



SHORT STREET PEDESTRIAN IMPROVEMENTS STUDY

Downtown Lexington Partnership + LFUCG

November 2017 - May 2019



ACKNOWLEDGMENTS

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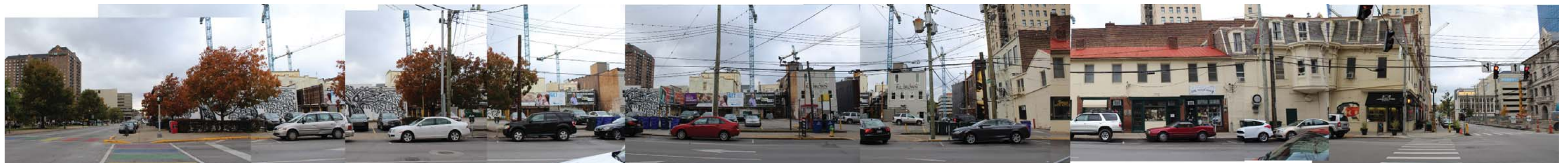
Matt Hisle





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Study Objectives

Over the past several years, Short Street from Broadway to Limestone has become a significant destination in downtown Lexington. The corridor is lined with restaurants and bars, home to Fifth Third Pavilion, and is close to 21C Museum and Hotel. With the recent courthouse renovation and the anticipated City Center, Lexington Fayette Urban County Government (LFUCG) expressed interest in developing a plan for the Short Street corridor that would focus on pedestrian improvements to the streetscape. Potential considerations include traffic calming measures, reducing crosswalk distances, expanding sidewalks for outdoor dining, and enhanced lighting concepts. LFUCG has explored the cost of burying utilities and has decided not to consider burying utilities in this study due to high costs.

Previous Study Outcomes

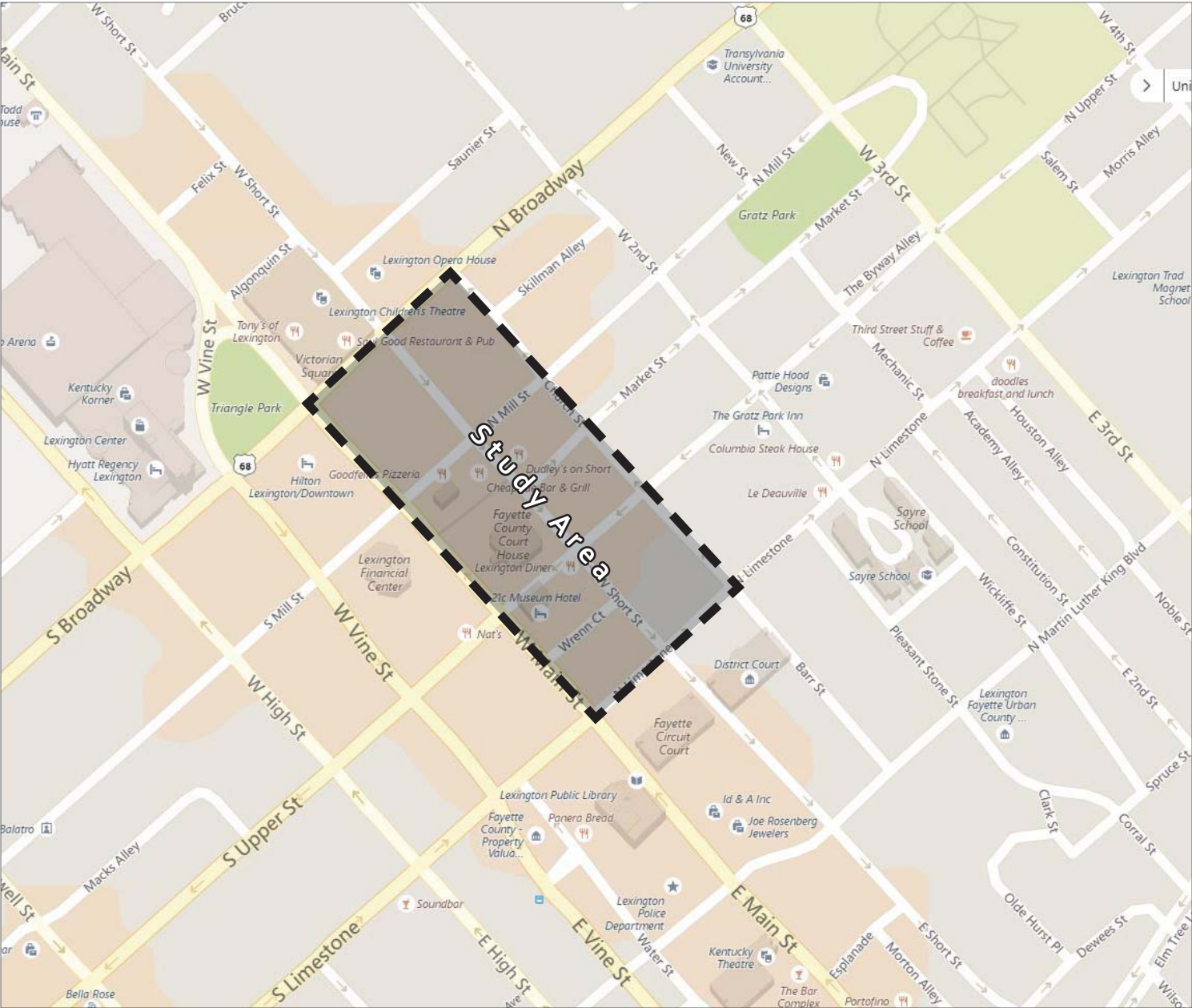
In 2015 LFUCG and Downtown Development Authority (now Downtown Lexington Partnership) embarked on an ambitious pilot project along the Short Street Corridor. Based on recommendations from the Gehl Studio and discussed in the report “Public Space Public Life, Downtown Lexington, KY”. The pilot project explored parking changes, temporary bumpouts through painted pavement, lane changes, and pedestrian amenities. The pilot project was installed for 8 months during which feedback was received from visitors, the community, and local businesses. The findings and recommendations are documented in a preliminary findings report. This pilot and outcome report were used as a springboard for this study.



First Thursday Night Live after pilot project install

Scope of Work

Downtown Lexington Partnership and LFUCG recognize the importance of pedestrians in downtown Lexington. As the New Courthouse Renovation project is completed, the Short Street Corridor has been flagged for future permanent improvements. This study serves as the preliminary design and feasibility assessment to the development and future streetscape of Short Street between Broadway and Limestone. Throughout the 12 week period of the study, CARMAN continually met with the committee comprised of Downtown Lexington Partnership, LFUCG Mayor’s Office, LFUCG Traffic Engineering, and Lex Park representatives to understand the needs, opportunities, and constraints for the corridor. An initial site assessment and analysis resulted in a series of framework studies that looked at the corridor holistically. A mobility study evaluated vehicular, bicycle, and pedestrian patterns resulting in three preferred alternatives which the committee heavily weighed-in on. A fourth design alternative was prepared that could be installed as an initial phase toward the completed recommended plan. The final recommended plan was developed based on committee feedback from which schematic designs came to life. Ultimately, this study provides the committee a recommended plan, schematic designs, and an associated budget for future planning, design, and implementation.



Context Map, Image Courtesy of Google Maps

Observations throughout the corridor

OPPORTUNITIES:

Historical buildings



Variety of mobility use



Temporary festival lights



CHALLENGES:

Narrow pedestrian zone



Abundance of waste receptacles



Mix of various site amenities



5/3 Pavilion and Thursday Night Live



Newly renovated Courthouse



Web of overhead utilities



Loading zones



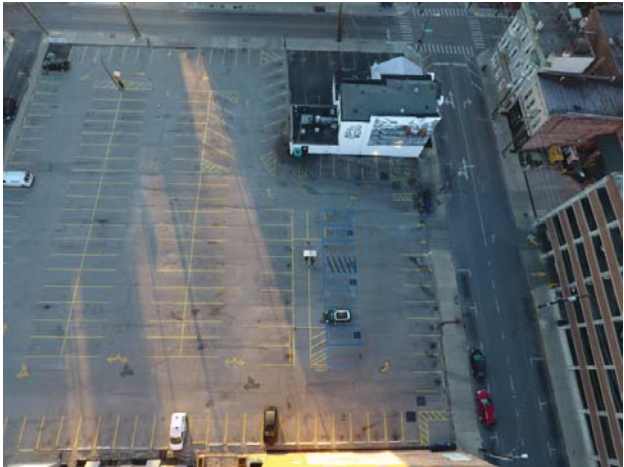
Restaurant and bar patio seating



Several murals



Large parking lots along frontage



Failing infrastructure



Various design influences



2. CORRIDOR ANALYSIS + ASSESSMENT

Framework Study The design team performed numerous site visits at times during both the day and the evening, documented existing conditions through measurements, counts, and photography. The following series of figures catalog the existing conditions and observations to create a framework for planning and design.



Existing Parking

One of the most important factors identified during the pilot project was parking. From community feedback, the committee and design team eliminated back in angled parking. Additionally, businesses advocate for parking directly in front of storefronts, suggesting parking on both sides is preferred. To accurately compare design alternatives, the design team documented existing parking locations and counts. These figures do not include spaces that are reserved for loading and unloading.

- NORTH SIDE OF SHORT STREET: 30 SPACES
- SOUTH SIDE OF SHORT STREET: 17 SPACES
- TOTAL PARKING ON SHORT STREET: 47 SPACES
- MILL STREET: 8 SPACES



Social Zones

It should be understood that downtown businesses change over time, however the established businesses help define where existing and potential outdoor dining and socializing areas are likely to occur. The Social Zones exhibit provides a visual understanding of known activity areas and potential usage opportunities where the walks located in front of various restaurants could be managed for additional outdoor dining.



Landscape Zones

The urban nature of the study area presents many constraints for tree canopy and landscape. Overhead utilities limit the size and location of street trees, while underground utilities, such as water and storm sewer pipes, may present obstacles for healthy root zones.

With the information available at the time of this study, the design team was able to do perform a preliminary analysis of existing utilities to better understand where street trees and landscape could be located. Prior to any installation, the future design development must obtain a survey to verify underground utility locations.



Vehicular Patterns

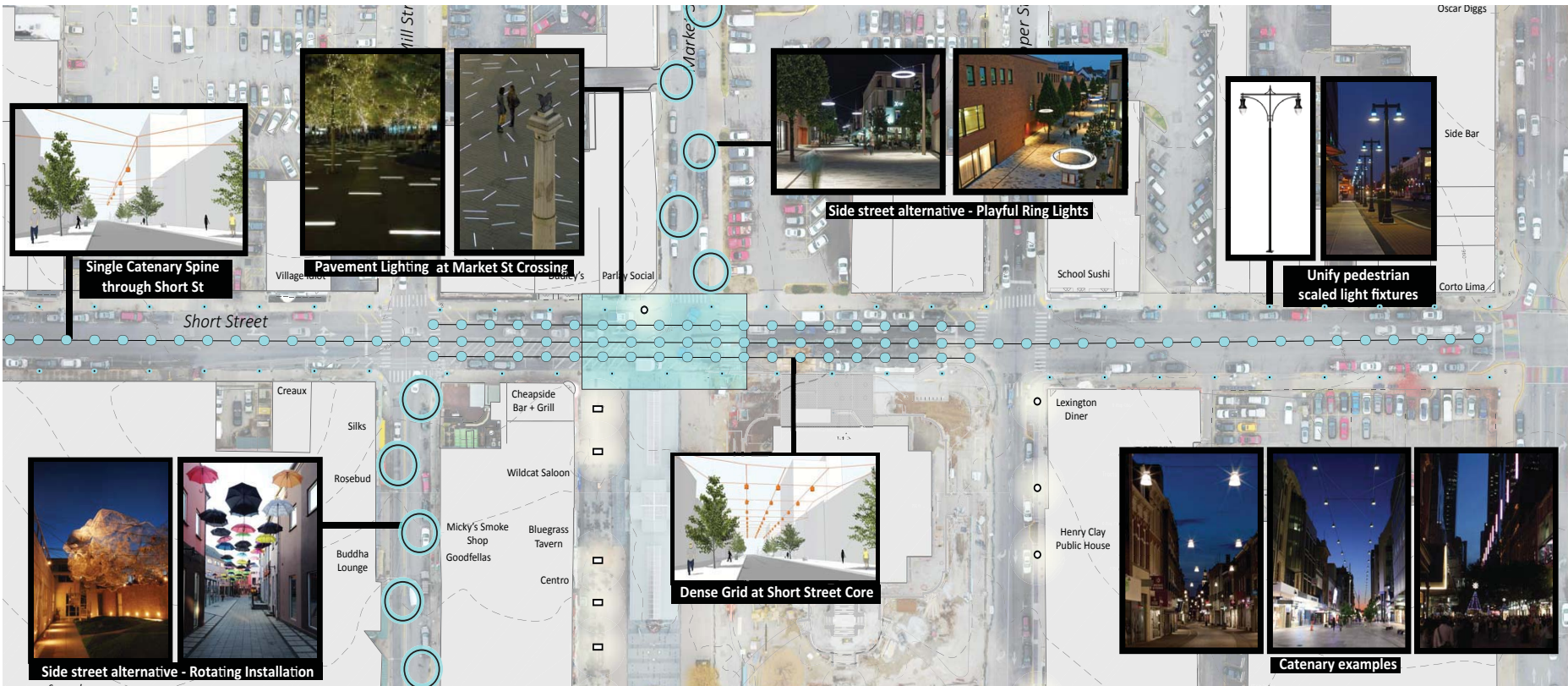
The pedestrian experience along Short Street is directly impacted by vehicular traffic. This Vehicular Patterns exhibit shows the existing one-way and two-way street patterns, turning maneuvers, and secondary entrance locations off of Short Street which cross the sidewalk and interfere with the pedestrian zone.



Pedestrian Connectivity

Short Street is a major corridor for pedestrians in the downtown area. The Fifth Third Pavilion at Cheapside serves is a popular public space for events. The recently completed Courthouse Square renovation is also a pedestrian destination that further reinforces the Short Street corridor by housing Lexington's Visitor Center, VisitLex, as well as a large event space and a restaurant which opened in 2018, Zim's Cafe.

Many people that are employed downtown frequent restaurants along Short Street during the day and attend events, visit bars, and restaurants in the evening and night times. This results in an active corridor during many times of the day. One noteworthy outcome of the study shows how frequent the pedestrian experience is interrupted by vehicles, shown in yellow dashed lines on the exhibit to the left. These interruptions occur at crosswalks and in locations where vehicular traffic is required to cross the sidewalk in pedestrian zones for secondary entrances into various parking areas.

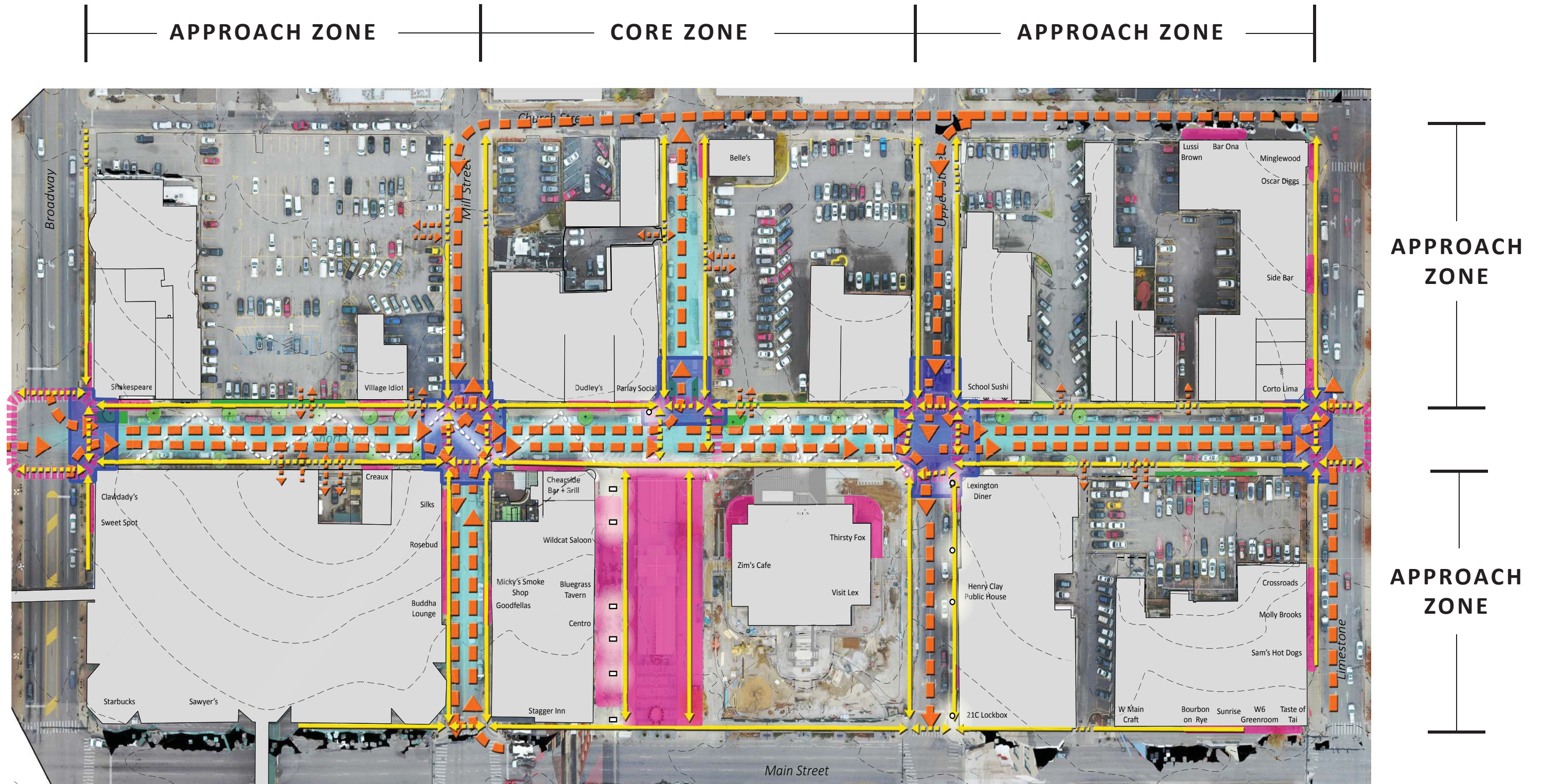


Lighting Study

Temporary festival lights were installed as part of the pilot project from Broadway to Limestone and have had a resounding impact. Due to the success, the committee has encouraged the design team to study long term lighting concepts. The Lighting Study exhibit shows early concepts of catenary lighting along Short Street and suggests alternate lighting approaches to Mill and Market streets to strengthen pedestrian connections from the north and south.

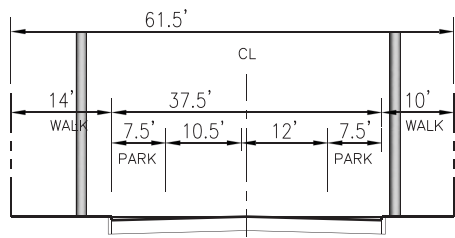
Framework Composite

When all studies are combined, a Framework Composite is created that reveals an area of high activity referred to as the Core Zone along this central section of Short Street. The additional pedestrian Approach Zones are introductions into the central Core Zone. These separate zones warrant different treatments along the corridor, such as decorative pavement types and expressive features like seating and lighting.





3. PLAN ALTERNATIVES

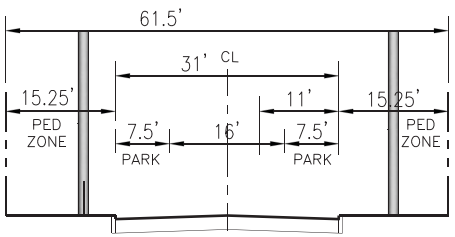
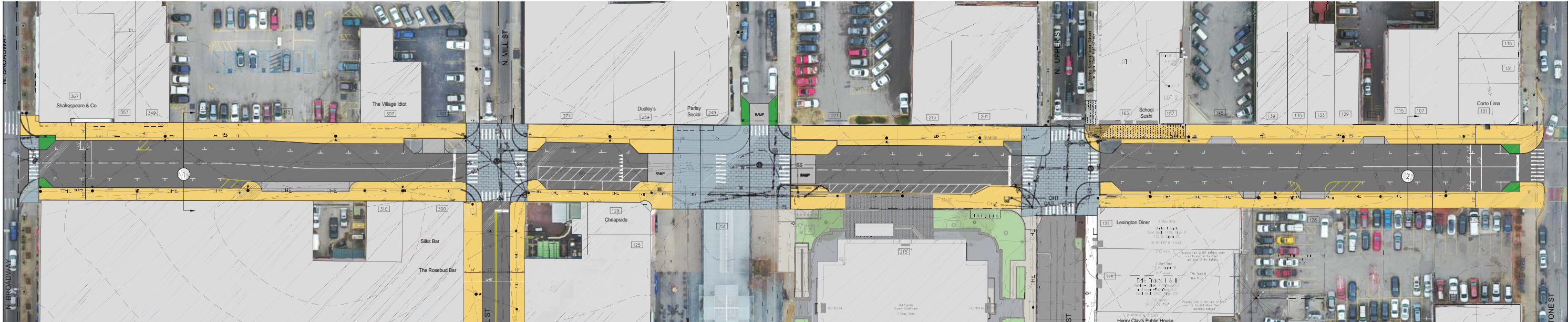


Alternative A

2 DRIVE LANES, PARALLEL PARKING
EACH SIDE & WIDENED SIDEWALKS

PARKING COMPARISON:

EXISTING - 47 SPACES (On-street, parallel parking spaces)
PROPOSED - 51 SPACES (Excludes loading spaces)

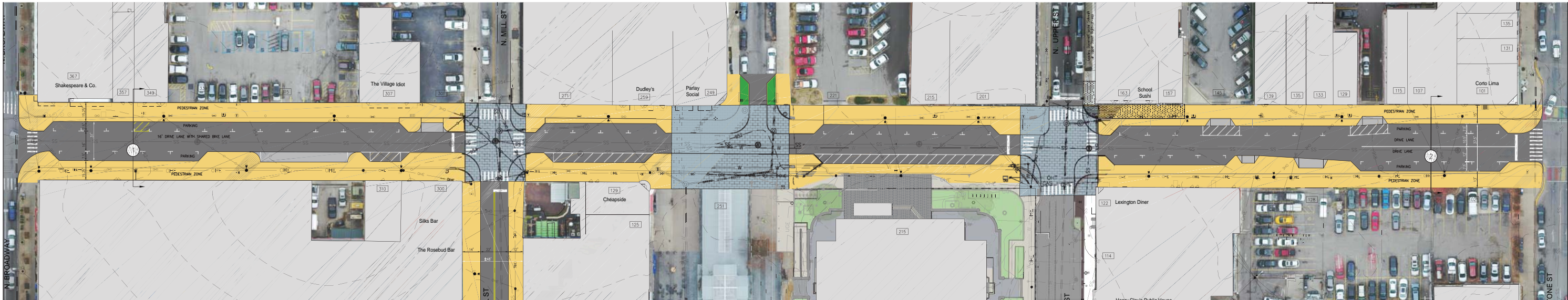


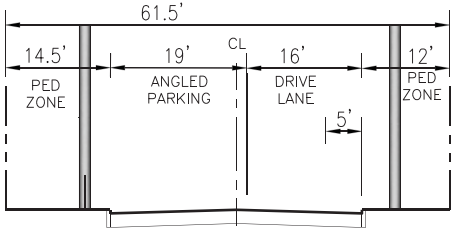
Alternative B

SINGLE SHARED DRIVE LANE, PARALLEL
PARKING EACH SIDE & WIDENED SIDEWALKS

PARKING COMPARISON:

EXISTING - 47 SPACES (On-street, parallel parking spaces)
PROPOSED - 48 SPACES (Excludes loading spaces)

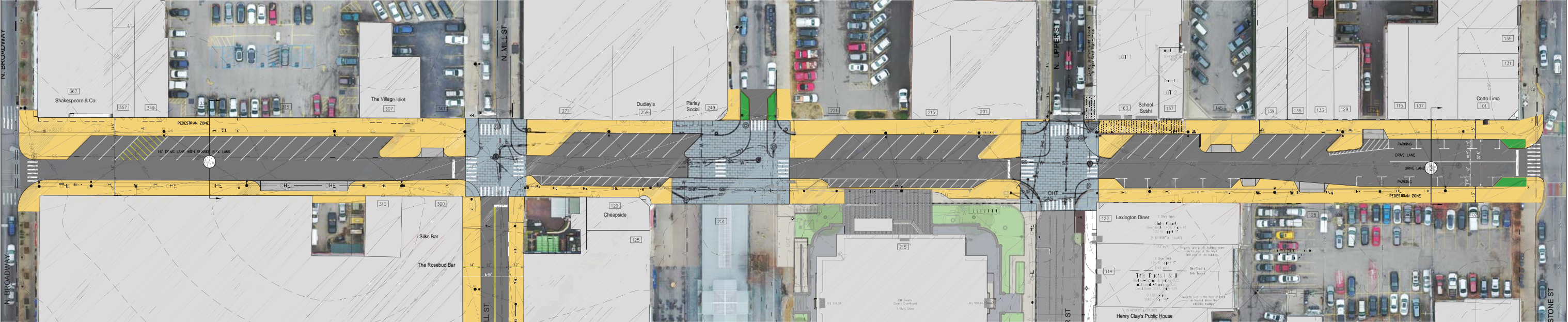




Alternative C

SINGLE SHARED DRIVE LANE, ANGLED
PARKING & WIDENED SIDEWALKS

PARKING COMPARISON:
EXISTING - 47 SPACES (On-street, parallel parking spaces)
PROPOSED - 57 SPACES (Excludes loading spaces)





4. DESIGN RECOMMENDATIONS

Executive Summary

Over the past several years, Short Street from Broadway to Limestone has become a significant destination in downtown Lexington. The corridor is lined with restaurants and bars, home to Fifth Third Pavilion, and close to downtown hotels and attractions. With the completion of the Historic Court House and City Center, interest was expressed in developing a plan for the Short Street Corridor that would focus on pedestrian improvements and use of the right of way by adjacent businesses and customers. This includes addressing issues such as traffic calming, crosswalk distances, expanded sidewalks, outdoor dining, and enhanced lighting.

This approach to Short Street seeks to address these issues in different ways and continue to define the area as a destination district. In order to accomplish this, considerations are also given to timing and funding availability. As such, approaches were broken into short term, long term, and a larger scale future consideration.

Short Term

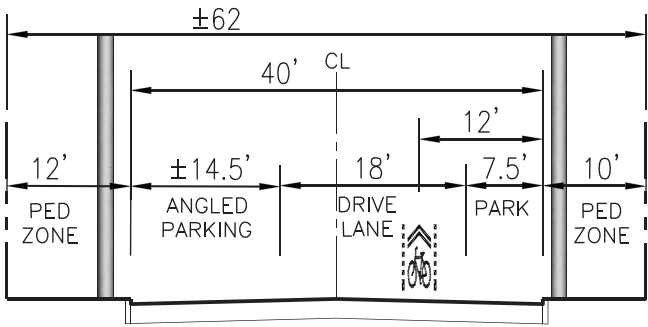
In the short term, it may not be feasible to implement a large scale capital project; yet key issues in the district remain. The short term approach addresses parking and loading zones through lane striping as well as placemaking through outdoor dining, lighting, art, and district branding. Semi-permanent, but removable bump outs are proposed to expand outdoor dining at the sidewalk grade. Additionally, Short Street would be restriped to improve parking and loading zones. The short term approach is considered in a way that allows flexibility with timing and implementation of different pieces of the recommendations as appropriate.

Long Term

Even while acting on short term initiatives; it's necessary to plan for the ideal long term scenario on Short Street. A long term capital project looks at installing new street light poles, a catenary lighting system over the street, and widening sidewalks to give more space to pedestrians. Bump outs and traffic tables also enhance pedestrian safety in crossing areas. The larger amount of space given to pedestrians, diners, shoppers, and visitors helps redefine the area as an entertainment destination.

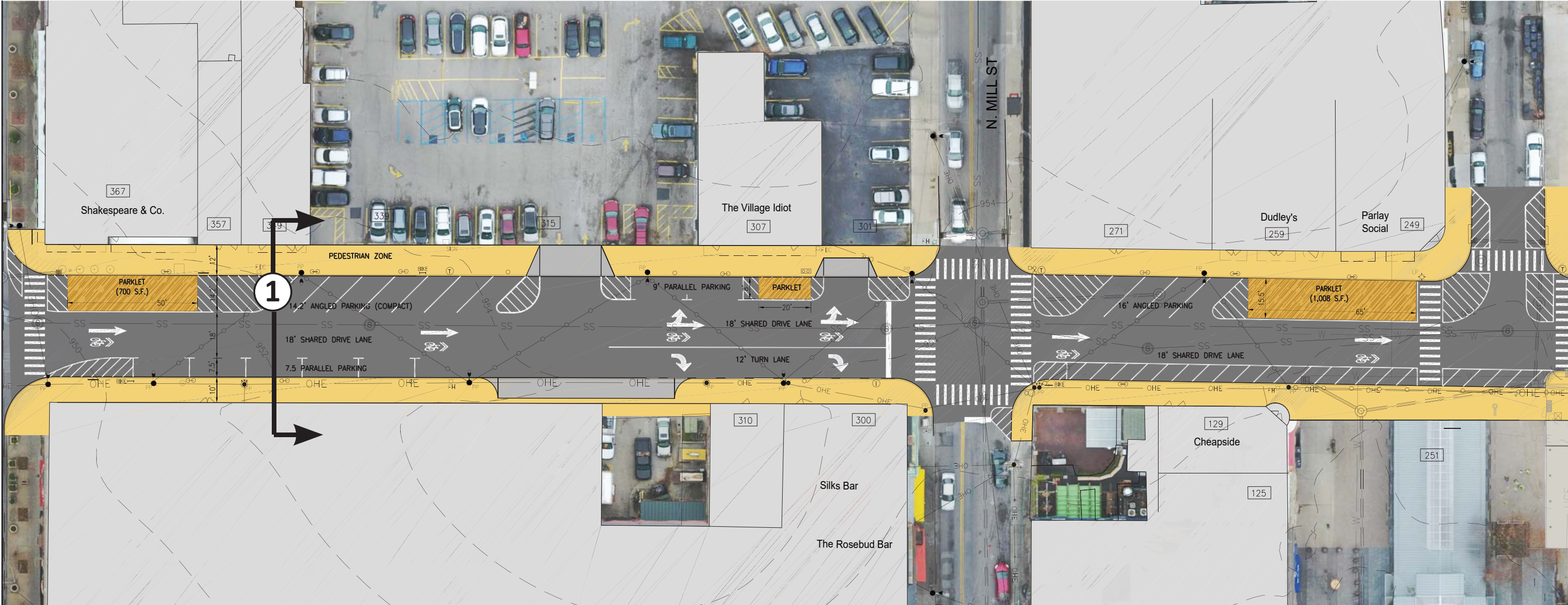
Other Long Term Future Considerations

Given that conditions can change and future developments can impact infrastructure needs, in advance of any large scale capital project another analysis should be done to consider the burial of utilities and removal of overhead wires. While not feasible at the time this study was performed, prioritizing the relocation of overhead lines and transformers underground may make sense in the future and would dramatically alter the landscape and experience along Short Street.



Short Term Installation

1 CROSS SECTION
ANGLED PARKING SPACES, SINGLE SHARED DRIVE LANE, & NO SIDEWALK WIDENING

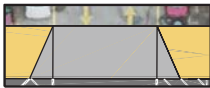


PARKING COMPARISON:
EXISTING - 47 SPACES (On-street, parallel parking spaces)
PROPOSED - 50 SPACES (Excludes loading spaces)

GRAPHIC KEY



EXISTING SIDEWALK TO REMAIN UNDISTURBED



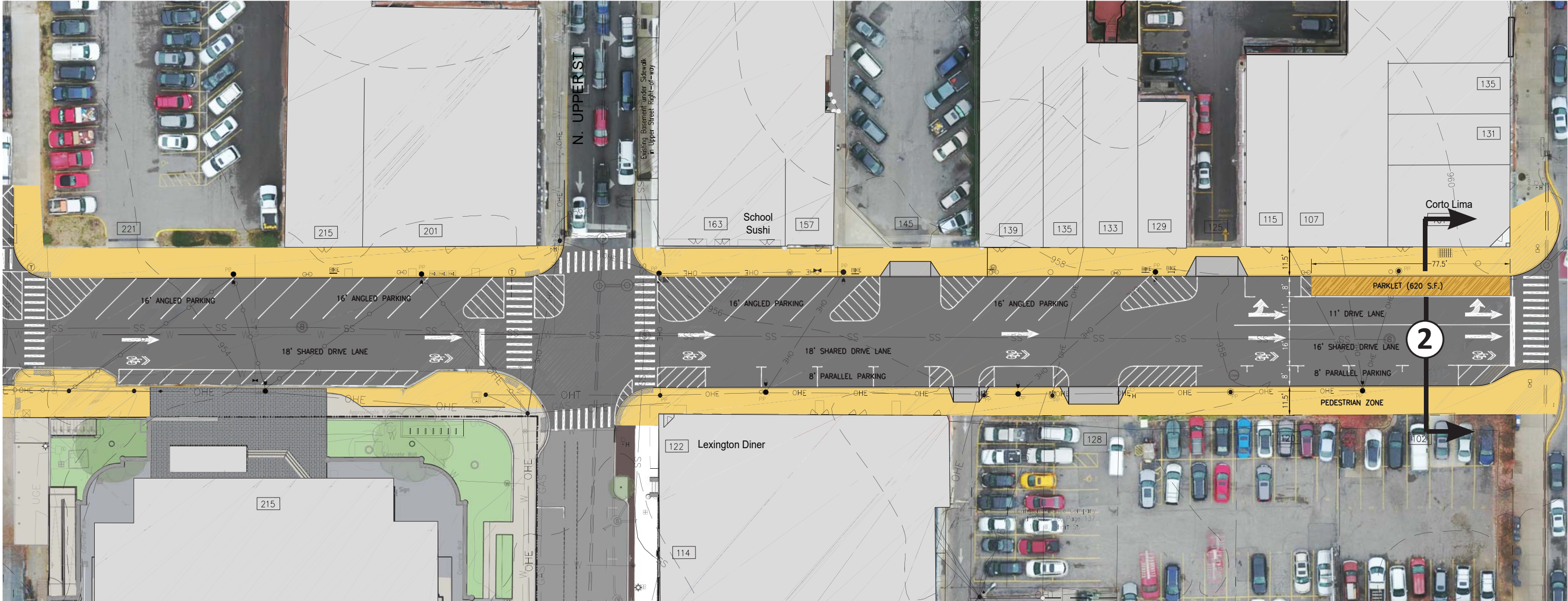
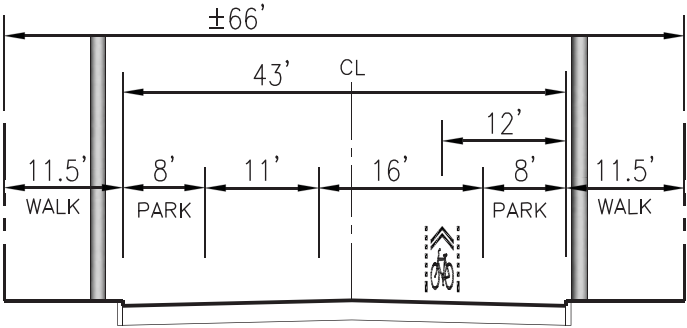
EXISTING DRIVEWAY ENTRANCE TO REMAIN OPEN



PROPOSED PARKLET AREA

CROSS SECTION
ON-STREET PARKING SPACES (ONE SIDE CONVERTED TO PARKLET), TWO DRIVE LANES (ONE WITH SHARED BIKE LANE), & NO SIDEWALK WIDENING

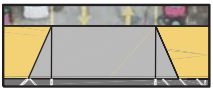
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GRAPHIC KEY



EXISTING SIDEWALK TO REMAIN UNDISTURBED



EXISTING DRIVEWAY ENTRANCE TO REMAIN OPEN



PROPOSED PARKLET AREA

Parklets: Description + Design Criteria

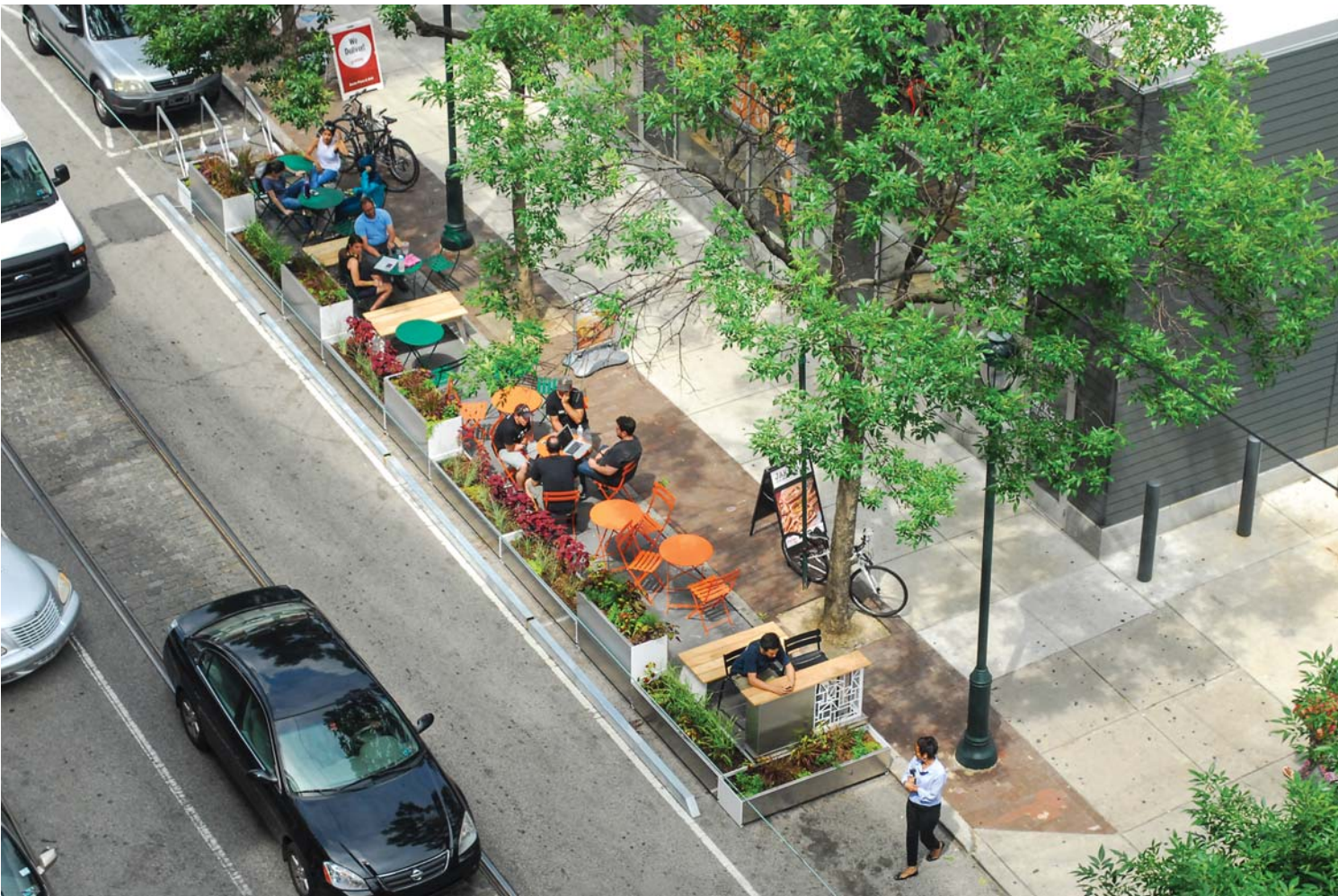
The following has been assembled as a summary and a quick reference for the small parks proposed along the Short Street corridor known as “parklets”. These areas can be temporary or permanent installations that expand the pedestrian zone and act as an extension of adjacent storefronts for additional social gathering space.

Parklets are public seating platforms that convert curbside parking spaces into vibrant community spaces. Also known as street seats or curbside seating, parklets are the product of a partnership between the city and local businesses, residents, or neighborhood associations.

Most parklets have a distinctive design that incorporates seating, greenery, and/or bike racks and accommodate unmet demand for public space on thriving neighborhood retail streets or commercial areas.

While parklets are foremost intended as assets for the community, their presence has also been shown to increase foot traffic, and in some cases revenues, for adjacent businesses.

Cited from "Urban Street Design Guide" from National Association of Transportation Officials (NACTO), 2013



Parklet in Philadelphia, PA



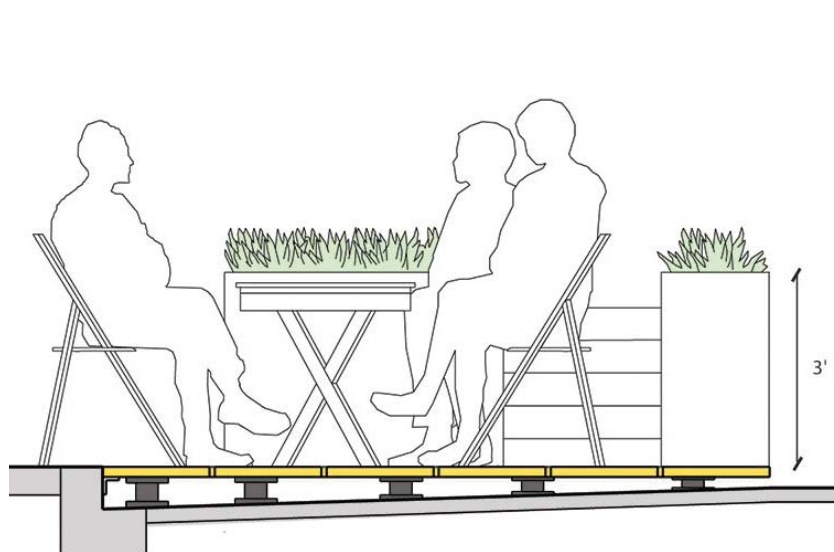
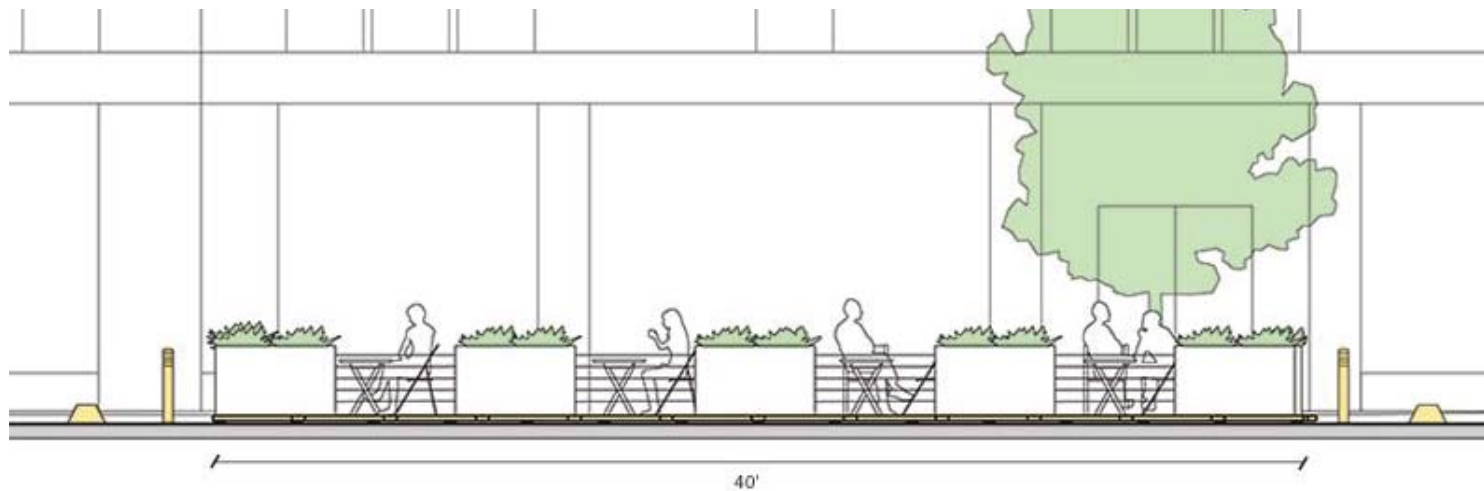
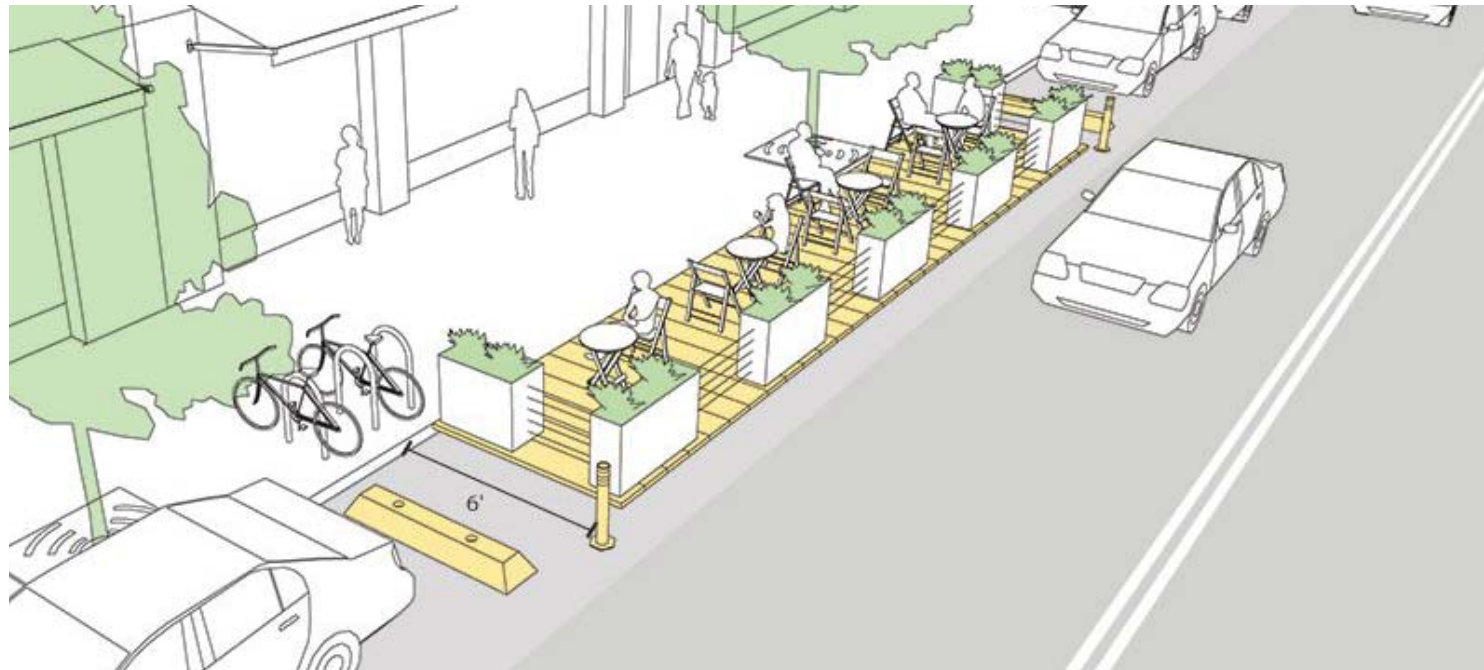
Parklet in Bellingham, WA



Courtesy of Grand Rapids Parklet Manual, 2014



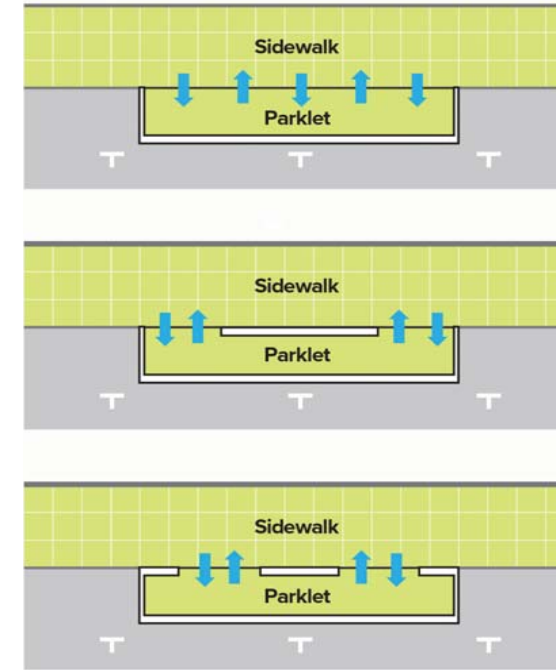
Parklet in Minneapolis, MN



Images courtesy of NACTO "Urban Street Design Guide", 2013



Parklet in Chicago, IL



Extend the Sidewalk,
Courtesy of San Francisco Parklet Manual, 2018

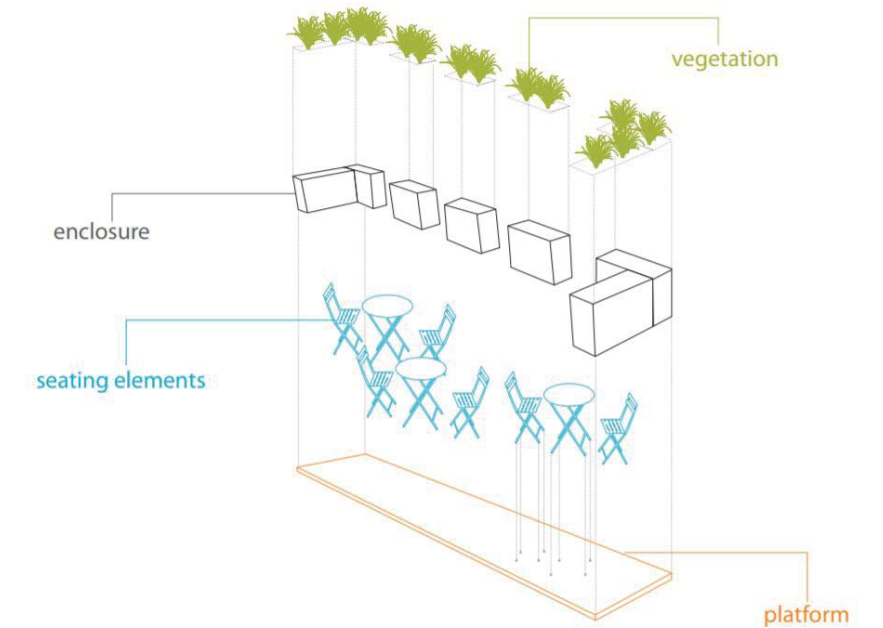


Image courtesy of City of Minneapolis, "Parklet Application Manual", 2017

Parklets: Design Criteria

CRITICAL FEATURES:

- Parklets must be buffered using a wheel stop a minimum of 4 feet from the parklet
- Parklets should have vertical elements that make them visible to traffic, such as flexible posts or bollards.
- Parklets have a desired minimum width of 6 feet (or the width of the parking lane)
 - Parklets generally convert one or more parallel parking spaces (or 3–4 angled parking spaces), but may vary according to the site, context, and desired character of the installation.
- The design of a parklet should not inhibit the adequate drainage of stormwater runoff.
 - Small channels between the base and the platform facilitate drainage.
- Parklets should have a flush transition at the sidewalk and curb to permit easy access and avoid tripping hazards.

RECOMMENDED FEATURES:

- Parklets should avoid corners and are best placed at least one parking space away from the intersection corner.
- Incorporate seating into the parklet. Seating may be integrated into the design itself or made possible with moving tables and chairs.
- Parklets should use a slip-resistant surface to minimize hazards and should be accessible to wheel-chair users.
- Include an open guardrail to define the space. Railings should be no higher than 3 feet.

MAINTAIN A VISUAL CONNECTION TO THE STREET:

- Designs should allow pedestrians on either side of the street to see into the parklet. Continuous opaque walls above 42 inches that block views into the parklet from the surrounding streetscape are highly discouraged.

EXTEND THE SIDEWALK:

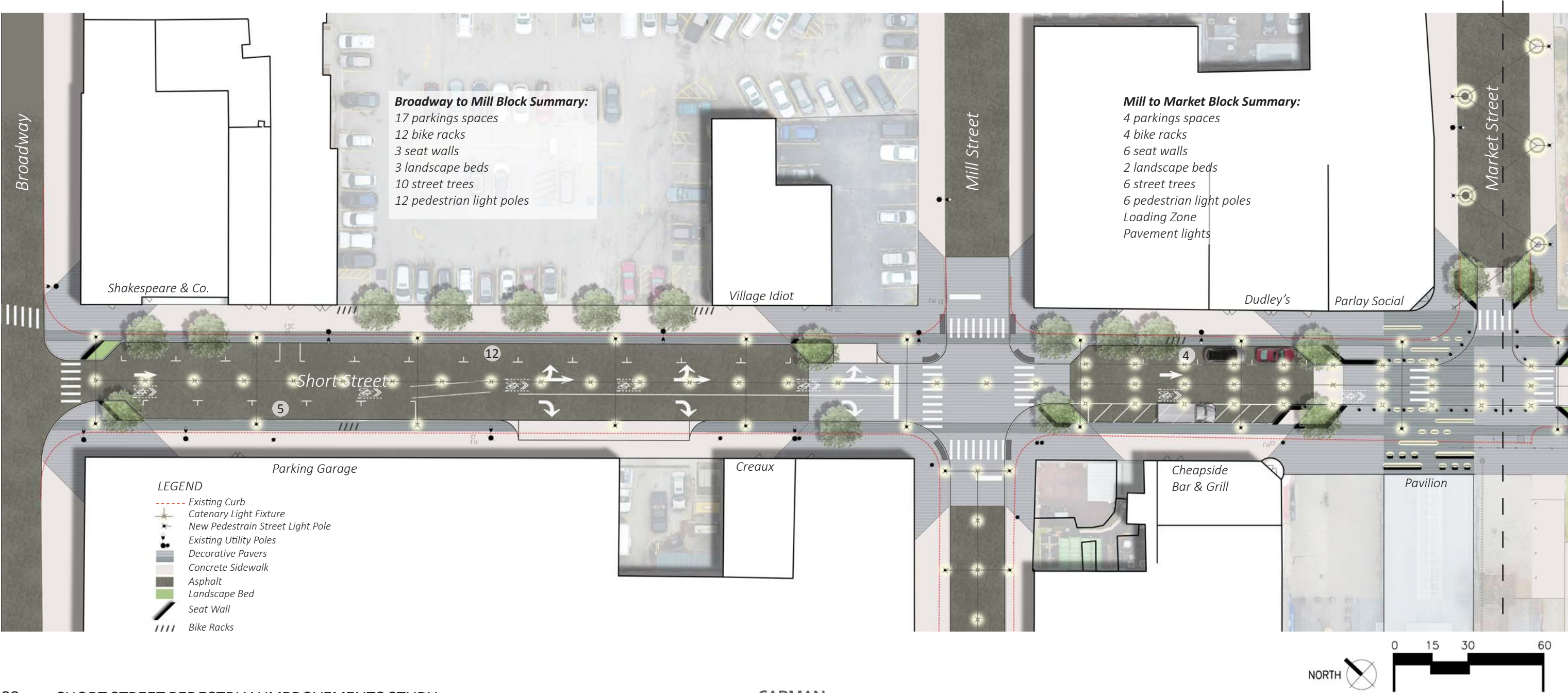
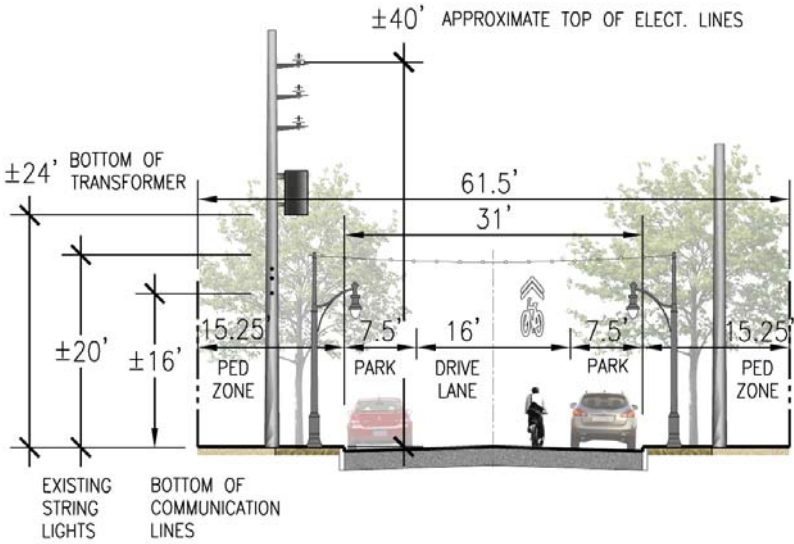
- Parklets should be designed as an extension of the sidewalk, with multiple points of entry along the curbside edge.

DESIGN RECOMMENDATIONS

Final Recommended Plan

The design team and committee agreed upon the recommended plan which was chosen for the following reasons:

- Parallel parking on both sides of street keeps customers close to businesses (a desired outcome of the pilot project)
- One drive lane allows for widened sidewalks (average 15.25' on each side, about a 4' gain in most places)
- A half block turn lane onto Mill Street and a half block turn lane onto Limestone prevent traffic back up
- New light poles located in expanded sidewalk to allow for catenary system inside of existing utility poles (see section to the right)
- Dedicated loading zones established on south side of Short Street to replicate current conditions
- Curb bump outs at corners increase pedestrian zones, reduce cross-walk distances, and slow traffic
- Traffic table at Short and Market emphasis heavily used Core Zone identified in Framework Study
- 2 parking entrances off of Short Street are eliminated and replaced on side streets
- Street trees and landscape zones are identified based on utilities and microclimate





Character Study

Classic + Sophisticated



Concept Development

The design team furthered Alternative B for the recommended plan. Concept development refined the study to a level of detail showing paving patterns, seating, lights, and landscape. This concept creates a vision for the corridor. The Short Street Core Enlargement Plan shows how the design team envisions the streetscape. The list below outlines the concept vision.

- Unit pavers at each intersection with continuous band connects and reinforces corridor
- Unit pavers extend into street at Mill, Market, and Upper to define Core Zone and slow traffic
- Unit pavers reflect and emphasize pavilion
- Traffic table transitions 6” over 12’ with flush condition on top, removable bollards and pavers define vehicular zone
- Custom seat walls in various configurations reflect paving and bump out geometries, giving pedestrians unique social areas
- Street trees located outside of utility interference and to provide microclimate for pedestrians
- Pedestrian scale light fixtures located in expanded sidewalk area create rhythm and consistency

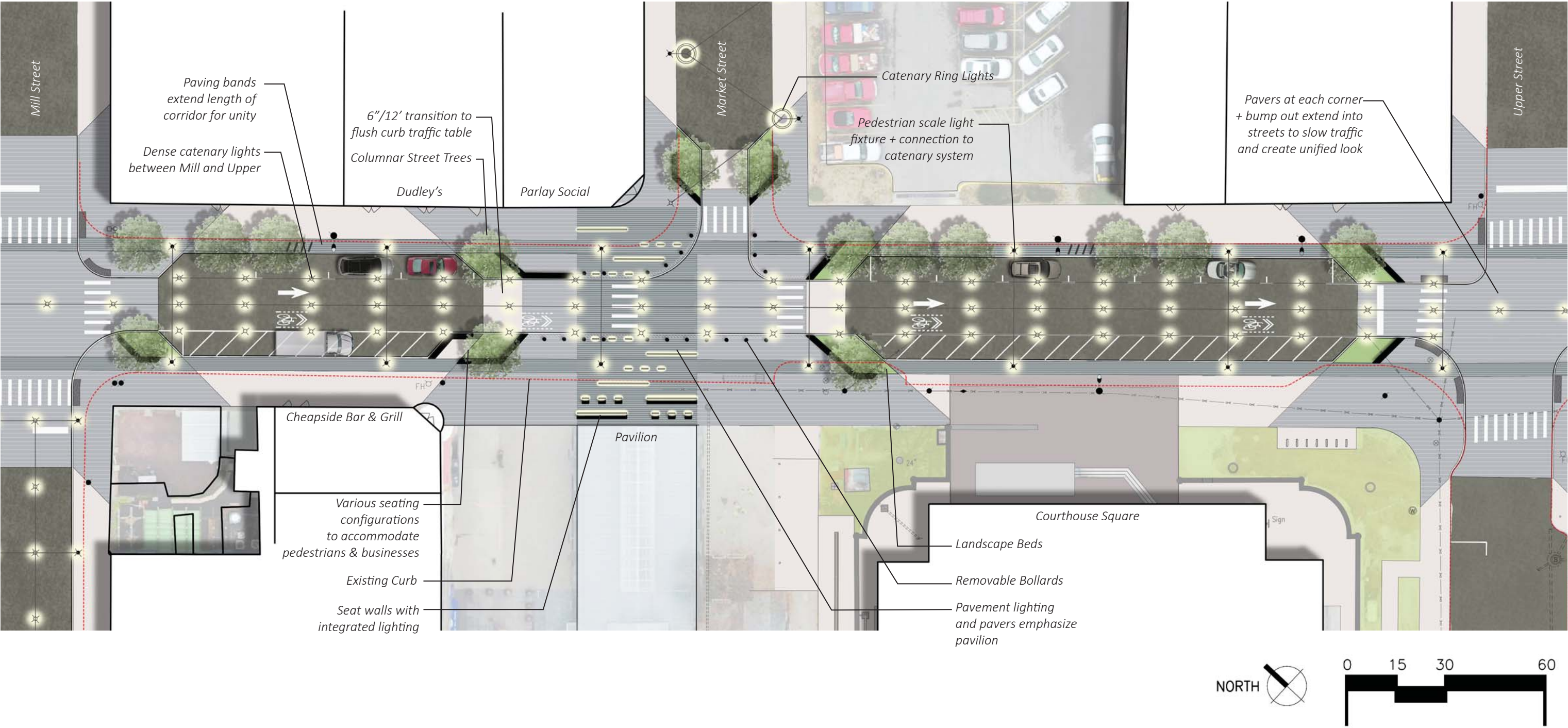
Bold + Playful



Clean + Modern



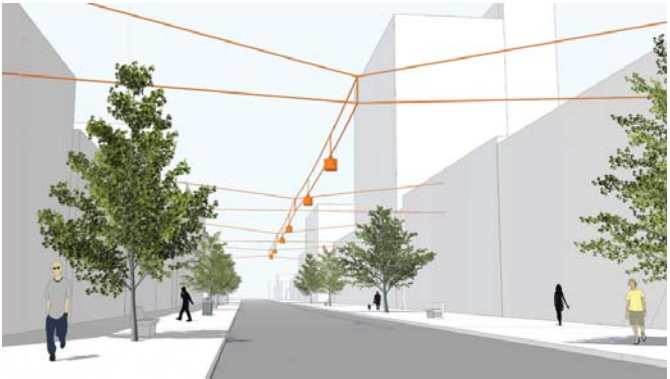
Short Street Core Enlargement



Lighting Concepts

A permanent pedestrian-scaled catenary lighting system is proposed from Broadway to Limestone. One single spine stretches the length of the study corridor, and to emphasize the central Core Zone, two additional rows are added between Mill and Upper streets. Due to the charming character and connection from the south, South Mill Street was identified by the project team as a candidate that warrants special lighting treatment. Market Street was identified as an important northern pedestrian connection and an extension of Cheapside Pavilion deserving special lighting treatment.

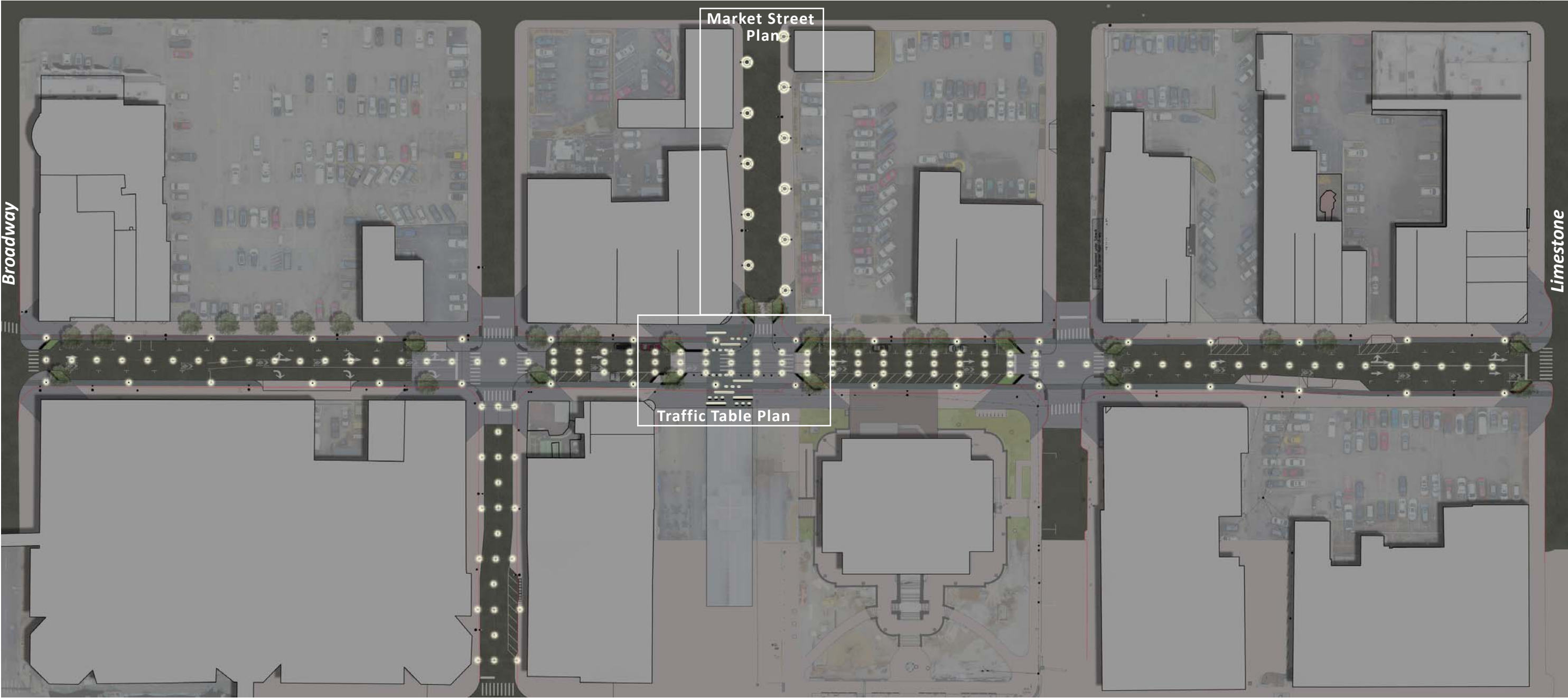
Short Street Corridor Lighting Plan



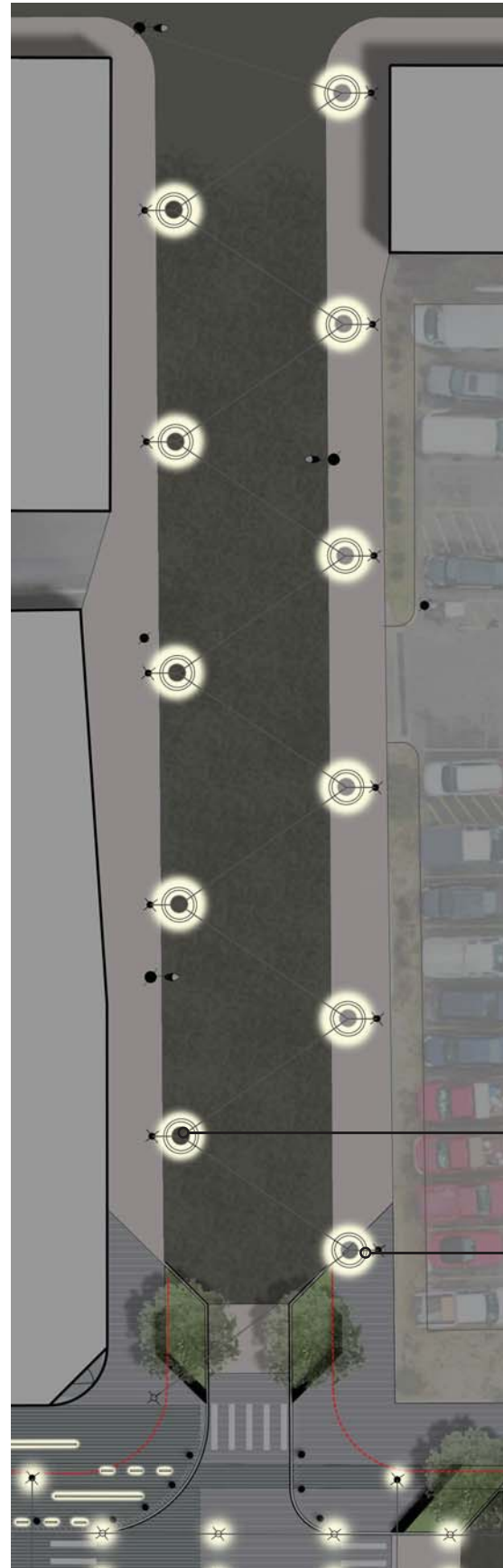
Single Catenary Spine



Catenary Grid



Market Street Plan



Mill Street is a physical extension of the pavilion space, suggesting a connection from the North. Playful ring lights create visual spotlights for pedestrians. These can be installed using new poles.



Catenary ring light examples.

Alternative catenary ring lights

Supporting poles with no light fixture

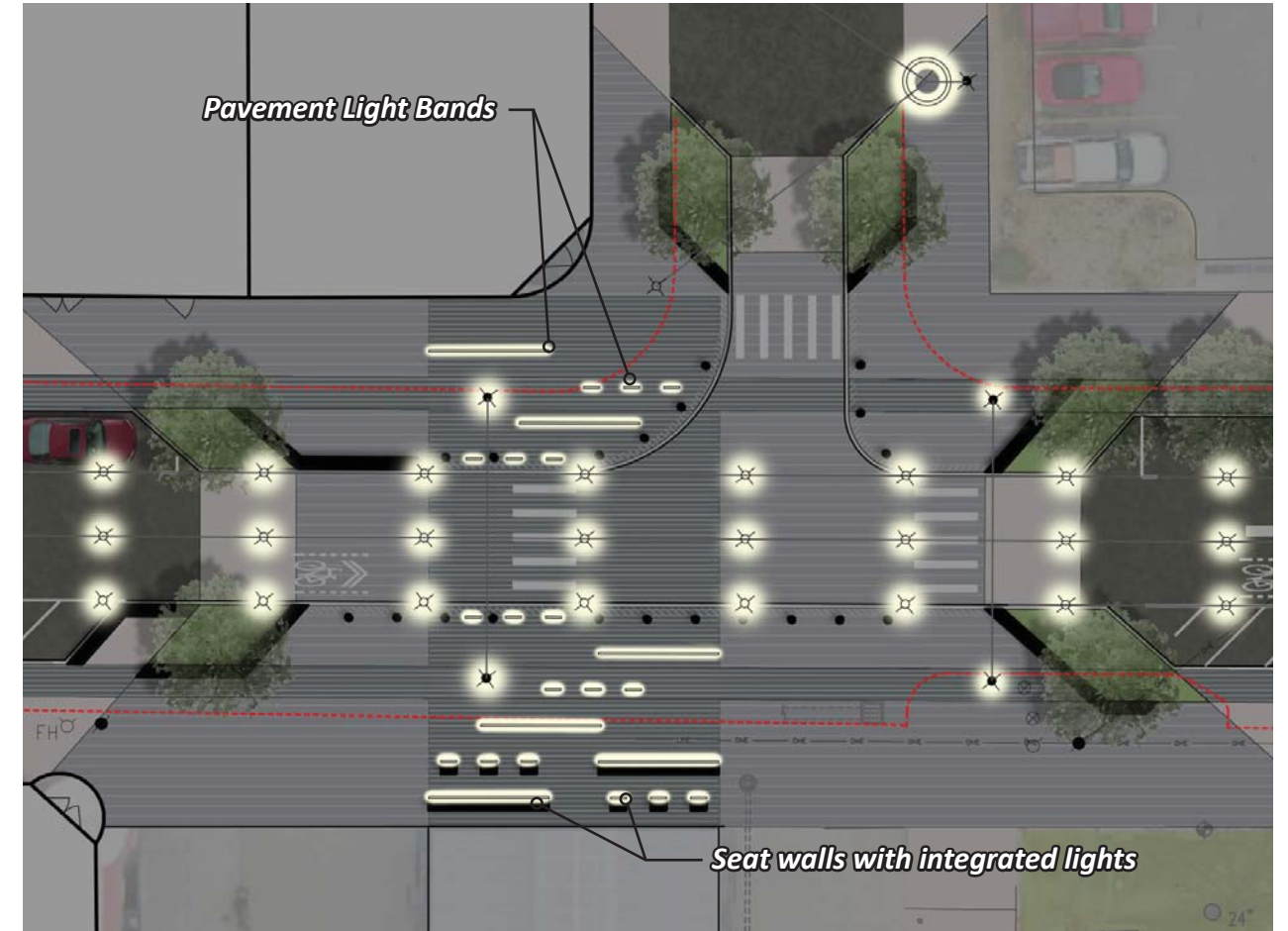


Pavement lighting



Seat wall with integrated lighting

Traffic Table Plan



In addition to the dense grid of catenary lights along the core between Mill and Upper streets, pavement lighting and accent lighting integrated within seat walls further complement the Fifth Third Pavilion.



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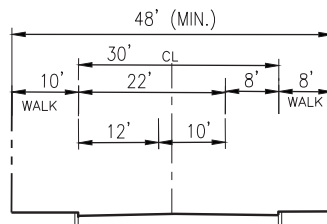
Mill Street Recommendations

Mill Street was identified early in the project as a block having unique character and opportunity. The short block is lined on both sides with businesses and restaurants that are active well into night. The dense streetscape is spatially constrained and, given the narrow sidewalks with the existing conditions, pedestrian safety is a concern.

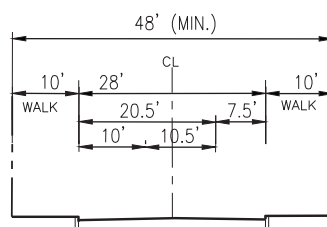
The design team proposes the following:

- Create a safer pedestrian experience by eliminating street parking (8 spaces) to allow for widened sidewalks (West side from 10' to 14' and East side from 8' to 12')
- Keep 2-way drive lanes
- Add dedicated loading zone mid-block to service businesses
- Waste corral to screen the collection of trash cans in front of Goodfella's Pizza
- Installation of pedestrian scale light poles and catenary system (see Lighting section for more details)

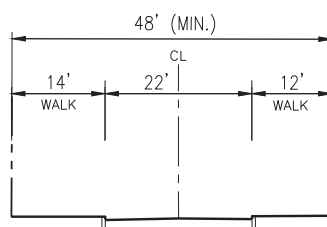
Cross Sections



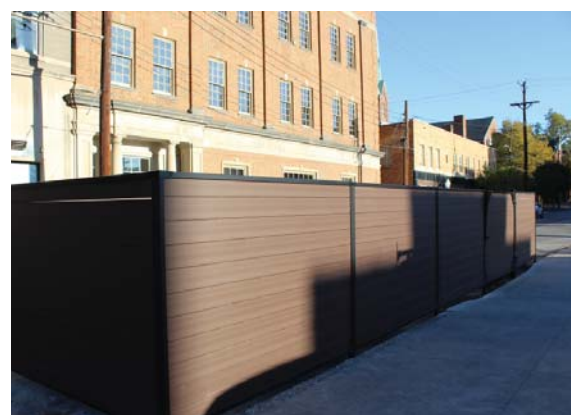
Existing Conditions



Proposed Option A:
Road Diet / Sidewalk Widening

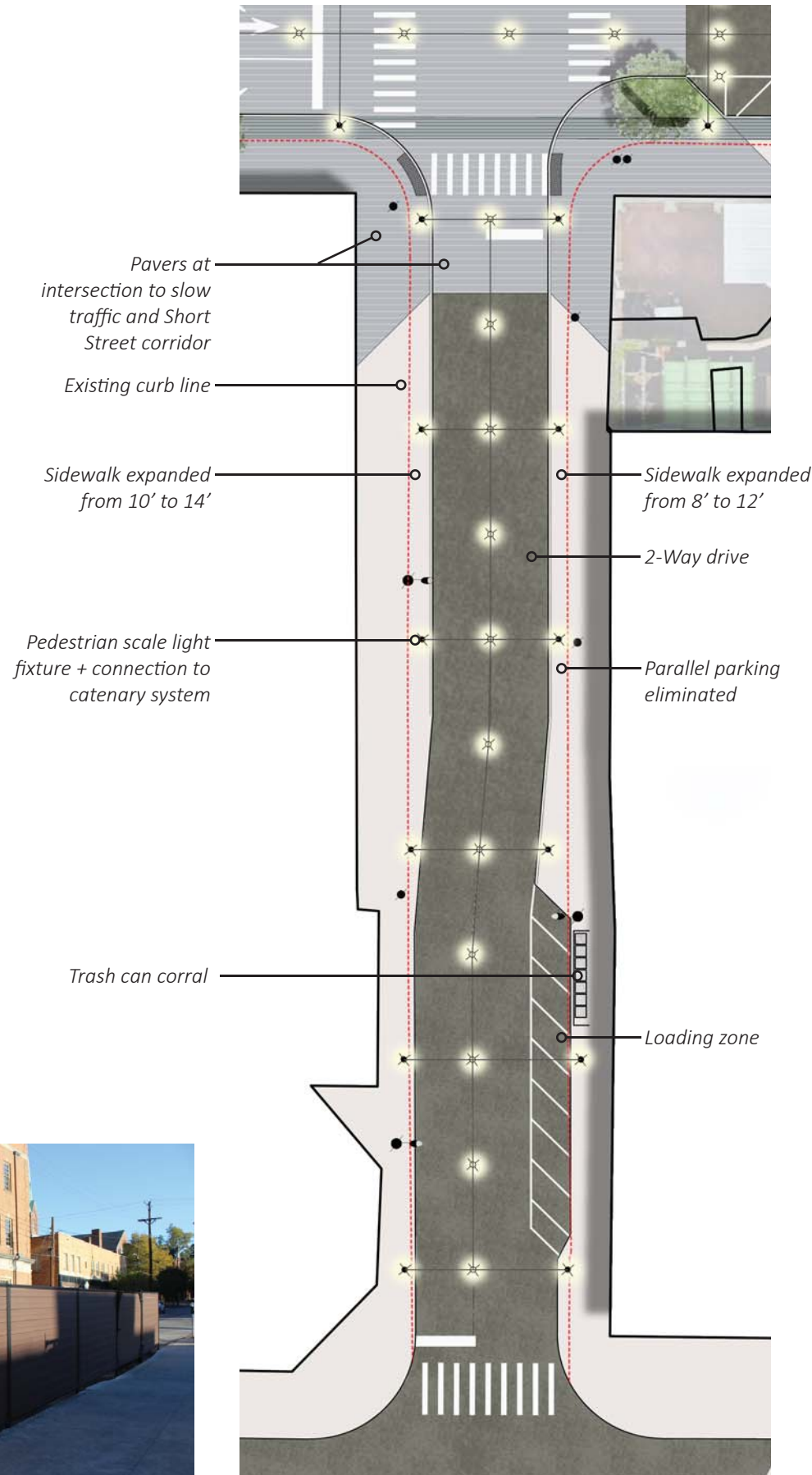


Proposed Option B:
Parking Removed / Sidewalks Widened



Existing trash can corral on Market Street

Plan Enlargement



CARMAN

Lighting Plan

Mill Street has a charming character which warrants unique lighting treatment. The plan shows an initial, single catenary spine system. But the intent is to install a system that can also support varying installations that change occasionally, similarly to an artistic exhibit, thus creating a dynamic space that becomes more appealing to pedestrians.



Temporary light installation examples

Pedestrian-scaled light fixtures that also support catenary system

Catenary lights shown as single spine system



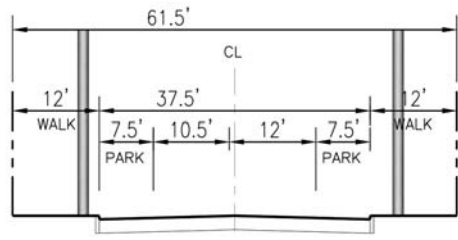
5. SUPPLEMENTAL MATERIALS

Mobility Scenarios

The information included within the Supplemental Material section has been included to demonstrate the extent to which various solutions were explored for the Short Street corridor. Other configurations may be available, but the most practical applications explored have been included on the following pages.

Mobility along Short Street was evaluated to include movement patterns required by pedestrians, cyclists, through-vehicular traffic, services vehicles, and vehicular parking. The integration of all mobility options was tested in various scenarios through cross-sectional studies that could be used as a template for the corridor between Broadway and Limestone. These multiple options were developed in conjunction with a broad geometric test prior to creating refined alternates.

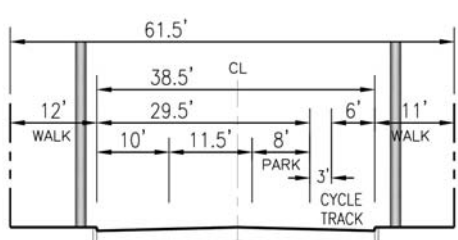
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2 DRIVE LANES, PARALLEL PARKING BOTH SIDES & WIDEN SIDEWALKS

- Maintains existing conditions, but widens pedestrian zone along both North and South sides.
- Offers flexibility for potential to adjust dimensions and provide a wider pedestrian zone where desired (i.e. bulb-outs near intersection, adjacent restaurants offering outdoor dining / entertainment)
- The existing pedestrian zone along the North side of Short Street between Broadway and Mill is already 12' and would not increase in width.

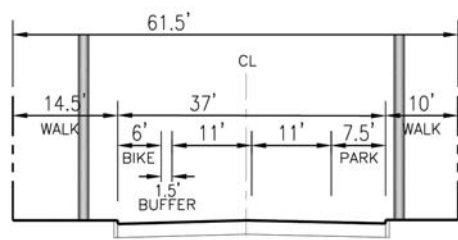
2A



2 DRIVE LANES, PARALLEL PARKING ON SOUTH SIDE & PROTECTED CYCLE TRACK

- May present clearance issues along cycle track with location of existing utility poles - cycle track can be reduced to 5' min.
- Minimum widths per NACTO:
 - Combined parking and striped buffer = 11'
 - Desired minimum bike = 5' (7' preferred)
 - Desired minimum buffer = 3'
- *Various buffer options available (tubular markers, planters, raised curb etc.

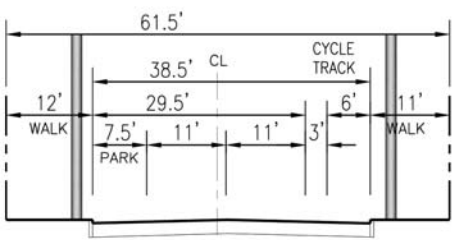
3A



2 DRIVE LANES, PARALLEL PARKING ON ONE SIDE & BUFFERED LEFT-SIDE BIKE LANE

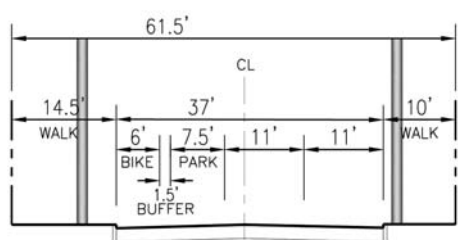
- Maintain existing curb line along South side of Short St.
- Left-side bike lane avoids potential right-side lane conflicts
- Improved bicyclist visibility by motorists having the bike lane on the drivers side
- Minimizes door zone conflicts

2B



2 DRIVE LANES, PARALLEL PARKING ON NORTH SIDE & PROTECTED CYCLE TRACK

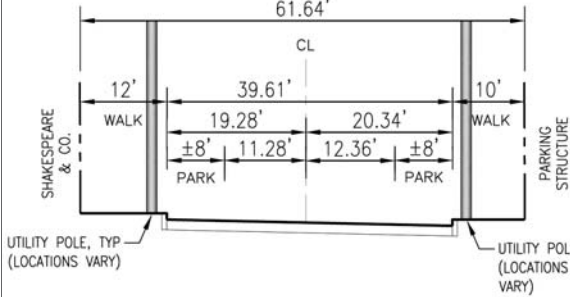
3B



2 DRIVE LANES & BUFFERED LEFT-SIDE BIKE LANE ADJACENT PARALLEL PARKING

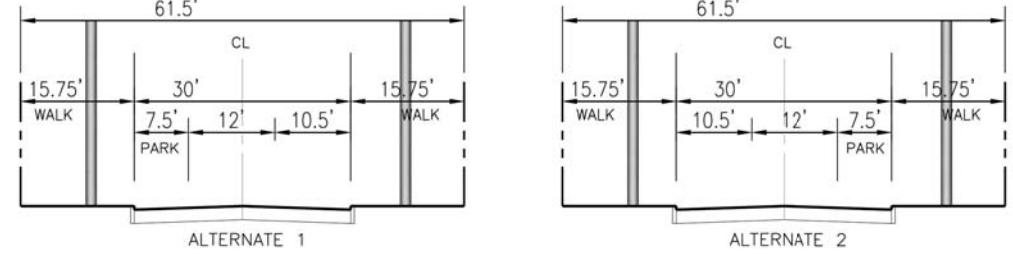
Cross Sectional Options

E



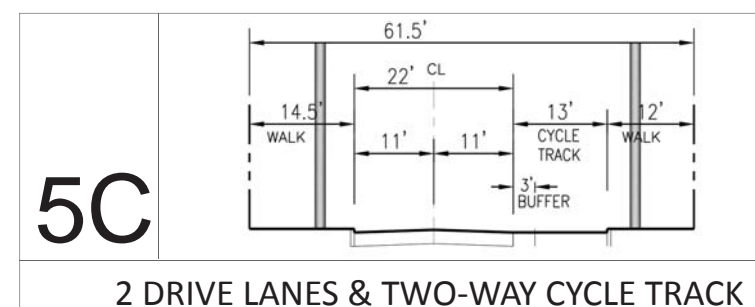
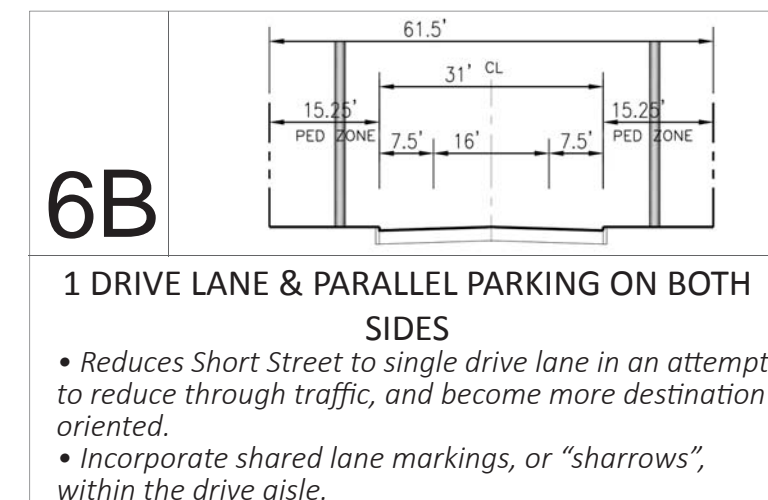
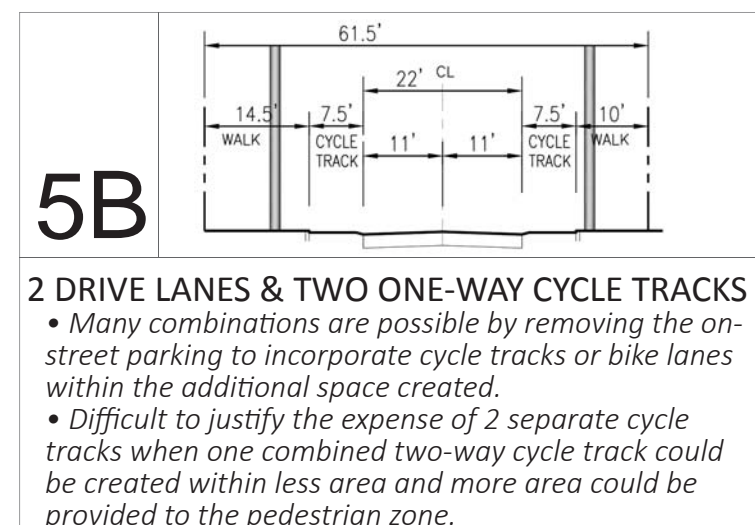
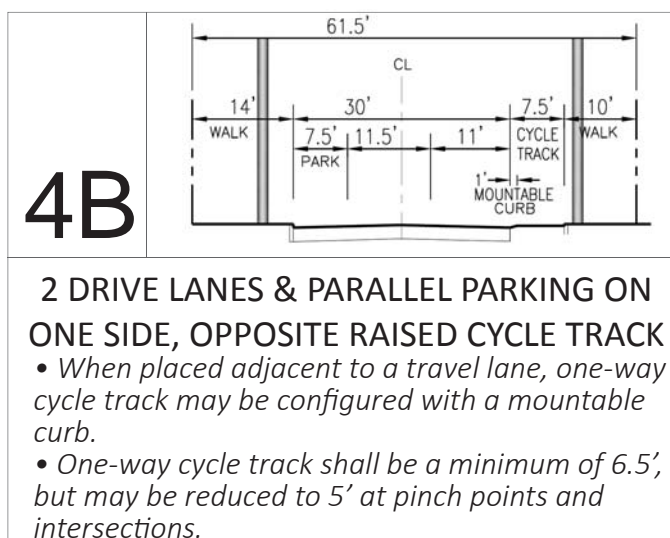
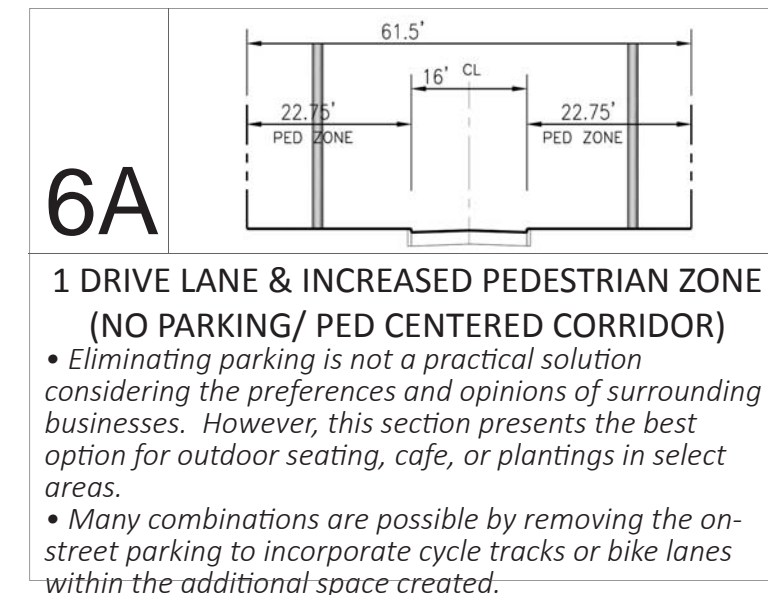
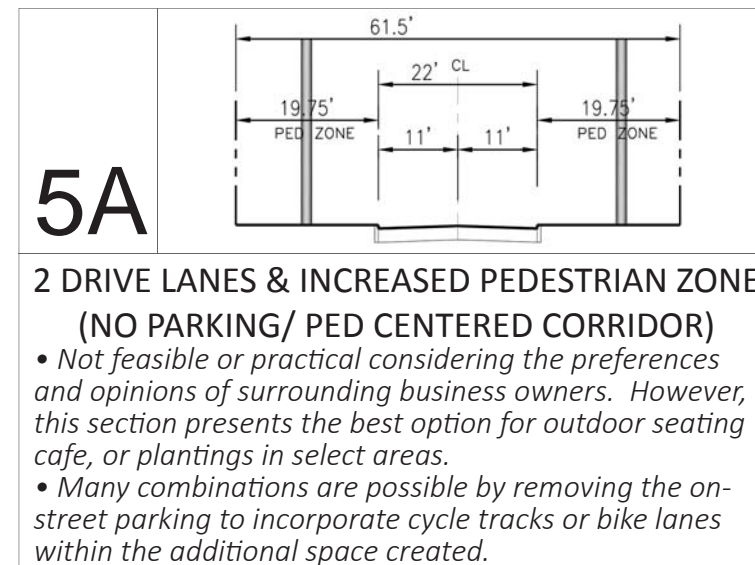
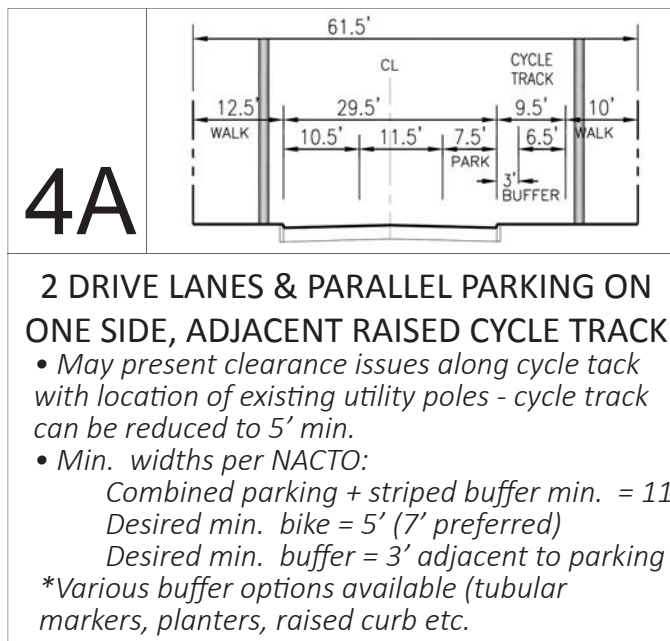
EXISTING SHORT STREET CONDITIONS

2C



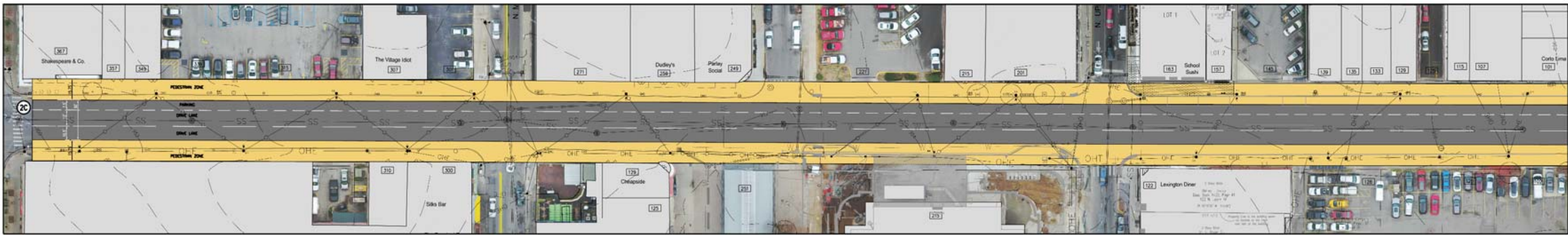
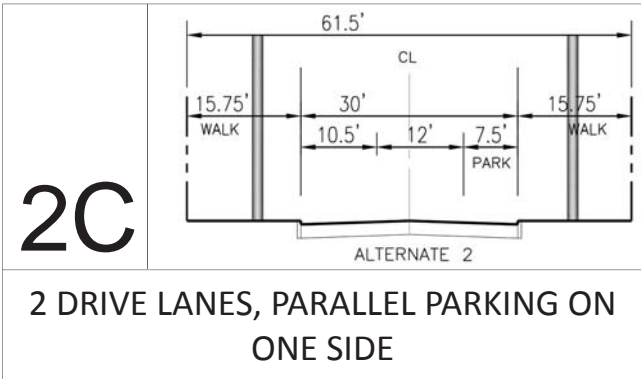
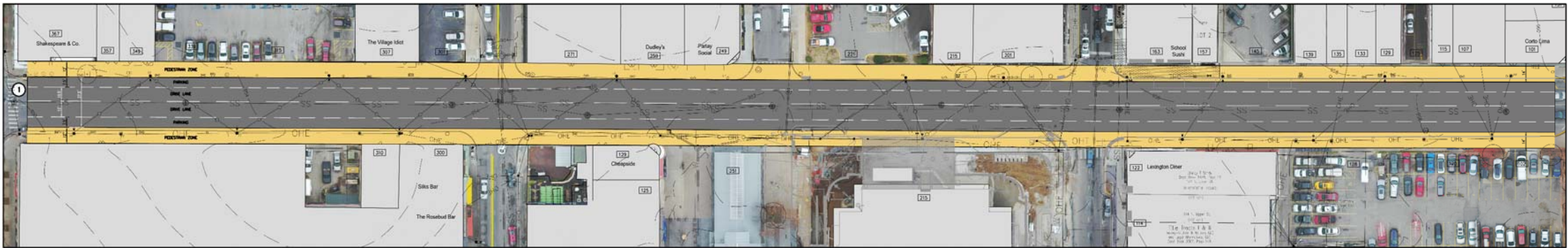
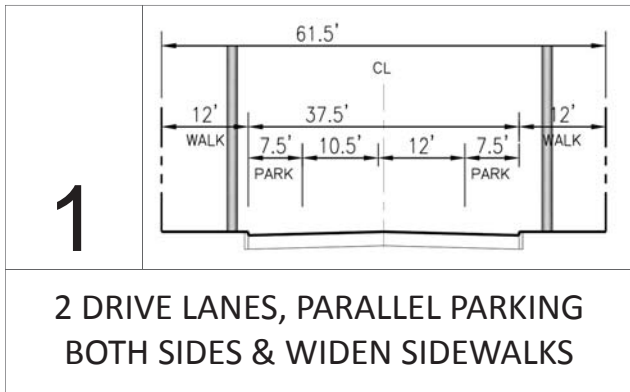
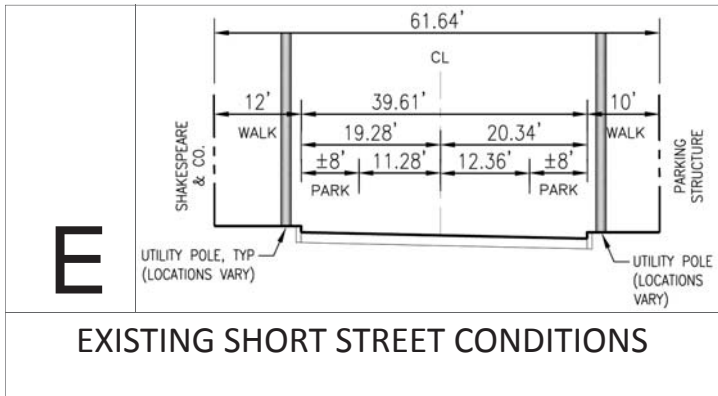
2 DRIVE LANES, PARALLEL PARKING ON ONE SIDE

- Maintains 2 lanes of traffic, but eliminates parking from one side to increase pedestrian zone. Wider drive land is located adjacent the on-street parking to allow for doors opening from parked vehicles.

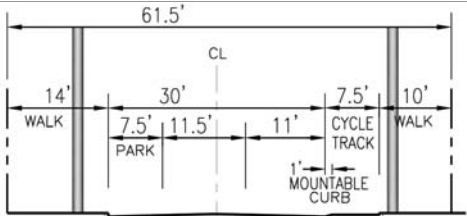


Street Plan Tests

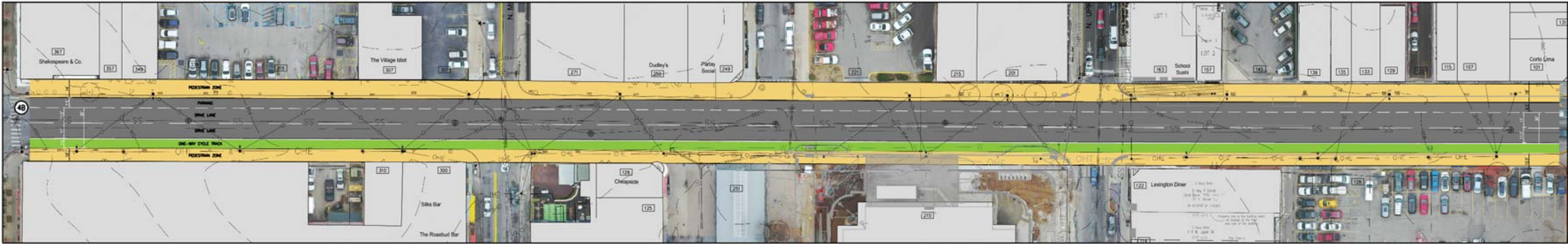
Various studies of preferred cross-sectional options were projected along the extent of the Short Street corridor in order to reveal both opportunities and constraints. The plan tests became valuable tools that allowed the quick assessment of existing parking conditions, access requirements, and impacts to parking counts with each scenario.



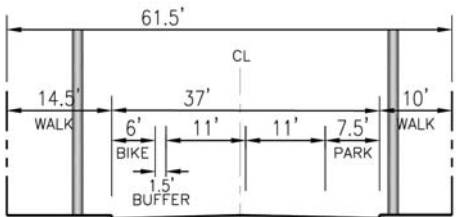
4B



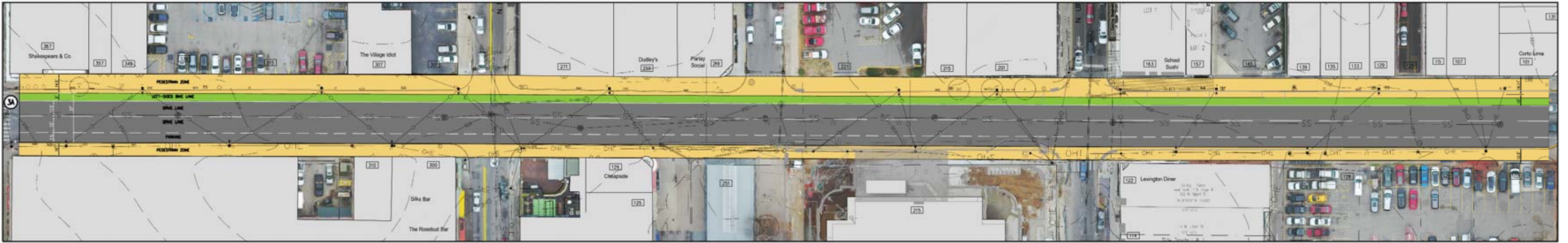
2 DRIVE LANES & PARALLEL PARKING ON ONE SIDE, OPPOSITE RAISED CYCLE TRACK



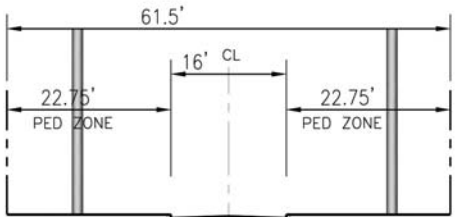
3A



2 DRIVE LANES, PARALLEL PARKING ON ONE SIDE & BUFFERED LEFT-SIDE BIKE LANE



6A



1 DRIVE LANE & INCREASED PEDESTRIAN ZONE (NO PARKING/ PED CENTERED CORRIDOR)

