

Old Woodward Ave & W Maple Road

Streetscape Design

Compendium | February 2, 2017



PARSONS

MKSK

Overview

The City of Birmingham hired a professional design consulting team, led by MKSK to undertake the creation of a new downtown streetscape plan. This streetscape project includes the public right-of-way along Old Woodward from Oakland south to Woodward Ave. and East Maple Road extending east and west from Old Woodward. This project is a continuation of several other city plans included the Multi-Modal Plan, Alleys and Passageways Plan, Downtown 2020 Plan and others. This project built upon the extensive input from the public, stakeholders and officials of those plans. Specific to this project, a series of meetings were held with the public, business group (the Principal Shopping District), the city's Multi-Modal Board, and the City Commission (with additional opportunity for public input). The process also included several working meetings with City staff to review the original engineering plans and alternatives. Through that process, a series of broad alternatives were

explored and evaluated based on the project goals. The general consensus was that the original plans would work well for vehicles traveling along the street, and maintained the amount of on-street parking but did little toward meeting plan goals for pedestrians and economic vitality. The recommended design was thus built upon a blend of technical urban design and engineering with community engagement.

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Project Background

Process

The process kicked off with a study area tour with the design team followed by a meeting with City Staff to align on processes and set deadlines. This meeting worked to set the pace for the project in terms of expectations, understand the goals, as well as design direction. The tour worked to photo document areas of concern and areas to aspire to. Items identified as high priority were parking, sidewalk widths, crossing distances, lane widths, plantings and street furniture.

Public Engagement Snapshot	Date	Attendees
KICK-OFF MEETING	October 11, 2016	Design team and City staff
MEETING 2	October 26, 2016	Design team, City staff, committee members
PUBLIC OPEN HOUSE	November 7, 2016	Design team, City Staff, Public
PRINCIPAL SHOPPING DISTRICT	November 15, 2016	Design Team, City Staff, Principal Shopping District Committee
CITY COMMISSION MEETING	November 21, 2016	Design Team, City commission, City staff, Public
MULTI-MODAL BOARD	November 21, 2016	Multi-Modal Board, Design Team, City Staff

Project Goals

- » To create a better environment for all patrons within Downtown Birmingham
 - > Pedestrians
 - > Cyclists
 - > Transit users
 - > Automobiles and trucks
- » To maximize the sidewalk design to allow for a more flexible and creative use of public space
- » To maintain and enhance parking, all modes of traffic flow and street safety
- » To create a space conducive of doing business for retailers, restaurants, service providers and employment offices
- » Safety for all users



- » Phase I
 - > Old Woodward Ave from Oakland Ave to Brown Street
 - > Maple Road at intersection with Old Woodward Ave
- » Phase II
 - > E Maple Road from Woodward Ave to Old Woodward Ave
 - > W Maple Road from Pierce Street to Chester Street
- » Phase III
 - > Old Woodward Ave from Brown Street to Woodward Ave



Project Considerations

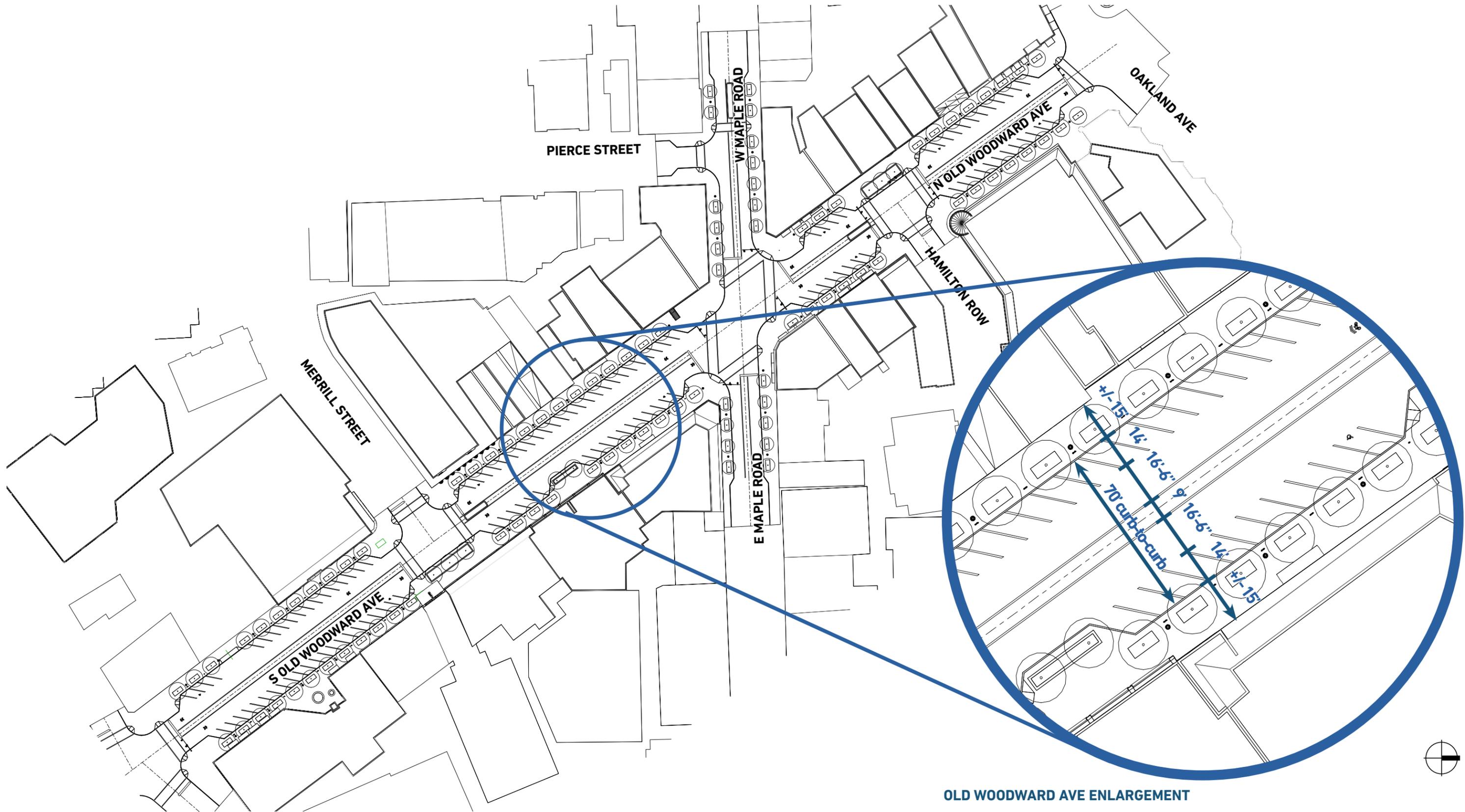
- » As discussed with City Staff at the project kick-off meeting the following are considered critical issues to be addressed for Downtown Birmingham.
 - > Safety of all users
 - > Parking
 - > Dated aesthetics and pedestrian amenities
 - > Limited use of sidewalks due to space constrains
- » Lack of public / green space
- » Lack of lighting
- » Lack of bicycle facilities
- » Multi-modal, City Commission and public comments subsequent suggest following issues be considered:
 - > Improve parking
 - > Consider mid-block crossings
 - > Use standard materials judiciously



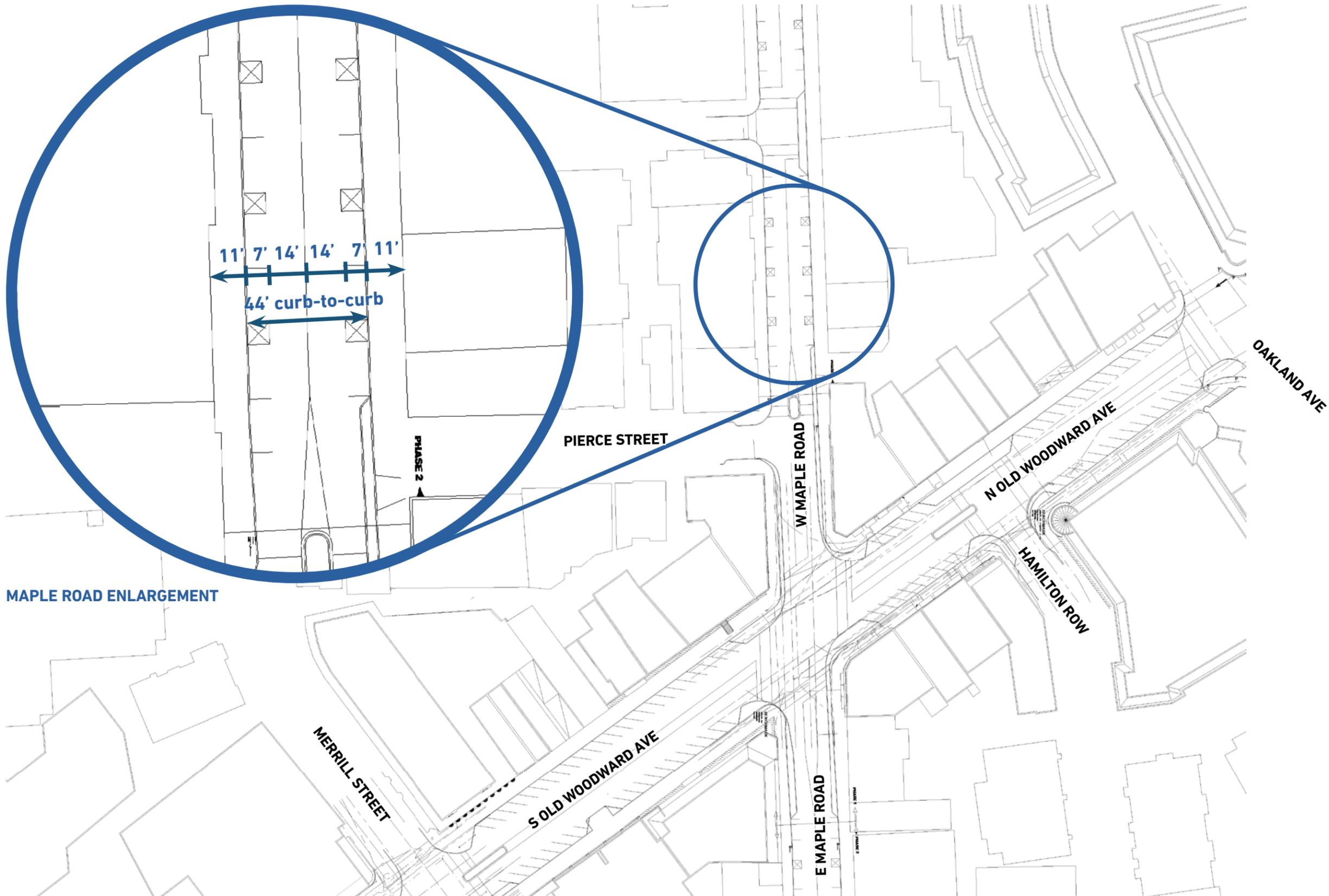
Street Section Studies

Process

A concept review meeting was held with city staff to explore some of the initial findings and vet design ideas. Design team studied multiple cross sections for Old Woodward along with preliminary material recommendations. In addition, a number of examples from other communities were shared to provide case studies on the types of parking, dimensions, streetscape elements and results. In addition to city engineering and planning staff, representatives of the police department and public works provided their thoughts on safety, enforcement, plant selection, snow removal, and maintenance. A general design direction was agreed upon, in particular to switch the head-in angled parking to back-in. This change was noted for several reasons, all related to safety (less crash potential, much safer for bikes with the city's plans for bike sharrows on Old Woodward, less impact on traffic flow, etc.). Thereafter the team did additional research on dimensions for back-in or reverse angle parking.



OLD WOODWARD AVE ENLARGEMENT



MAPLE ROAD ENLARGEMENT

Recommended Street Section

Process

The Design Team continued to modify the concepts based on feedback and presented them to the public in an open house format. Generally, the concepts received favorable feedback with some questions regarding the recommended back-in angle parking and the cost of the enhanced materials. With explanation of the safety benefits and traffic flow of back-in angle parking, most attendees came out in support of the recommendation.

The next step in the process was to bring the recommended alternative to the Multi-Modal Board, who endorsed the back-in angled parking. But there was a strong minority dissenting opinion that had concerns that the plan was too auto- and parking-centric and preferred wider sidewalks even if it meant fewer on-street parking spaces.

That same day the Design team presented the recommendation to City Commission. Foremost in the discussion was the recommendation of

city staff and the Design team for back-in angled parking. This included a review of a reverse angle parking demonstration project by the police department in 2002, and the former police chief's agreement that it was a safer design. After much discussion and public comment, the City Commission directed the city staff and Design team to proceed with the design but with head-in angled parking. The Commission did see some benefit in the back-in angle parking but felt it should first be tested on side streets or the city should wait until more Michigan communities raised comfort in its use. So the city commission directed the Design team to redesign the project so that it could later be redesigned with back-in angled parking.

The city commission also provided some input on the desire for wider sidewalks, wider functional pedestrian zones, support for flush curbs at the Maple/Woodward intersection, and various streetscape elements. City staff had provided some very general preliminary cost comparisons. After some debate, the direction was to have a center turn lane where needed, with a preference for distinct materials along Old Woodward near Maple, with medians at the south end where practical. There were some concerns with the cost of the enhanced materials and its value added. The Design team was directed to come back

Recommended Street Section

with an explanation of priorities and costs. Commissioners also requested additional mid-block crossings be added to aid in connections of alley passages across the streets

The design team was asked to rework the plan to accommodate some of the Commission suggestions. In the end a 65' cross section with a continuous left turn lane, head-in angled parking, flush curbs at Maple, enhanced crosswalk materials, new tree line pattern, wider sidewalks in the final Phase 1 design. Medians for phase 3 were also endorsed.

Explicit project goals, phasing, street section alternatives, design concepts, recommendations and final design agreements are all documented within.

» Street Section

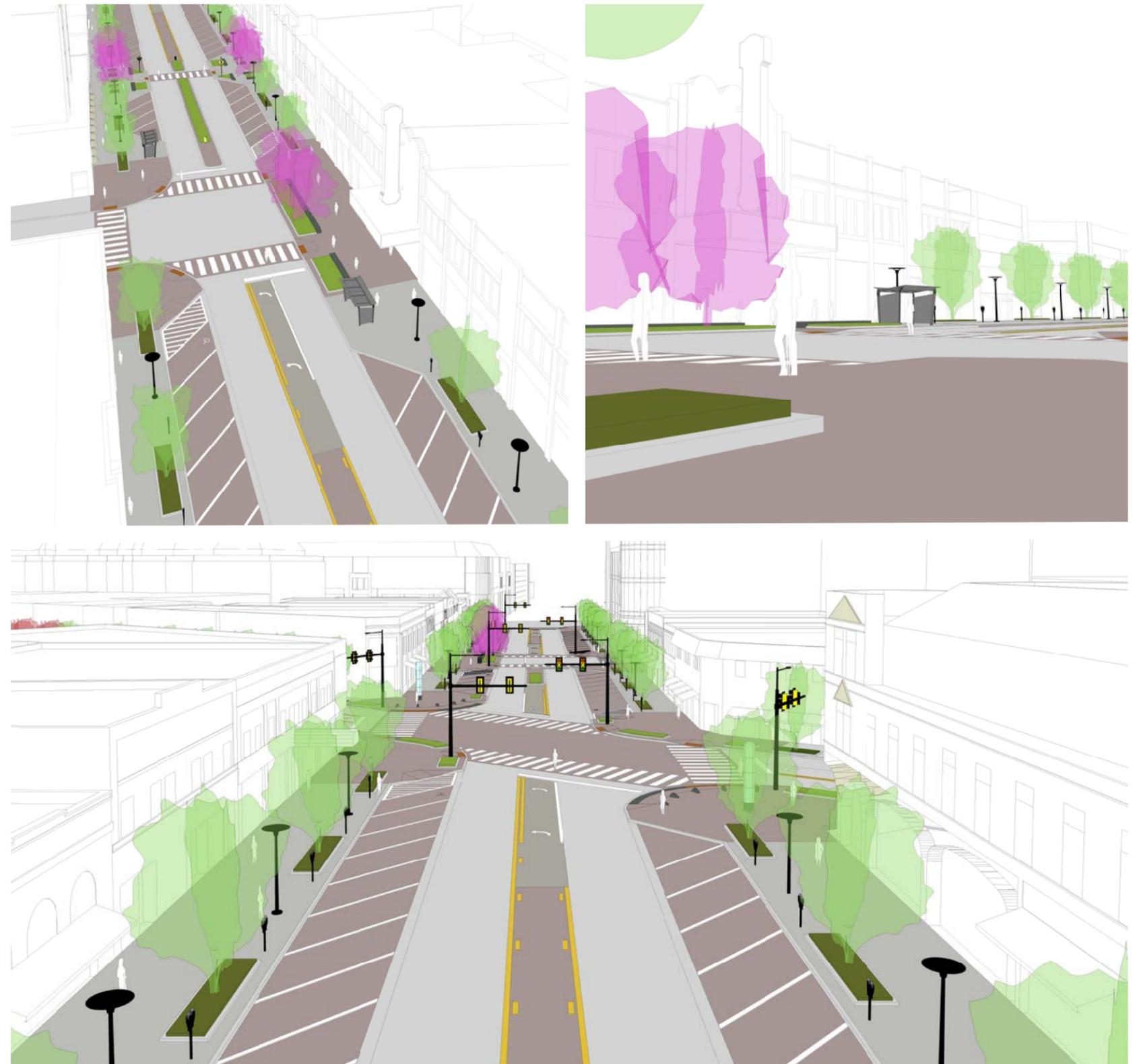
- > Old Woodward Ave - 66' Street Section
- > Maple Road - 40' Street Section
- > Crosswalk dimensions - Woodward Ave and Maple Rd @ 14' wide, all other intersections along Woodward Ave @ 12' wide and on Maple Rd @ 10' wide. All crosswalks follow the multi modal standards
- > Mid-block crossings - where needed, all mid-block crossings shall provide all protective measure by code to ensure pedestrian safety
- > Flush curbs - are only used at the Old Woodward and Maple Road intersection where acute turning movements occur

» Angle Parking Direction

- > Design team recommend: Back-in Parking @ 9'-6" wide
- > City's short term preference and direction is head in parking @ 9'-6" wide which would allow reverse angle parking in the future if needed

» Overall Street Character

- > Maple Road - "Downtown Street" maintain existing city standards
- > Old Woodward Ave - use of more durable materials to create the "Signature Street" of Birmingham

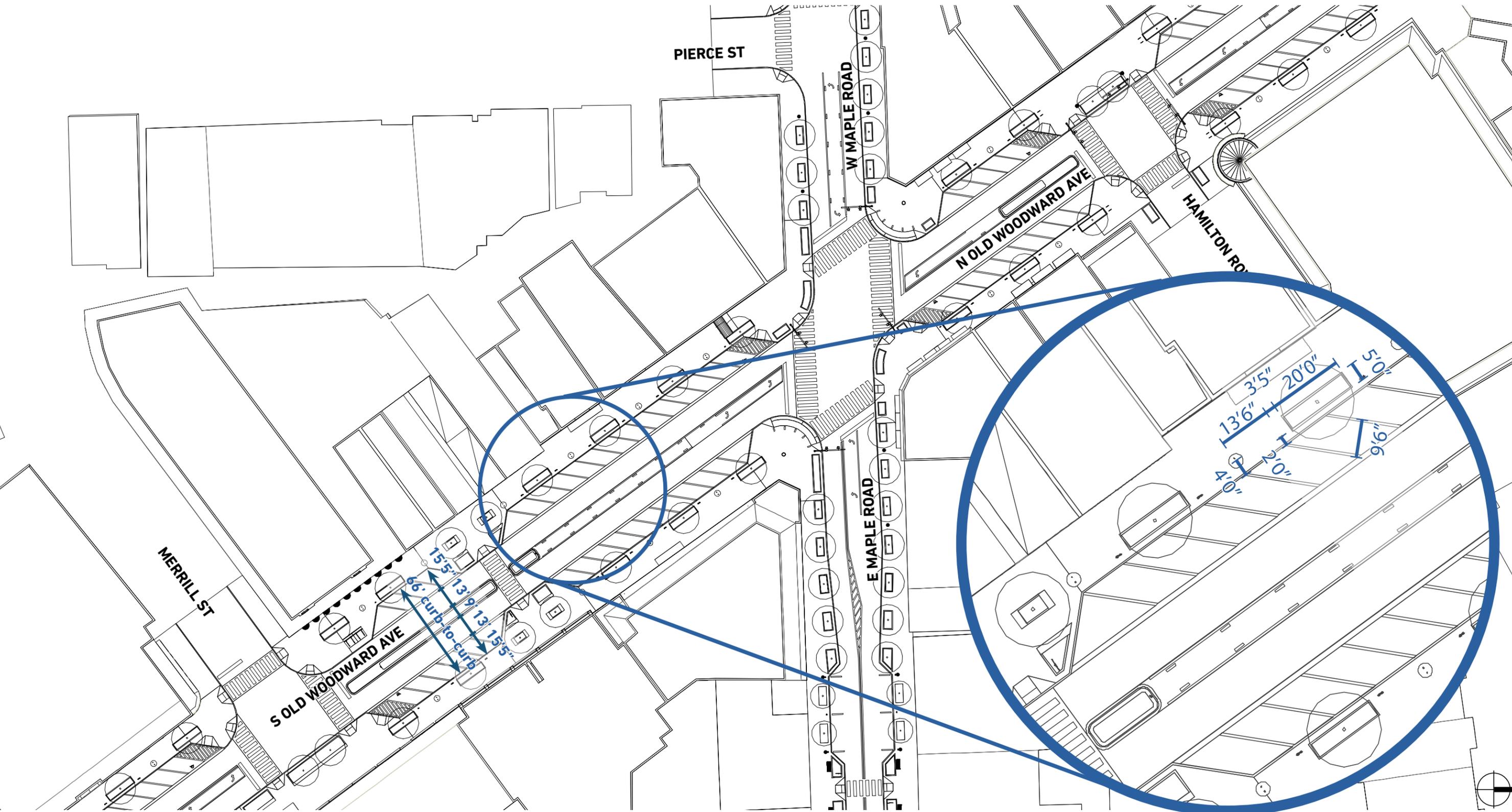


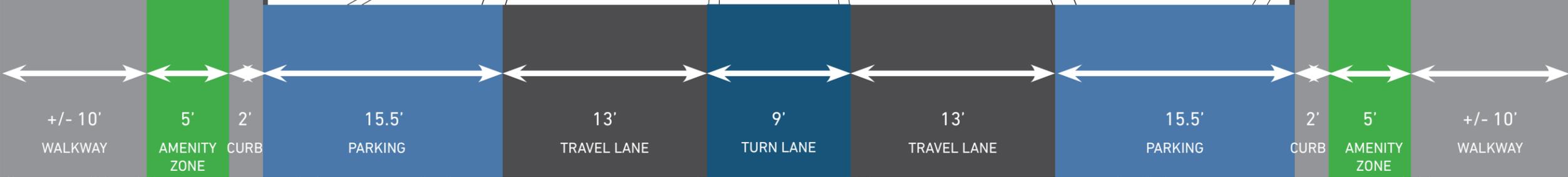
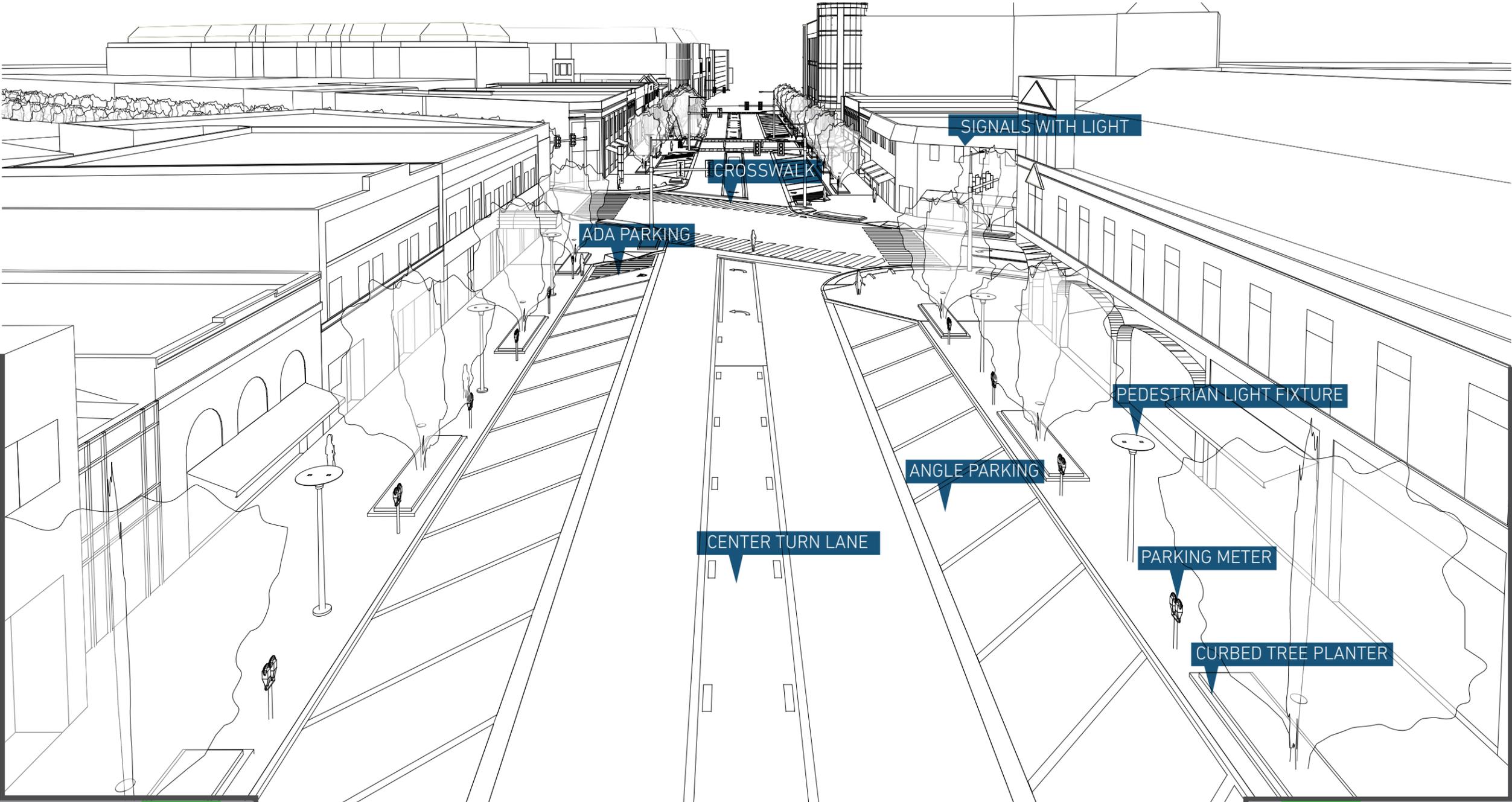
- » Phase I
 - > Old Woodward Ave from Oakland Ave to Brown Street
 - > Maple Road at intersection with Old Woodward Ave

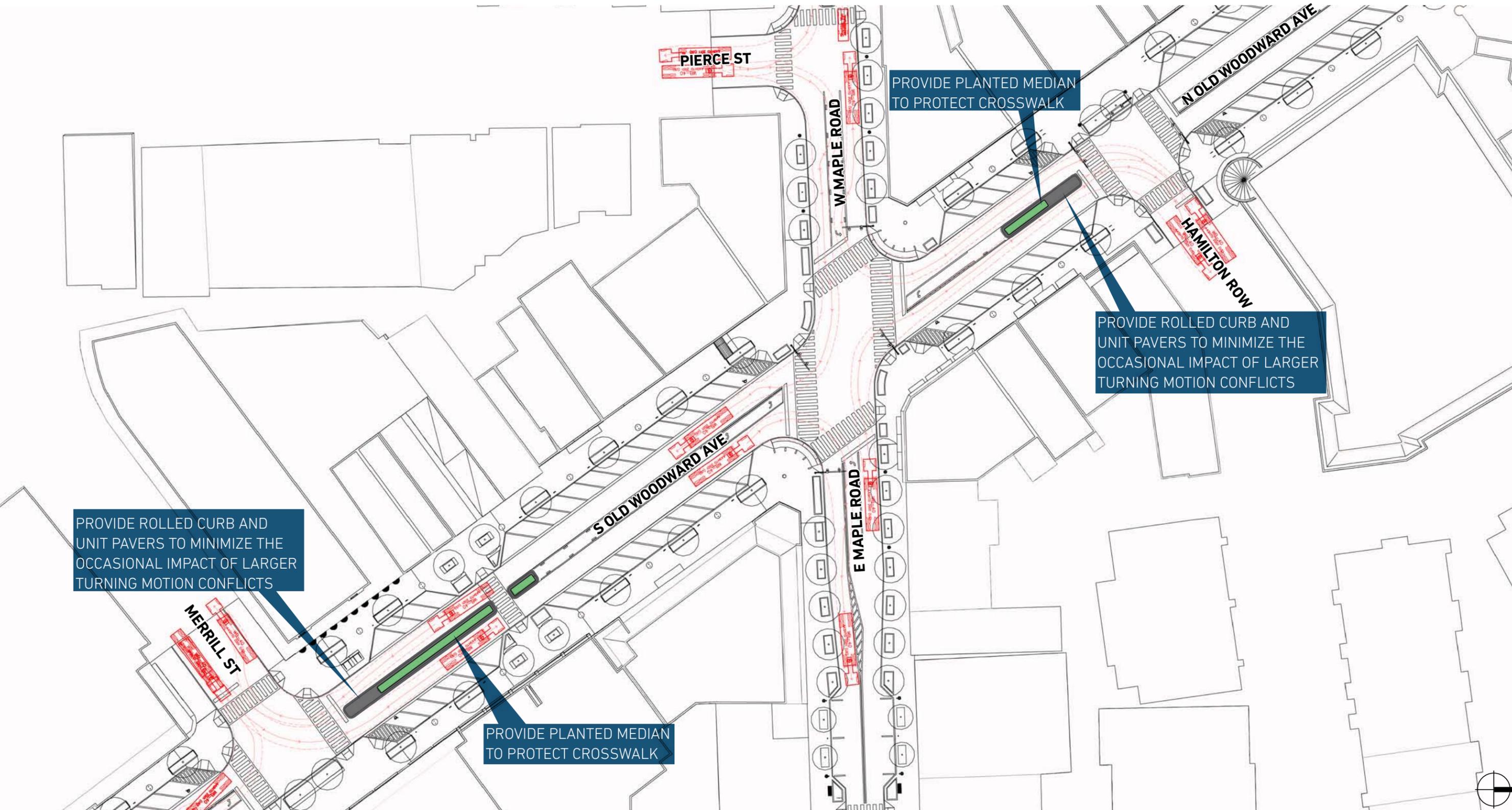
- » Phase II
 - > E Maple Road from Woodward Ave to Old Woodward Ave
 - > W Maple Road from Pierce Street to Chester Street

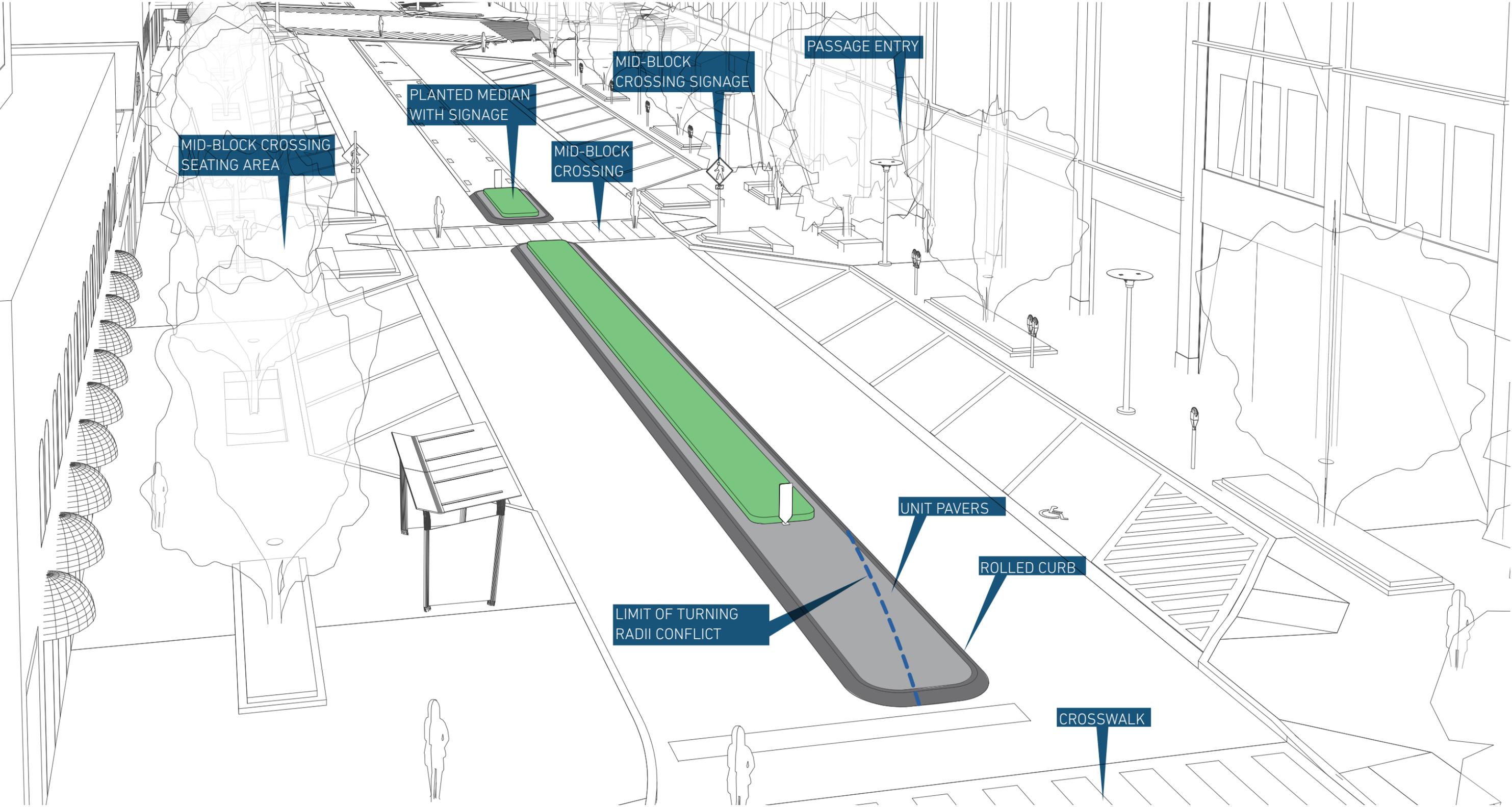
- » Phase III
 - > Old Woodward Ave from Brown Street to Woodward Ave

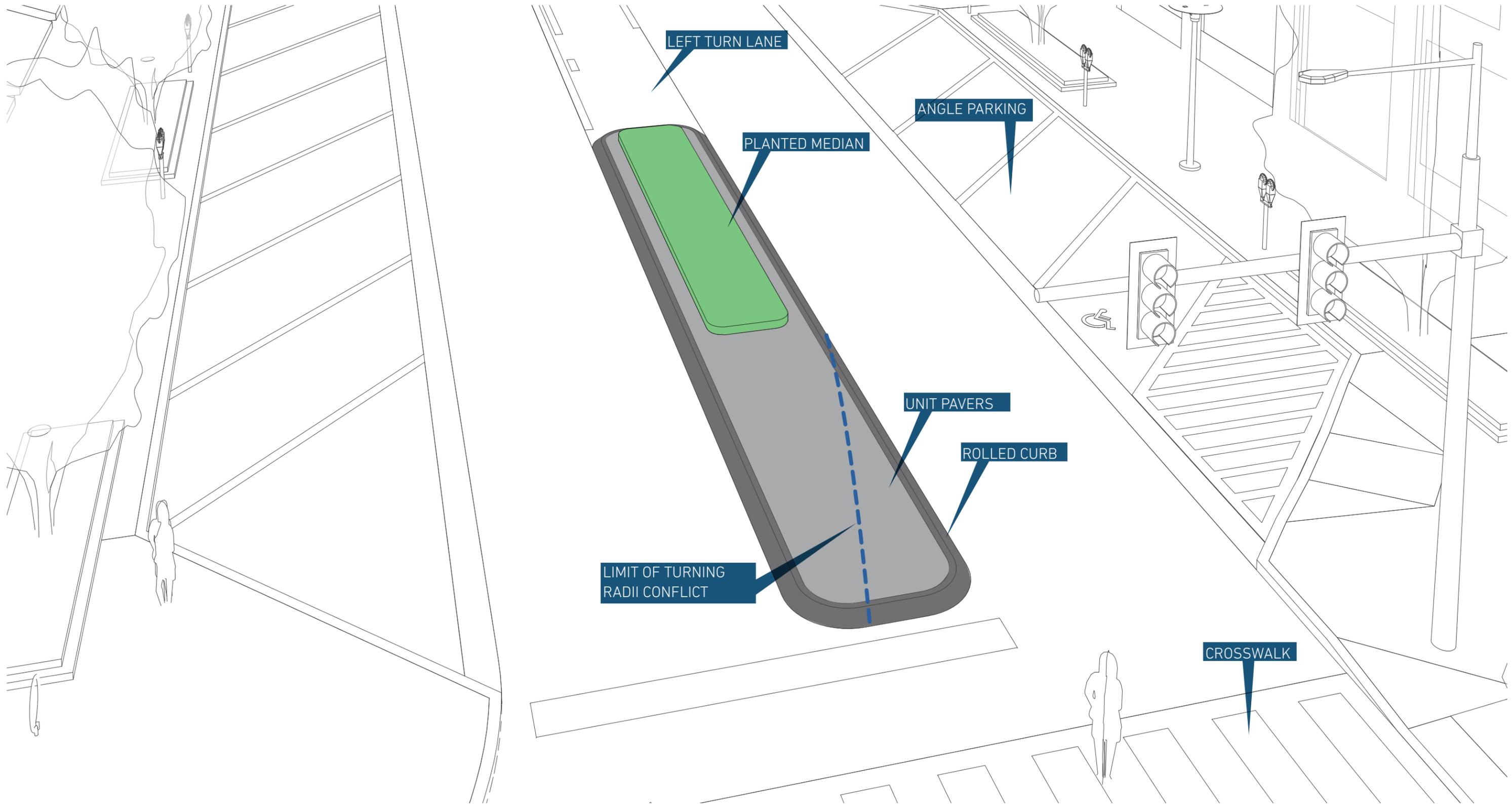




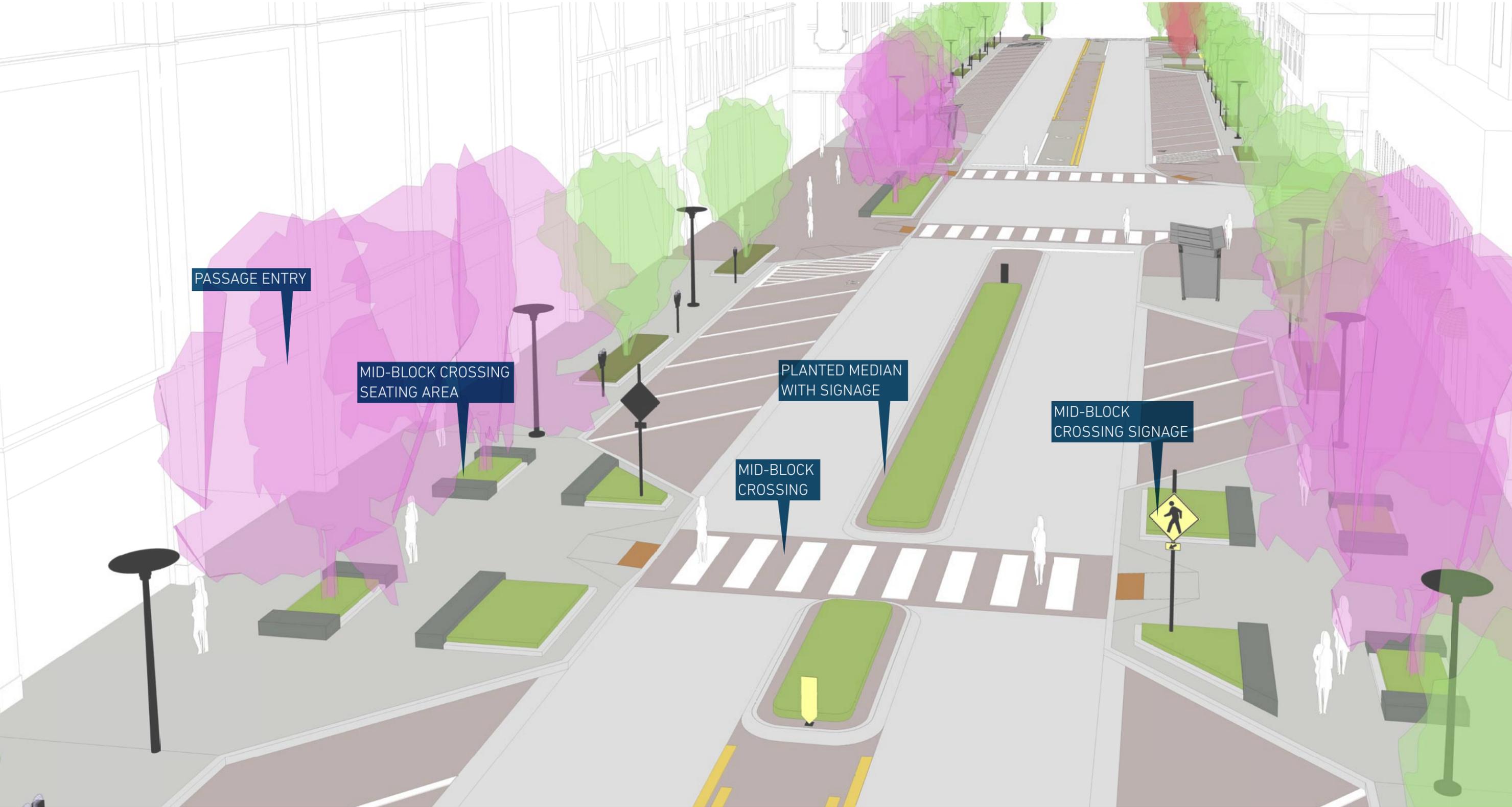


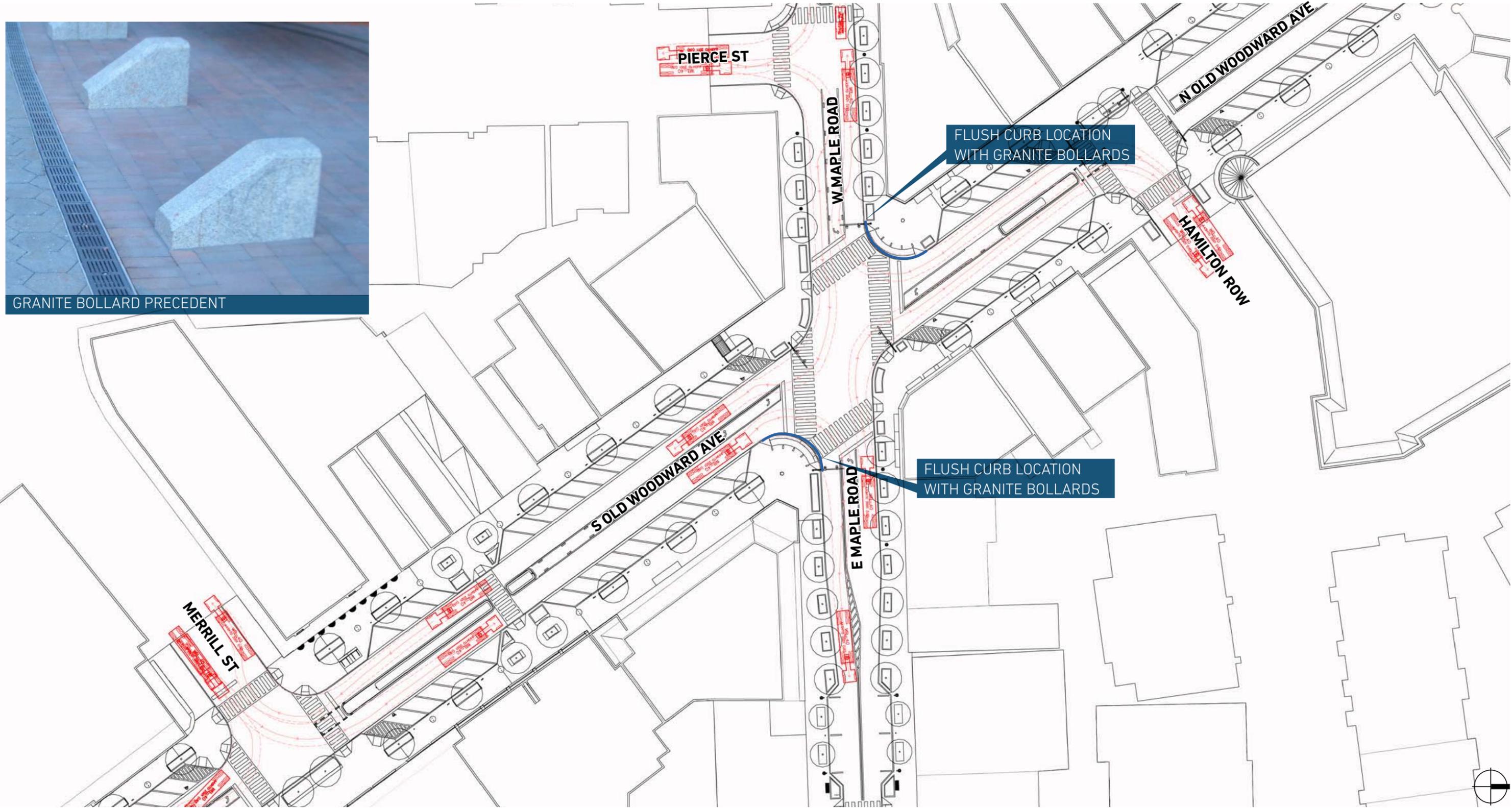


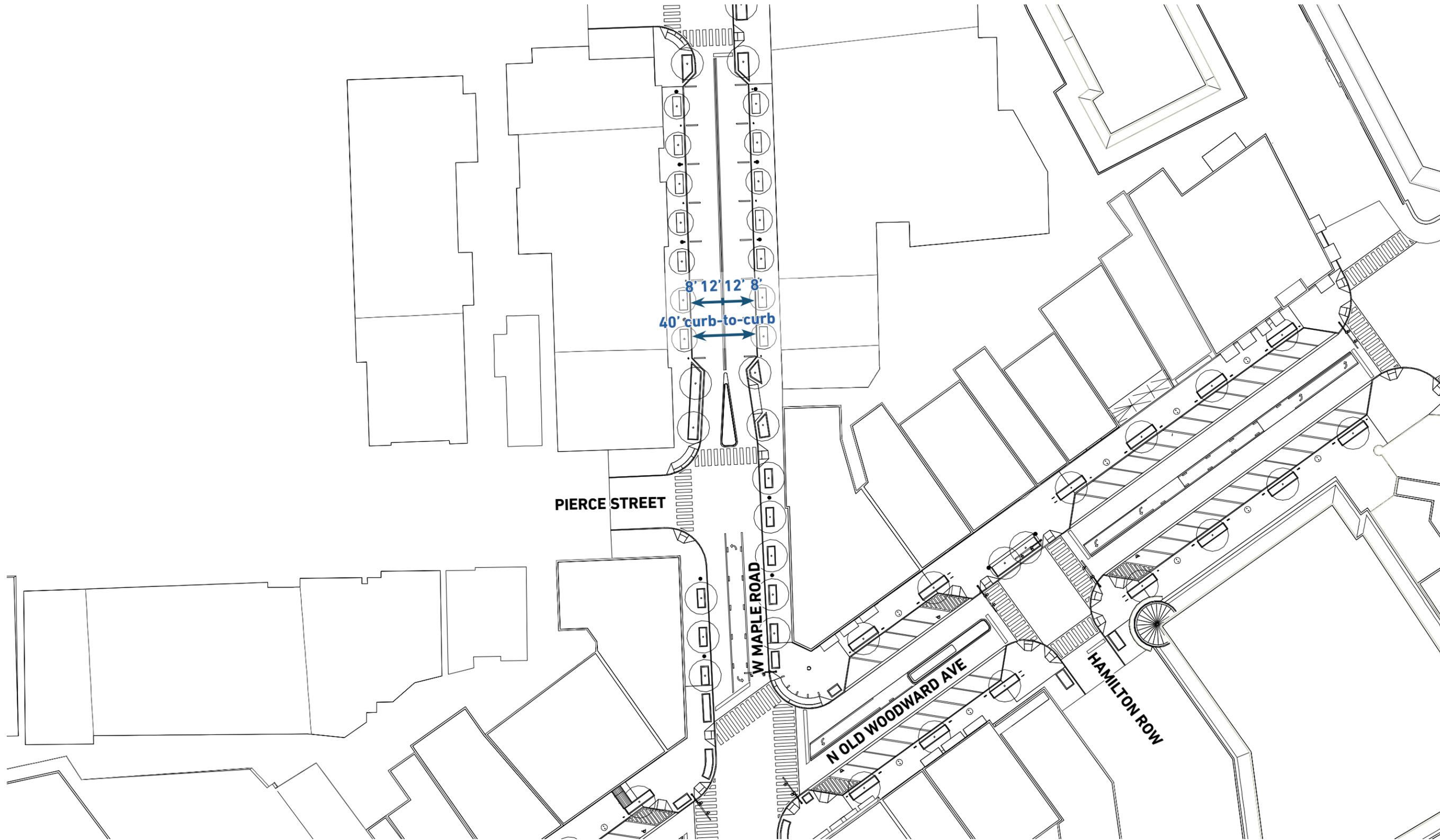


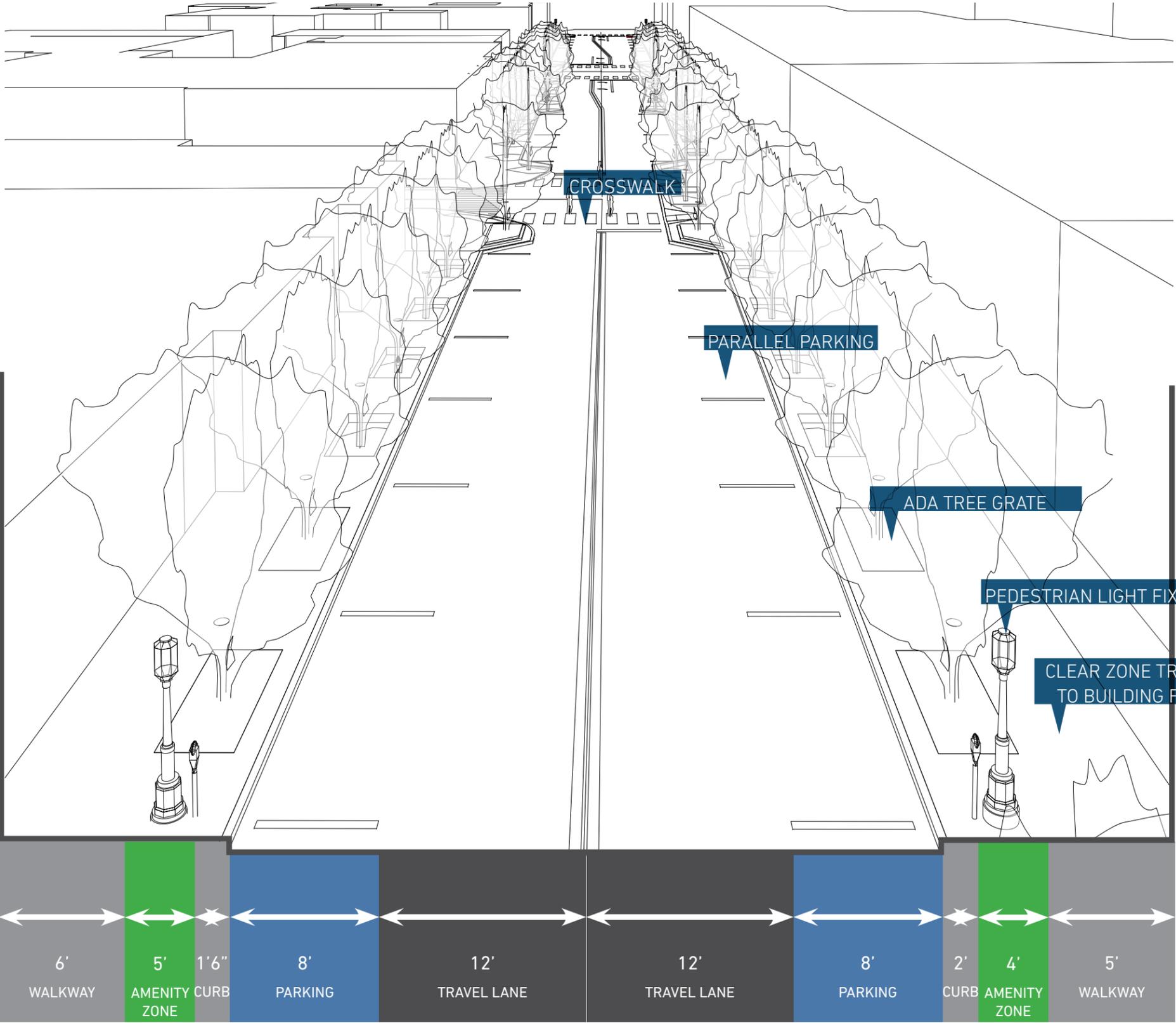




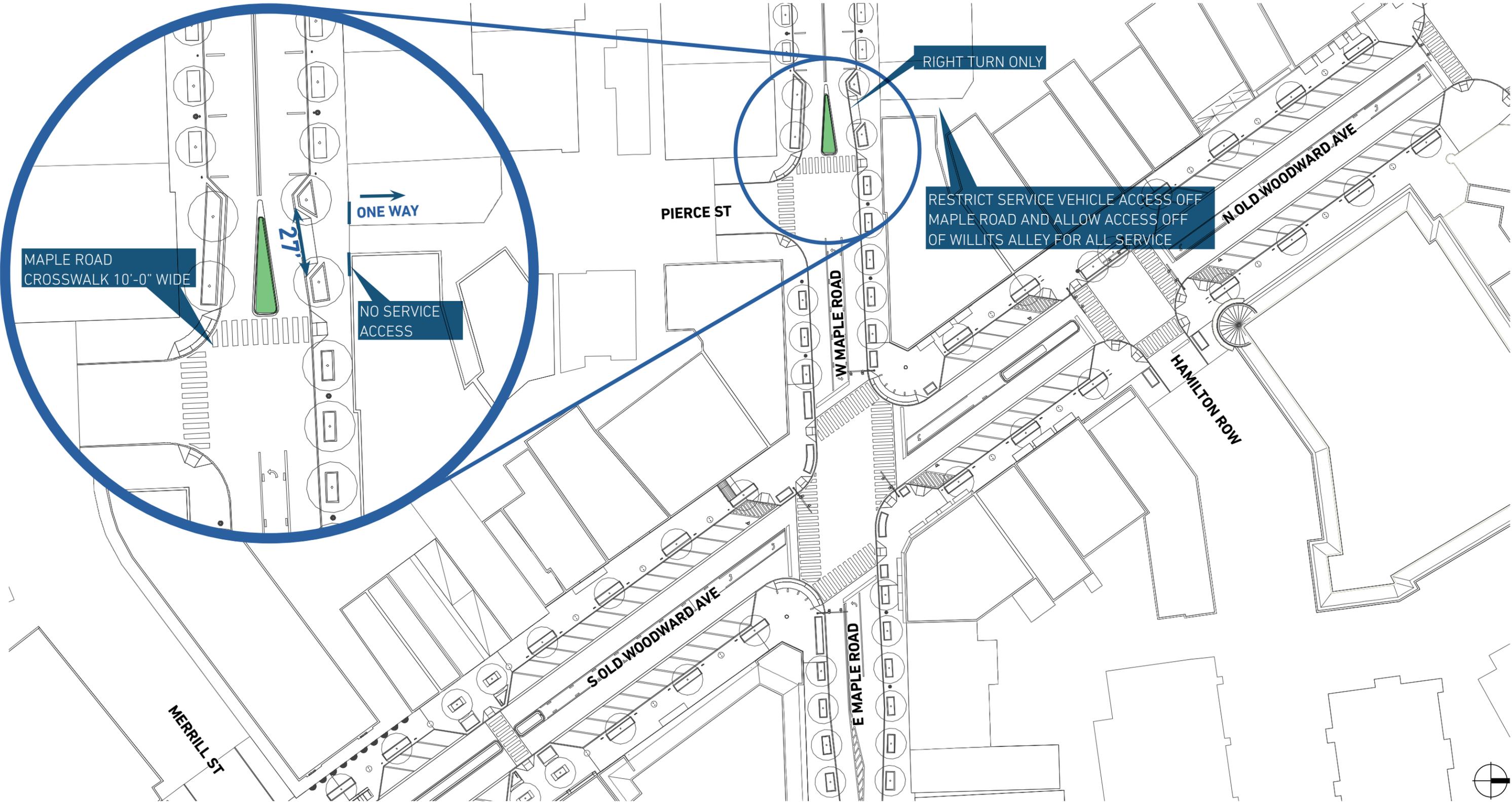


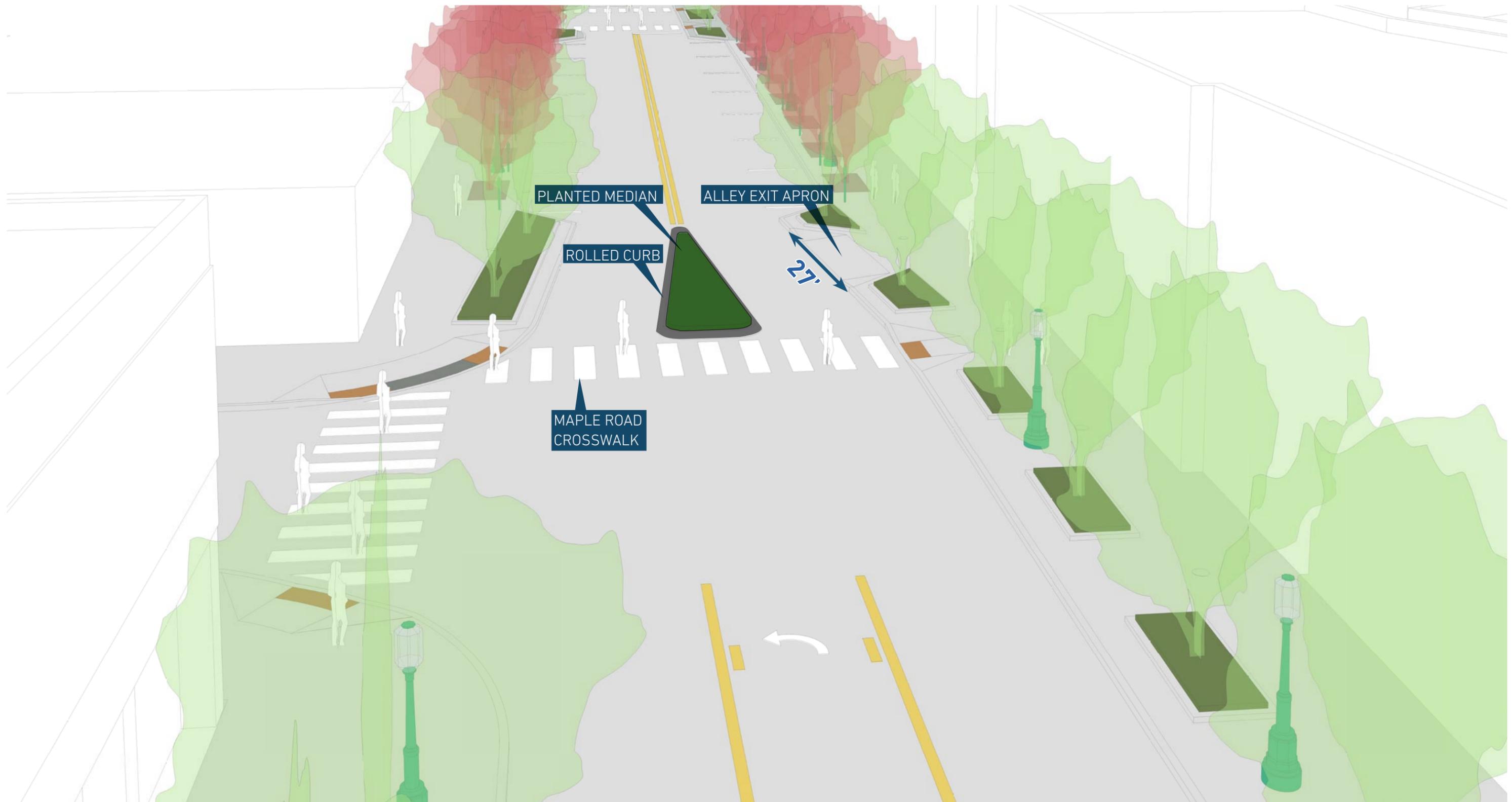


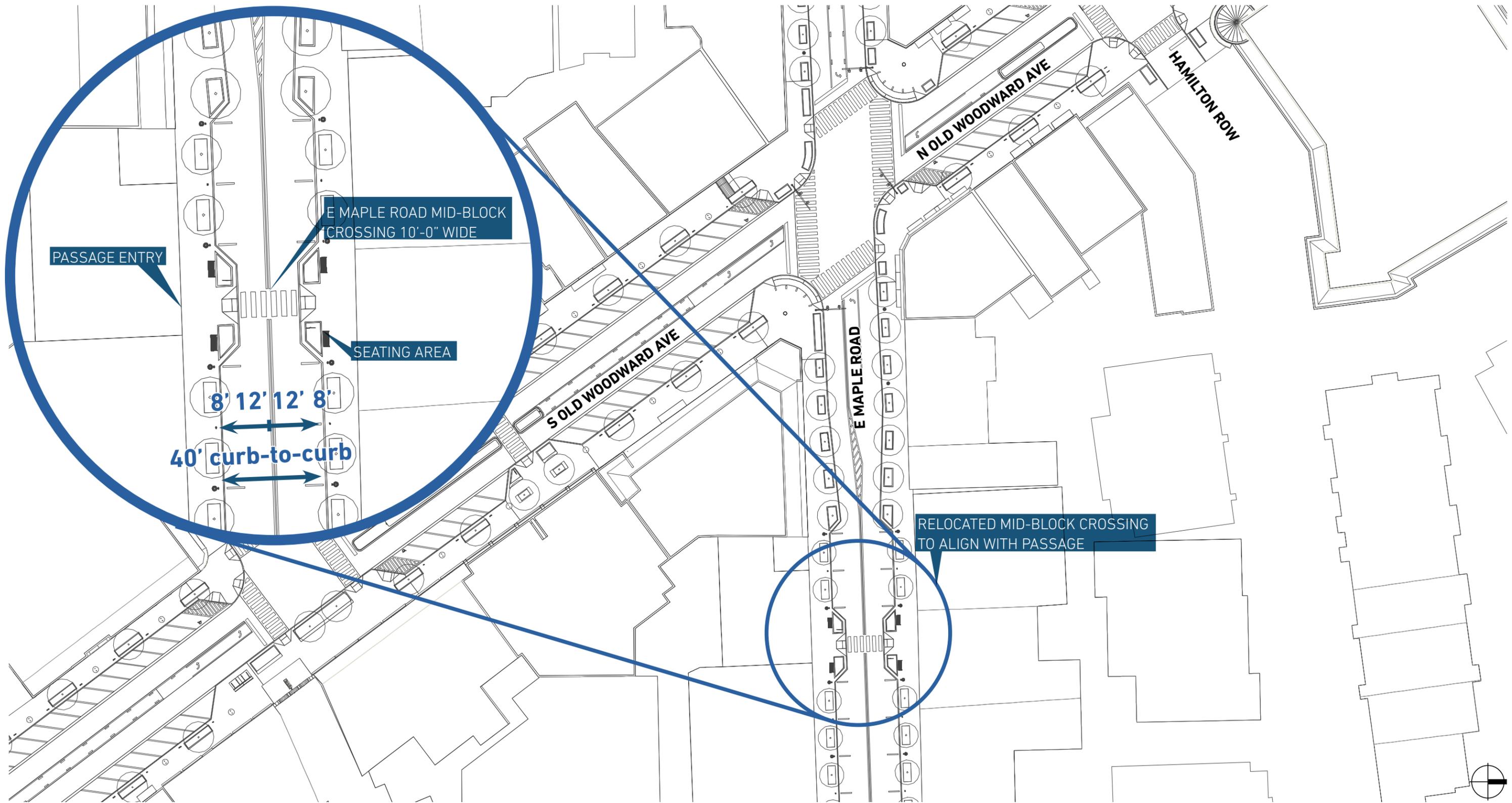


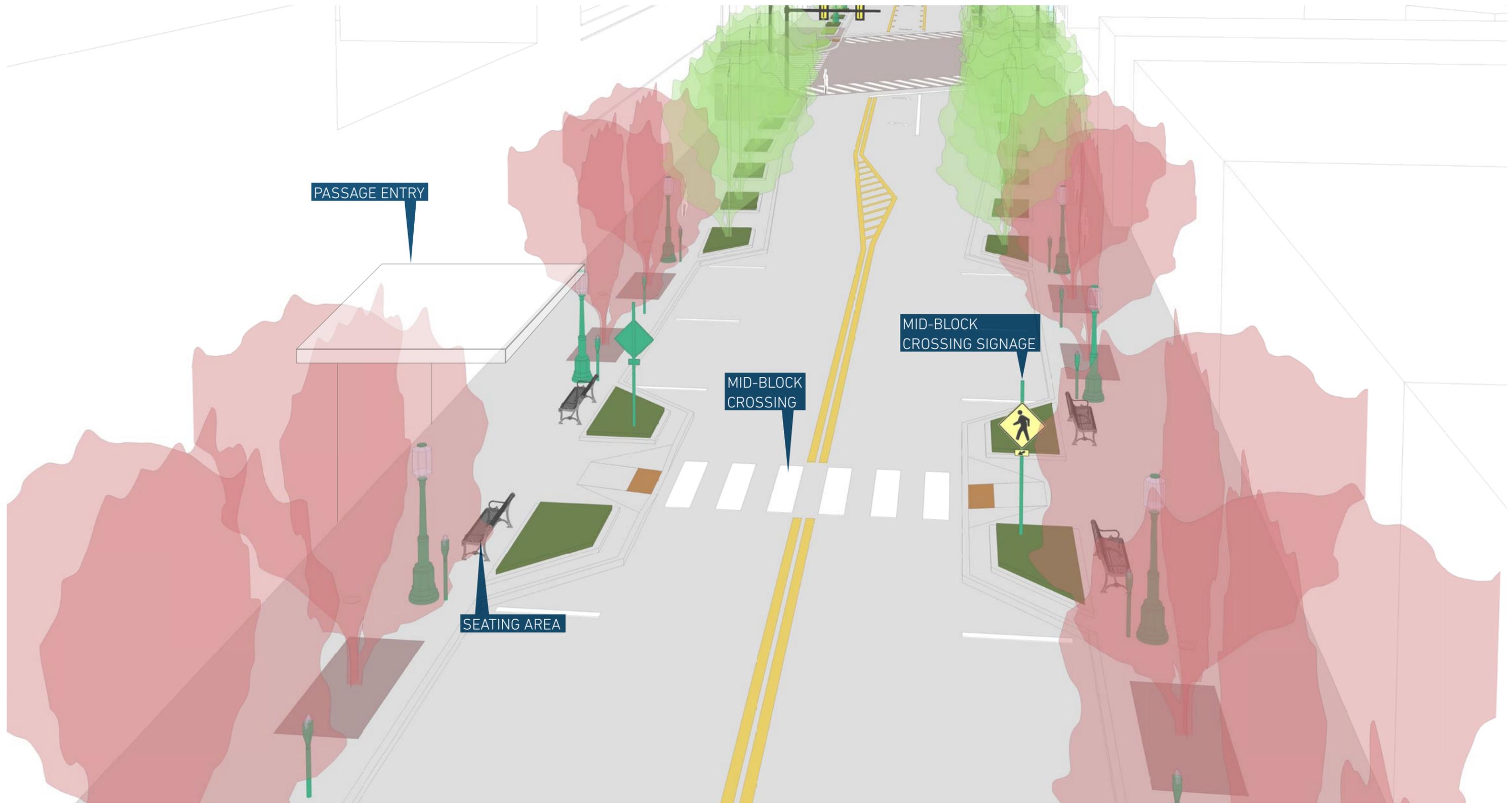


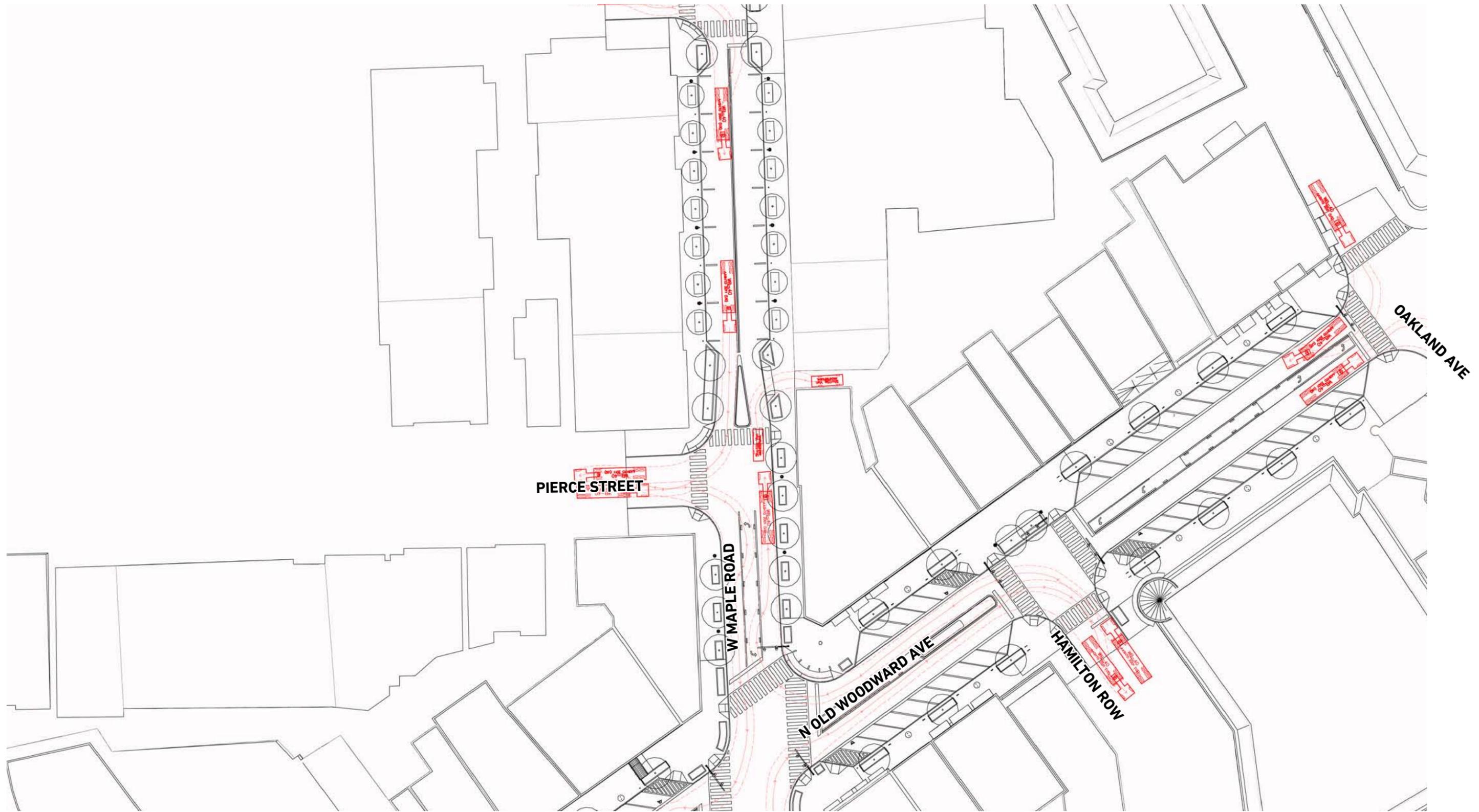
EXISTING CONDITION | 6 1/2' WALKABLE ZONE

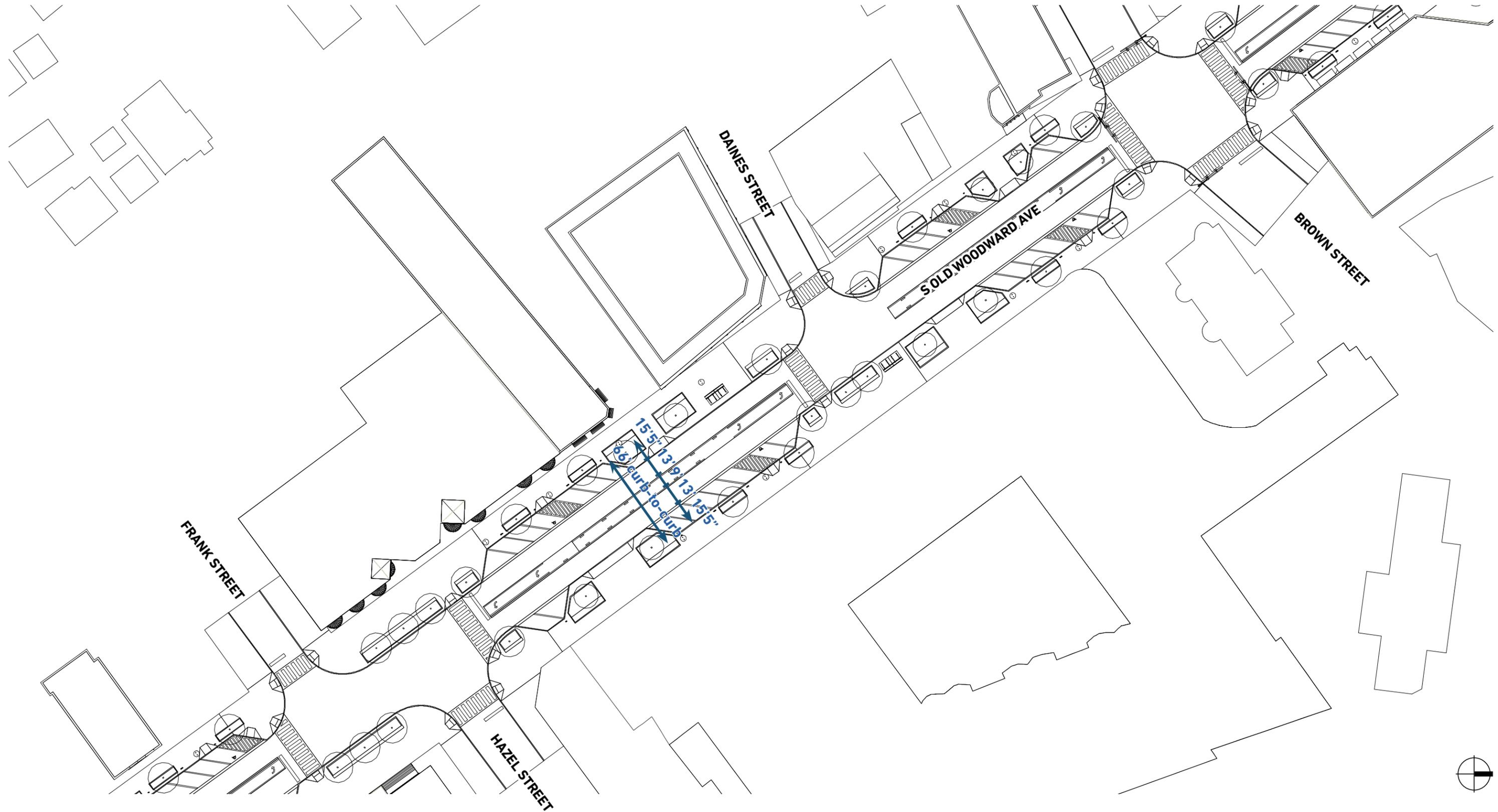


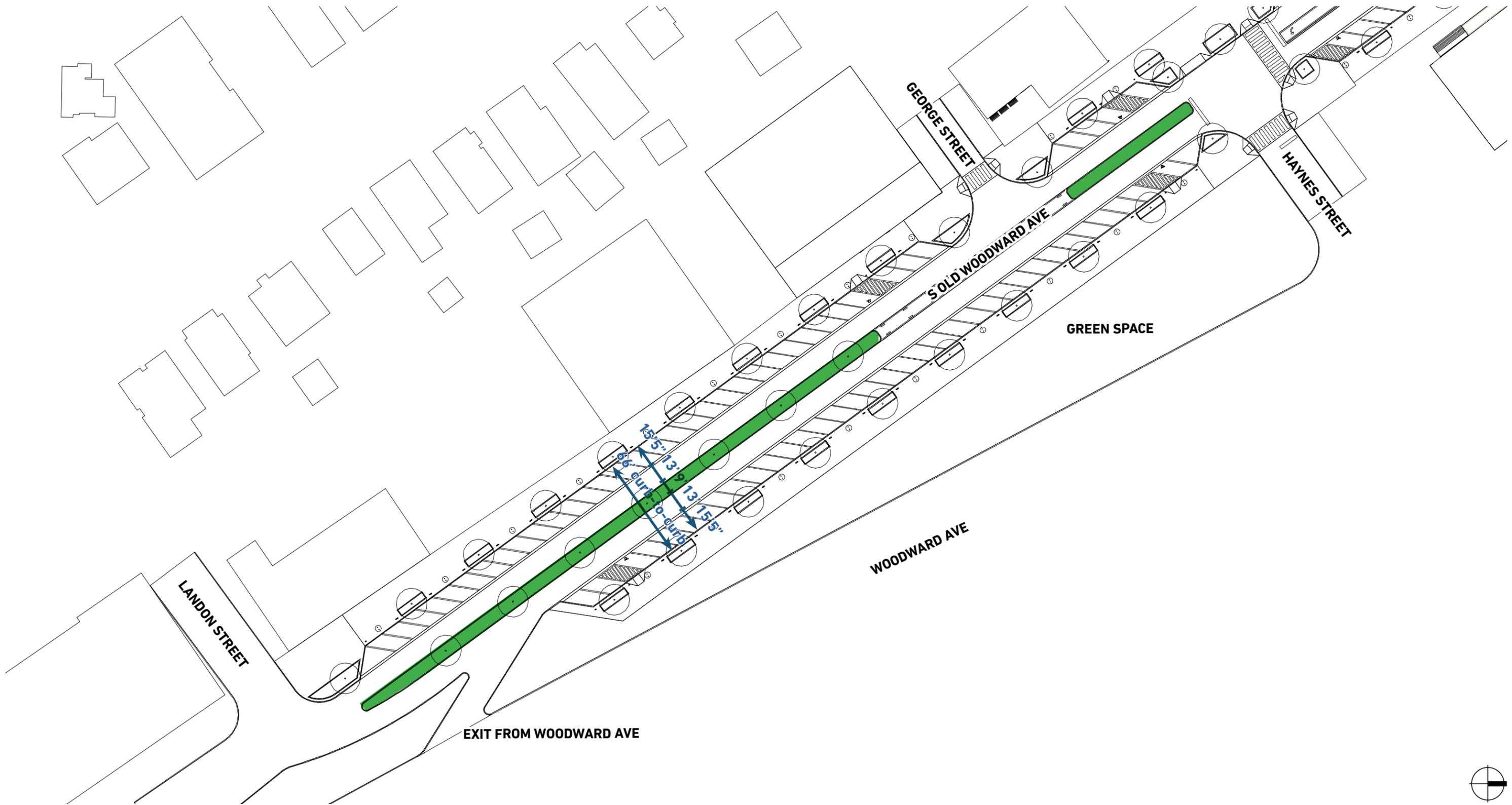


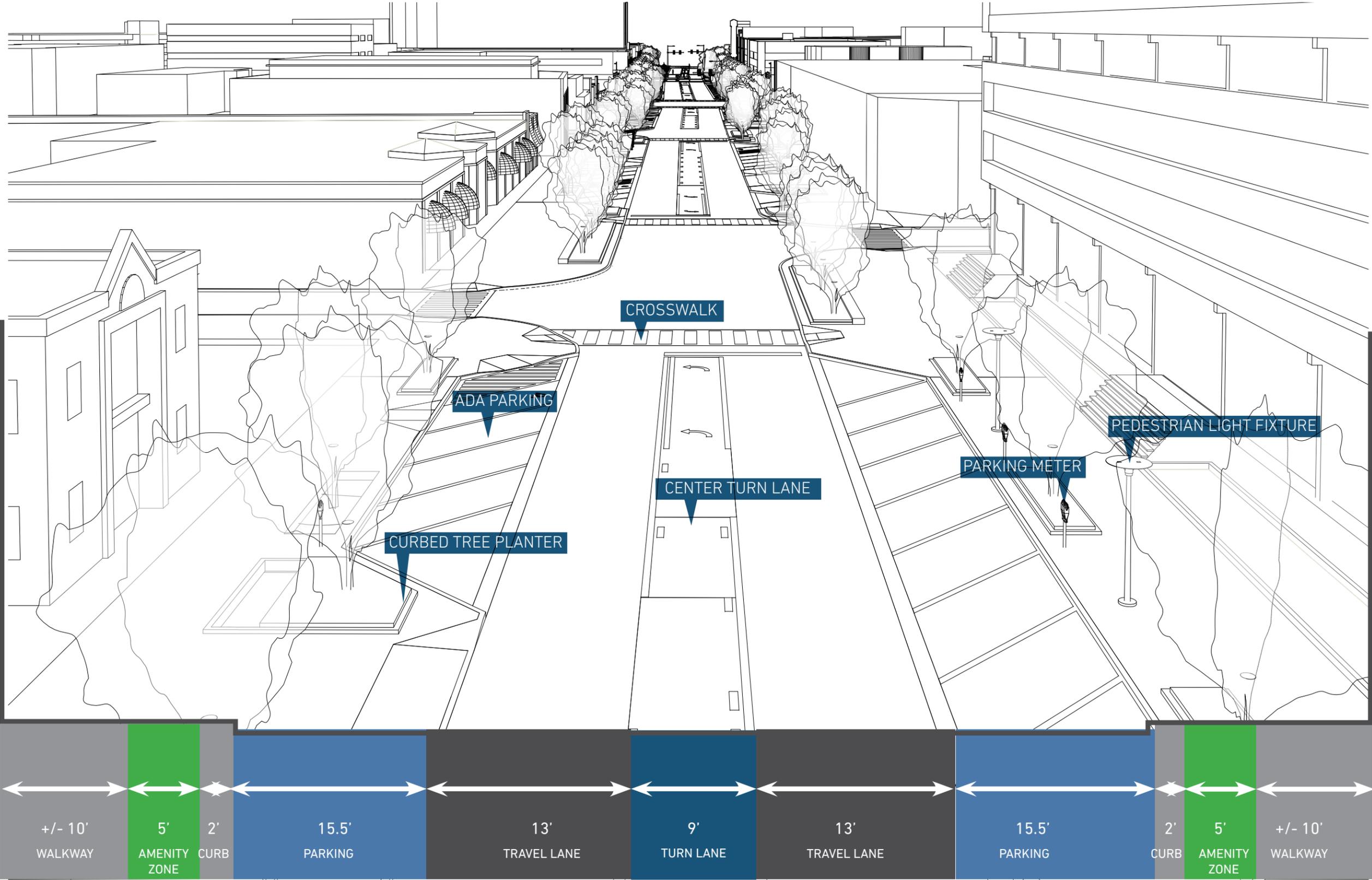


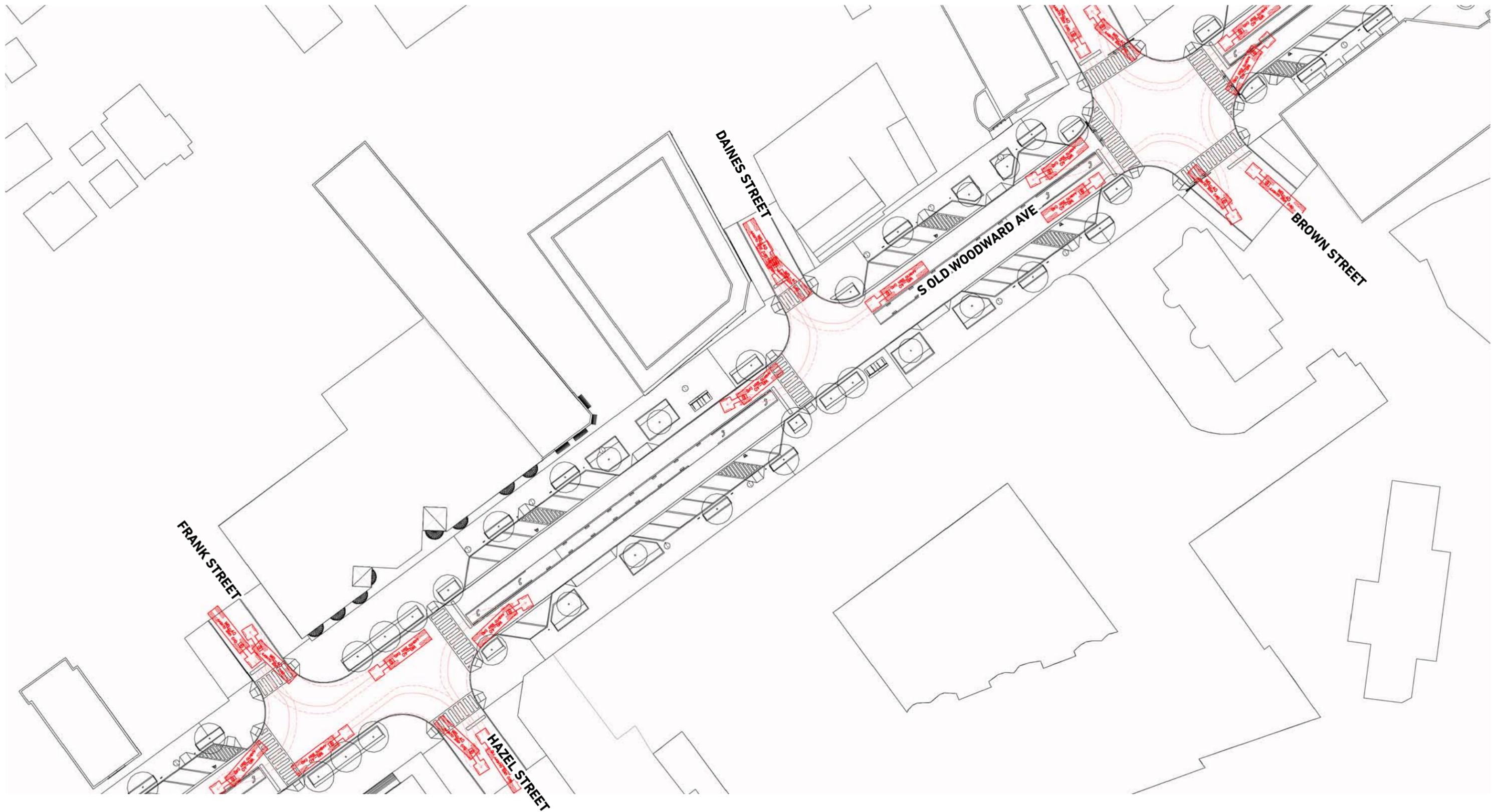


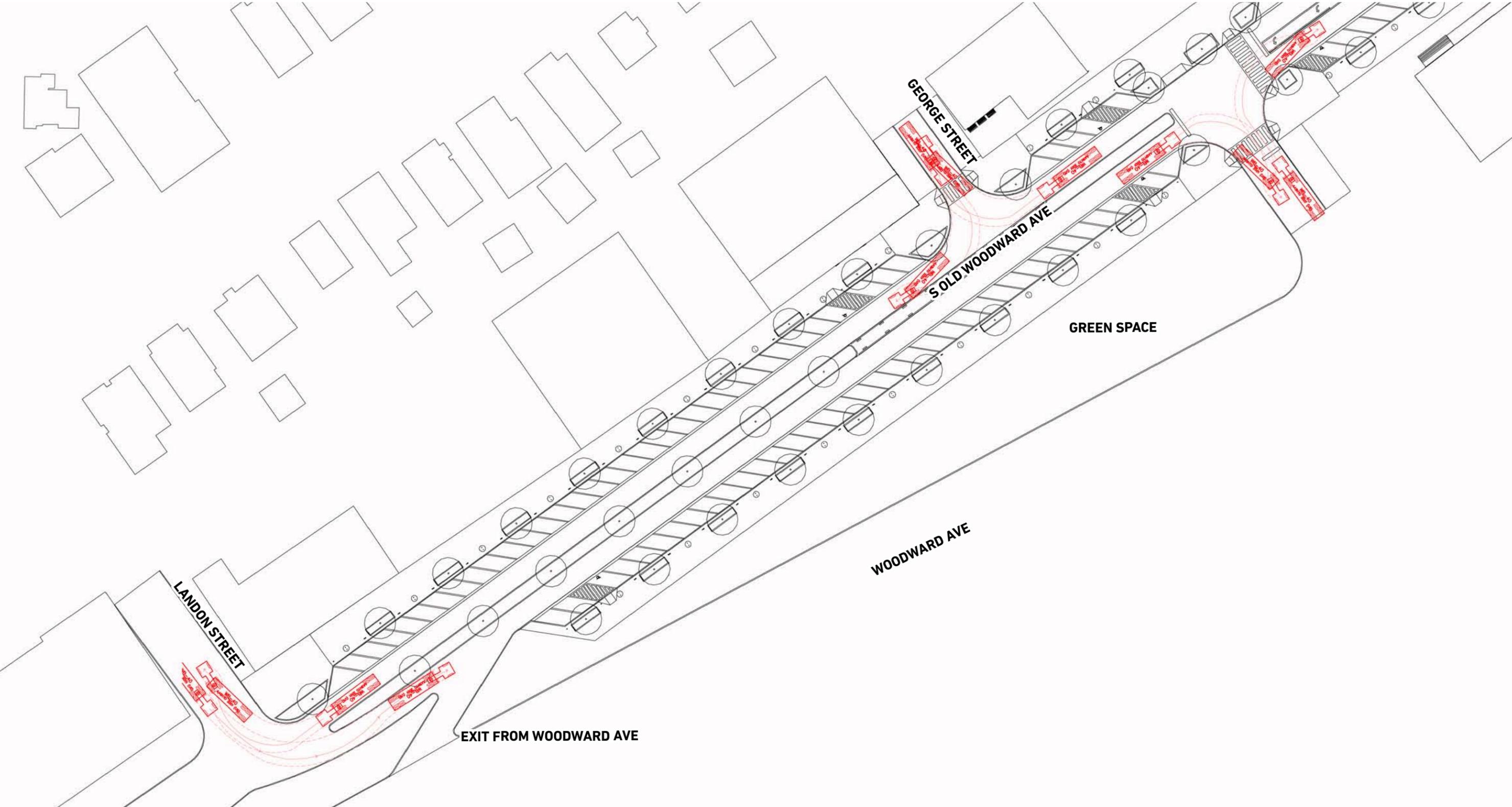












Parking Study

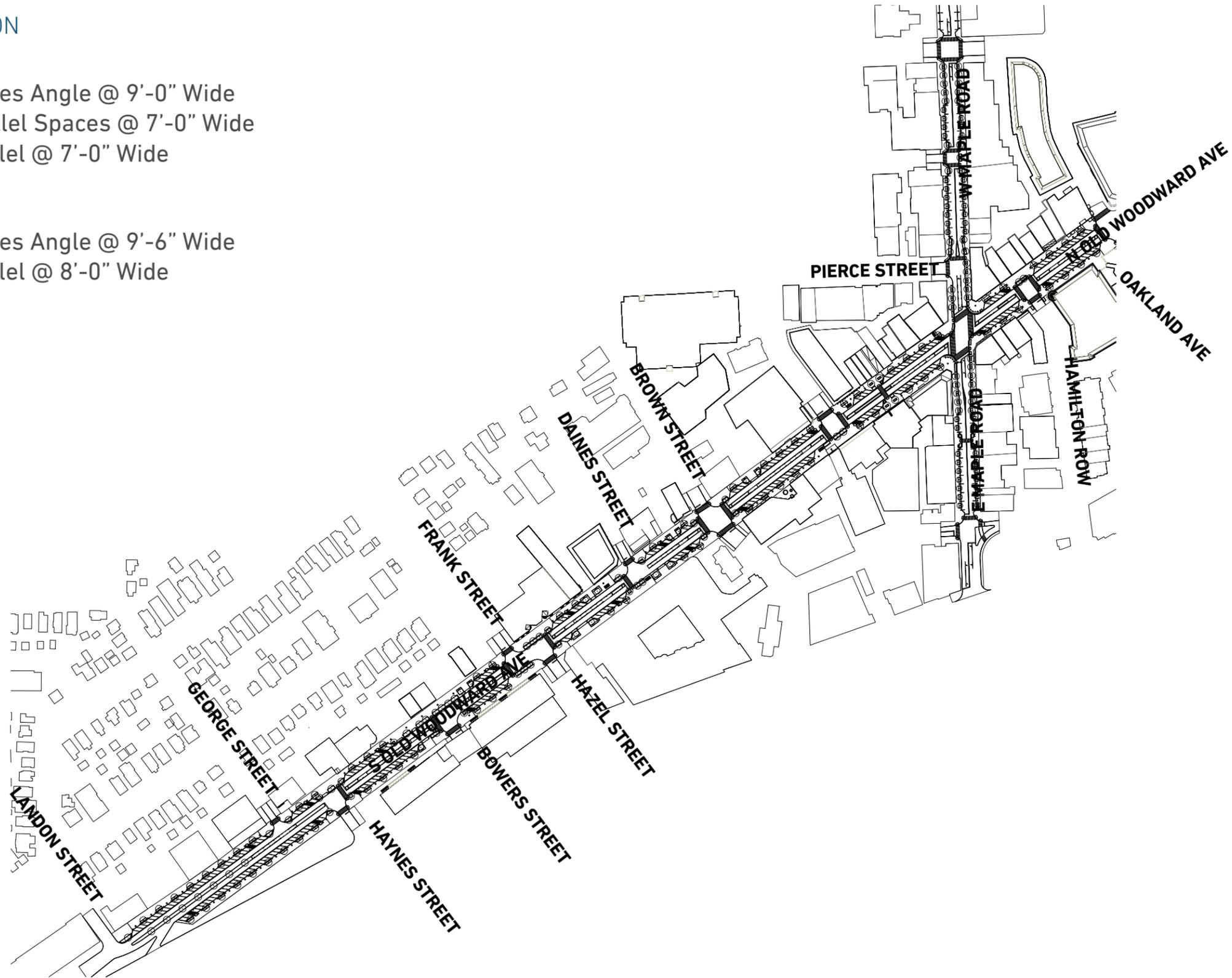
PARKING COUNT COMPARISON

EXISTING STREET SECTION

Old Woodward Ave 267 Spaces Angle @ 9'-0" Wide
9 Parallel Spaces @ 7'-0" Wide
Maple Road 71 Spaces Parallel @ 7'-0" Wide

66' STREET SECTION

Old Woodward Ave 253 Spaces Angle @ 9'-6" Wide
Maple Road 62 Spaces Parallel @ 8'-0" Wide



- » **Safer due to better visibility for the driver when the car pulls out of the parking space, even when parked next to large vehicles or vehicles with tinted windows.**
 - > Eye-to-eye line of sight between parker and approaching road-use, reducing accidents involving oncoming motorists or bicyclists.
- » Allows for quicker entry into traffic flow
- » Simpler than a parallel parking maneuver
- » Trunks/ tailgates can be unloaded at the curb (safer)
- » Safer unloading of children and pets because the open vehicle door guides them towards safety zone of the sidewalk
- » **Safer for disabled parking, since disabled parking stalls are close to the existing curb ramps, and allows the wheelchair-using drivers to unload out of the way of traffic**
- » Vehicle headlights do not shine into sidewalk dining areas and shops.
- » **It is the only angled parking the Michigan Department of Transportation will allow on their Streets**

HOW DOES REVERSE ANGLE PARKING WORK?



WHAT ARE THE BENEFITS OF REVERSE ANGLE PARKING?

The infographic lists several benefits of reverse angle parking:

- SAFE UNLOADING:** Vehicle doors open and direct passengers (especially children!) toward the sidewalk. Trunks are adjacent to the sidewalk to load/unload goods easily and safely. Handicap spaces can be placed adjacent to curb ramps. (Accompanied by a photograph of a street with cars parked at an angle to the sidewalk.)
- SAFE EXIT:** With improved visibility, drivers can see if any vehicles or bicycles are approaching before leaving the space. Vehicles exiting reverse angle spaces will also migrate more fluidly into traffic than standard "back-out" spaces. (Accompanied by a photograph of a street with cars parked at an angle.)
- EASIER THAN PARALLEL PARKING**
- UNOBSTRUCTED VIEW OF ONCOMING TRAFFIC**
- PEDESTRIANS CROSS MORE SAFELY**
- CYCLISTS ARE MORE VISIBLE**
- CREATES MORE PARKING SPACES**
- FEWER ACCIDENTS**
- IMPROVED HANDICAPPED PARKING**
- DIRECTS PASSENGERS TO SIDEWALK**

AGENCY	SPACE WIDTH		Source
MDOT	10' 0"		Standard Plan PAVE-957-A
Seattle, WA	9' 0"		Robert Burns, City of Seattle Department of Transportation
Austin, TX	9' 0"	"To provide greater driver comfort, parking spaces were designed to be 9'-0" wide. Typically head-in parking spaces are 8'-6" wide, thus overall parking space yield was diminished by about five percent."	"Transforming South Congress in Austin, Texas", Gary W. Schatz, P.E., PTOE
Pottstown, PA	8' 6"	"In order to maximize the amount of parking, it was decided to utilize an 8 foot, 6 inch (2.59 meter) wide space, which is consistent with National Parking Association (NPA) criteria for a 45-degree angle space."	"Back In Angle Parking in the Central Business District", John A. Nawn, P.E., PTOE
Vancouver, WA	9' 6"	Back in is 9'6" minimum. Forward in is 9' minimum.	City of Vancouver Standard plan T29-52A
Sacramento, CA	9' 0"	Back in is 9'0". Forward in is 8' 6".	City of Sacramento Department of Public Works



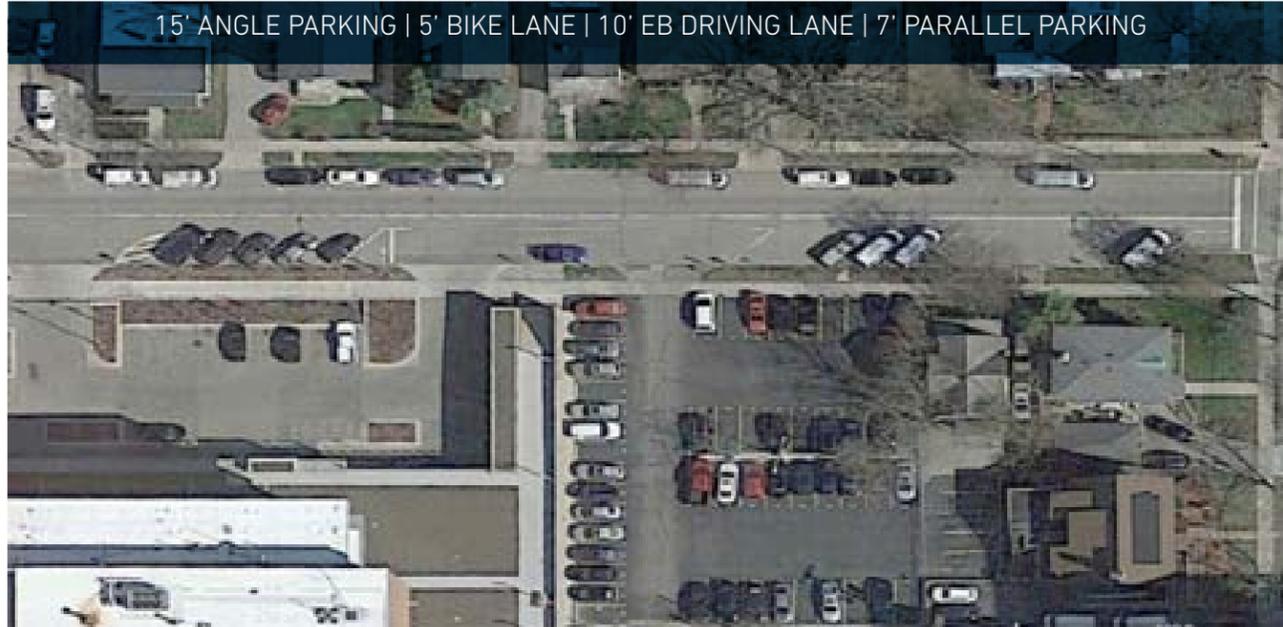
SEATTLE | WA



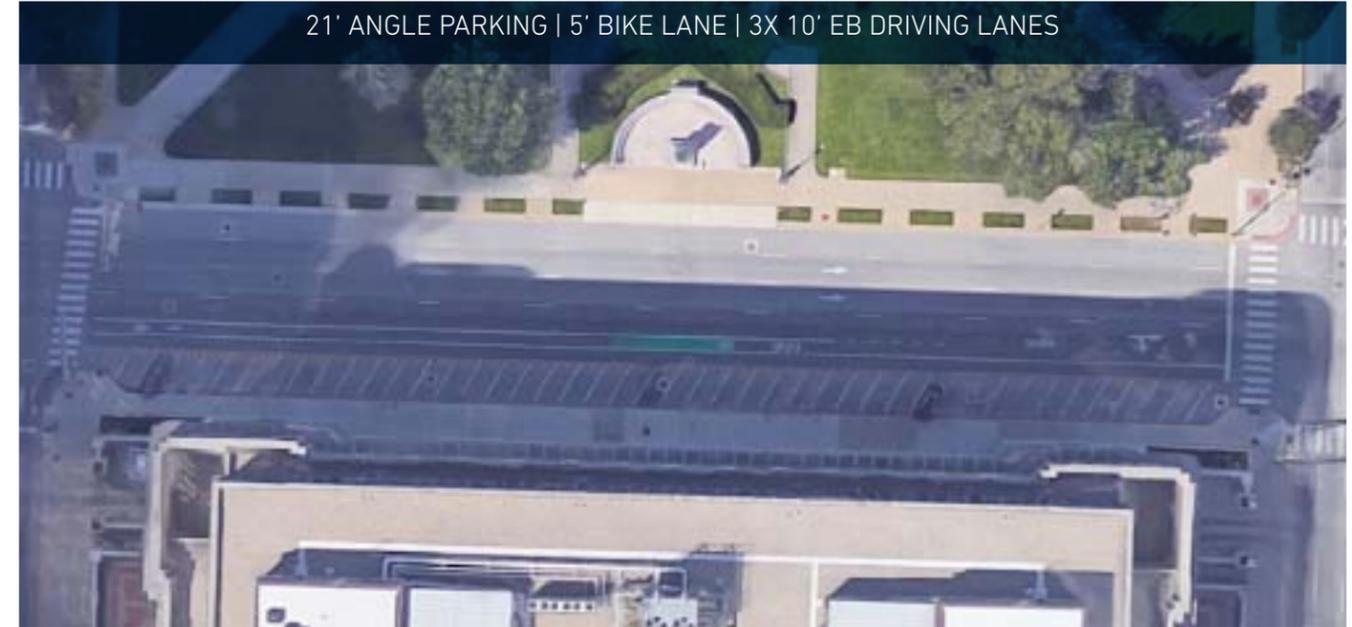
BALTIMORE | MD



POTTSTOWN | PA



Ann Street (between 5th Ave and Division St), **Ann Arbor, MI.** One Way East Bound.



New York Street (between Meridian and Pennsylvania), **Indianapolis, IN.** One Way East Bound.



1st Street (between William St and Liberty St), **Ann Arbor, MI.** One Way South Bound.



Bow Street (between Union St and Summer St), **Somerville, MA.** One Way North Bound.



E Gay Street (between High Street and N 3rd Street), Columbus OH

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **27'-0"**



Rodd St & Main St, Midland MD

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **30'-0"**



City of Jackson MI

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **28'-6"**



W Jefferson Ave, Naperville IL

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **26'-0"**



Central Ave, Whitefish, MT

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **27'-6"**



Granville, OH

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **28'-6"**



Burlingotn Ave (Between Washinton and Main St), Downers Grove, IL

HEAD-IN ANGLED

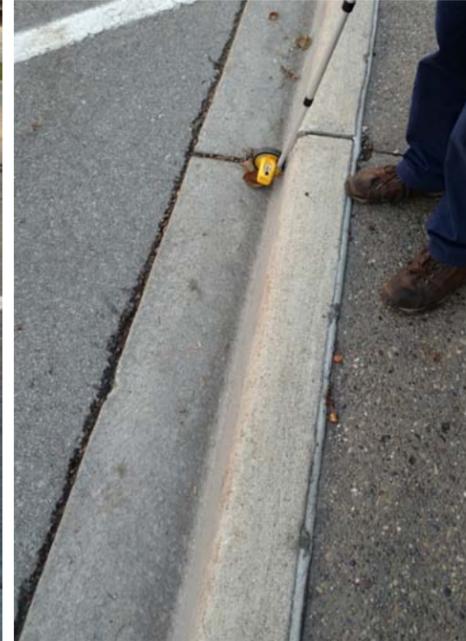
OVERALL PAVEMENT SECTION
APPROX. **26'-0"**



8th St, Holland, MI

HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **28'-6"**



HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **29'-2"**

N Old Woodward, Birmingham, MI



HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **29'-0"**

Martin St (between Pierce St and Chester St), Birmingham, MI



HEAD-IN ANGLED

OVERALL PAVEMENT SECTION
APPROX. **26'-0"**

Market St and Main Street, Troy, OH

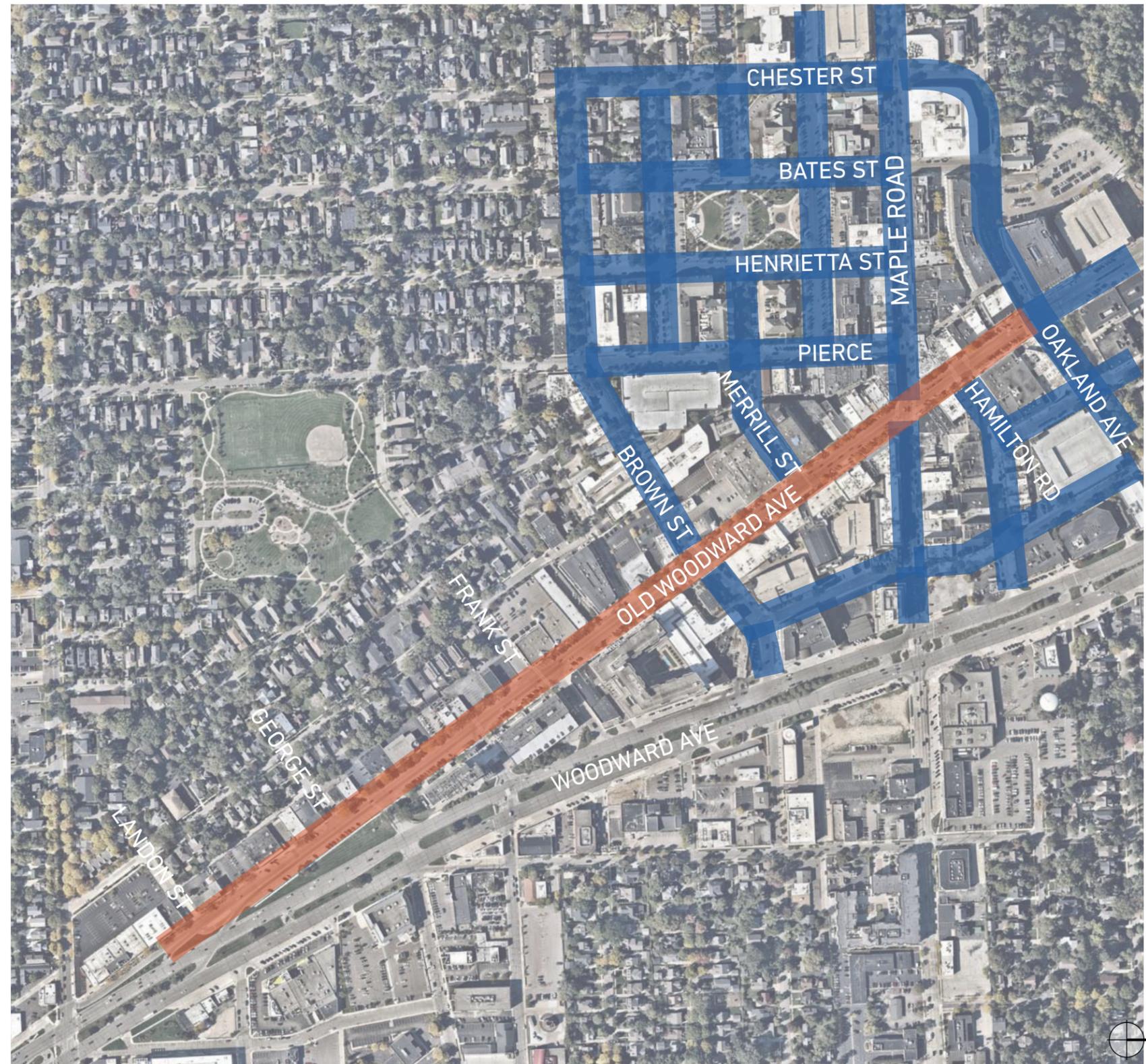
Street Character

Street Character

The following section speaks to the architectural character, pedestrian “creature comforts” and aesthetic recommendations of the Old Woodward and Maple corridors.

- » Downtown Street 
 - > Maintains existing materials, site furnishings and lighting standards with minor modifications to tree grates and soils.

- » Signature Street 
 - > Establishes a new streetscape character by introducing new materials, site furnishings and lighting to better identify Old Woodward Ave as the heart of Birmingham.



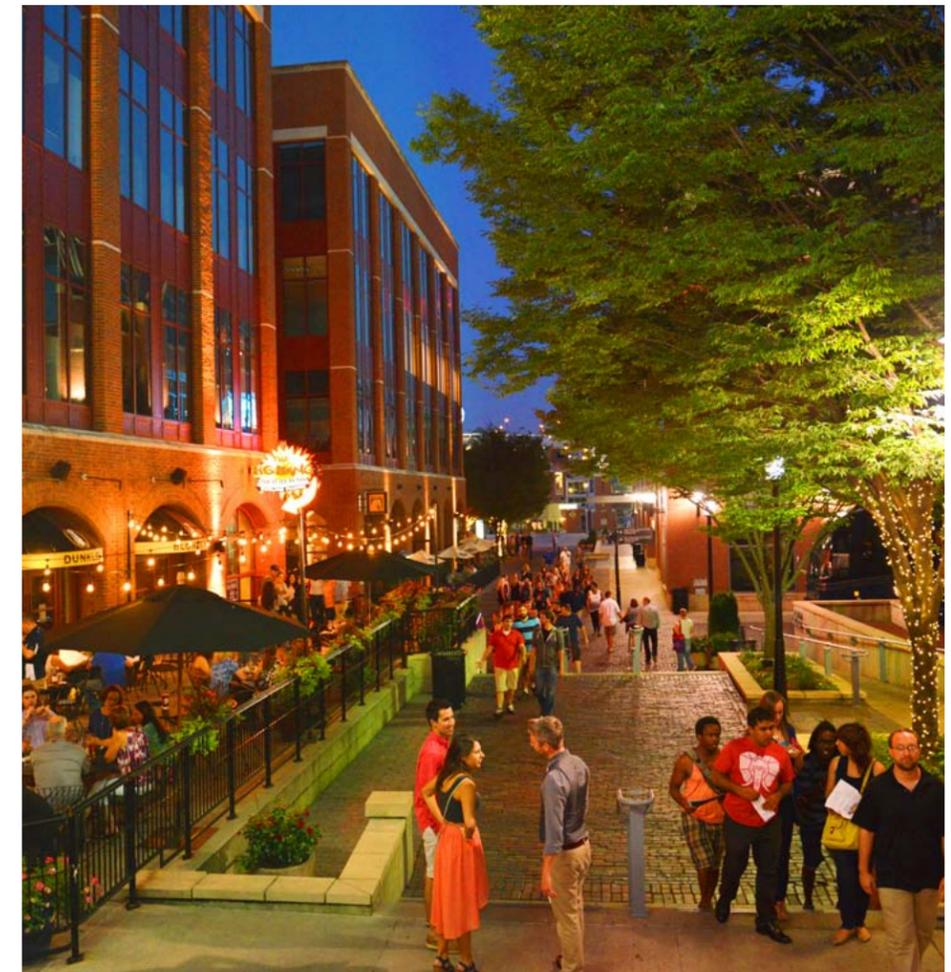
DESIGN A SIGNATURE STREET



CREATE A SAFE ENVIRONMENT



ENHANCE THE EXPERIENCE



Maple Street

It is recommended that the materials and finishes of the Maple Street renovations largely adhere to the character established elsewhere in downtown, including cast-in-place concrete street, street curb, sidewalks. An upgraded version of the “Birmingham Lantern” pedestrian light fixture be utilized on this street but with new technology LED lamping in a 3000c temperature. Also, due to limited walkway width, it is recommended that most street trees be planted with sufficient “structural soil mix” in a quantity of roughly 1000 cf per tree and the tree pit covered with a 5'x12' cast iron tree grate flush with the walking surface. Where walk dimension allows (at intersection taper zones that are void on-street parking), precast concrete planter curbs (6" above grade) are to be used with the same soil requirements as stated above.

Old Woodward

It is recommended herein that Old Woodward be identified as a “Signature Street” through the use of different, distinguishing materials that identify it as the special street of the region (Birmingham’s “Main Street” of commerce, entertainment, retailing), reinforcing its significant architecture, quality of establishments and attractive scale of the corridor. These distinguishing materials are of a higher quality, structurally and aesthetically, than the “standard” materials typical of the other Downtown Birmingham streets. As such, their initial cost of purchase/installation may be higher, but their durability and life cycle may effectively counteract that initial cost.

The following describes those distinguishing materials recommended for use as a point of beginning in the final engineering process. Special attention and proper experience must exist in the specifying, detailing and construction of these non-standard materials in their proper locations. The best of materials will NOT last over time unless properly installed with the proper, time-tested details for construction. It is further recommended that, through the public bidding process, the city utilize a series of specific “bid alternates” in the bid forms allowing contractors to separately identify differences in

material/installation costs one type to the other. Thereby, the city and its leadership will have reliable market-based costs to make informed decisions on initial costs vs long-term durability/improved aesthetics in the materials palette. This offering to the contractor community should begin with the preferred materials palettes with “deduct bid” amounts for lesser materials, with the delta between them describing the value of the upgrades. In general terms, those recommended materials and their corresponding “deduct” alternatives are listed and illustrated in following pages and diagrams.

- » Driving Lanes
 - **CIP (Cast-in-Place) Concrete**
 - No Deduct
- » Center Turn Lane
 - **Unit Paver on Concrete with White & Yellow Unit Pavers for Stripping / Markings**
 - CIP Concrete
- » Center Median
 - **6" Tall Granite Curb**
 - CIP Concrete Curb (Exposed Aggregate Finish)
- » Parking Bays
 - **Unit Paver on Concrete with Thermoplastic Paint for Stripping / Markings**
 - CIP Concrete with Thermoplastic Paint for Stripping / Markings
- » Gutter Pan (Adjacent to Parking Bays)
 - **CIP Concrete**
 - No Deduct
- » Street Curb at Intersections
 - **6" Tall Granite Curb**
 - CIP Concrete Curb
- » Street Curb
 - **CIP Concrete Curb**
 - No Deduct
- » Sidewalk/Amenity Zone
 - **Buff-washed Finished CIP Concrete**
 - No Deduct
- » ADA Ramps
 - **Unit Paver with Cast Iron Detectable Warning Plates**
 - No Deduct

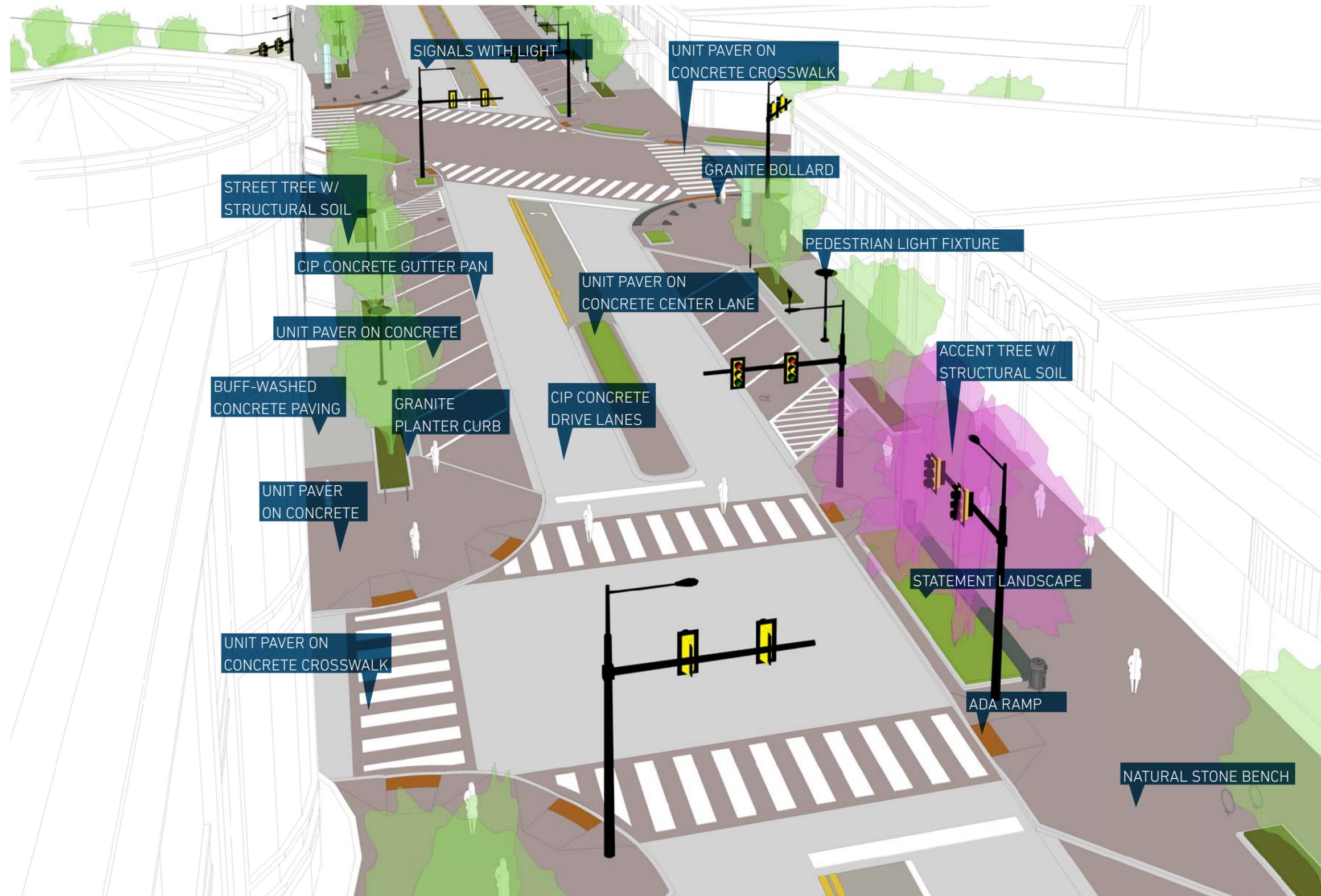
Preferred Material - **Shown in Blue**

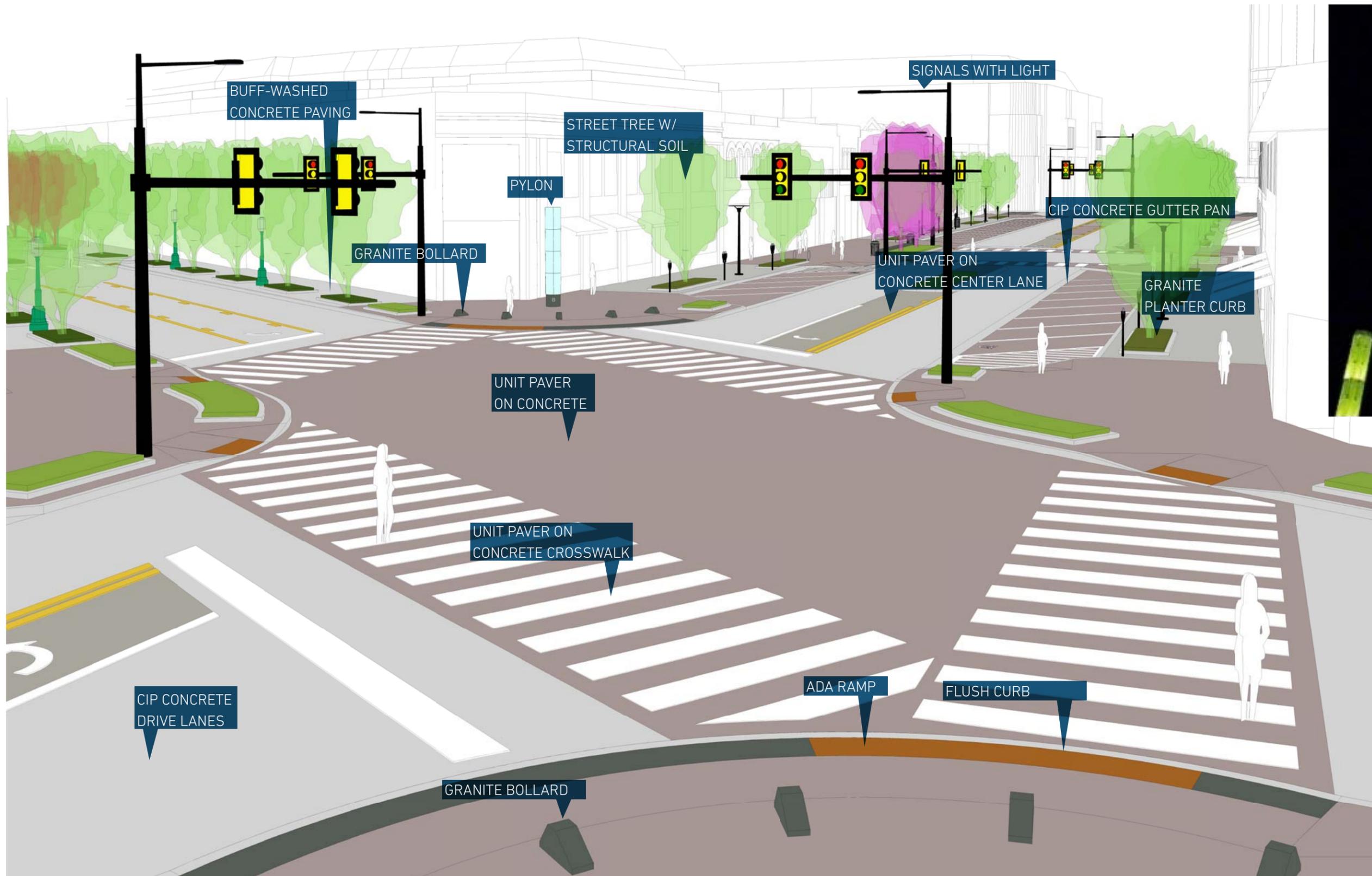
Deduct Material - Shown in Grey

- » Old Woodward & Maple Intersection (In-field)
 - **Unit Paver on Concrete**
 - CIP Concrete
- » Old Woodward & Maple Intersection (bollards)
 - **Granite Bollard (See Appendix for Detail)**
 - Stainless Steel (Landscape Forms)
- » Crosswalks
 - **Unit Paver on Concrete with White Unite Paver for Markings**
 - CIP Concrete with Thermoplastic Paint for Markings
- » Planter Curbs
 - **6" Tall Granite Curbs**
 - 6" Tall Pre-cast Curbs
- » Pedestrian Light Fixtures (Sidewalk)
 - **Bega US LED Luminaire 77 210 (Black)**
 - Existing City Fixture (Black)
- » Street Light Fixtures (at Signalized Intersections)
 - **Bega US LED Luminaire 77 950 (Black)**
 - No Deduct
- » Street Signals
 - **City Standard (Black)**
 - No Deduct
- » Benches & Trash Receptacles
 - **Landscape Forms Scarborough Bench (Black)**
 - City Standard (Black)
- » Bike Racks
 - **Landscape Forms Ring Bike Rack (Black)**
 - City Standard (Black)

Preferred Material - **Shown in Blue**

Deduct Material - Shown in Grey





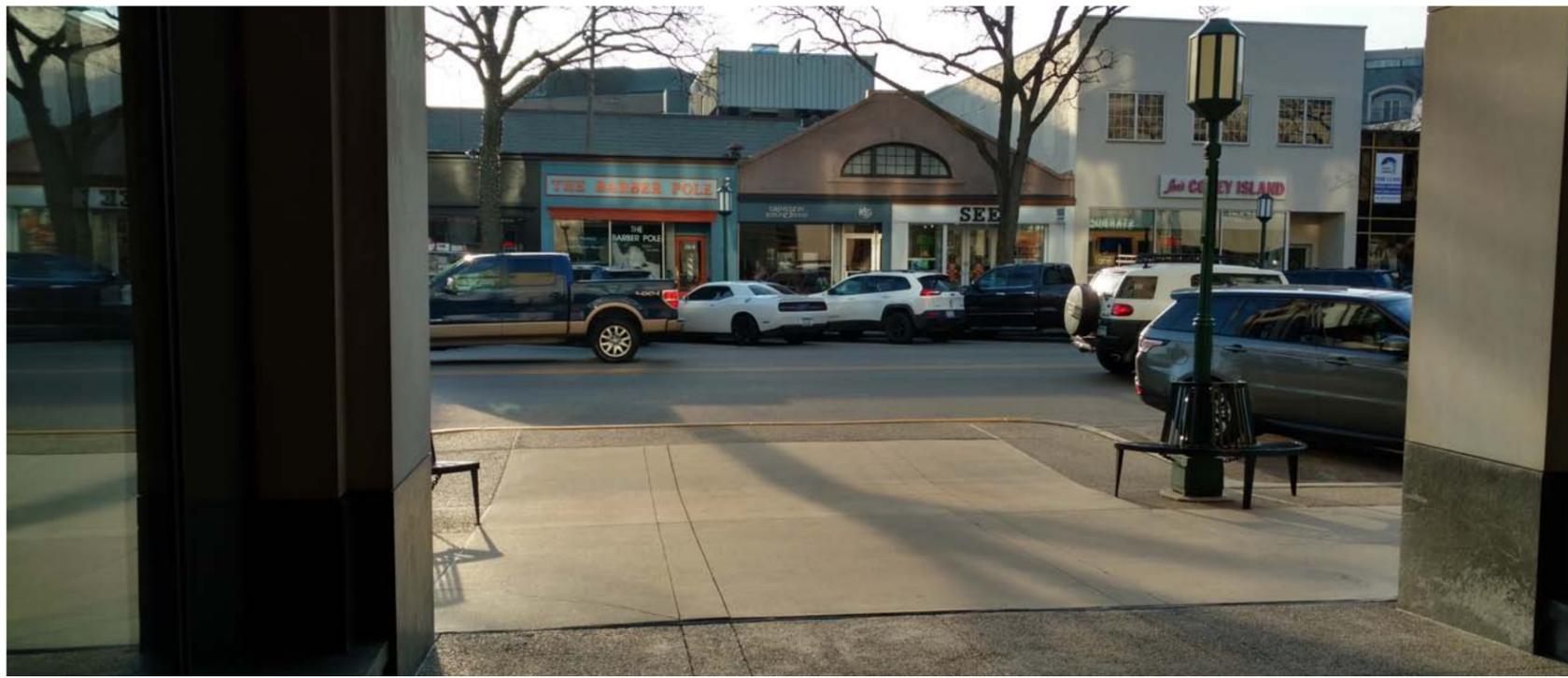
Appendix



3 1/2' WALKABLE WEST (BETWEEN CHESTER AND BATES)

6 1/2' WALKABLE ZONE

Existing Conditions



WALKABLE AREA AT MAPLE STREET

PASSAGEWAY AT OLD WOODWARD AVE SOUTH OF MAPLE STREET



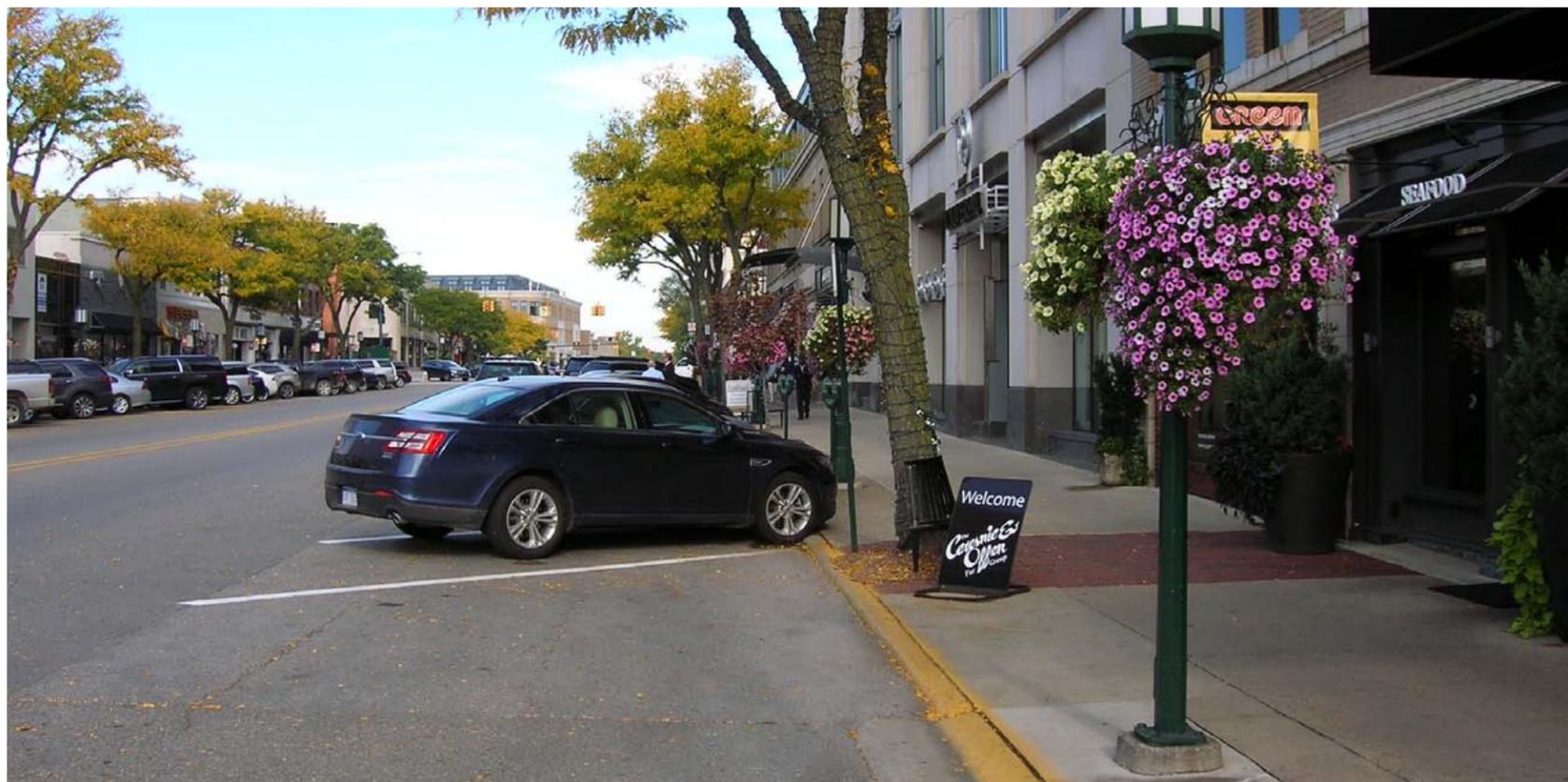
LACK OF BIKE RACKS, "TRIP HAZARD" PLANTERS



UTILITY OF X-OUTS?



20 FT RADIUS FLUSH CURBS - BIRMINGHAM AT MERRILL AND PIERCE STREETS



EFFECTIVE HANGING PLANTS, "DATED" LIGHT FIXTURES



BROAD, UNCOMFORTABLE, UNATTRACTIVE "MAJOR" INTERSECTION



FLUSH TREE PLANTERS ALLOW FOR DE-ICING SALTS TO INUNDATE



LIMITED PEDESTRIAN ZONE & DINING



NUMEROUS INACCESSIBLE THRESHOLD CONDITIONS



DOUBLE CURBS TO BE CORRECTED WITH NEW STREET DESIGN



INACCESSIBLE METERS



MASSIVE INTERSECTION SPACES



BUS STOP SHELTER STANDARD (?)



LIMITED AFFECT OF LOW BLOCK SCREEN WALL



MISMATCHED EQUIPMENT/MATERIALS



NO POSITIVE DRAINAGE AT INSIDE CORNERS



EFFECTIVE USE OF PLANTERS



DRAINAGE SWALE IN WALK



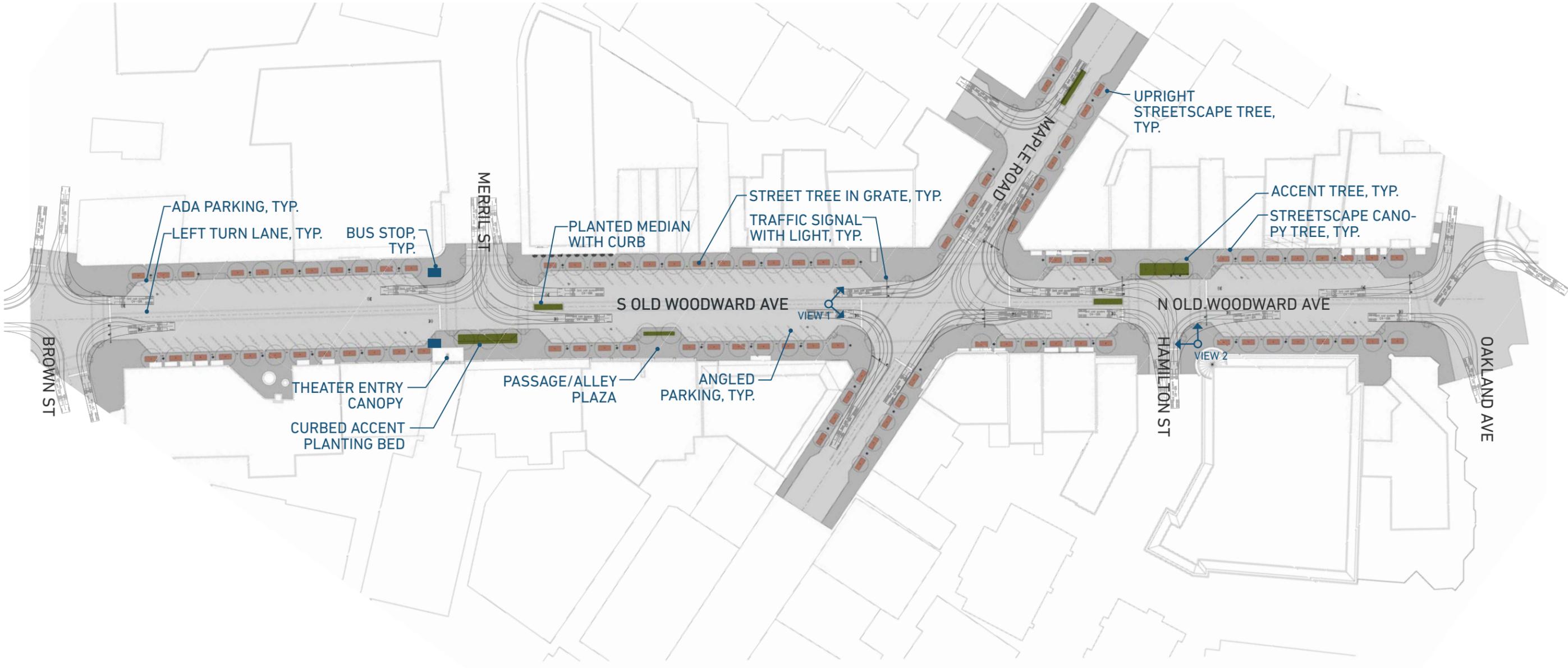
GREEN SPACE OPPORTUNITY AT SOUTH END

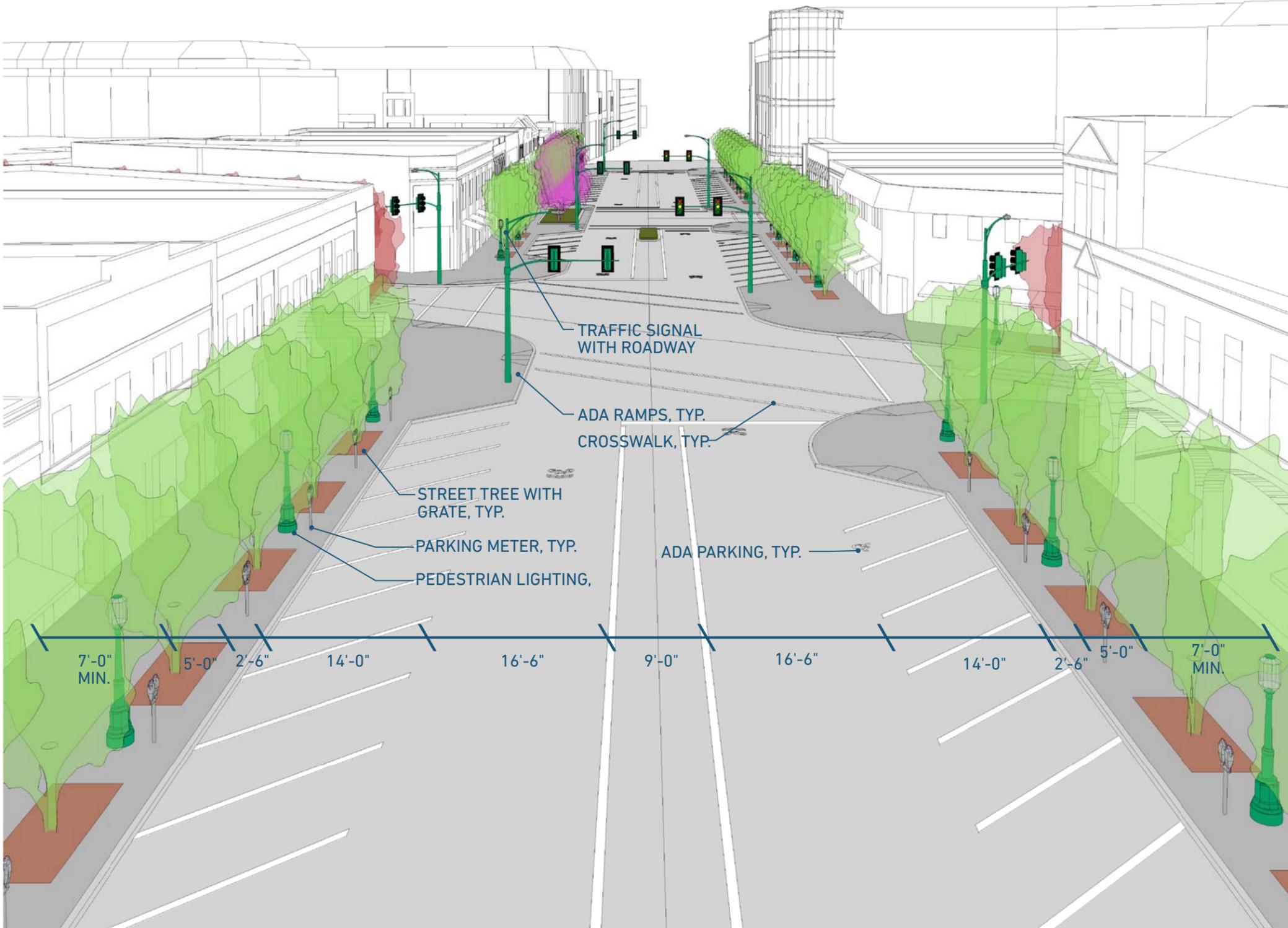


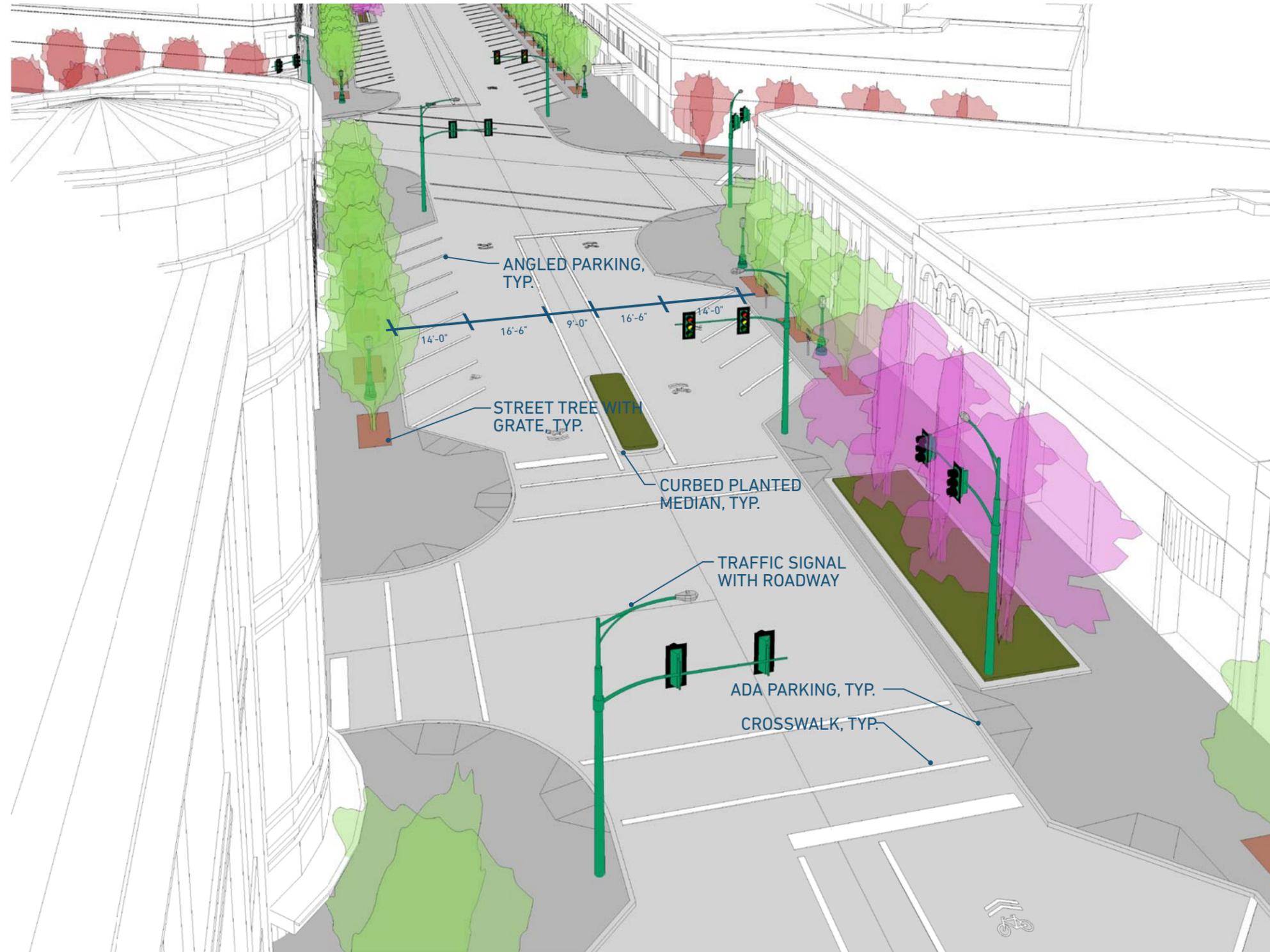
LIMITED PASSAGE/PLANTING SPACE ON MAPLE

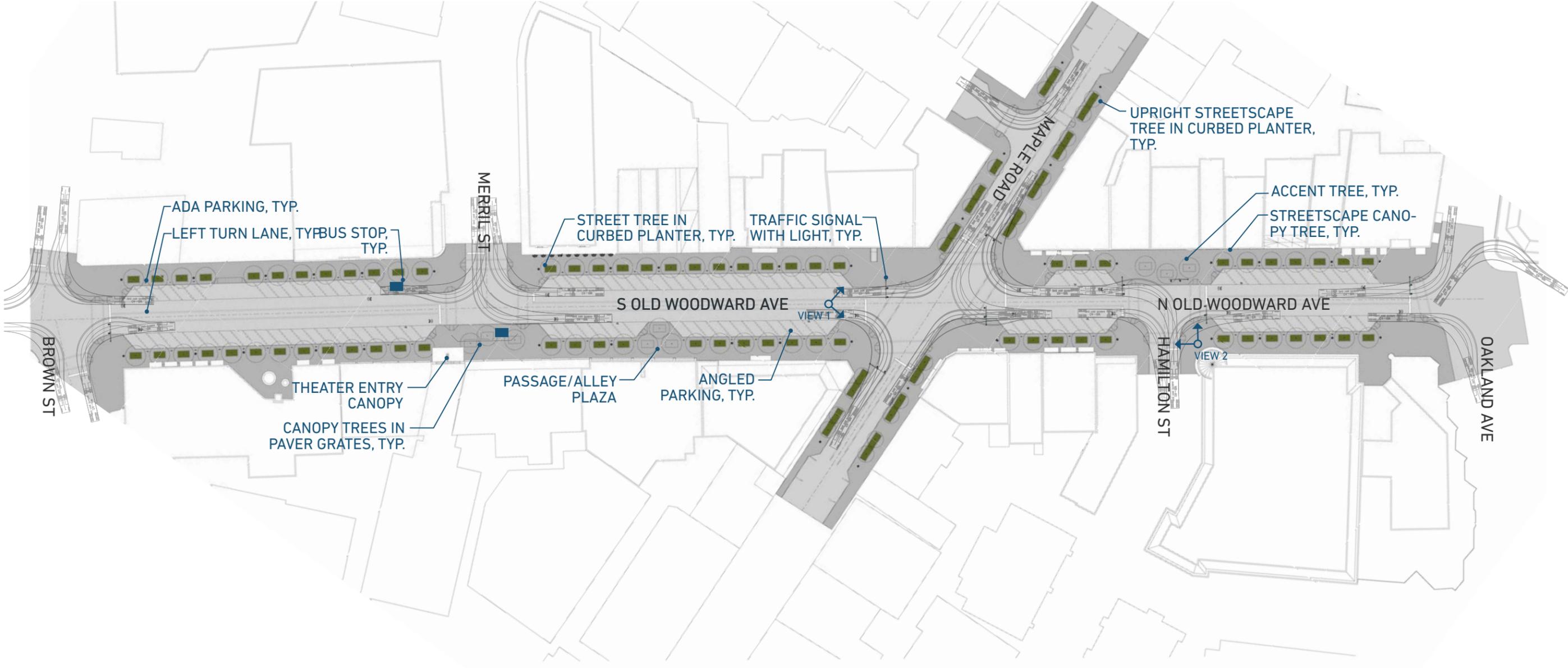


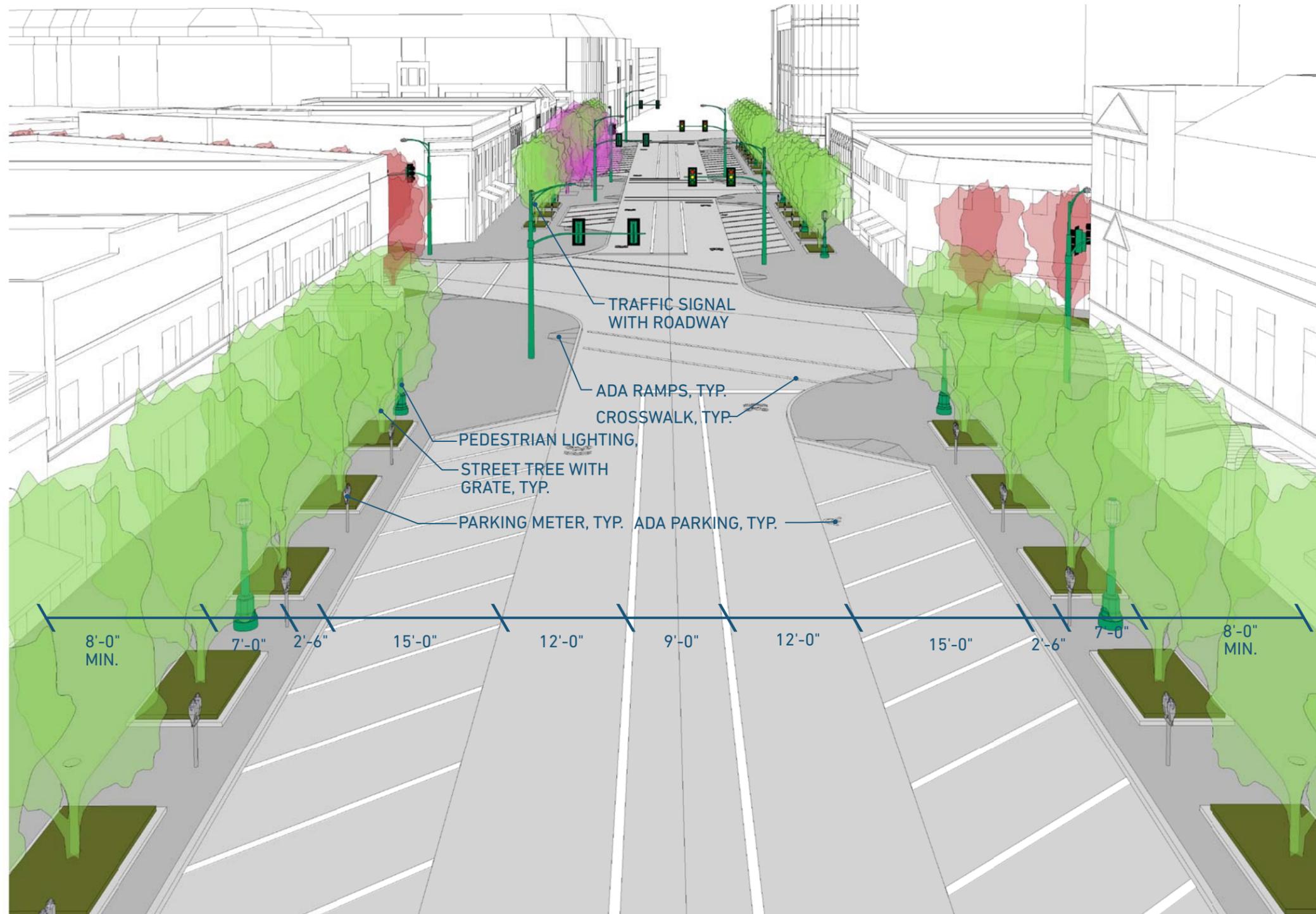
VERY LIMITED PEDESTRIAN PASSAGE DIMENSION

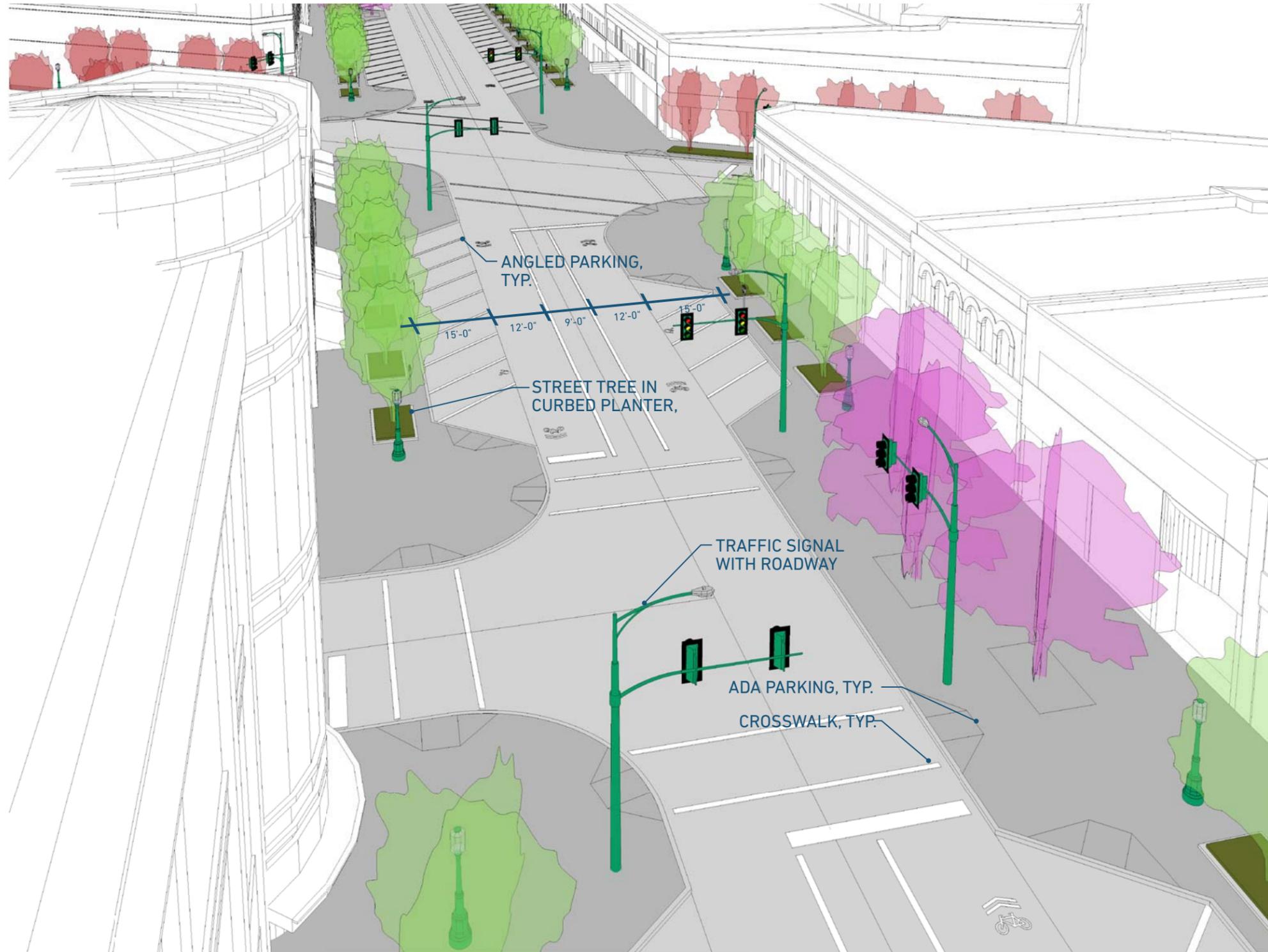


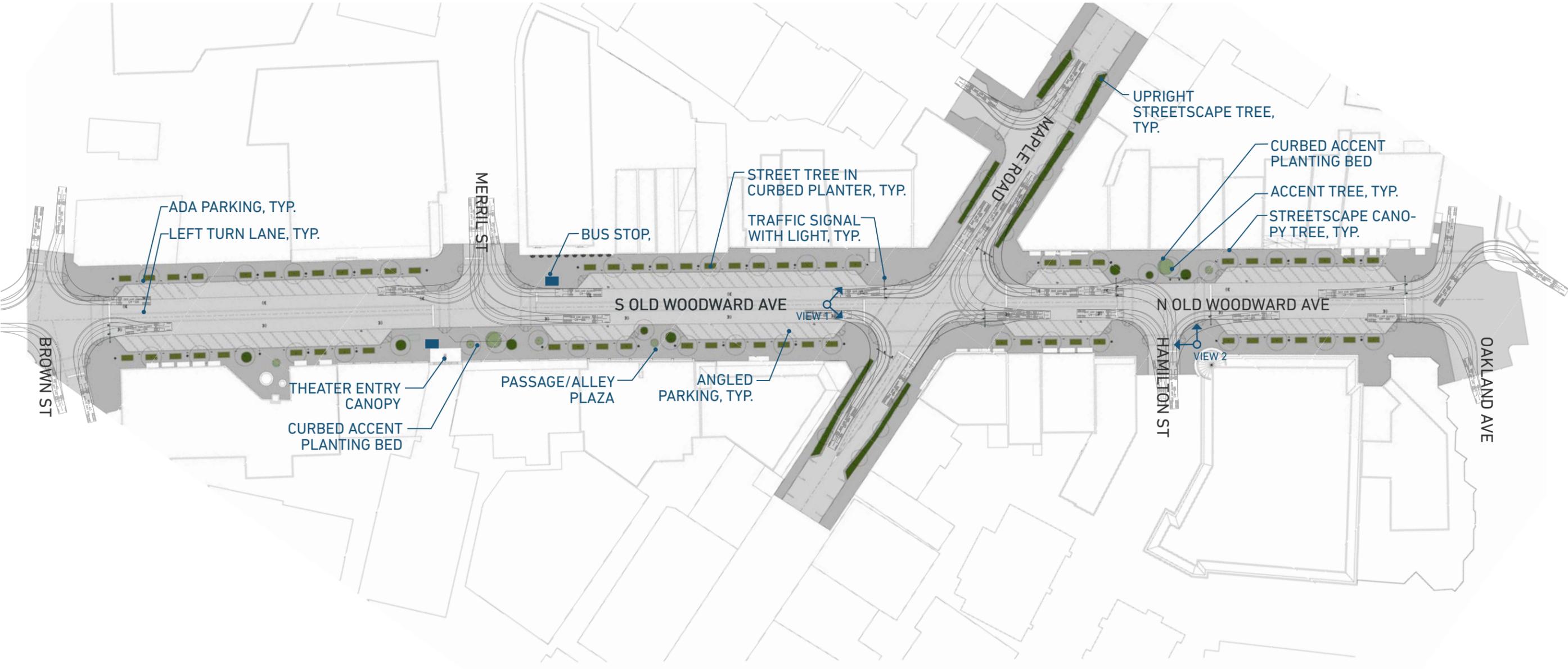


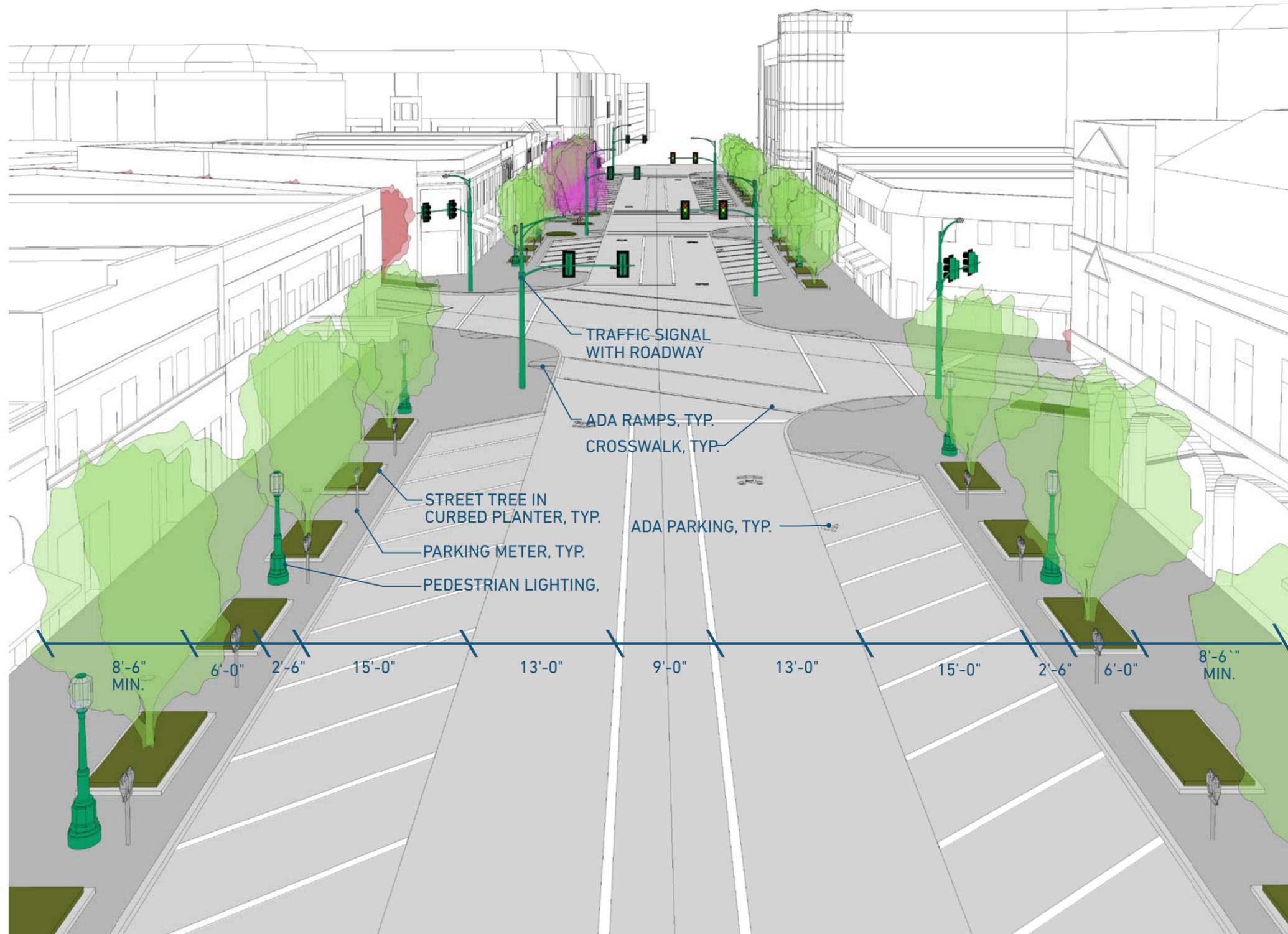


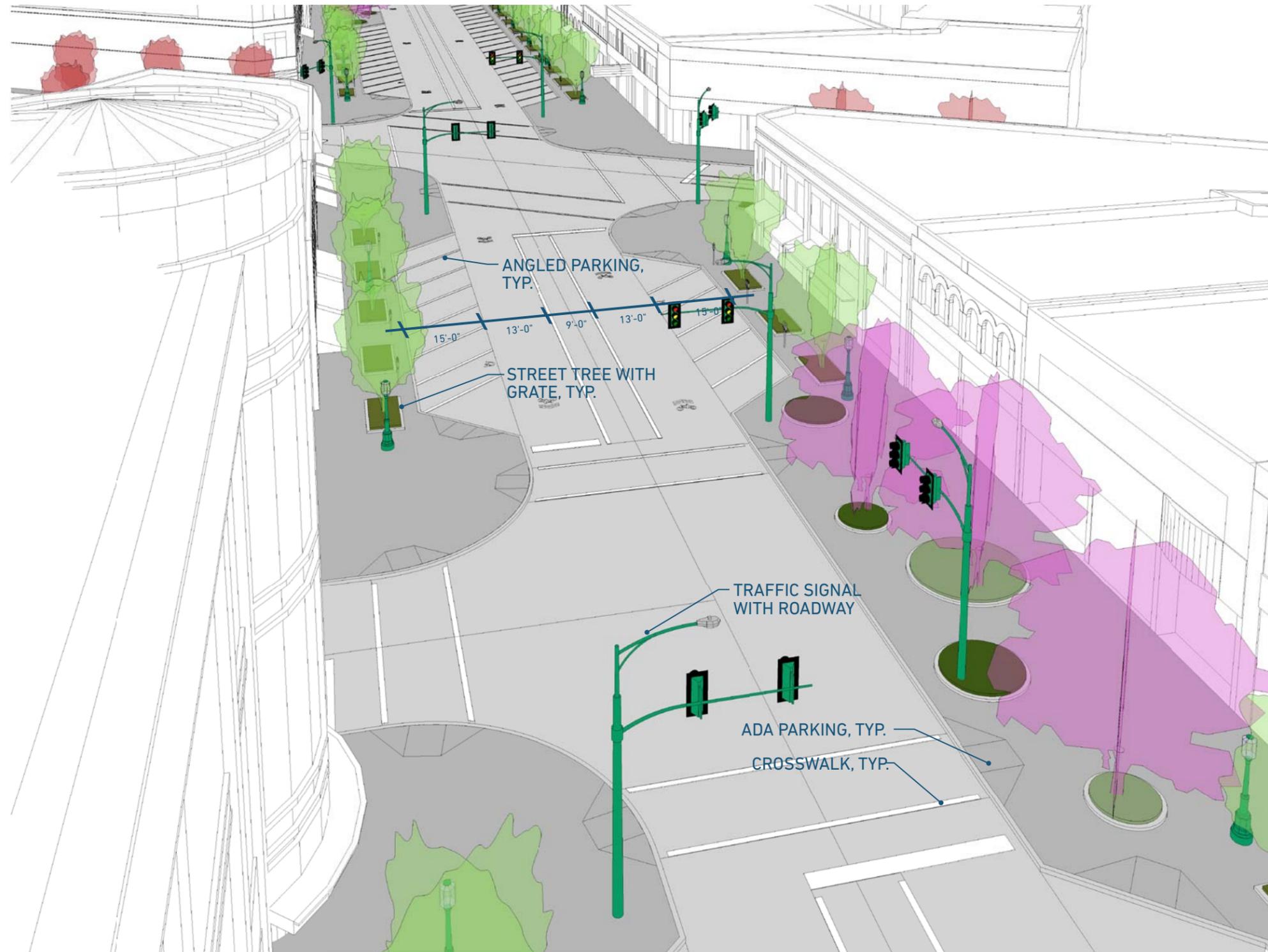


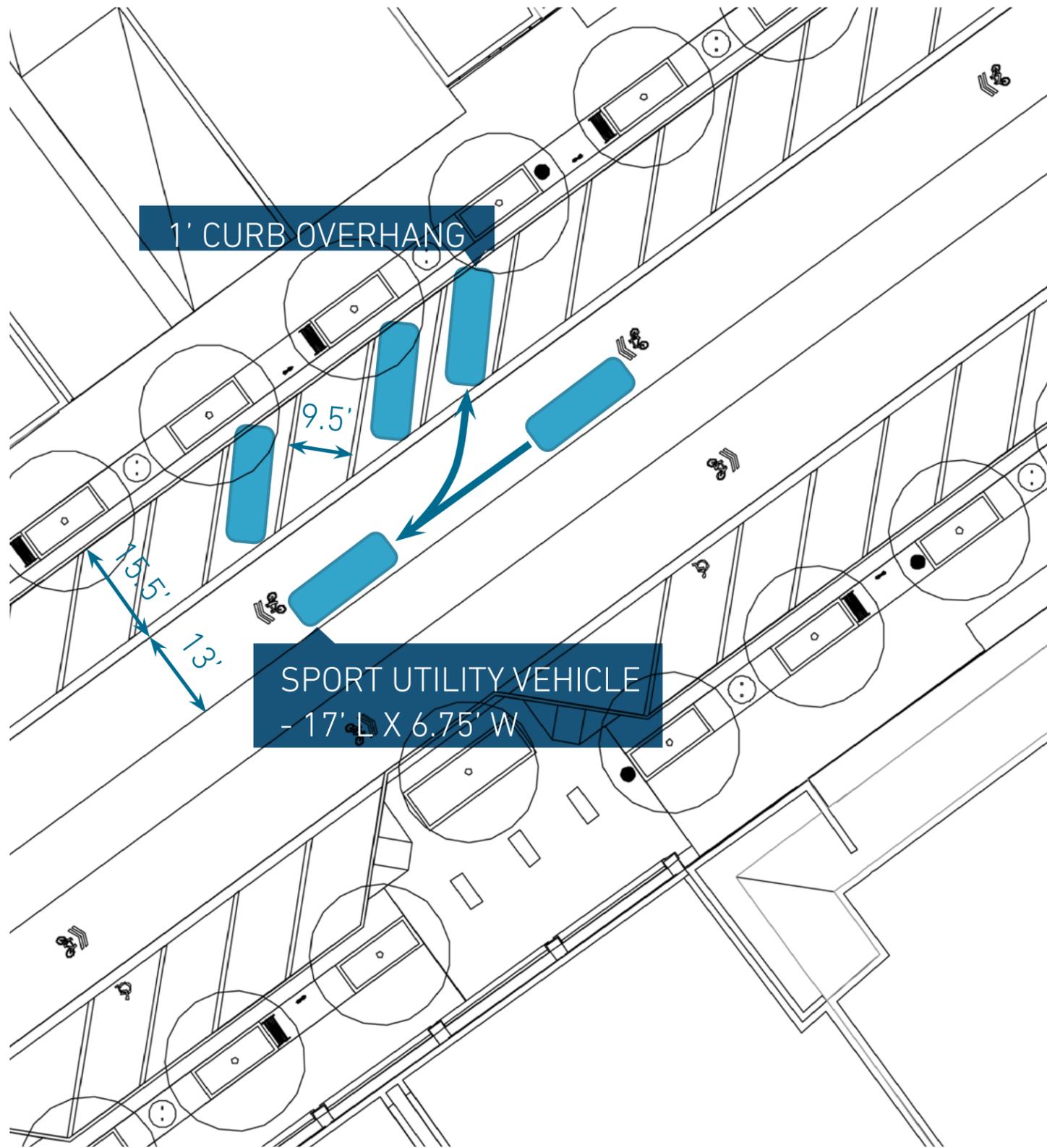






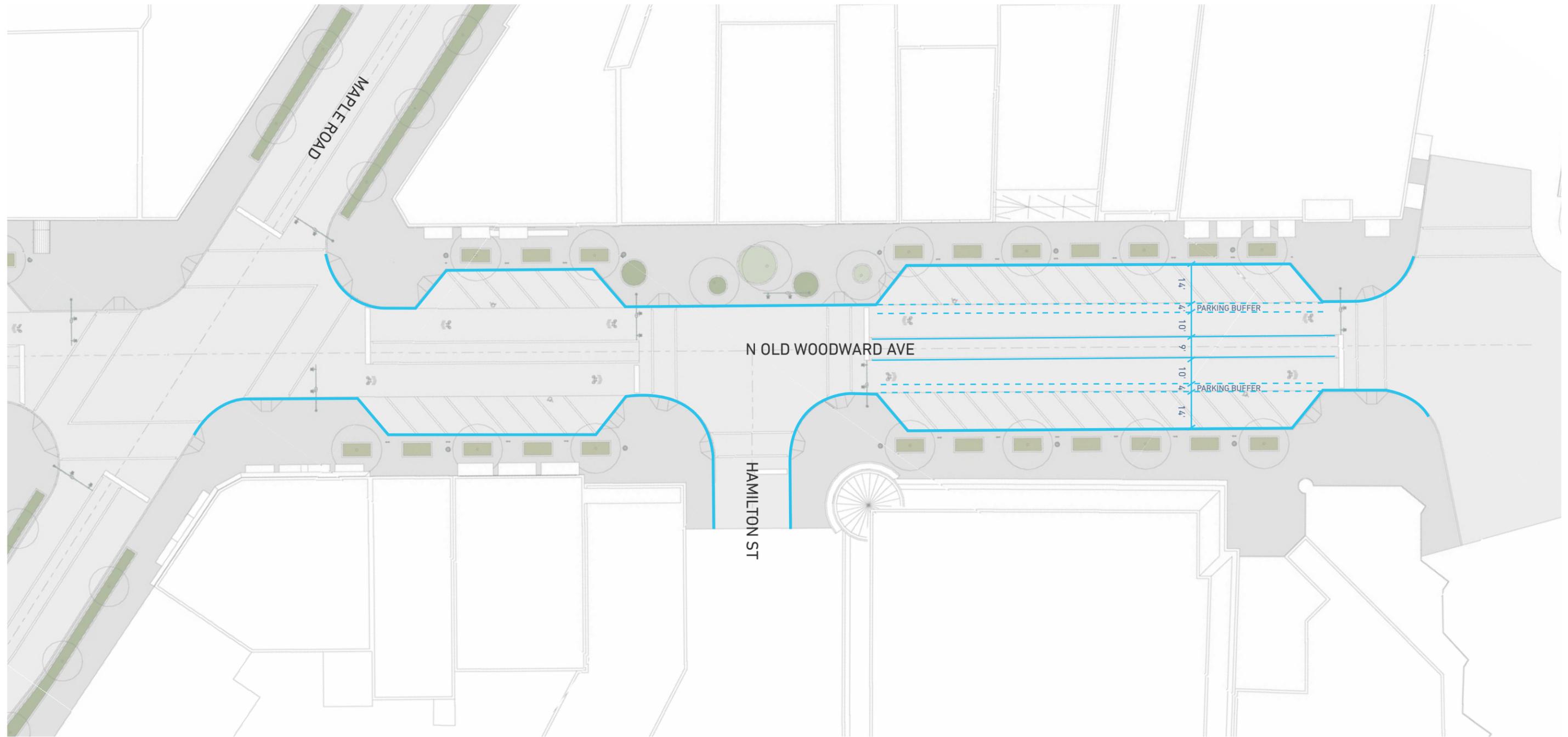




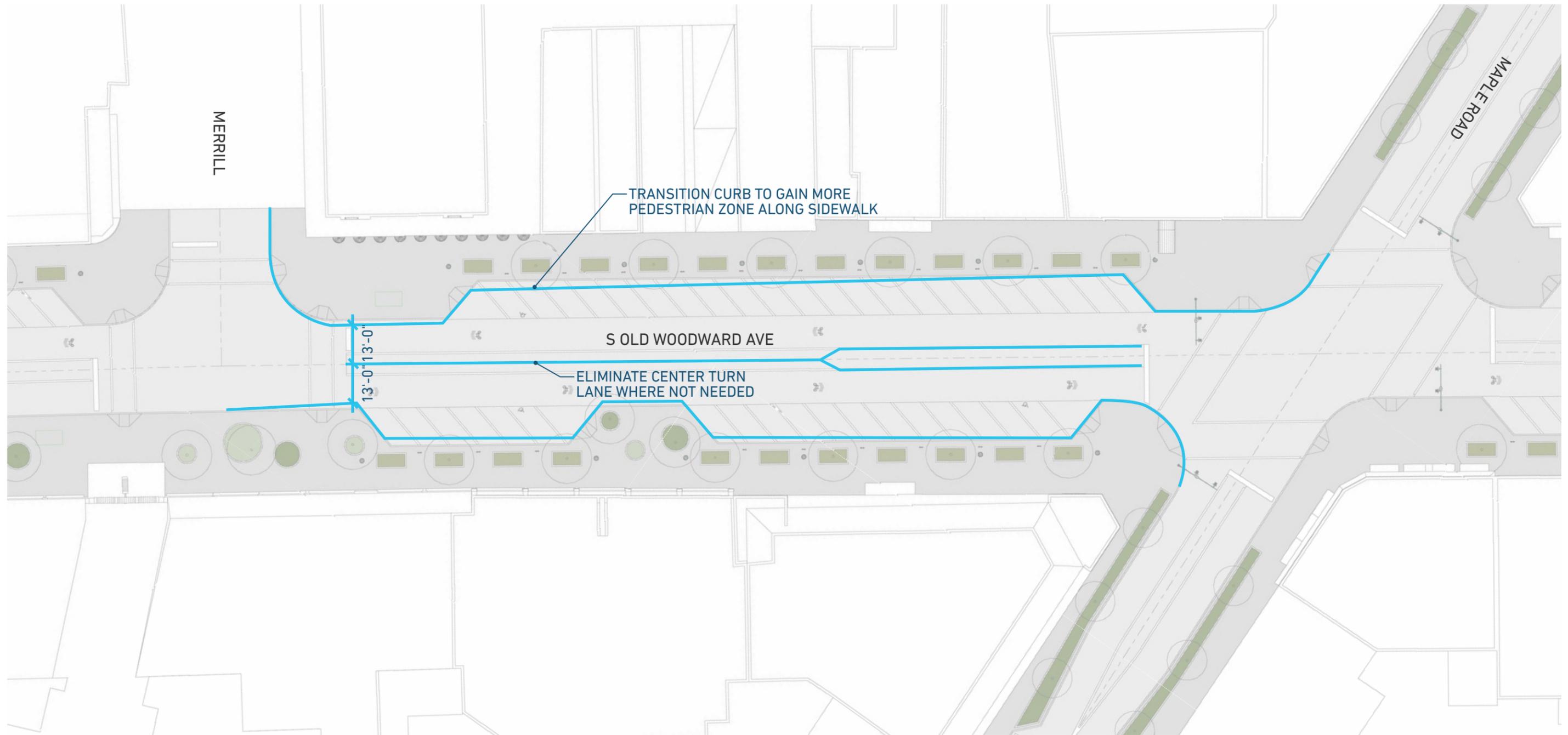


BACK-IN PARKING DIAGRAM









A - BUS STOP



LEGEND

- 1. Bus loading zone ~12' x 50'
- 2. Bus stop
- 3. Bus loading zone blocks crosswalk
- 4. Long distance from bus stop to loading on bus
- 5. Blocks traffic at Merrill and S Old Woodward intersection
- 6. Blocks 2 parking spaces

B - BUS STOP



LEGEND

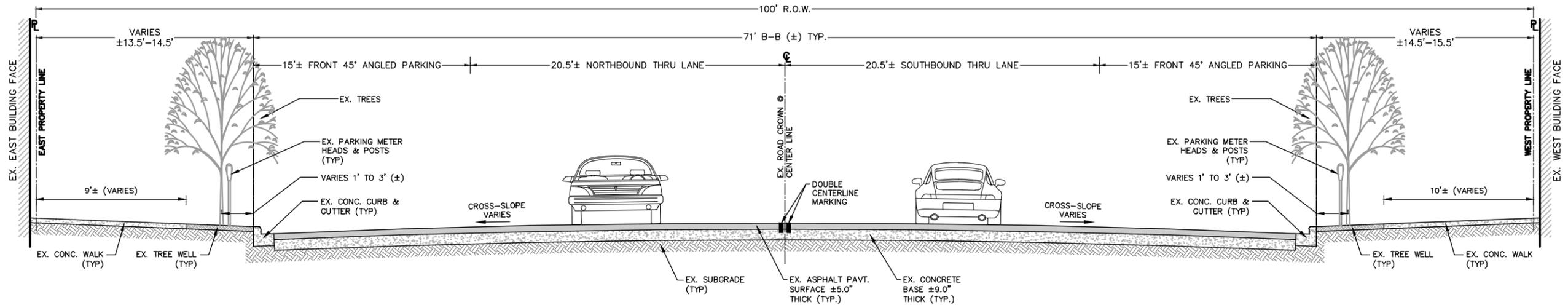
- 1. Bus loading zone ~12' x 50'
- 2. Bus stop
- 3. Pulls through intersection as to not block Merrill and Old Woodward traffic
- 4. Located in intersection; does not block crosswalks or parking, but could cause issues with traffic from

C- BUS STOP

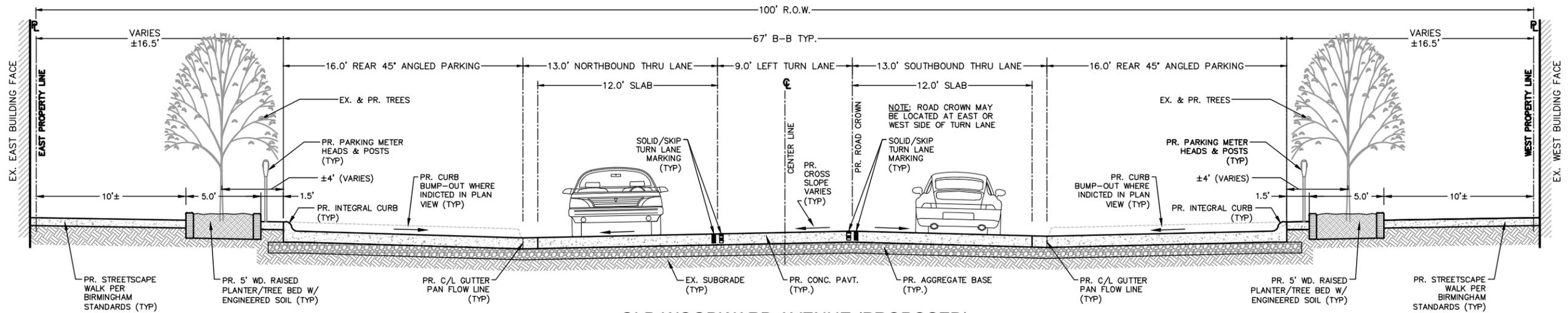


LEGEND

1. Bus loading zone ~12' x 50'
2. Bus stop
3. Stops before intersection;
does not block traffic or
parking spots
4. Two on-street parking
spots lost
5. Creates clear and open
access to theater

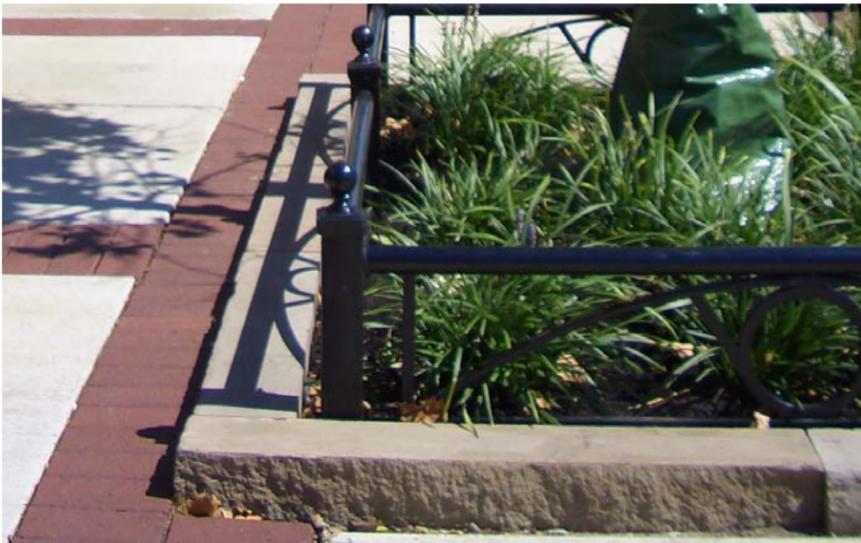


EXISTING



PROPOSED

Note - Purpose of drawings was for cost estimating. Not accurate to MKSK's recommended. Not produced by MKSK. Created by City consultant.



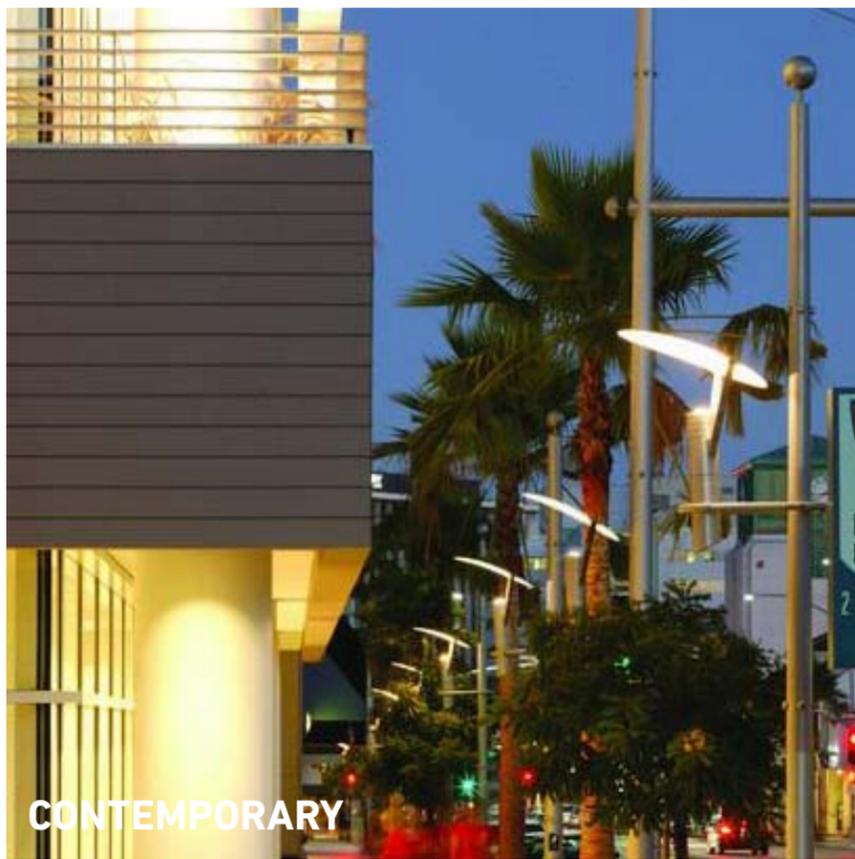
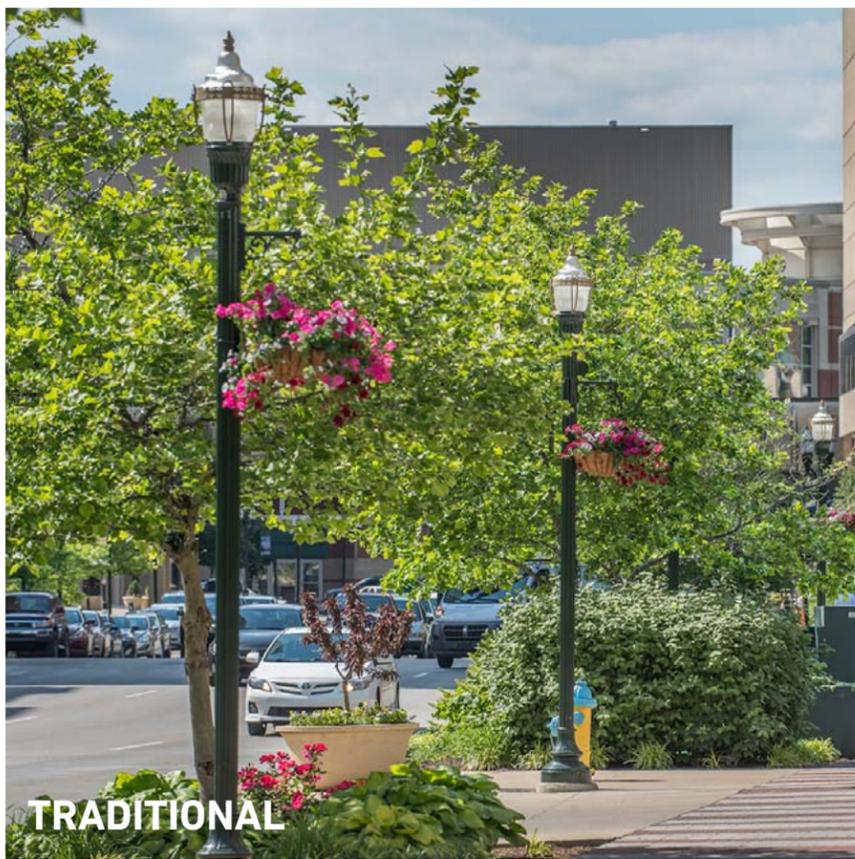
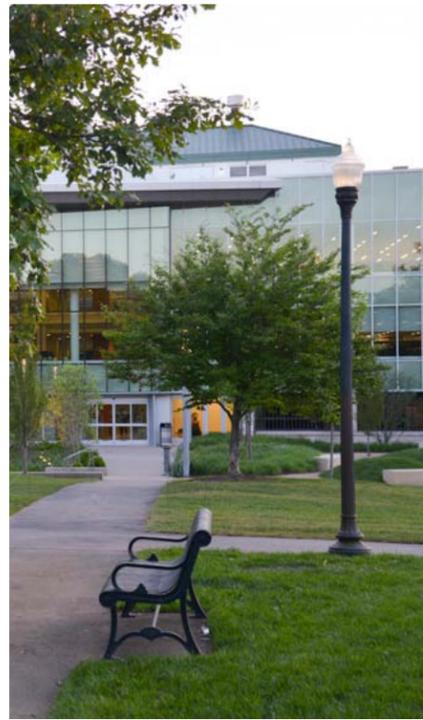
WALKWAYS



BOLLARDS



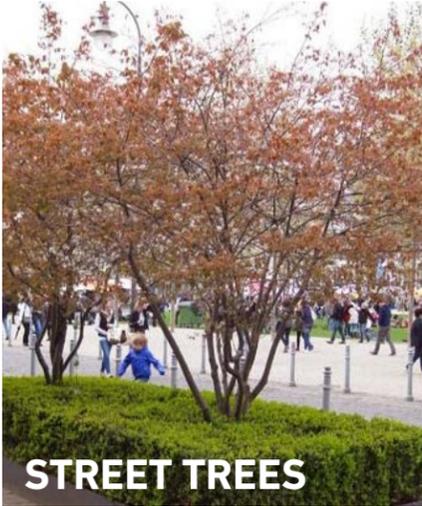
PLANTING CURBS



EXISTING

TRADITIONAL

CONTEMPORARY



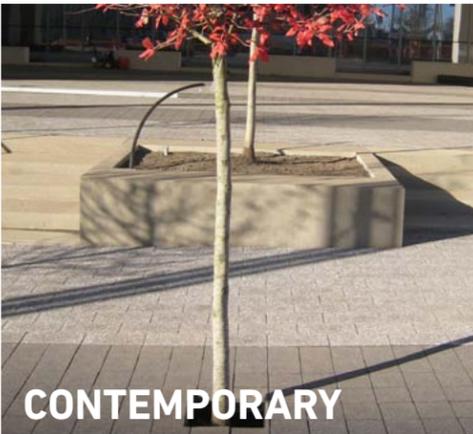
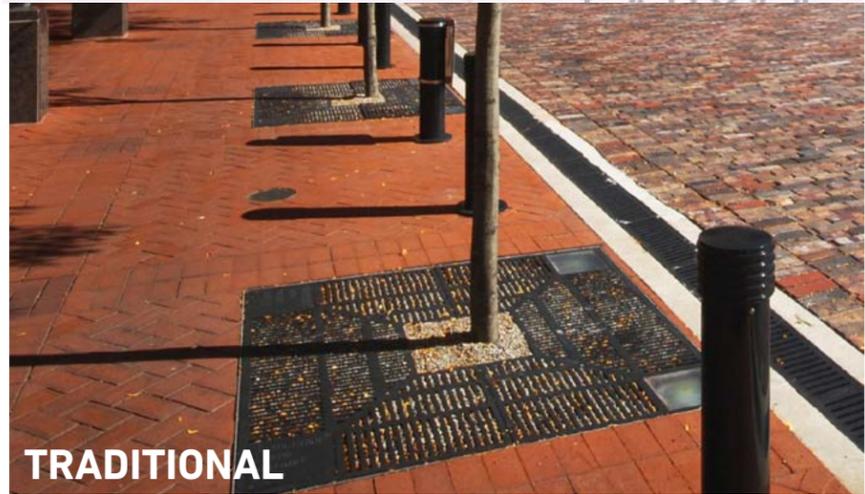
STREET TREES



CURBED PLANTERS



STATEMENT LANDSCAPES





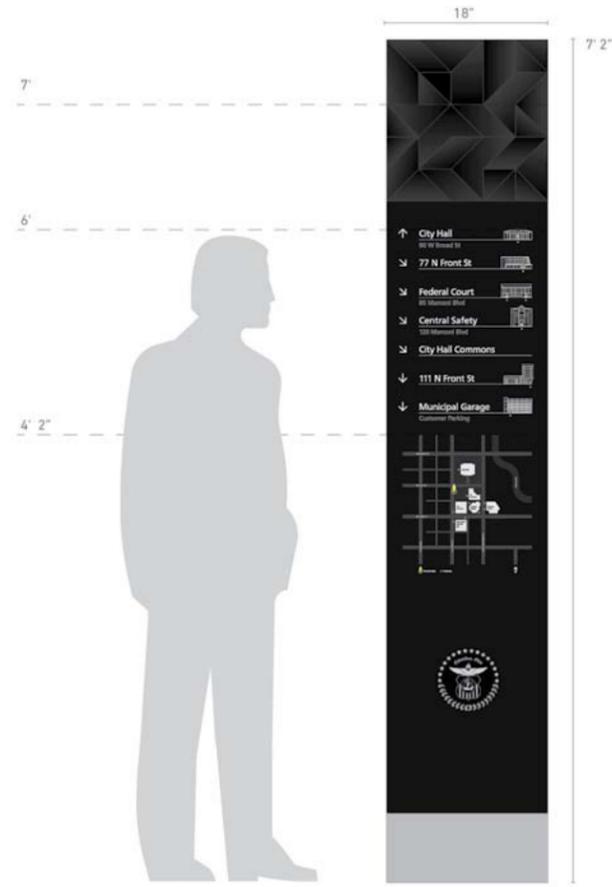
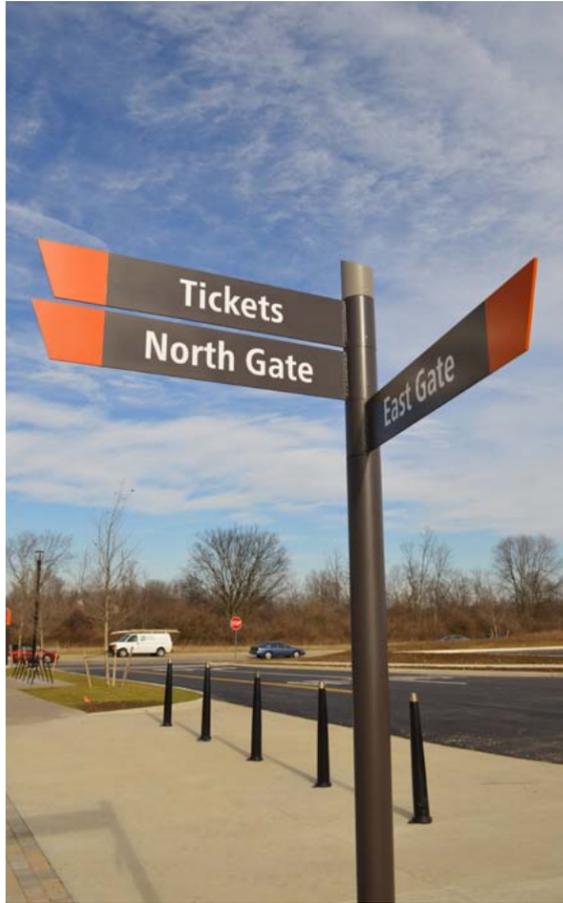
GROUND PLANE



OVERHEAD



PYLONS

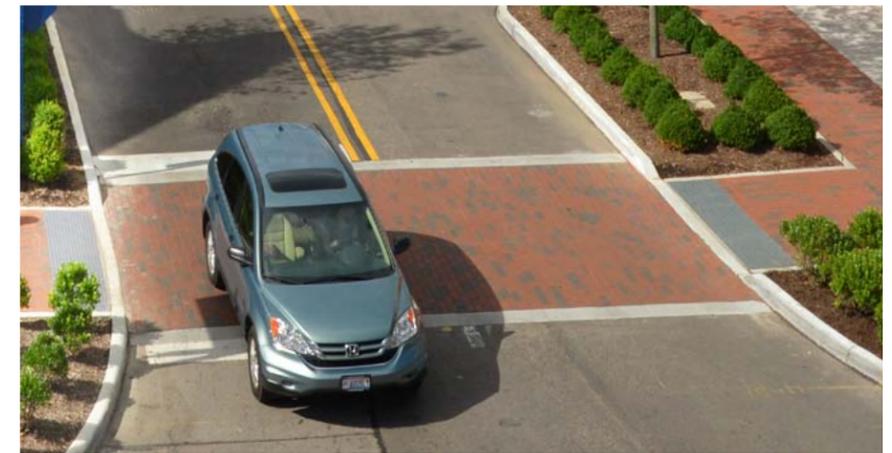




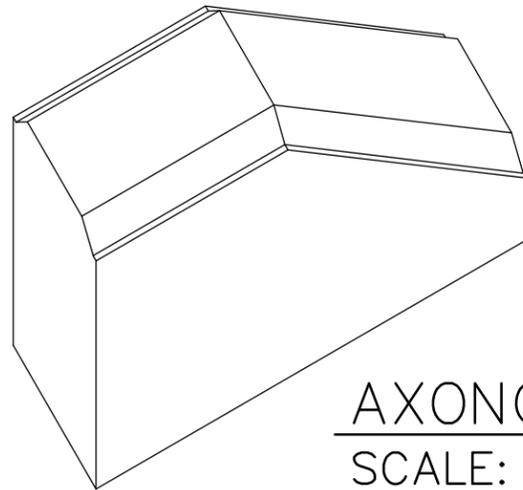
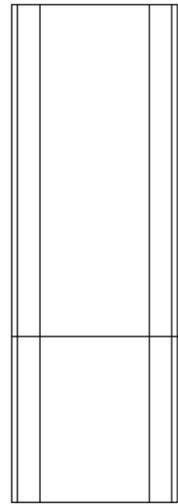
CURBS



ROADWAY



CROSSWALKS



AXONOMETRIC
SCALE: NTS

