	Fourplex	Multiplex Small
Residential units	4	6
Parking spaces	4	6



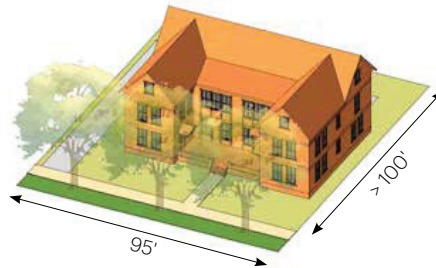
**Figure 33** From top to bottom: a Duplex Side-by-Side, a Small Fourplex, and a Multiplex Small.

# Infill Options for 95'-wide Lot

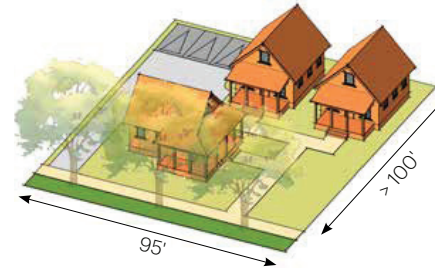
**Small Fourplex + ADU**  
Front-loaded



**Courtyard Building**  
Front-loaded



**Cottage Court**  
Front-loaded



**Cottage Court**  
Alley-loaded

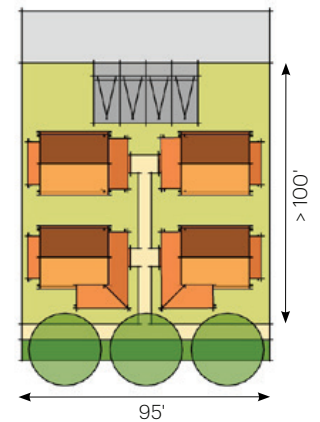
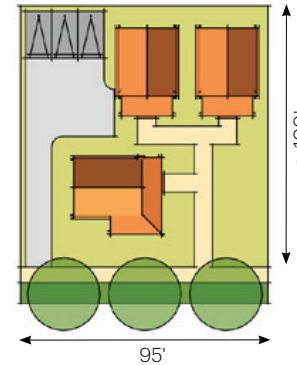
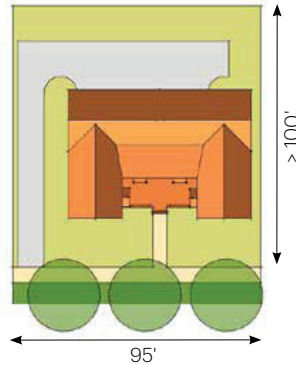
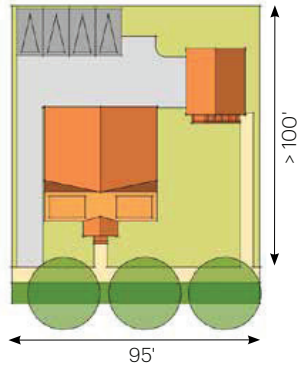
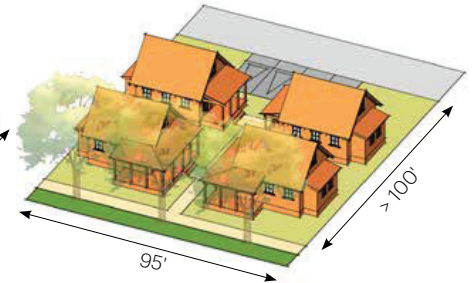
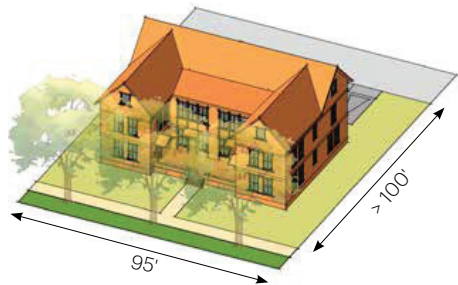


Table 2.7. 95' wide lot	< 100' deep	< 100' deep	< 120' deep
	Front-loaded	Front-loaded	Front-loaded
Building typology	Small Fourplex + ADU	Courtyard Building	Cottage Court
Residential units	5	5	3
Parking spaces	5	5	3

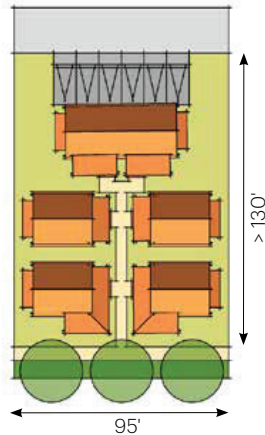
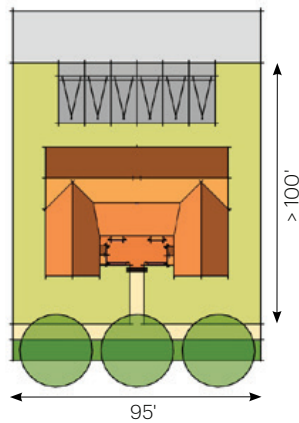
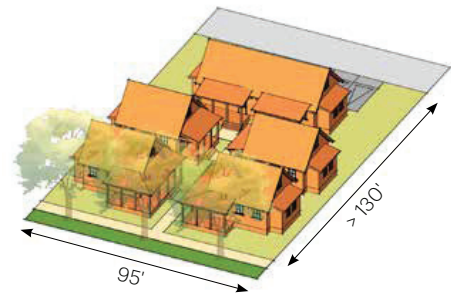
Table 2.8. 95' wide lot	< 100' deep
	Alley-loaded
Building typology	Cottage Court
Residential units	4
Parking spaces	4



**Courtyard Building**  
Alley-loaded



**Cottage Court**  
Alley-loaded



< 100' deep	< 130' deep
Alley-loaded	Alley-loaded
Courtyard Building	Cottage Court
6	6
6	6

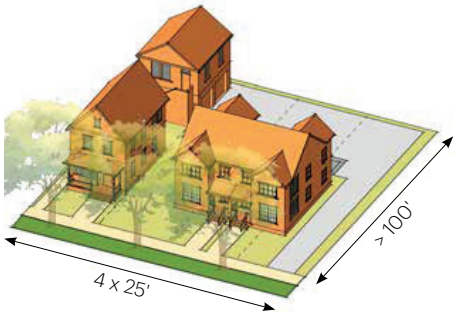


**Figure 34** From top to bottom: a Cottage Court, a Cottage Court, and a Courtyard Building.

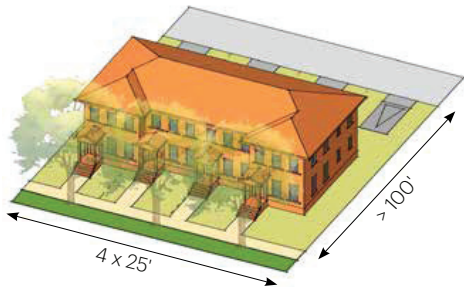


# Infill Options for 100'-wide Lot (4x25')

**Duplex Side-by-Side, Single-Family + ADU**  
Front-loaded



**Townhouses**  
Alley-loaded



**Duplex + Small Fourplex**  
Alley-loaded

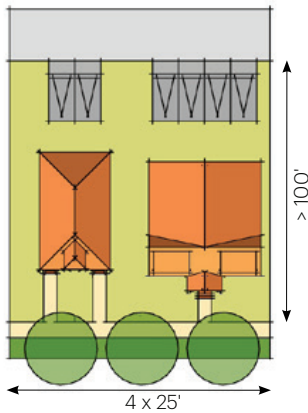
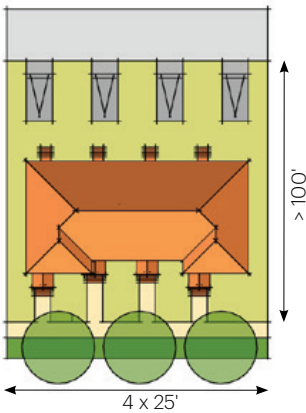
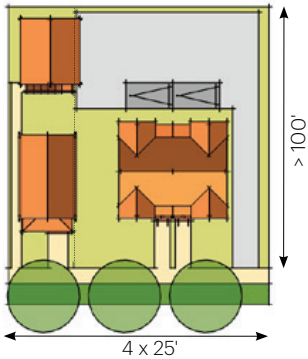
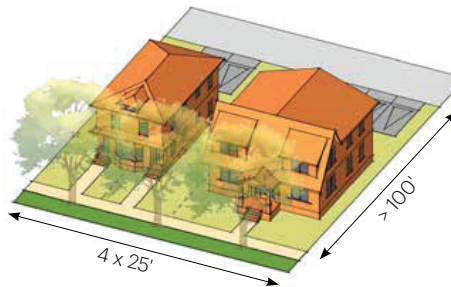


Table 2.9. 100' (4x25') wide lot	< 100' or > 120' deep	< 100' or > 120' deep	< 100' or > 120' deep
	Front-loaded	Alley-loaded	Alley-loaded
Building typology	Duplex Side-by-Side, Single-Family + ADU	Townhouses	Duplex + Small Fourplex
Residential units	3	4	6
Parking spaces	3	4	6

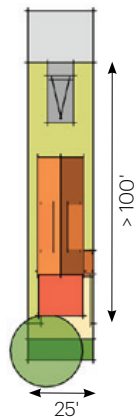
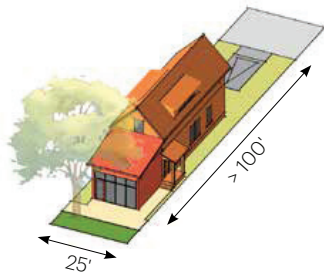
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# Infill Options for Maker-plex

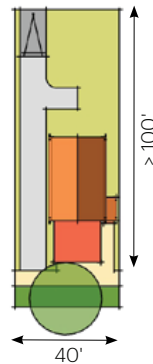
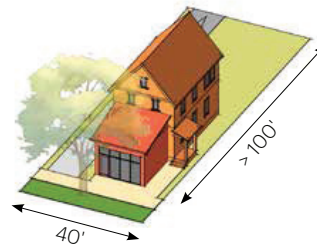
**Small-lot Single-unit House with attached Maker-plex at the front**

Alley-loaded

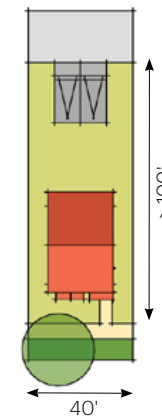
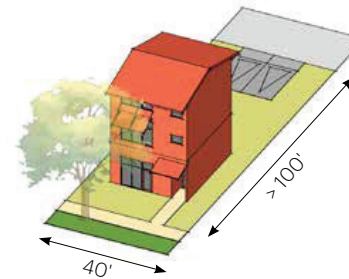


**Single Family House with attached Maker-plex at the front**

Front-loaded



**Live/ Work**  
Alley-loaded



**Single Family House with attached Maker-plex at the front**

Front-loaded

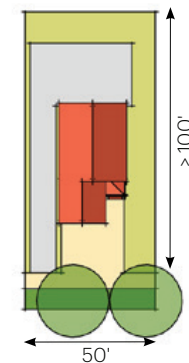
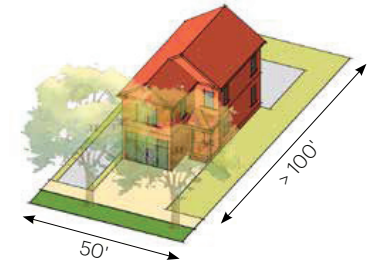
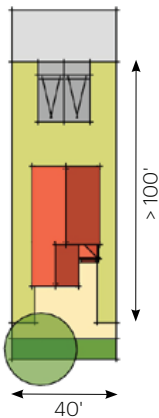
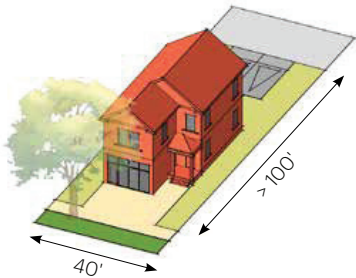


Table 2.10. Maker-plex lot types	25' wide lot Alley-loaded	40' wide lot Front-loaded	40' wide lot Alley-loaded	50' wide lot Front-loaded
Building typology	Small-lot Single-unit House with attached Maker-plex at the front	Single Family House with attached Maker-plex at the front	Live/Work	Single Family House with attached Maker-plex at the front
Maker-plexes	1	1	1	1
Residential units	1	1	1	1
Parking spaces	1	1	2	



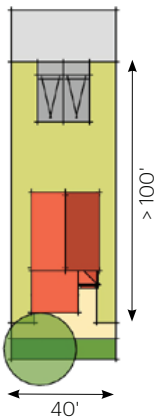
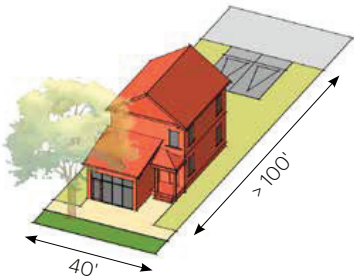
Single Family House with attached Maker-plex at the front

Alley-loaded



Single Family House with attached Maker-plex at the front

Alley-loaded



Single Family House with detached Maker-plex at the front

Alley-loaded

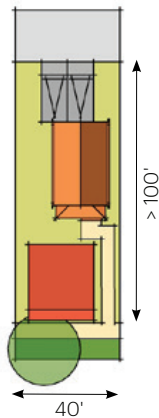
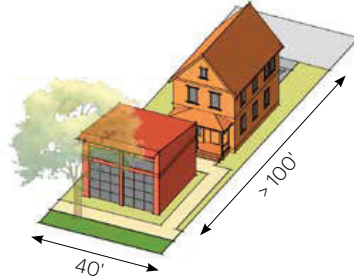
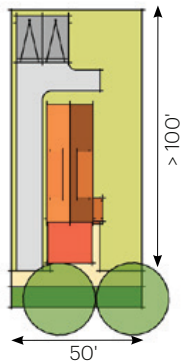
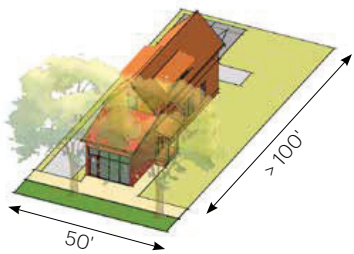
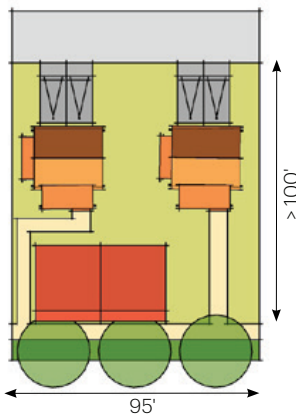
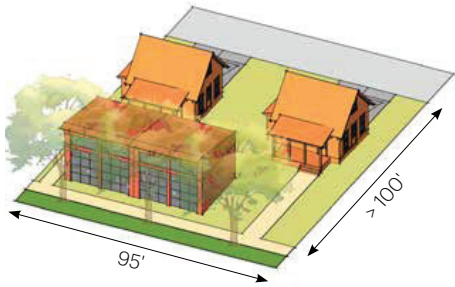


Table 2.11. Maker-plex lot types	40' wide lot Alley-loaded	40' wide lot Alley-loaded	40' wide lot Alley-loaded
Building typology	Single Family House with attached Maker-plex at the front	Single Family House with attached Maker-plex at the front	Single Family House with detached Maker-plex at the front
Maker-plexes	1	1	1
Residential units	1	1	1
Parking spaces	2	2	2

**Small-lot Single-unit House with Maker-plex at the front**  
Front-loaded



**Small Cottages with detached Maker-plex at the front**  
Alley-loaded



**Small Cottage + Single-Family House with detached Maker-plex at the front**  
Alley-loaded

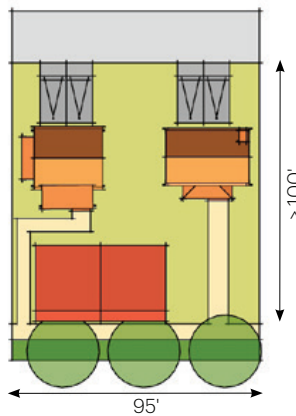
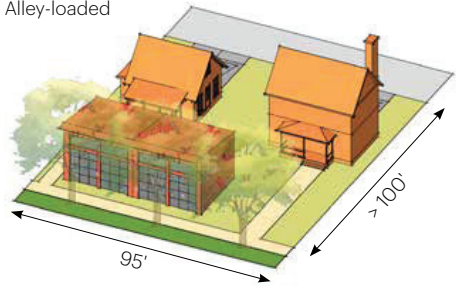


Table 2.12. Maker-plex lot types	50' wide lot	95' wide lot	95' wide lot
	Front-loaded	Alley-loaded	Alley-loaded
Building typology	Small-lot Single-unit House with Maker-plex at the front	Small Cottages with detached Maker-plex at the front	Small Cottage + Single-Family House with detached Maker-plex at the front
Maker-plexes	1	2	2
Residential units	1	2	2
Parking spaces			





**Figure 35** Left: Photo of a detached Maker-plex. Right, from top to bottom: an attached Maker-plex in a Single-family House, a Maker-plex with a ground floor maker space and attached maker-plexes in a row.



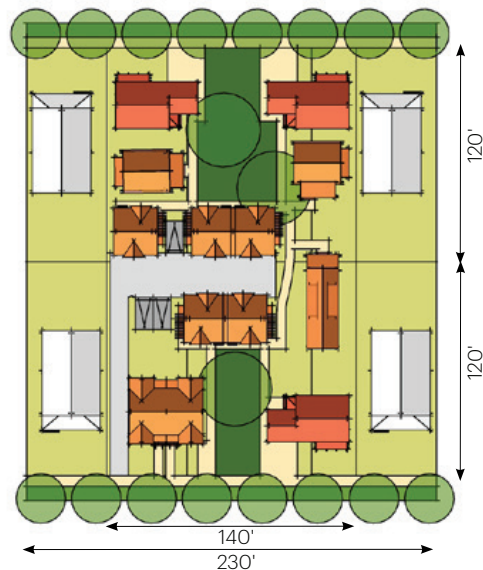
# Infill Options for Pocket Neighborhoods

## Example 1 Front-loaded



### Legend

- Existing House
- Multifamily Infill
- Maker-plex
- Common Green



**Table 2.13. Pocket Neighborhood - Example 1**

	Front-loaded
Single-Family Houses	-
Small-lot Single-unit House	1
Cottages	2
ADUs	5
Duplexes	1
Triplexes	-
Single Family with attached Maker-plexes	3
Total number of units	13
Total number of parking spaces	13



**Example 2**  
Alley-loaded



Table 2.14. Pocket Neighborhood - Example 2	
	Alley-loaded
Single-Family Houses	1
Small-lot Single-unit House	-
Cottages	-
ADUs	4
Duplexes	1
Triplexes	1
Single Family with attached Maker-plexes	2
Total number of units	12
Total number of parking spaces	12



- Legend
- Existing House
  - Multifamily Infill
  - Maker-plex
  - Common Green



**Example 3**  
Front-loaded

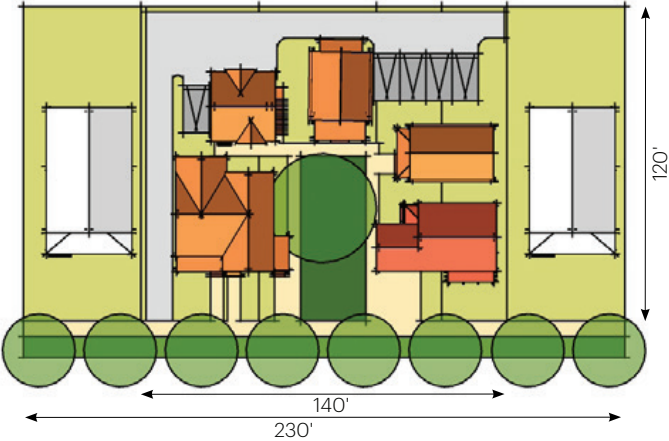


Table 2.15. Pocket Neighborhood - Example 3	
	Front-loaded
Single-Family Houses	-
Small-lot Single-unit House	-
Cottages	1
ADUs	1
Duplexes	1
Triplexes	1
Single Family with attached Maker-plexes	1
Total number of units	8
Total number of parking spaces	7

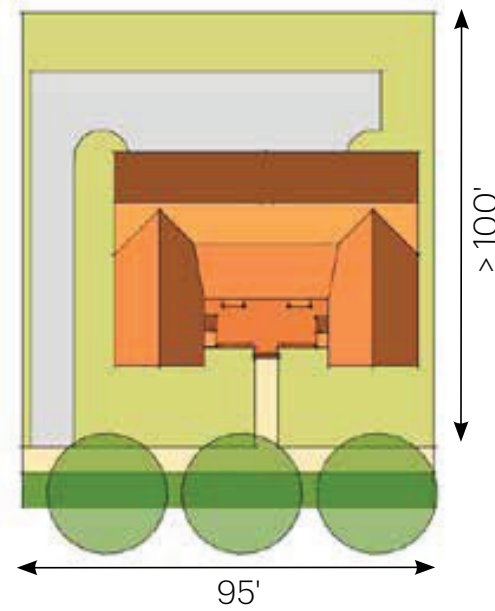
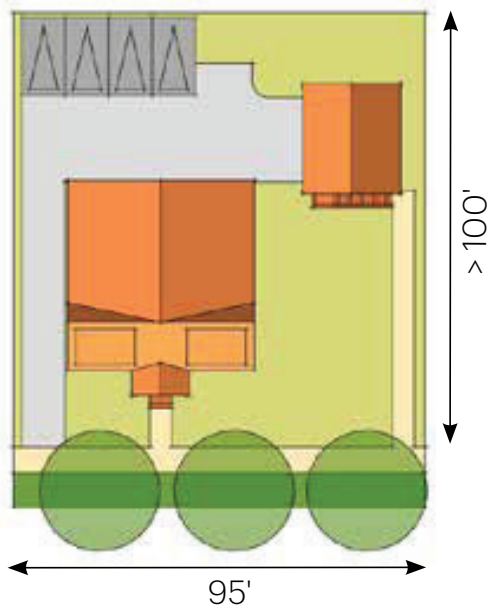
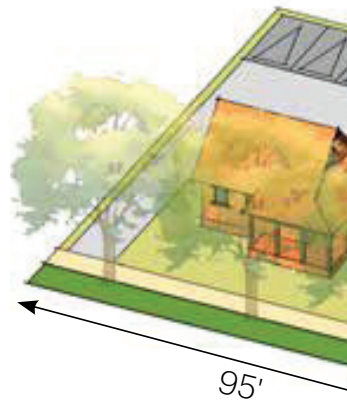
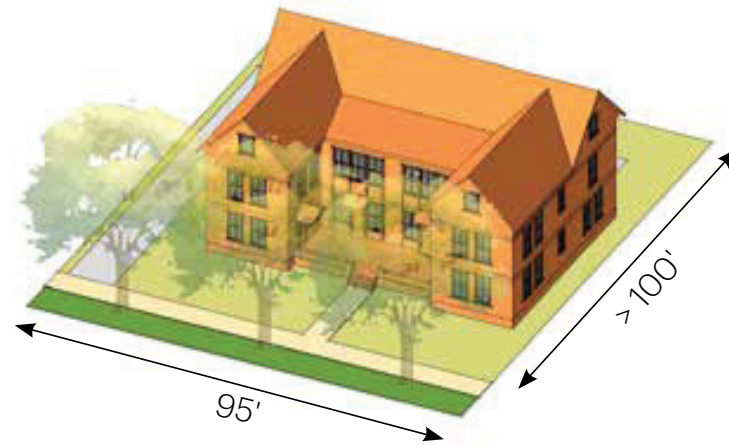
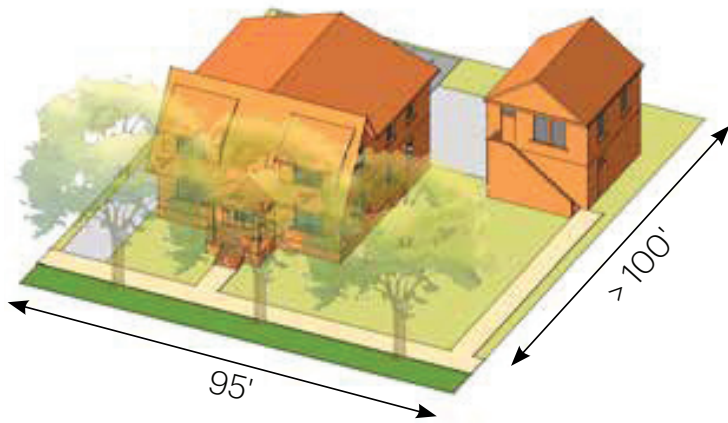
- Legend**
- Existing House
  - Multifamily Infill
  - Maker-plex
  - Common Green



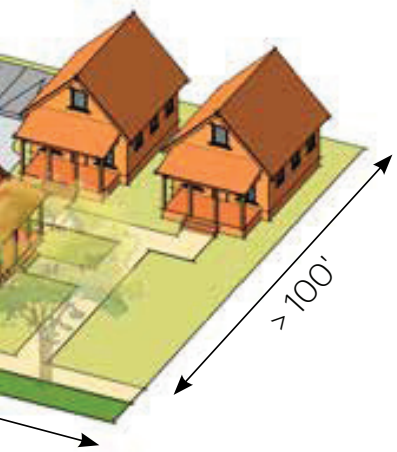


**Figure 36** Photos of pocket neighborhoods. Left: photo credit: Ross Chapin. Right, from top to bottom: photo credit: Starr Hill Vision Plan, photo credit: [www.rosschapin.com](http://www.rosschapin.com), and photo credit: [www.rosschapin.com](http://www.rosschapin.com)



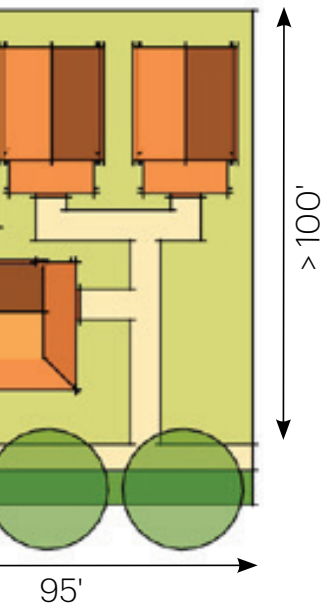




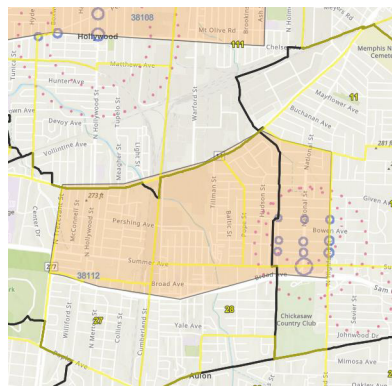


# Next Steps

CHAPTER 3



# Market Readiness



**Figure 37** Census Tracts in Highland Heights.

As part of its focus area study and market analysis work, Bass River Advisors evaluated indicators for market readiness related to two development strategies. The two strategies evaluated included multi-family and single-family housing development. To demonstrate market readiness for either a single-family or multi-family housing development strategy, Bass River Advisors reviewed several census data variables including age, population, income and housing data. A comprehensive review of the variables for years 2015 through 2019 was conducted to assess the focus area's market readiness for a new housing development strategy.

## Focus Area

When analyzing demographic data for the focus area defined as Highland Heights, one census tract was identified as immediately relevant and representative—census tract 001300. Census tract 001300 in the Highland Heights area is located near the intersection of North Highland St. and Summer Ave. (see Figure 37 for an aerial view).

## Data-Driven Assessment

This focus area trends older as median age trends up. The population trend is consistently down. Median income has a strong upward trend. Housing costs are high particularly for renters and home values are under \$50,000. While the housing mix is 51% rental currently, the area is prime for multi- and single-family housing development from public, private and institutional sectors.

Also, as part of its focus area and market analysis work, Bass River Advisors highlighted for each focus area key demographic variables that are determinants

as to high potential consumers for different housing options:

- **Median Age** determines the focus area position on the generational mapping that identifies millennials as high potential consumers of housing options.
- **Population Change** demonstrates the pace of growth within the focus area. Double digit growth represents the highest potential. Low or no growth represents the lowest potential.
- **Median Income** shows the direction of income trends within the focus area. A trend that points up is of greater potential than a trend line pointing down. The magnitude of the change is also considered.
- **Housing Dollars** as a % of income evaluates the capacity to absorb the cost of housing on current income. Whether one is a homeowner or renter, having the cost of housing exceed one-third of one's income reduces the potential for considering housing options.

### Median Age

The table shows that the census tract 001300 in the Highland Heights area is populated by Older Millennials (aged 31 to 40) with an average median age for the 5-year period at 35.62.

### Population Change

Population in census tract 001300 in Highland Heights declined year-to-year over the entire 4-year period (2016 - 2019) with the largest loss (-10.34%) in population occurring from 2018 to 2019. However, over the entire period, ongoing population loss persisted. The 4-year average loss was the greatest of all focus areas at -5.29%.

### Median Income

The median family income in census tract 001300 in Highland Heights increased 61.52% from 2015 to 2019, from \$16,850 in 2015 to \$27,216 in 2019.

### Percentage of Families Making Less than \$35,000

The percentage of families making less than \$35,000 decreased from 78.60% in 2015 to 57.30% in 2019.

**Table 3.1. Estimates of Median Age in Census Tract 001300 in Highland Heights (2015–2019)**

Focus Area	2015	2016	2017	2018	2019	5-Year Average
<b>Highland Heights</b>	37.9	34.1	34.6	35	36.5	35.62

**Table 3.2. Estimates of Population Change in Census Tract 001300 in Highland Heights (2016–2019)**

Focus Area	2016	2017	2018	2019	4-Year Average*
<b>Highland Heights</b>	-4.15%	-0.97%	-5.38%	-10.34%	-5.29%

\* The changes analyzed were concentrated on years 2018-2019, 2017-2018, 2016-2017, and 2015-2016. The change from 2014-2015 was not analyzed as part of the market analysis.

**Table 3.3. Estimates of Median Income in Census Tract 001300 in Highland Heights (2015–2019)**

Focus Area	2015	2016	2017	2018	2019	5-Year Average
<b>Median Income (\$)</b>	\$16,850	\$16,805	\$20,189	\$18,245	\$27,216	\$19,861

**Table 3.4. Estimates of Percentage of Families Making Less than \$35,000 in Census Tract 001300 in Highland Heights (2015–2019)**

Focus Area	2015	2016	2017	2018	2019	5-Year Average
<b>Less than \$35,000 (%)</b>	78.60%	72.90%	69.50%	72.40%	57.30%	70.14%



### Median Monthly Owner Costs

Housing costs as a percentage of income are high for both owner-occupied and rental homes, with averages at 46% and 72% respectively. This currently creates a significant economic challenge for those who are renters as over two-thirds of their income go directly to housing costs.

The median value of an owner-occupied housing unit in census tract 001300 in Highland Heights increased from \$47,600 in 2015 to \$63,300 in 2019.

Focus Area	2015	2016	2017	2018	2019	5-Year Average
<b>Median Monthly Owner Costs for Housing Units with a Mortgage</b>	\$896	\$828	\$754	\$857	\$813	\$830
<b>Median Gross Rent for Rent Paying Units</b>	\$697	\$695	\$744	\$758	\$763	\$731

**Community economics** is a framework for understanding the economic capacity for housing and spending based on the percentage of families making less than \$35,000. The metric is used by Bass River Advisors, in addition to other data, to measure an area's capacity for engaging in home buying, renting, and to what extent these housing activities exhaust family income.

**Community income** is a framework to measure the median family income census variable against a conceptual poverty threshold. The metric is used by Bass River Advisors to measure an area's median income against the \$34,999 or \$35,000 family income census variable - a conceptual poverty threshold. HUD defines poverty at \$30,000.

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# Policy Roadmap

Placemaking strategies and policies could help to maximize the value of investments made in infrastructure and the public realm by activating public spaces and improving adjacent private properties. Activating public space means providing facilities and programming that make a variety of people want to spend time in that place together, which can help to foster community. Most activation programs and policies may require coordination between public-sector regulatory entities, such as the City of Memphis, and private entities, such as local businesses and organizations with a physical presence in areas targeted for activation.

## Activating Rights-of-Way and Parking Areas

Allowing brick-and-mortar businesses to utilize adjacent public rights-of-way for outdoor dining and vending could add vibrancy to streetscapes and improve the pedestrian experience, provided that appropriate standards preserve through access for pedestrians and comply with ADA requirements. A long-term or permanent program similar to Downtown Memphis' Temporary Outdoor Dining Policy could be applied to anchor areas where public realm investments have taken place to allow for a variety of outdoor dining and vending along sidewalks and in on-street parking spaces. A permitting program and a program to ensure ongoing compliance with standards could facilitate this process. Additionally, grant funding opportunities could assist local businesses in acquiring necessary equipment of a quality consistent with the investments made to the public realm.

A program to regulate, encourage, and fund parklets and pavement-to-parks projects could help to facilitate near-term, interim investments in underutilized large parking lots. While this plan envisions compact,

walkable infill in the long-term, many existing properties may not redevelop on a timeline consistent with investments being made to the public realm. A grant program to help owners pay for public-serving facilities upgrades near public rights-of-way could help to create a more pedestrian-oriented "edge" against the sidewalk in the near term, even if existing auto-oriented uses continue to operate.

Programming for these public and private spaces such as movie nights, pop-up food and retail, farmer's markets and craft markets, public performances, and other recreational functions could spur activity and promote new and existing local businesses. Cooperation between the City, landowners and local organizations could establish a community calendar for programming, and funding sources could be identified to support ongoing programming. Activities and programmed events requiring road closures and safety services could benefit from streamlined coordination between necessary City services, which may require adjustments to existing policies and processes.



### Matching Zone Standards to Plan Vision

MU and CMU-1 zoning are applied along mixed-use portions of Summer Ave. and National St. in Highland Heights. The intents and allowed uses in CMU-1 and MU are consistent with the vision for Highland Heights in this plan and the demand for mixed-use space identified by the market analysis conducted for this plan.

Residential neighborhoods surrounding Summer Ave. and National St. and within roughly a quarter mile of the intersection of those two streets are designated as “Anchor Neighborhoods – Mix of Building Types” in the Memphis 3.0 Comprehensive Plan. The intent for this future land use designation is to provide a “combination of one to three story house-scale buildings that are interspersed with block size footprints. In these neighborhoods are a mix of attached, semi-detached and detached residential, all located within a 10-minute walk from the anchor destination.” These neighborhoods are currently zoned RU-1, however due to use limitations in RU-1 that prevent multi-unit, “Missing Middle” housing types further study should be conducted to determine an appropriate zoning change for these neighborhoods that would allow for the types of housing options envisioned in Memphis 3.0, such as RU-2 and RU-3.

### Façade + Landscape Improvement Program

For residential and commercial properties adjacent to streets where investments have been made or are planned in the future, a façade and landscape improvement program could provide funding and design assistance and streamline permit approval for improvements that benefit the public realm by improving the quality of building and lot frontage. Façade improvements to buildings near the sidewalk can create a more inviting environment for pedestrians and help to stabilize commercial areas. Landscape improvements on private lots can similarly improve the pedestrian experience by providing shade and by delineating the public realm from the private realm on lots where buildings are set back from the sidewalk. Within neighborhoods, continued resourcing of blight abatement and neighborhood cleanup programs can help to create a more attractive environment for infill development.

# Implementation Roadmap

Implementation is a strategic and collaborative effort between the City, individuals, and both public and private organizations within the community. The infrastructure implementation strategy focuses both on how to improve connectivity to key community assets and how to improve the amenities in the public and pedestrian realm in each area. The implementation steps were developed based on community feedback and priorities, overlap or coordination with existing projects, timing, connectivity, safety and access. Change will not happen overnight but can come in phases and begin with incremental change.

## Timing

Each improvement goes through an existing process for approval and implementation. Depending on the scale of the improvements and entities involved, some approval times can take longer than others.

The short-term implementation focuses on investments which can be completed within two years, while the medium term focuses on longer term initiatives and projects that require longer than 2 years.

## State Routes

Improvements on state routes may require additional approvals and standards as required by the TN Department of Transportation (TDOT). Improvements which involve state routes may require additional time for coordination with both the City and TDOT. State routes can potentially limit the available types of improvements.

## Connectivity

Infrastructure that supports or enhances connectivity, pedestrian safety, and accessibility creates a safer, more comfortable environment for people to walk and bike. A more connected network increases access to amenities and the potential for more activity in an area. Prioritization is given to the infrastructure projects that enhance or improve the following:

- Corridors that improve access for neighboring areas;
- Accessibility to local businesses with physical improvements such as on street parking, widening sidewalks and frontage improvements;
- Pedestrian and cyclist infrastructure with a focus on safety and accessibility;
- Connectivity with other networks and investments outside of the anchors;
- Access to open space through greenway and trail development.

### Coordination with Other Projects

To maximize the investments and leverage additional funding sources in the area, the recommended implementation items incorporated the scope of the following projects listed in the table below.

Table 3.12 Highland Heights - Coordination with Other Projects		
Improvements	Anticipated Funding Sources	Project Lead
Heights Line	Accelerate Memphis	Division of Engineering + Memphis Parks
Summer Ave. resurfacing	TDOT: Capital Improvement	TDOT

### Implementation Short-Term (0-2) years

- Prioritize street improvements projects on streets with known private investments;
- Leverage available funding with other planned or capital improvements;
- Implement street improvements on Heights Line Gateway Plaza;
- Implement the Heights Line Gateway Plaza;
- Begin street improvements along Broad Ave.;
- Begin sidewalk improvements on Summer Ave.;
- While maintaining the integrity of the concepts, refine the designs to minimize the relocation and modification of existing utilities and infrastructure (utility poles, drainage inlets, retaining walls, etc.);

- Evaluate relocating and modify existing utilities and infrastructure on a case-by-case basis with the concepts outlines in this plan;
- Obtain any right of way, land or easements as necessary for improvements;
- Rezone or modify land use codes in anchor areas to support the community vision and infill development;
- Coordinate street trees with streetlights;
- Identify funding opportunities and utilize local community organizations to administer financial grants and incentives to enhance building exteriors including general façade improvements, fencing, landscaping, signage, and street lighting;.
- Engage TDOT to discuss the level of review required for proposed street improvements with parking on Summer Ave.;
- Analyze the impact of the Gateway Plaza on the existing drainage system;
- Repair and replace sidewalk as necessary on Summer Ave.;
- Begin street improvements with available funding starting at the intersection of Summer Ave. and National St.

### Implementation Medium-Term (2-5) years

- Prepare a capital improvement plan with identified funding sources for remaining improvements;
- Coordinate capital improvement plan with other planned public and private investments;
- Implement intersection improvements, Summer Ave. and National St.;



- Review land use and building codes to promote “missing middle housing” infill developments and pocket neighborhoods;
- Establish a funding mechanism to assist with offsetting utility connections for infill development;
- Collaborate with Memphis Light, Gas and Water (MLGW) to expand incentives to promote infill and small scale developments;
- Coordinate with Memphis Light, Gas and Water (MLGW), to increase pedestrian street lighting on all public sidewalks and active alleys starting first with areas of high activity for visitors, customers and parking.

### Opinion of Probable Cost

#### Assumptions

Planning level cost estimates were developed for all new projects using available Tennessee Department of Transportation (TDOT) methodologies. Estimated costs include (as appropriate) preliminary engineering, right-of-way, utility relocations and construction. The below estimates include 10% for preliminary engineering and an added 10% cost for Construction, Engineering, and Inspections. Regional and state prices were used when available.

It is important that a 5% inflation rate be added per year to these general estimates from the publish date. The prices were cross referenced with the 2020 TDOT statewide bid tabs. In the case where itemized costs within the past 5 years were higher than the 2020 rates, the higher value was used in this estimate to take into account the potential range of market prices

#### Cost Disclaimer

Opinions of probable cost were developed by identifying major pay items and establishing rough quantities to determine an order of magnitude cost. Planning-level cost opinions include a 30% contingency to cover items that are undefined or are typically unknown early in the planning phase of a project. Cost opinions do not include the cost for ongoing maintenance or the cost of leased items beyond an initial 12 months. A cost range has been assigned to certain general categories such as delineators; however, these costs can vary widely depending on the exact product. The overall cost opinions are intended to be general and used only for planning purposes. Malasri Engineering, PLLC makes no guarantees or warranties regarding the cost estimate herein. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.

### Total Estimated Cost

The table below shows the total estimated cost for each of the proposed components of the Highland Heights Small Area Plan.

Table 3.13 Highland Heights Small Area Plan	
Short-term Improvements Funded by Accelerate Memphis	Total Estimated Cost
Heights Line Gateway Plaza National St., Option A (Travel lanes along either side of shared space)	\$1,449,100
Heights Line Gateway Plaza National St., Option B (Travel lane down center of shared space)	\$1,492,200
Street Improvements National St.	\$1,601,600
Street Improvements Broad Ave.	\$648,100
Street Improvements Summer Ave., Option A	\$1,813,800
Street Improvements Summer Ave., Option B	\$1,964,600
Street Improvements Summer Ave., Option C	\$1,467,500
Medium-term Improvements	Total Estimated Cost
Intersection Improvements Summer Ave. and National St.	\$820,600

### Professional Services + Contingency Costs

A breakdown of the total costs showing, construction, professional services and contingency costs given in the tables below.

#### Implementation Items funded by Accelerate Memphis:

- Heights Line Gateway Plaza from Summer Ave. to Faxon Ave.;
- Intersection improvements on National St. at Tutwiler Ave. and Bowen Ave.;
- Street improvements on Broad Ave. from Summer Ave. to North Holmes St.;
- Summer Ave. sidewalks from National St. to Highland St.

**Table 3.14 Heights Line Gateway Plaza National St. Option A (Travel lanes along either side of shared space)**

Improvements	Total Estimated Cost
Construction Costs Total	\$966,100
Construction Engineering and Inspection (10%)	\$96,600
Preliminary Engineering (10%)	\$96,600
Contingency (30%)	\$289,800
<b>Total Estimate Cost</b>	<b>\$1,449,100</b>

**Table 3.15 Heights Line Gateway Plaza National St. Option B (Travel lane down center of shared space)**

Improvements	Total Estimated Cost
Construction Costs Total	\$994,800
Construction Engineering and Inspection (10%)	\$99,500
Preliminary Engineering (10%)	\$99,500
Contingency (30%)	\$298,400
<b>Total Estimate Cost</b>	<b>\$1,492,200</b>

**Table 3.16 Street Improvements National St.**

Improvements	Total Estimated Cost
Construction Costs Total	\$1,067,700
Construction Engineering and Inspection (10%)	\$106,800
Preliminary Engineering (10%)	\$106,800
Contingency (30%)	\$320,300
<b>Total Estimate Cost</b>	<b>\$1,601,600</b>

**Table 3.17 Street Improvements Broad Ave.**

Improvements	Total Estimated Cost
Construction Costs Total	\$432,100
Construction Engineering and Inspection (10%)	\$43,200
Preliminary Engineering (10%)	\$43,200
Contingency (30%)	\$129,600
<b>Total Estimate Cost</b>	<b>\$648,100</b>



**Table 3.18 Street Improvements Summer Ave.  
Option A**

Improvements	Total Estimated Cost
Construction Costs Total	\$1,209,200
Construction Engineering and Inspection (10%)	\$120,900
Mobilization (5%)	\$120,900
Contingency (30%)	\$362,800
<b>Total Estimate Cost</b>	<b>\$1,813,800</b>

**Table 3.19 Street Improvements Summer Ave.  
Option B**

Improvements	Total Estimated Cost
Construction Costs Total	\$1,309,700
Construction Engineering and Inspection (10%)	\$131,000
Preliminary Engineering (10%)	\$131,000
Contingency (30%)	\$392,900
<b>Total Estimate Cost</b>	<b>\$1,964,600</b>

**Table 3.20 Street Improvements Summer Ave.  
Option C**

Improvements	Total Estimated Cost
Construction Costs Total	\$978,400
Construction Engineering and Inspection (10%)	\$97,800
Preliminary Engineering (10%)	\$97,800
Contingency (30%)	\$293,500
<b>Total Estimate Cost</b>	<b>\$1,467,500</b>

**Table 3.21 Intersection Improvements  
Summer Ave. and National St.**

Improvements	Total Estimated Cost
Construction Costs Total	\$547,100
Construction Engineering and Inspection (10%)	\$54,700
Preliminary Engineering (10%)	\$54,700
Contingency (30%)	\$164,100
<b>Total Estimate Cost</b>	<b>\$820,600</b>

# Appendix A

A breakdown of project costs into major pay items is included below for reference. An explanation of each item is given to help the reader understand how costs were distributed across different pay items. Note that the pricing of certain items was dependent on the assumption that others had been implemented.

Explanation of Key Cost Components	
Accent Sidewalks	Includes demolition of existing sidewalk, curb, gutter and asphalt underlying proposed new accent sidewalk area, new curbs and new accent pavement.
Banners (12 mo.)	Application fee, deposit, and 12-month lease for banners on 10 MLGW poles. Does not include any costs beyond initial 12 month lease.
Bike Lane (On-street)	Installation of on-street bicycle lane includes construction of buffer (raised concrete median or painted/delineator), and bicycle lane pavement markings. Demolition of existing asphalt is included where concrete medians need to be installed.
Building Frontage Zone	New concrete for the area to the outside of National shared space as specified in plans.
Curb Extensions (Midblock and Corners)	Midblock bump outs include demolition of underlying asphalt and adjacent curb, new curb, two trees, landscaping, and a metal grate to bridge the bump out and the adjacent sidewalk to allow storm water to flow past bump out.  Corner extensions include demolition of underlying asphalt, curb and sidewalk, and construction of new curb and sidewalk and two ADA compliant ramps.
Decorative Crosswalks	Crosswalk comprised of decorative coating.
Longitudinal/Decorative Crosswalks	Application of longitudinal crosswalks with the assumption that corner extensions have been installed where recommended.

Explanation of Key Cost Components	
Median Extensions	Includes cost of extending concrete of existing/proposed medians further into intersection and installation of truck aprons for new medians where specified in plans.
New Sidewalk/Curb and Gutter	Demolition of existing curb, gutter, and sidewalk, and installation of new curb, gutter and sidewalk of the specified width. For plans where curb and gutter demolition is necessary for street widening or narrowing, this does not include the cost of adjacent curb demo or rebuild.
New Traffic Signals	Cost of replacing four existing traffic signals.
Private Lighting	Installation of pedestrian scale lighting for Plaza. Note that this value will vary based on fixture selection and spacing.
Raised Shared Space/Plaza	Includes demolition of existing streets and median, earth work, drainage, and infilling for the area, accent paving, ramps, new signage, traffic control, and bollards.
Road/Intersection Resurfacing	Milling and paving for specified street length. Also includes traffic control, new signage and pavement markings.
Street Furniture	Cost of new park style benches.
Street Trees/Wells/Landscaping	Cost of trees and mulch, includes the cost of new curb around tree wells where indicated in plans. Cost is combined with landscaping costs where specified in plans. Note that in cases where sidewalk must be demolished for tree installation this cost is included in the cost for “new sidewalks”.
Street Lighting Improvements	Cost of removing existing streetlights and replacing with new free-standing lights. Means of streetlight replacement will vary with existing configurations.
Utility Relocation	Relocation of utility infrastructure interfering with the proposed project cross section.



\*Values in the following tables have been rounded up to the nearest hundred.

Heights Line Gateway Plaza National St. Option A (Travel lanes along either side of shared space)	
Raised Shared Space/Plaza	\$762,800
Curb Extensions (Corner)	\$26,800
Building Frontage Zone	\$32,900
Decorative Crosswalks	\$19,000
Street Trees/Landscaping	\$21,400
Street Furniture	\$5,800
Private Lighting	\$60,000
Street Lighting Improvement	\$19,400
Utility Relocation	\$18,000
<b>Construction Costs Total</b>	<b>\$966,100</b>
<b>Preliminary Engineering (10%)</b>	<b>\$96,600</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$96,600</b>
<b>Contingency (30%)</b>	<b>\$289,800</b>
<b>Total Estimate cost</b>	<b>\$1,449,100</b>

Heights Line Gateway Plaza National St. Option B (Travel lane down center of shared space)	
Raised Shared Space/Plaza	\$759,200
Curb Extensions	\$26,800
New Sidewalks/Building Frontage Zone	\$74,800
Decorative Crosswalks	\$22,000
Street Trees/Landscaping	\$10,700
Private Lighting	\$60,000
Street Lighting Improvement	\$19,400
Utility Relocation	\$18,000
<b>Construction Costs Total</b>	<b>\$994,800</b>
<b>Preliminary Engineering (10%)</b>	<b>\$99,500</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$99,500</b>
<b>Contingency (30%)</b>	<b>\$298,400</b>
<b>Total Estimate cost</b>	<b>\$1,492,200</b>

Street Improvements National St.	
Road Resurfacing	\$185,400
Curb Extensions (Corners)	\$187,400
New Sidewalks/Curb and Gutter	\$453,100
Longitudinal/Decorative Crosswalks	\$58,500
Street Lighting Improvements	\$179,400
Banners (12 mo.)	\$3,900
<b>Construction Costs Total</b>	<b>\$1,067,700</b>
<b>Preliminary Engineering (10%)</b>	<b>\$106,800</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$106,800</b>
<b>Contingency (30%)</b>	<b>\$320,300</b>
<b>Total Estimate cost</b>	<b>\$1,601,600</b>

Street Improvements Broad Ave.	
Road Resurfacing	\$80,300
Bike Lane (On-street)	\$46,800
New Sidewalk/Curb and Gutter	\$301,600
Longitudinal Crosswalks	\$3,400
<b>Construction Costs Total</b>	<b>\$432,100</b>
<b>Preliminary Engineering (10%)</b>	<b>\$43,200</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$43,200</b>
<b>Contingency (30%)</b>	<b>\$129,600</b>
<b>Total Estimate cost</b>	<b>\$648,100</b>

Street Improvements Summer Ave. Option A	
Road Resurfacing	\$198,800
Bike Lanes (On-street)	\$26,400
Longitudinal Crosswalks	\$4,100
New Sidewalk/Curb and Gutter	\$725,800
Street Trees and Wells	\$63,300
Street Lighting Improvements	\$190,800
<b>Construction Costs Total</b>	<b>\$1,209,200</b>
<b>Preliminary Engineering (10%)</b>	<b>\$120,900</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$120,900</b>
<b>Contingency (30%)</b>	<b>\$362,800</b>
<b>Total Estimate cost</b>	<b>\$1,813,800</b>

Street Improvements Summer Ave. Option B	
Road Resurfacing	\$206,200
Curb Extensions (Midblock)	\$177,400
Longitudinal Crosswalks	\$2,800
New Sidewalk/Curb and Gutter	\$732,500
Street Lighting Improvements	\$190,800
<b>Construction Costs Total</b>	<b>\$1,309,700</b>
<b>Preliminary Engineering (10%)</b>	<b>\$131,000</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$131,000</b>
<b>Contingency (30%)</b>	<b>\$392,900</b>
<b>Total Estimate cost</b>	<b>\$1,964,600</b>

Street Improvements Summer Ave. Option C	
Street Trees and Wells	\$63,300
New Sidewalk/Curb and Gutter	\$724,300
Street Lighting Improvements	\$190,800
<b>Construction Costs Total</b>	<b>\$978,400</b>
<b>Preliminary Engineering (10%)</b>	<b>\$97,800</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$97,800</b>
<b>Contingency (30%)</b>	<b>\$293,500</b>
<b>Total Estimate cost</b>	<b>\$1,467,500</b>

Intersection Improvements Summer Ave. and National St.	
Intersection Resurfacing	\$46,600
New Traffic Signals	\$330,000
Curb/Median Extensions	\$67,000
Decorative Crosswalks	\$40,400
Accent Sidewalks	\$60,600
Street Trees	\$2,500
<b>Construction Costs Total</b>	<b>\$547,100</b>
<b>Preliminary Engineering (10%)</b>	<b>\$54,700</b>
<b>Construction Engineering and Inspection (10%)</b>	<b>\$54,700</b>
<b>Contingency (30%)</b>	<b>\$164,100</b>
<b>Total Estimate cost</b>	<b>\$820,600</b>

