SOUTH LAKE UNION STREET CONCEPT PLANS

Prepared for City of Seattle, Summer 2013

Weinstein A|U // CMG Landscape Architecture // CPL civil engineers

The provisions of this plan are recommendations to permit applicants and are not mandatory. Implementation of the plan recommendations are encouraged but compliance is voluntary.

WEINSTEIN A|U
ARCHITECTS + URBAN DESIGNERS LLC

CMG
CONGER MOSS GUILLARD
landscape architecture

COUGHLIN PORTER LUNDEEN
STRUCTURAL · CIVIL · SEISMIC ENGINEERING

TABLE OF CONTENTS

Page 6

I. INTRODUCTION & VISION
- Introduction
- Context
- Existing Plans
- Character Giving Spaces
- SLU Streetscape Goals + Design Intent

Page 15

II. STUDY AREA STREETSCAPE CONCEPTS
- 8th Ave
- John Street
- Thomas Street
- Harrison Street
- Republican Street

Page 51

III. DESIGN ELEMENTS
- Intersections + Midblock Uses
- Cycle Tracks

Page 54

IX. APPENDIX
- Utility Constraints & Coordination

INTRODUCTION

South Lake Union is rapidly evolving as one of Seattle's most dynamic neighborhoods. The South Lake Union Street Concept Plans focus on the portion of the neighborhood west of Westlake Ave., creating a guide for a streetscape that could be a key amenity in the neighborhood.

The study area is between 9th Avenue and Dexter Avenue, from Denny Way on the south to Mercer Street on the north. It includes Denny Park and the recently constructed UW Medicine campus. Significant development is expected in the coming years in this area, and the South Lake Union Street Concept Plans will provide a vision that can be built incrementally over time.

The street concept plans take advantage of major opportunities to create public amenity that have been identified in several previous planning efforts including the South Lake Union Urban Design Framework, the Thomas Green Street Concept Plan, and the South Lake Union Mobility Plan.

The street concept plans recommend preferred configurations and functions for each street in the study area, and a suggested palette of materials for paving, plantings and street furnishings.

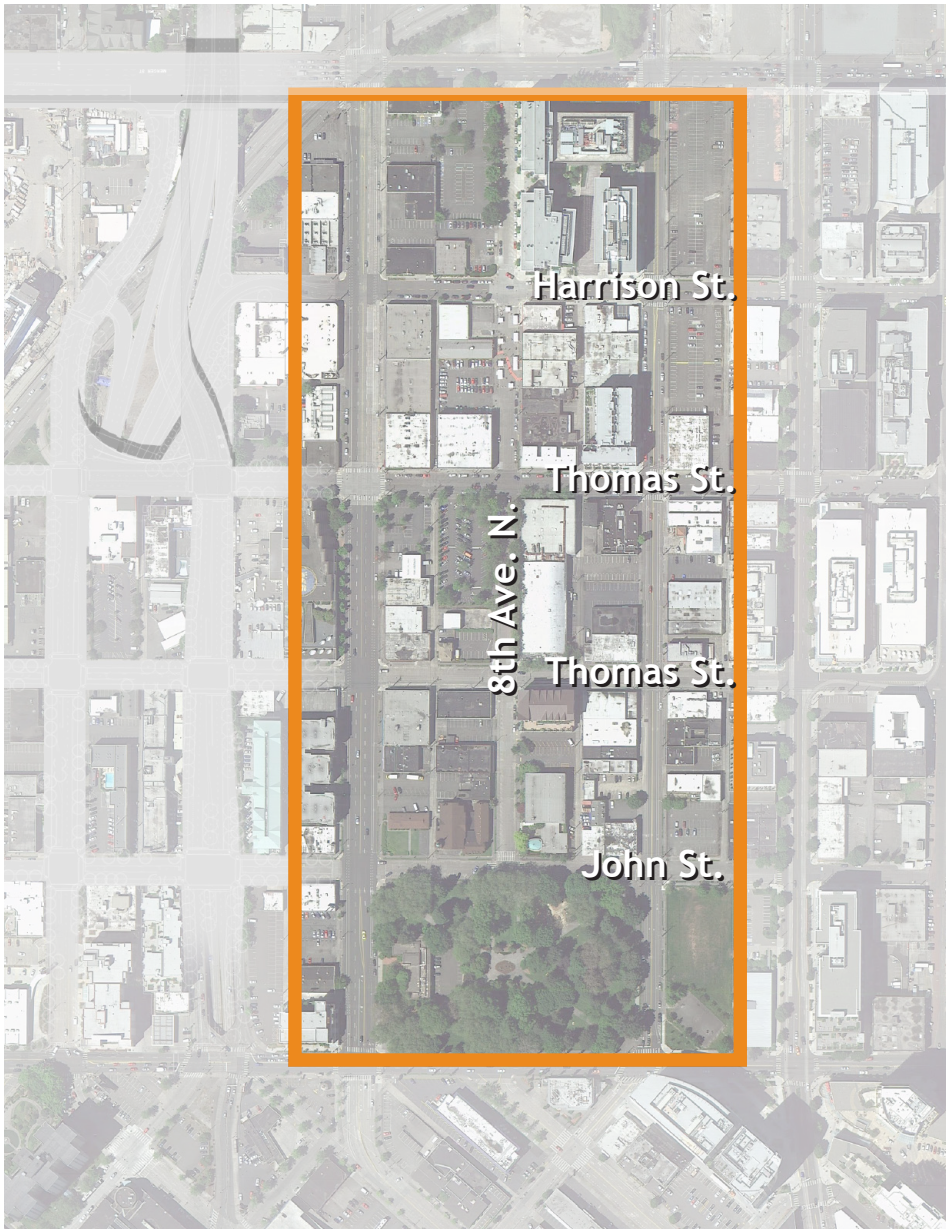
There is a particular opportunity to create a unique shared-use residential street on 8th Avenue North for the three blocks between Denny Park and UW Medicine. Past planning and new zoning for this area encourage ground-related residential uses including stoops and porches. The designs for 8th Avenue North include a concept for "street rooms" that offer seating and space for a variety of activities in the right of way within the block.

In addition, with the Alaskan Way Viaduct Replacement project, three streets—John, Thomas, and Harrison—will be reestablished as connections between South Lake Union and Uptown neighborhoods. Designs for the reconnected east-west streets draw on previous planning for the area and from the design for reconstruction of the Alaskan Way / SR 99 replacement project. Thomas and John Streets are identified as green streets, and portions of Thomas Street are a part of a proposed Lake to Bay Loop urban trail.

The implementation of these South Lake Union street concept plans will help create a valuable park-like amenity within an increasingly dense and vibrant urban neighborhood.

WHAT IS A STREET CONCEPT PLAN?

These street concept plans provide a vision and guidance for improvements to the right-of-way so that incremental projects by both private and public actors results in an excellent public realm that fits a particular location. These plans were produced in conjunction with the Seattle Department of Planning and Development (DPD) and the Seattle Department Transportation (SDOT), with input from the South Lake Union community and adjacent property owners. The street concept plans are intended for adoption as an appendix to Seattle's Right-of-Way Improvement Manual, Chapter 6. Elements of the concept plan may be used to satisfy development incentives in the South Lake Union incentive zoning program. Landscape elements in the right-of-way can be counted toward project Green Factor requirements.



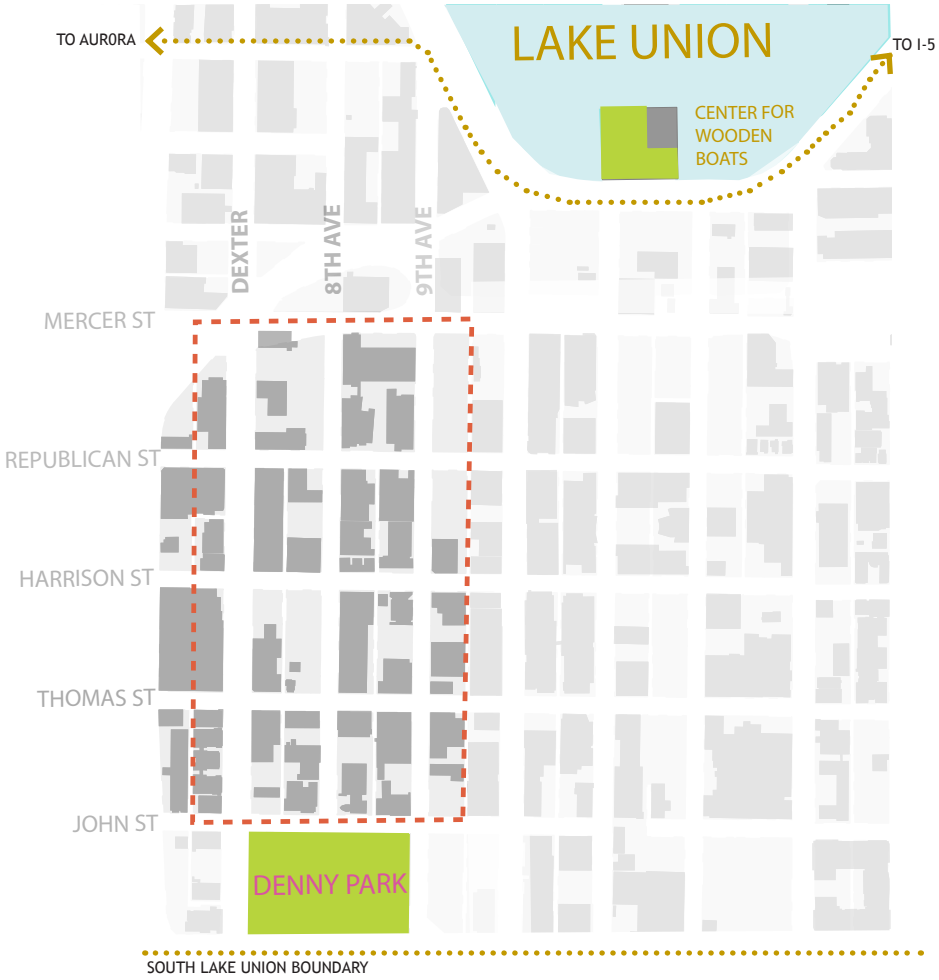
CONTEXT

South Lake Union, one of ten Center City neighborhoods, has attracted exceptional growth in recent years. This growth is a result of City policies and investments by both private and public sectors. South Lake Union has become a dense mixed-use neighborhood reflecting policies created in the 1990's, adding thousands of new housing units and thousands of new jobs in fields including biotechnology, global health, and information technology.

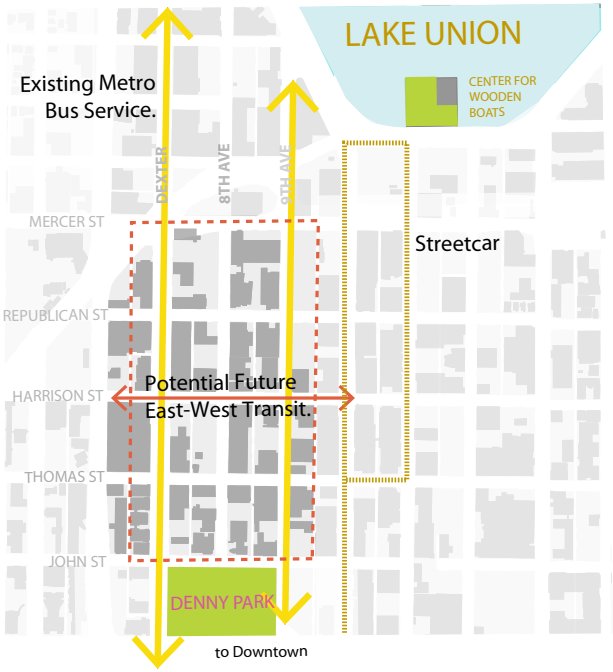
South Lake Union is adjacent to Capitol Hill to the east, but separated by Interstate 5. The Uptown neighborhood, to the west, is currently separated by State Road 99 (Aurora), but will be reconnected with the completion of the Alaskan Way Viaduct Replacement project. The growing Belltown and Denny Triangle neighborhoods lie to the south, between South Lake Union and Downtown.

Seattle's street grid shifts at Denny Way, the neighborhood's south edge. Westlake Avenue cuts through the city grid in the Denny Triangle area, connecting Downtown and South Lake Union. The South Lake Union Streetcar began operation in 2007, adding a new transportation option between Downtown and South Lake Union. Mercer Street, at the north edge of the study area, has been rebuilt as a two-way boulevard in the Mercer East project; the Mercer West project will extend the two-way boulevard past Seattle Center.

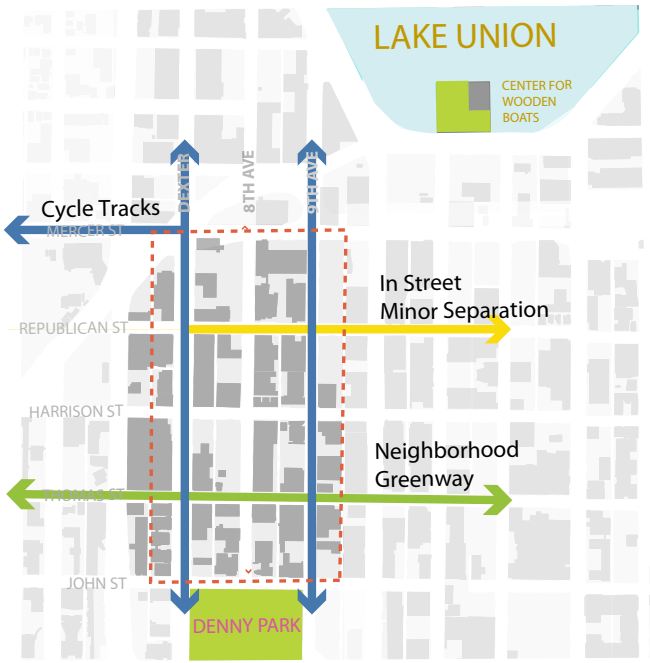
Several significant parks serve the community—Denny Park, Cascade Playground, and the recently constructed 12-acre Lake Union Park.



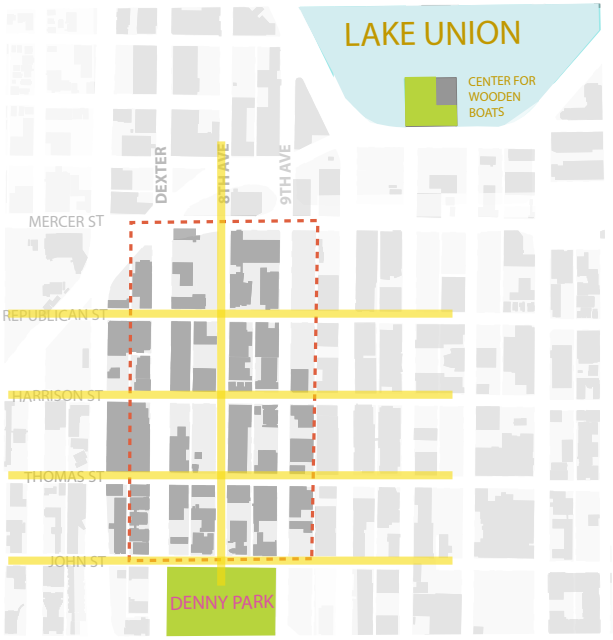
TRANSIT CONNECTIONS



PROPOSED BICYCLE NETWORK (2013 bike master plan)



ABOVE GRADE POWER LINES



OPENSPACE + TREE CANOPY

EXISTING PLANS

A number of planning documents have served as a guide for South Lake Union's development, and the addition of the Street Concept Plans draws directly on these plans and guidelines.

SOUTH LAKE UNION URBAN DESIGN FRAMEWORK (2011)

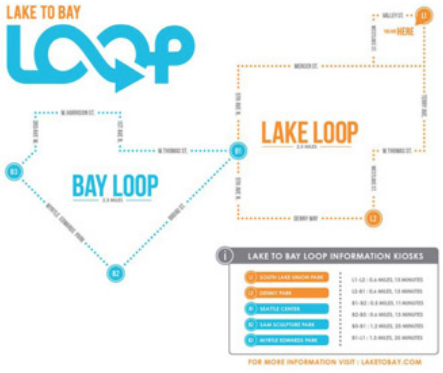
The framework set out priorities for public open spaces and amenities, for land uses and for street designations. This plan influenced alternatives for potential rezoning of the neighborhood, which was enacted in early 2013. In the Framework, 8th Avenue was shown as a shared use or woonerf street with ground-related housing and commercial uses at street corners only.

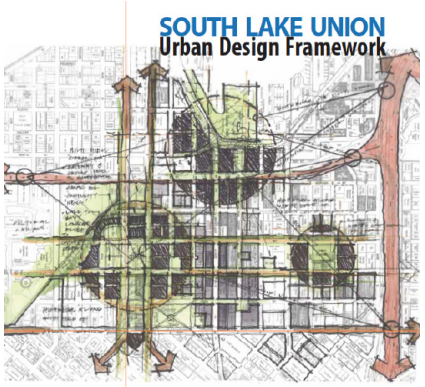
LAKE TO BAY LOOP

A strong connection from Lake Union to Elliott Bay has been a long-term desire for the Center City neighborhoods. With the pedestrian/bike overpass to the Elliott Bay waterfront, this connection is closer to being realized. The proposed Lake to Bay Loop urban trail runs along a portion of Harrison Street, Thomas Street and will continue to Lake Union via Terry Avenue North.

THOMAS GREEN STREET CONCEPT PLAN

DPD led street concept planning for Thomas Street from Elliott Avenue to Fairview Avenue. With much of Thomas Street designated as a Green Street, this concept design anticipates the upcoming changes with the reconnection across Aurora and builds on the South Lake Union Urban Design Framework. The recommendation in the South Lake Union Street Concept Plans are consistent with and complement the Thomas Green Street Concept Plan.





ALASKAN WAY VIADUCT REPLACEMENT PROJECT

The removal of the Alaskan Way Viaduct along Seattle's central waterfront will create a tunnel running from the Stadium District south of Pioneer Square to the Uptown neighborhood adjacent to South Lake Union. The north portal will emerge just north of Harrison Street, and Aurora Avenue North will become part of the at-grade street system. John, Thomas, and Harrison Streets will become newly established connections between Uptown/Seattle Center and South Lake Union.

As part of the Washington State Department of Transportation's (WSDOT) north portal design, street designs were created for Harrison and Thomas Streets west of Aurora. These designs were vetted with SDOT and other stakeholders, and are referenced in these South Lake Union Street Concept Plans.

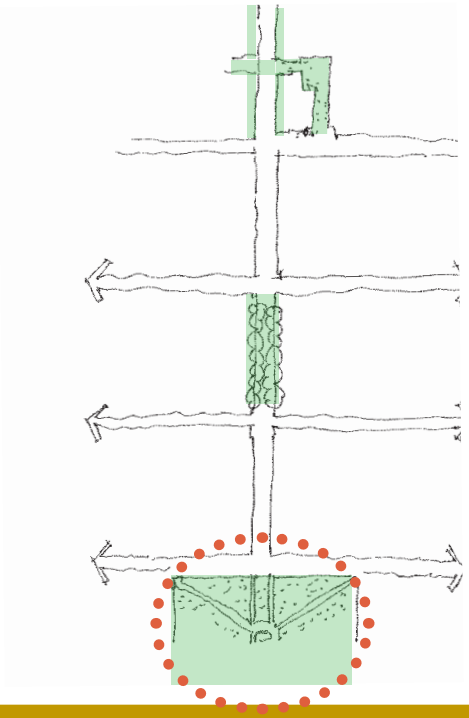
SOUTH LAKE UNION DESIGN GUIDELINES (2005, revised 2012)

These guidelines tailor Seattle's Citywide Design Guidelines to the issues of highest importance to the neighborhood. Of particular relevance to this project is the guidance for residential areas along the street: "Consider designing the entries of residential buildings to enhance the character of the streetscape through the use of small gardens, stoops and other elements to create a transition between the public and private areas." guideline PL3.

DENNY PARK

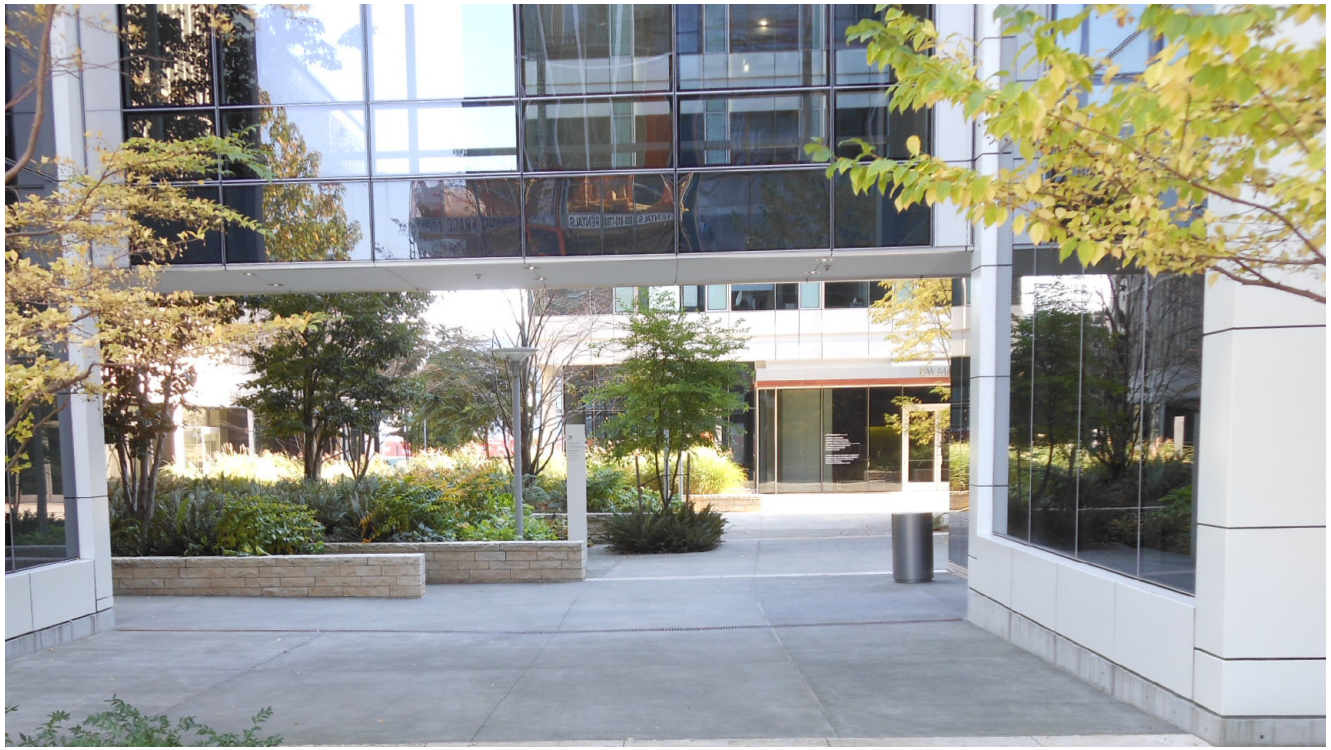
In this neighborhood, several character-giving spaces serve as a starting point for street concepts. Seattle's oldest park, Denny Park, was donated to the City by the Denny family in 1864. Its current formal design came after the regrades, which by 1930 left Denny Park flattened. The park is an urban oasis that has until recently been on the fringe of Downtown's activities. Recently, a play area and dog facility has been added to the park. Proposed development is certain to bring new life to Denny Park

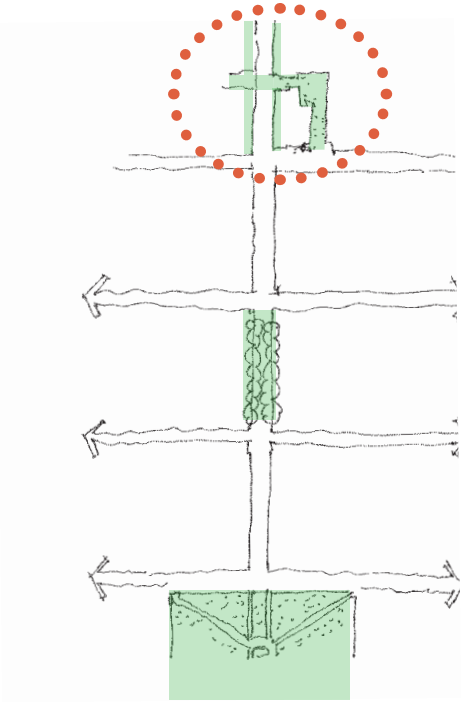
VIEW OF DENNY PARK



UW MEDICINE

Significant spaces have been added with the development of the University of Washington Medicine complex north of Republican St. These spaces are internal to the blocks, but open up to both 8th Avenue and Republican Street. They set a standard of design excellence and should be part of the contributing spirit to the street concept plans.

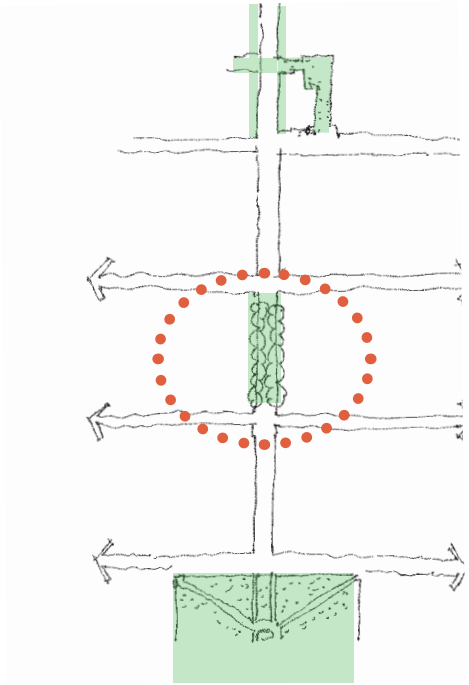


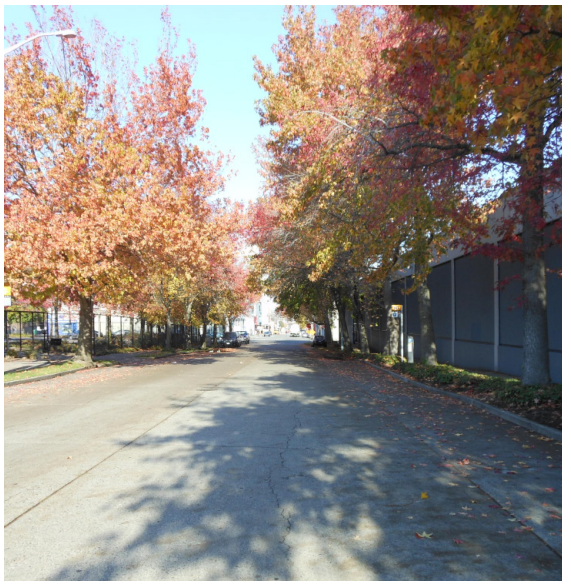


CHARACTER GIVING SPACES

TREE CANOPY

The block of 8th Avenue between Thomas Street and Harrison Street is a memorable segment of full street tree canopy. The fall color of the trees is particularly fine and adds to the character of this block as a proposed shared use residential street with pedestrian priority.





8th Ave betweet Thomas and Harrison

STREET CHARACTER

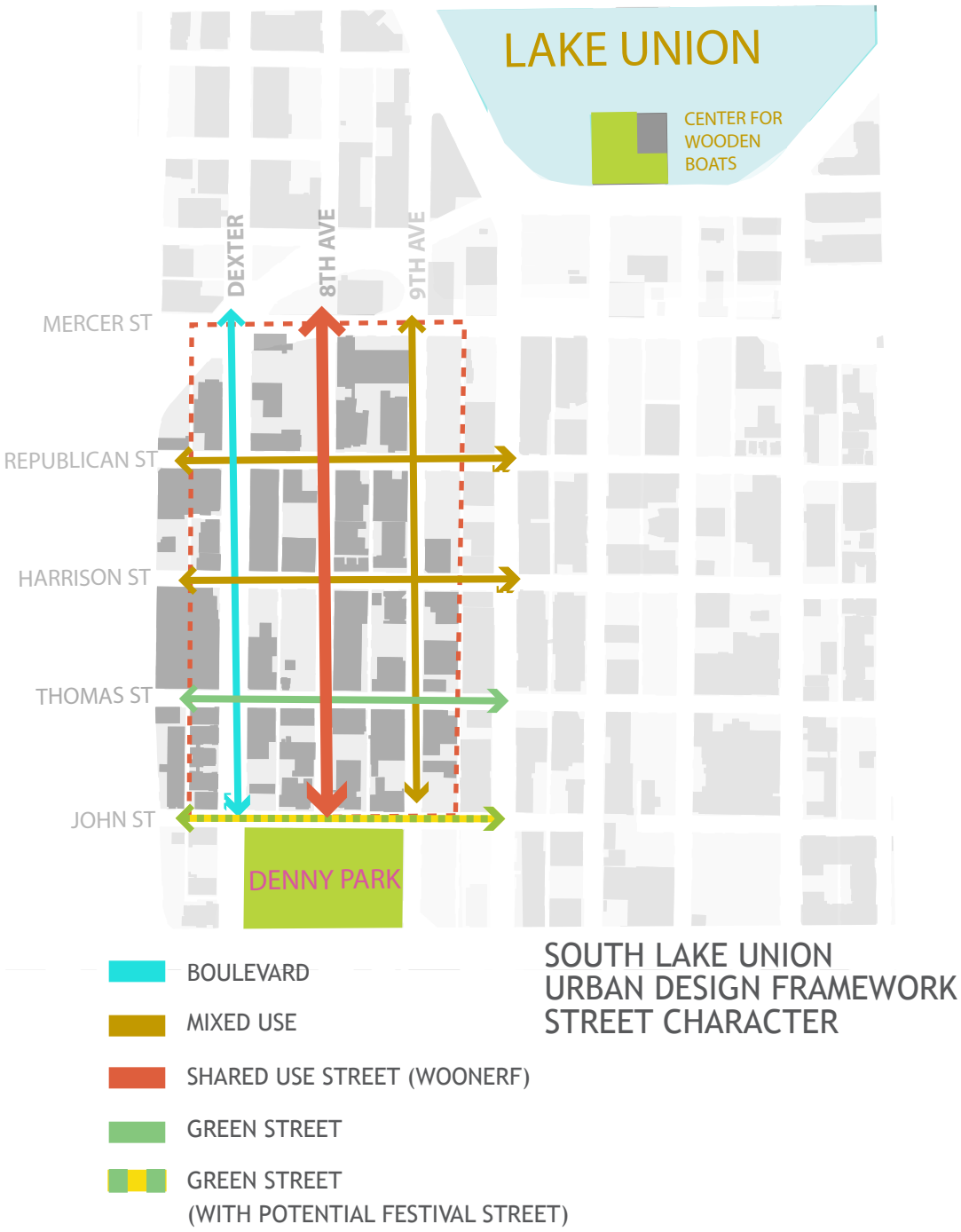
The South Lake Union Urban Design Framework characterizes streets according to the desired features - and helps inform the concept plans. 8th Avenue North is identified as a woonerf, or shared-use street. The plan defines this character type by an emphasis on pedestrian and bicycle use and a relationship with housing in the block.

Thomas Street is identified as a green street, which also prioritizes bicycle and pedestrian mobility. Traffic calming measures are encouraged, and a green street character may include capturing rainwater, providing habitat or trees with significant canopy.

John Street, identified as a green street and possible festival street, should be designed with the ability to potentially close the street to vehicle movement for events.

Republican, Harrison and 9th are identified as mixed-use streets, which are secondary routes to and through the neighborhood. They may have transit, and serve a variety of land uses.

Dexter, is identified as a boulevard, has a higher intensity of transportation use for all modes. Landscaping, tree canopy and pedestrian safety measures are suggested in order to provide comfortable, human scale spaces along a wide street.



This page left intentionally blank.

II. STUDY AREA STREETSCAPE CONCEPTS

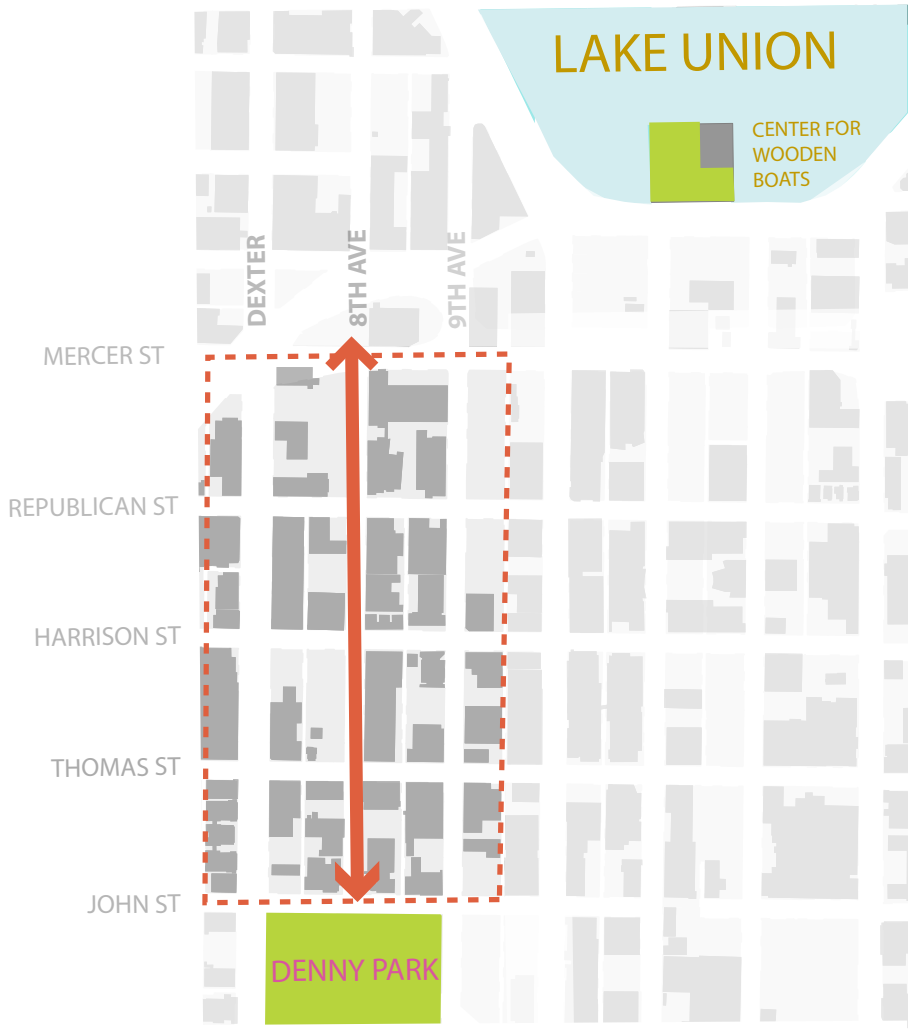
8th Ave
John Street
Thomas Street
Harrison Street
Republican Street
9th Ave
Dexter Ave

STUDY AREA STREETSCAPE CONCEPTS

8TH AVENUE NORTH

A residential shared-use street is different than a retail shared-use street, with activation that comes primarily from the people in the neighborhood itself rather than shoppers, employees and tourists. The design needs to invite a full range of participants, but in order to be well-activated, neighborhood residents must make good use of the space. Different users will have a range of activities-walking the dog, play areas where there are families, possibly pea-patches or more active recreation for others. It will be beneficial to allow as many of the uses desired by residents as possible in the right-of-way.

The 8th Avenue design refers to the character giving spaces as a starting point. Denny Park has a formal character, very large trees, and a long history. Elements of the park such as the distinctive pedestrian lights are recommended to extend the feel of the park northward. Seattle City Light would need to approve the use of the lights featured in the Park. A second influence is the beautiful mature canopy of the sweetgum trees between Thomas and Harrison. Continuing this species or one with similar characteristics will provide continuity along the four blocks between the Park and Mercer Street. Third, there are excellent open spaces in the UW Medicine campus at the north end of the segment of 8th Avenue. The character of these spaces is quite different than Denny Park, but a worthy bookend.



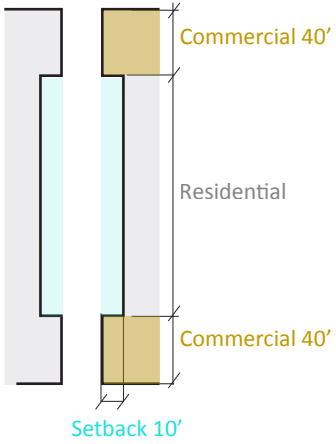
EXISTING CONDITIONS

CURRENT FUNCTIONS + CONDITIONS

Existing conditions along 8th Avenue North include two churches on the block nearest Denny Park, recent additions to the UW Medicine campus on the north end, and a significant amount of developable land. Proposed zoning for 8th Avenue emphasizes residential uses with an 85’ base height and potential increase in height with incentives. Street-level housing units with a 10-foot setback from the property line are encouraged by zoning.

The setback gives the ground floor units some privacy and allows space for stoops or front yards and plantings. Neighborhood commercial uses are allowed at the corners, building out to the property line for 40 feet back from the intersection. This zoning would create a “dumbbell” footprint, with a residential feel on the interior block, and commercial corners.

Zoning footprint



STUDY AREA STREETSCAPE CONCEPTS

8TH AVENUE NORTH| SHARED-STREET

These concepts for 8th Ave. N. assume adjacent development under new zoning effective as of summer 2013. If adjacent development is entitled to permitting under prior zoning, the general design intent of the streetscape plan could be implemented to the greatest feasible extent.

ENVISIONING 8TH AVE AS A SHARED-USE STREET

8th Avenue is an excellent candidate for a shared-use street because of its low-volume, low-speed traffic, and the potential increase in density with a need for quality open space. The shared-use strategy could be applicable to three blocks between John Street and Republican Street.

Shared use streets allow a mix of uses within the right-of-way to safely co-exist--people walking, cycling, and driving. Importantly, people are comfortable using the space for "staying" activities--sitting, eating, playing, gardening, visiting neighbors and other desired uses by people who live nearby. Unlike many shared-use situations, 8th Avenue will be primarily a residential street. The level of use and activity will be successful if the design of the street serves the nearby residents and attracts them to use the open spaces.

The preferred general organizaion of the shared-use street and its relationship to the adjacent land use is shown at right.

1. Residential use is required, and has a 10' setback in the middle of the block.
2. Commercial use should be within 40' of corners only and does not need to set back.
3. A multimodal portion of the street that accommodates people, bikes, cars at a slower speed, as well as fire access.
4. A sidewalk zone that accommodates a variety of activities including walking, sitting, playing, or connecting with neighbors; with lush plantings and tree canopy.

The “Street Room” Concept

The street room design concept is to create a set of outdoor spaces that are scaled and furnished to foster use by residents and the public. Street rooms would offer places within the right of way to sit and enjoy spending time. They would break up the linear 8th Ave. right of way, by introducing periodic pockets of larger usable spaces for landscaping, seating and other functions. Street rooms could include a variety of types of furnishings that could be permanent or seasonal. Pockets of on street parking would be clustered within the block to allow more generous spaces for street rooms in certain locations within the block.

On 8th Ave., street rooms could support adjacent residential uses by contributing to the sense of ‘front yards’ for the housing along the street. Careful design of the street rooms, would protect the privacy of adjacent ground level units, and also ensure that the public feels welcome to use and enjoy the street room space in addition to nearby residents.

Two types of possible street room design options are presented in the concept plan for 8th Avenue North. Final design would depend on adjacent property owner objectives and other factors, but either of the options could be implemented.

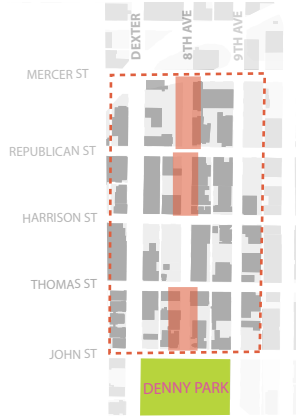
- ***Side Street Room.*** A series of smaller street rooms on the sides of the street, between the sidewalk and the shared-use roadway, alternating with parallel parking on the block.

- ***Central Street Room.*** A single larger street room located centrally within the block where residential uses are required. Perpendicular parking concentrated nearby corner commercial spaces would allow a generous street room space in the center of the block.

Examples of multiple types of uses for street rooms

SIDE STREET ROOM CONFIGURATION

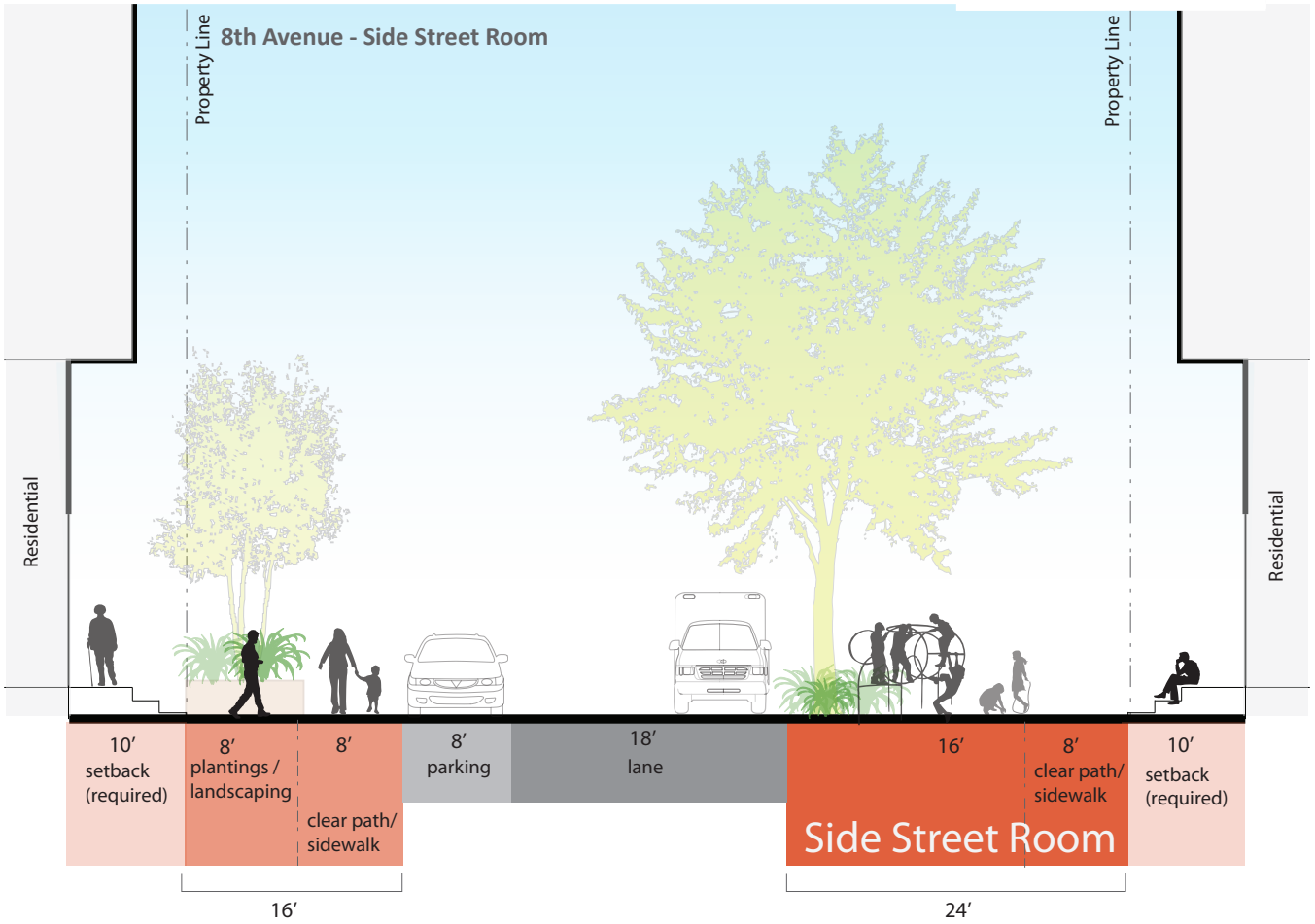
These concepts for 8th Ave. N. assume adjacent development under new zoning effective as of summer 2013. If adjacent development is entitled to permitting under prior zoning, the general design intent of the streetscape plan could be implemented to the greatest feasible extent.



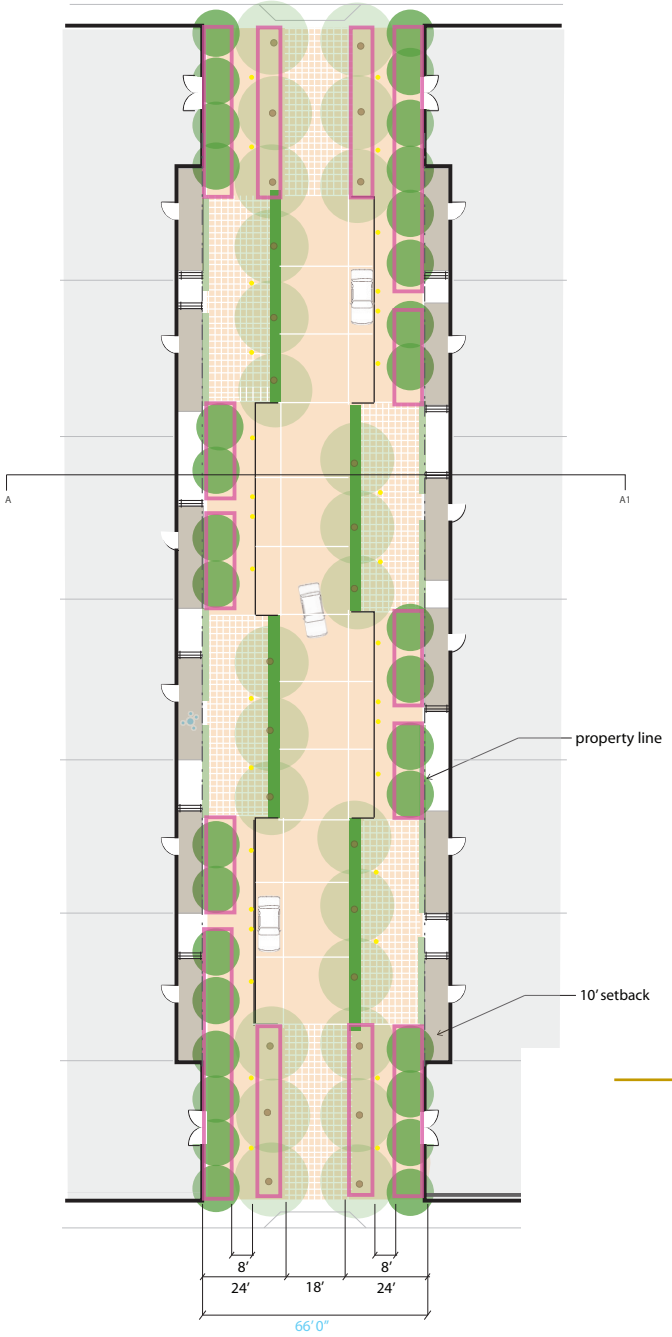
In the side room configuration, street rooms are pockets of space between the sidewalk and the shared-use roadway portion of the street. The side street room configuration allows pockets of parallel parking to be tucked in between street rooms - so that street rooms alternate with parking.

In this configuration planting areas can be located adjacent to residential uses to provide privacy, and where street rooms are present, a line of street trees can be shifted toward the center of the street in order to fill the right of way volume with tree canopy.

As a series of smaller spaces, the side street rooms are scaled for individuals and small groups to feel comfortable. Because there are several of these spaces, they may take on more individual characters depending on the adjacent homes and uses.

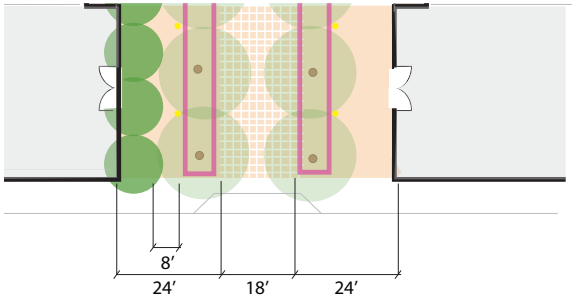


Side Street Room Concept



OUTDOOR DINING EXAMPLE

COMMERCIAL EXTENTION OPTION



SIDE STREET ROOM CONFIGURATION

Character Examples

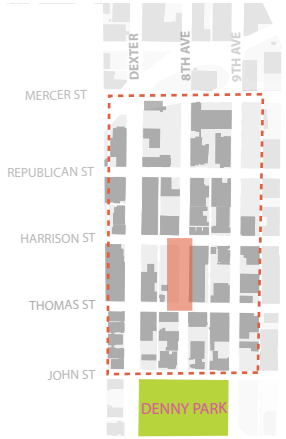
CENTRAL ROOM CONFIGURATION

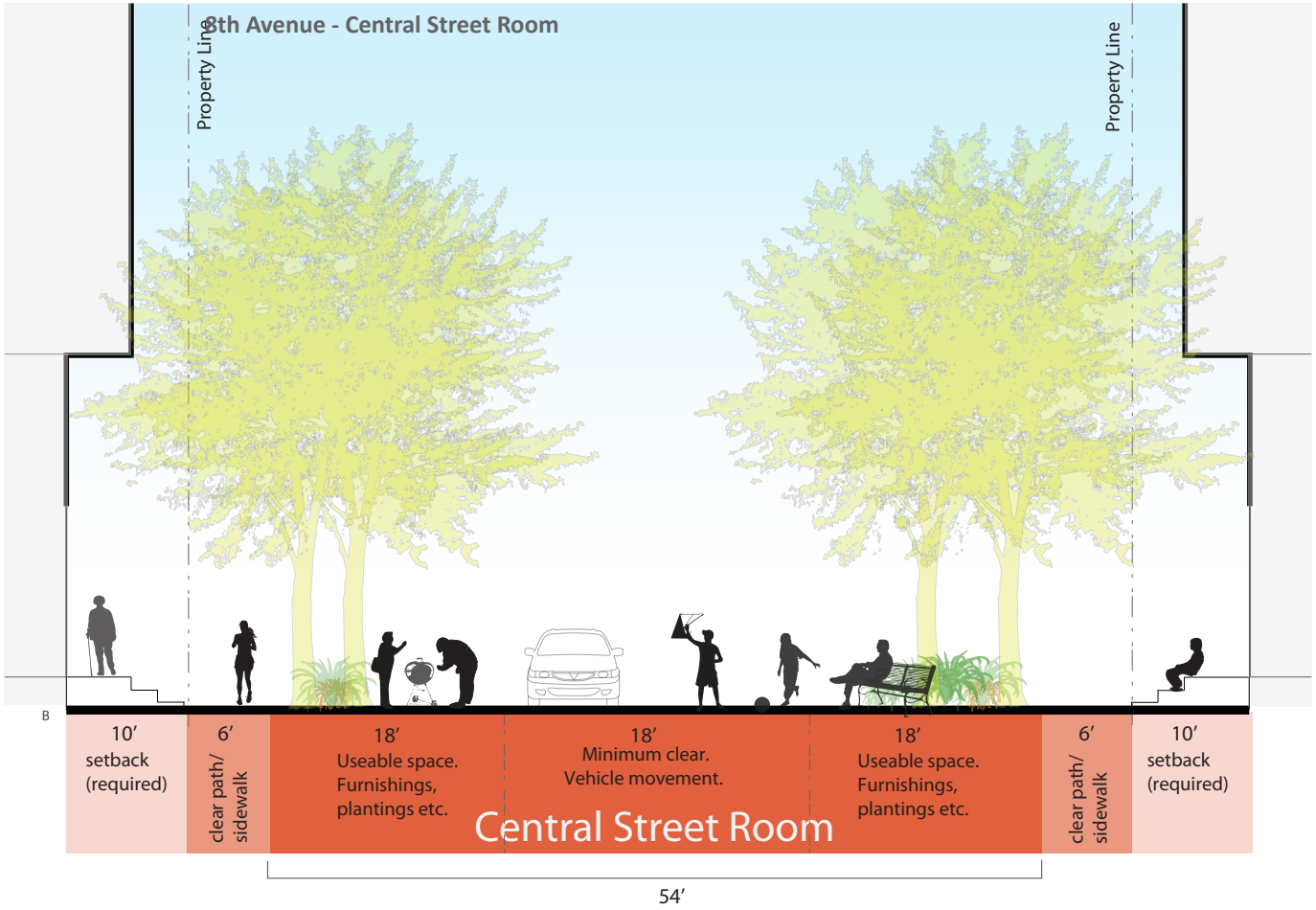
The central street room configuration is particularly applicable in the block between Thomas St. and Harrison St. This block has the beautiful sweet gum tree canopy, which the proposed design responds to. Additionally, this block presents the opportunity to develop both sides of 8th Ave. N. in one project due to ownership patterns, affording maximum flexibility to coordinate design of the right of way.

By focusing perpendicular street parking near the cross streets, the center of the block is left open as a truly shared street with many potential uses.

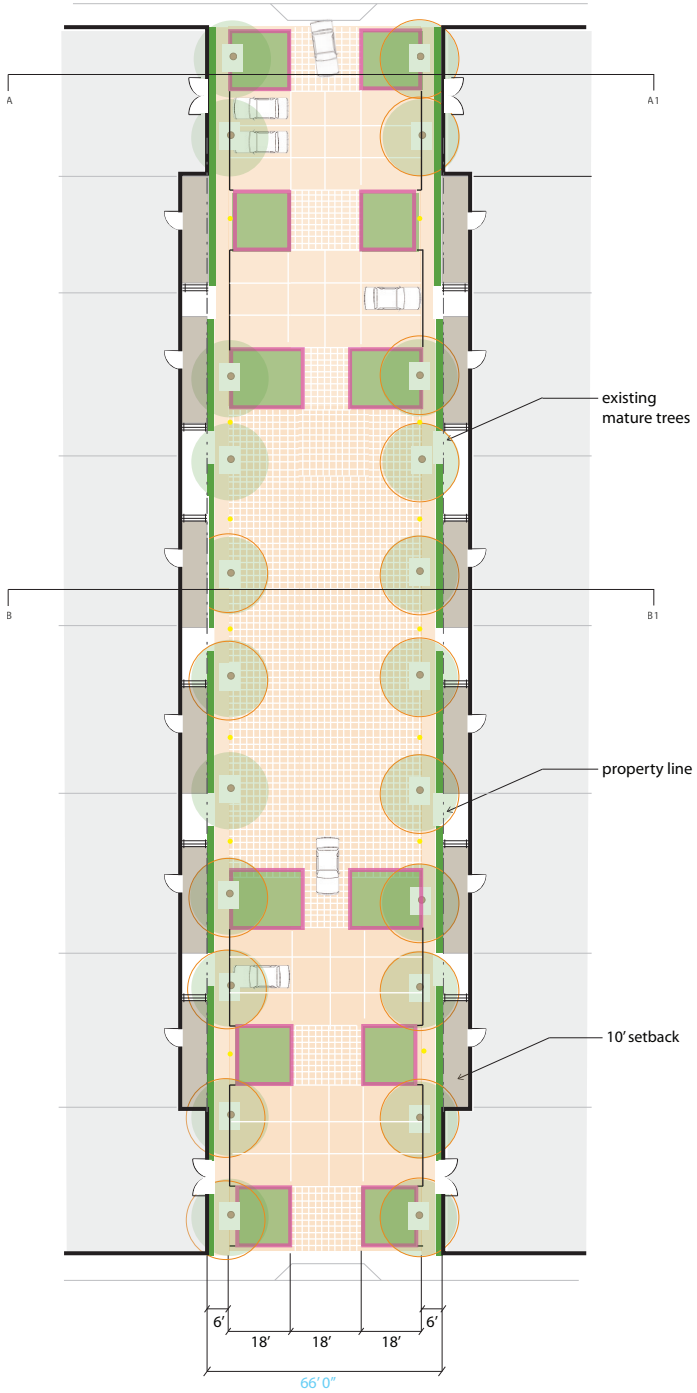
New trees in this block are not needed except to keep the canopy consistant, so new plantings would be lower in scale.
The large central street room offers a variety of space and uses along the street, and would be in scale with the mature trees. The central open space can accommodate permanent and temporary street furnishings.

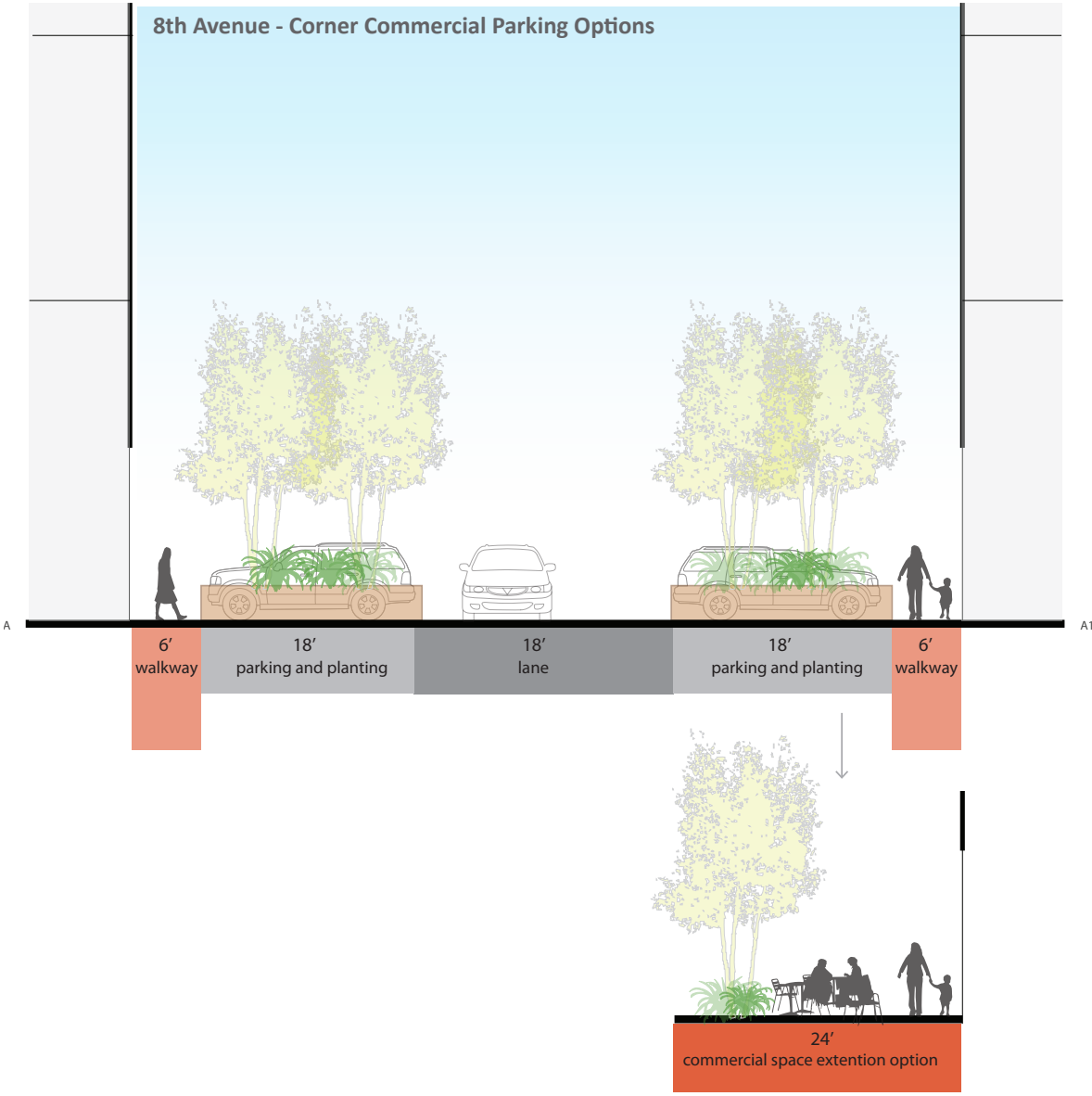
These concepts for 8th Ave. N. assume adjacent development under new zoning effective as of summer 2013. If adjacent development is entitled to permitting under prior zoning, the general design intent of the streetscape plan could be implemented to the greatest feasible extent.





Central Street Room Concept





CENTRAL ROOM CONFIGURATION

Character Examples

In the central street room concept vehicle drive lanes would run down the middle of the right of way, directing slow moving traffic through shared spaces that are used actively by residents and visitors. Site elements and furnishings could define street rooms with dedicated programs - such as a neighborhood social dining space, or a community garden. Or, portions of the street room could have large flexible plaza-like spaces that are open to various activities that residents or visitors might bring to it.

8TH AVENUE | MATERIALS

HIGH QUALITY MATERIALS TO PROMOTE PEDESTRIAN ACTIVITY

The materials choosen for 8th Ave. N. should be high quality and of a human scale. Materials should help provide consistency throughout the shared street; single to cars that it is a pedestrian priority area; and should be conducive to a variety of uses.

precedent example: South Lake Union

MATERIAL GUIDELINES

HARDSCAPE MATERIAL

Preferred materials include concrete, unit pavers or other hardscape of equal or higher quality, such as granite. (Asphalt paving is not a preferred material.)

In street room areas, hardscape should be light colored and provide a texture that helps denote pedestrian and shared use priority. This could include small unit pavers to create a pattern.

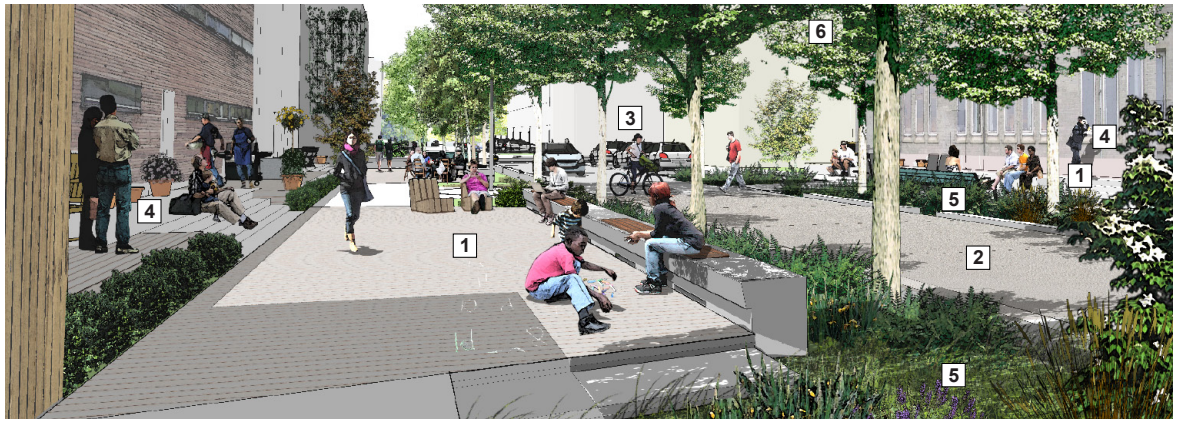
On street parking areas should be stamped or scored concrete, with integrated markings that allow parking space identification without paint.

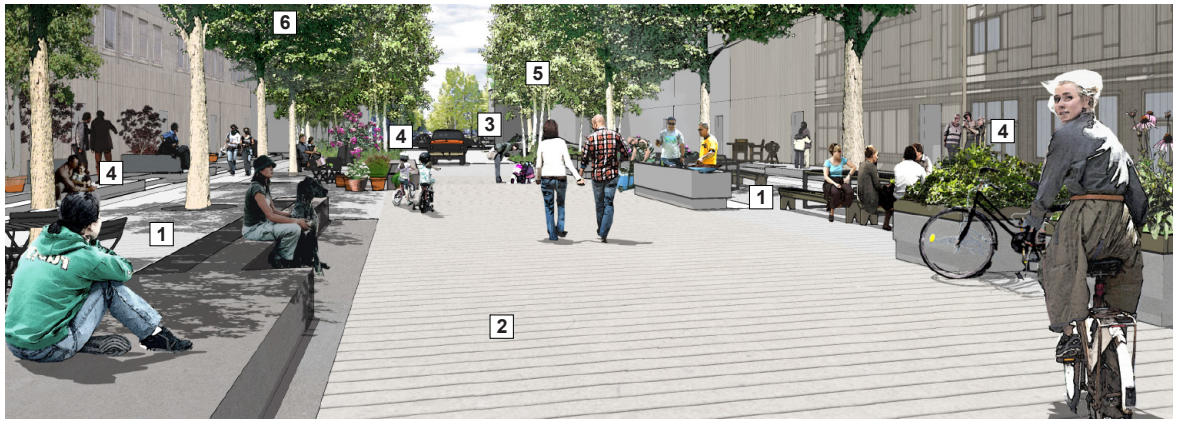
LANDSCAPE MATERIAL

Landscaping should incorporate and preserve exisiting mature trees where they are present (especially the sweet gum trees). New trees should be of the same species or one with similar qualities to provide a consistent canopy.

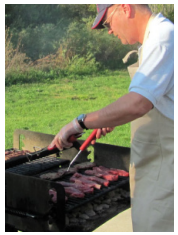
Low height buffer landscaping and shrubs, and/or stormwater plantings should be placed in the larger planted areas, near corners and throughout the blocks to add a soft greenscape. Plantings should be chosen from the City of Seattle Green Factor planting list. Where adjacent to residential frontages, plantings should be selected to enhance privacy of residential uses.

8TH AVENUE MATERIAL QUALITY EXAMPLES



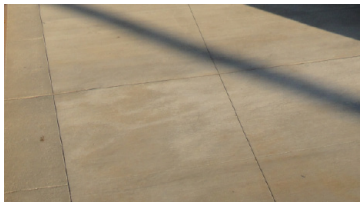


1 STREET ROOM



2 LANE/STREET ROOM

3 PARKING AREA



4 RESIDENTIAL STOOPS

5 BUFFER / STORMWATER PLANTING

6 STREET TREES

This page left intentionally blank.

EAST WEST STREETS

The street concept plans are intended to take advantage of opportunities that will come from the reconnection of John, Thomas and Harrison Streets as part of the SR 99/ Alaskan Way Viaduct Replacement project. South Lake Union will be reconnected for the first time in over fifty years to Seattle Center, the Uptown neighborhood and beyond. Thomas Street offers a connection as a Green Street and part of the Lake to Bay Loop all the way to Elliott Bay via the recently completed pedestrian bridge to the waterfront.

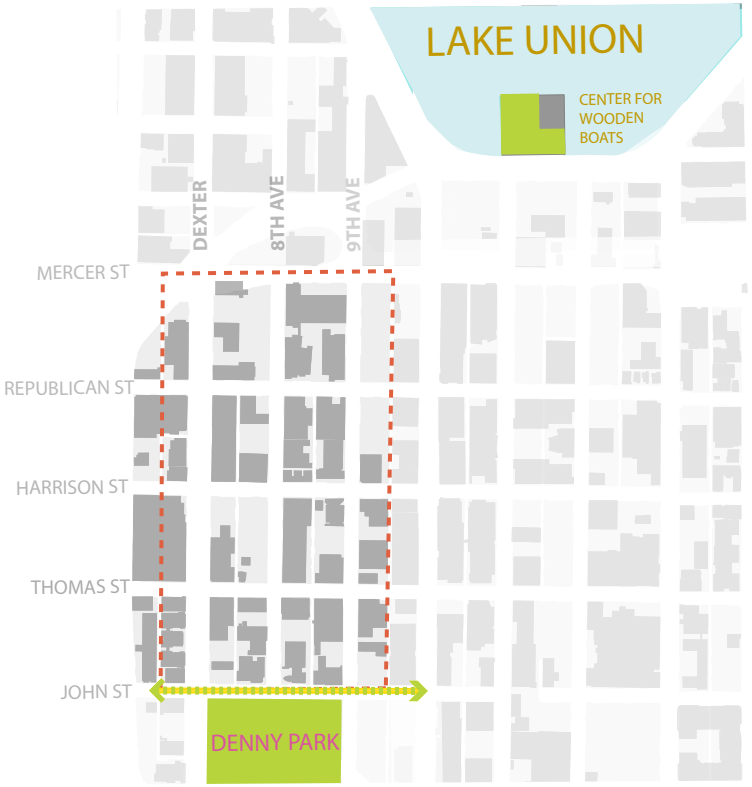
This reconnection will correct a gap in mobility for pedestrians, cyclists, vehicles and transit. These concept plans incorporate work done on related projects for these modes. The South Lake Union Mobility Plan indicates that Harrison is best suited to new transit connections, and that Thomas is favored for cyclists. The expected increase in vehicular traffic will need to be balanced with the other modes, and the street design should help in keeping traffic speeds compatible with pedestrian and bicycle use.

These plans also build on the work done in the Thomas Green Street Concept Plan, the streetscape plans for the Viaduct Replacement project, the South Lake Union Urban Design Framework.

STUDY AREA STREETSCAPE CONCEPTS

JOHN STREET CONCEPT

John Street is one of three east-west streets that will be reconnected as part of the Alaskan Way Viaduct Replacement Project, and as a green street can provide an excellent walking street that connects Seattle Center and South Lake Union. The park and two churches alongside John St. in the project area offer quiet, attractive edges and a neighborhood feel. Because the park is along two blocks of John St., the street already feels green. Angled parking that currently exists along the edge of the park is a useful function for the area. The goal for John St. is to incorporate green street qualities, extend the feel of Denny Park to the east and west, and to have the north side of the street support street trees where power lines are not present.



EXISTING CONFIGURATION + ISSUES

Dexter to 9th:

- 1-lane each way
- Back-in angled parking on south side, parallel parking on the north along park.

Other blocks:

- 1-lane each way
- Parallel parking both sides.
- Sidewalk and sparse street trees either side.

DESIGN INTENT

Compatibility as a Green Street per the ROW Improvement Manual

Take advantage of adjacency to Denny Park--extend the feel of the park.

Allow for closure of the street to vehicles for potential festival street events.

Preserve parking reservoir; but consider tools to make parking areas feel like a forecourt to the park.

CHARACTERISTICS AND DESIGNATIONS

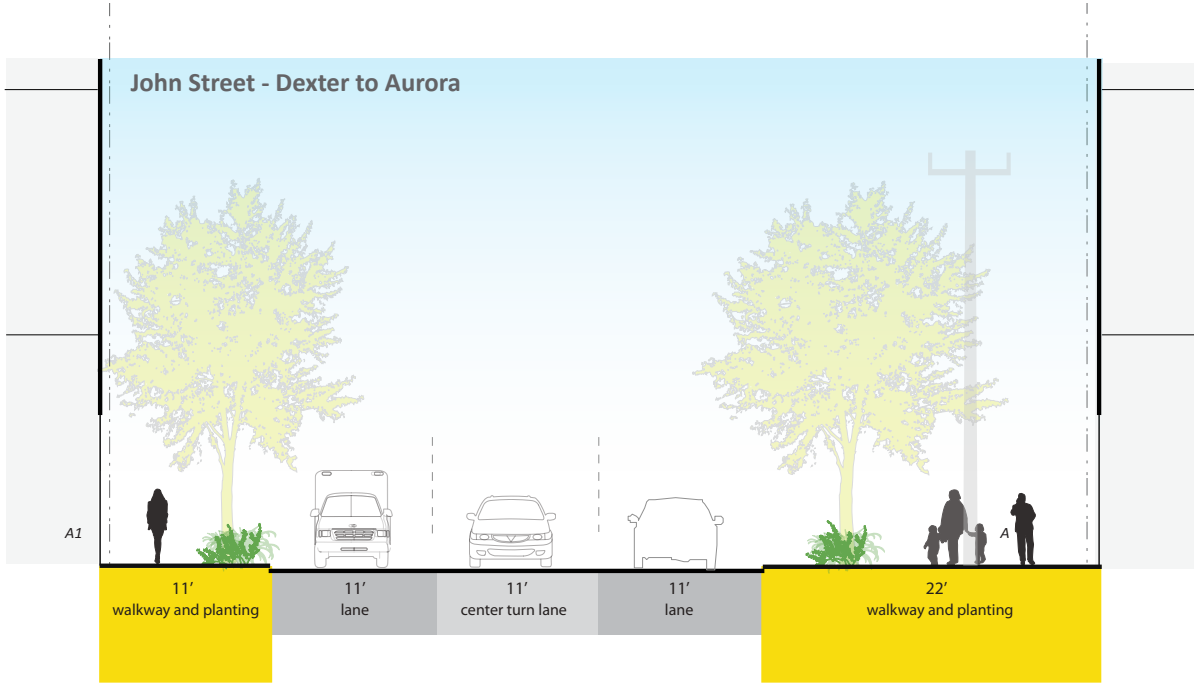
- John Street will be reconnected across highway 99 as part of the AWV replacement project.
- Non-arterial street; adjacent land uses include park, institutional, commercial, possible new residential.
- Runs along the north edge of Denny Park between Dexter and 9th Avenue.
- Along Denny Park, serves as a parking reservoir with approximately 40 back-in angled parking spaces along the park edge.
- Designated green street.
- Identified in the SLU Urban Design Framework as a “Festival Street”, meaning it could be easily closed off to vehicle traffic during special events.
- Two churches are across John Street from Denny Park.
- Space Needle and Pacific Science Center arches visible to the west from some vantage points.
- Overhead wires in some locations conflict with ability to plant large trees.

John Street - looking west at Dexter Ave.

John Street -looking east along Denny Park

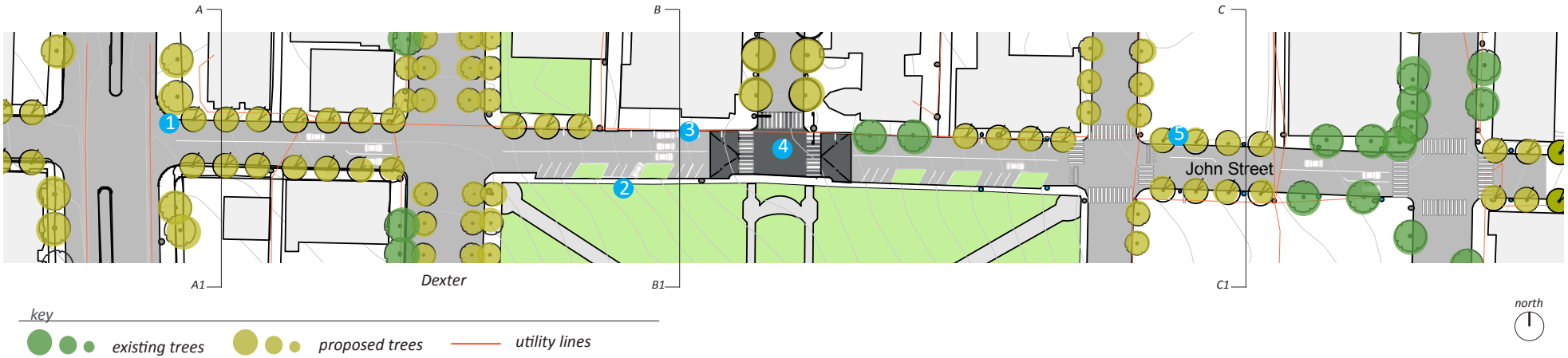
John Street -looking west along Denny Park

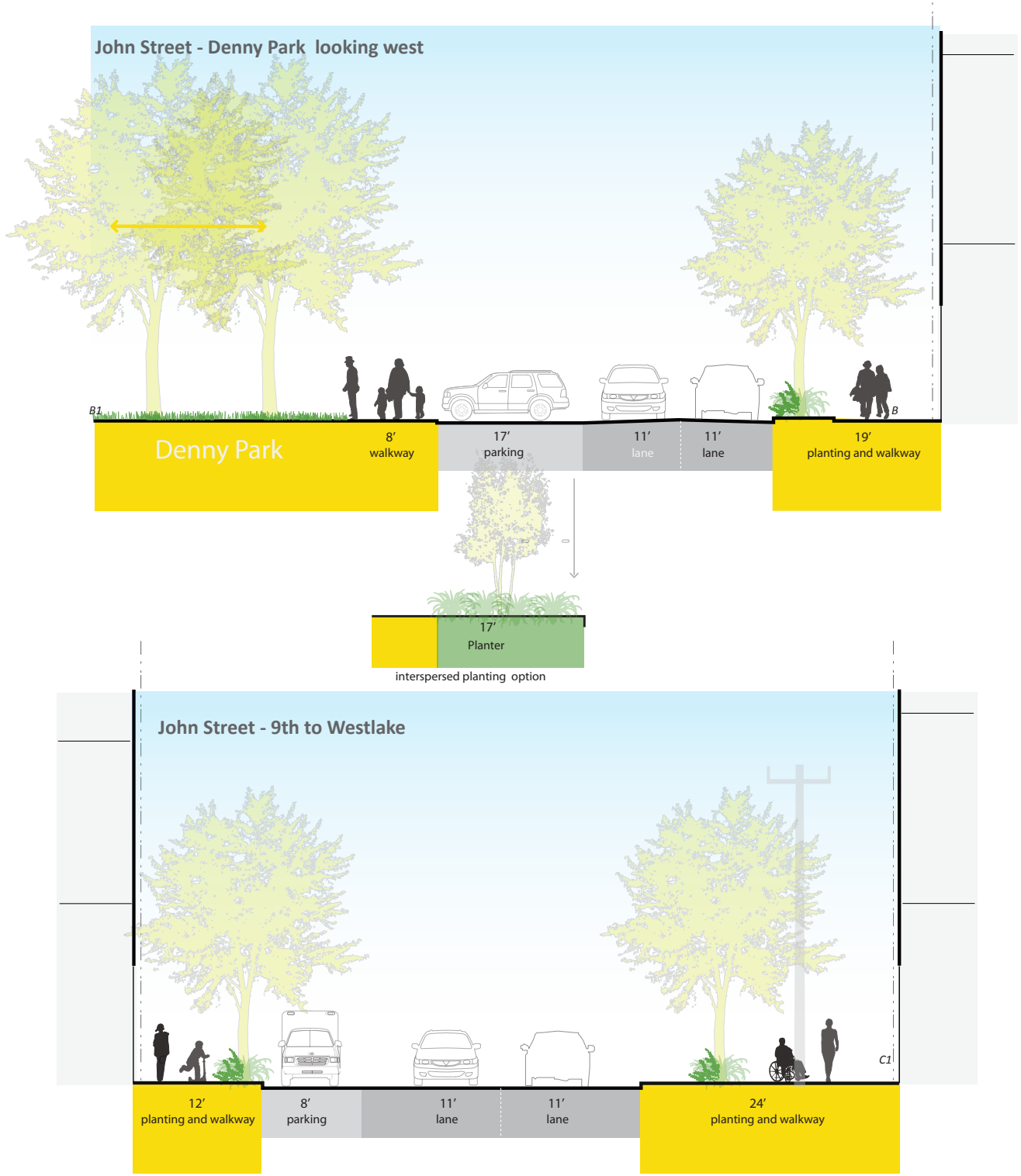
JOHN STREET CONCEPT



Proposed Configurations

1. Retain south curb location, parallel parking along south curb, and 2 lanes of travel with center turn lane for this block neaby SR99.
2. Retain south curb location and parking along Denny Park. Explore interspersing planted areas with angled parking stall to add landscaped area.
3. Retain parallel drop off parking in front of both churches
4. Consider enhanced pedestrian crossing
5. Expand sidewalk to north edge of drive lane where possible, and add new street trees where feasible.





Aurora to Dexter

This block may be required to include a center turning lane due to traffic movement demands nearby SR99. Retain curb location at south side of the street. One 11’ travel lane in each direction and one 11’ center turn lane. Expand sidewalk to up to 22’ on north side. Sidewalk widening could allow larger trees to be planted.

Dexter to 9th

Retain curb location at south side of street. One 11’ travel lane in each direction, and angled parking on south side adjacent to the park. Retain north curb line at churches with drop-off parking. Where on street parking or drop-off is not needed expand north side sidewalk to up to 19’. Consider interspersing angled parking with pockets of landscaped area.

9th to Westlake

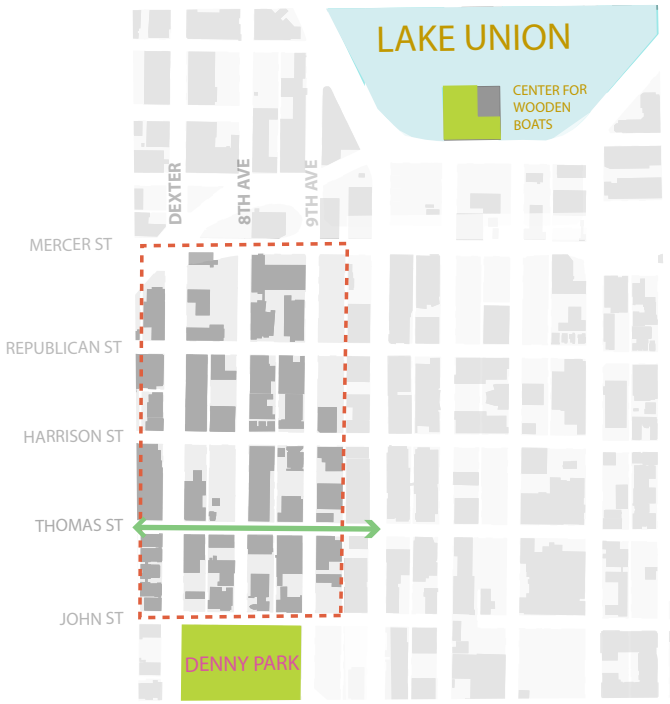
Retain curb location at south side of the street and retain parallel parking on the south side. One 11’ travel lane in each direction. A center turn pocket could be required at 9th Ave. and at Westlake Ave. Where space permits, expand sidewalk to up to 24’ on north side. Sidewalk widening could allow trees to be planted where overhead power lines remain.

STUDY AREA STREETSCAPE CONCEPTS

THOMAS STREET CONCEPT

The preferred design for Thomas Street emphasizes the north side of the street for a broad pedestrian walkway and generous green space on the sunny side of the street. Thomas Street is a green street, and should be designed for slow moving vehicle traffic. Thomas Street is expected to be used as a bicycle route, with in-lane shared bicycle access east of Dexter Ave., and dedicated bicycle lanes west of Dexter Ave. nearby the SR99 infrastructure.

The streetscape concepts in this document are consistent with the **Thomas Green Street Concept Plan**. Refer to the Thomas Green Street Concpt Plan in Section 6.1.8 of the city's Right of Way Improvments Manual for additional detail related to Thomas Street.



EXISTING CONFIGURATION + ISSUES

1-lane each way,

Bikes ride in street

Parallel parking both sides.

DESIGN INTENT

Consistency with the improvements designed as part of the AWV replacement project.

Consistency with Thomas Green Street Concept Plan - design for a wide north side sidewalk.

Include places to sit and other amenities. Use autumn blaze maples being used on the Thomas Street section east of Aurora.

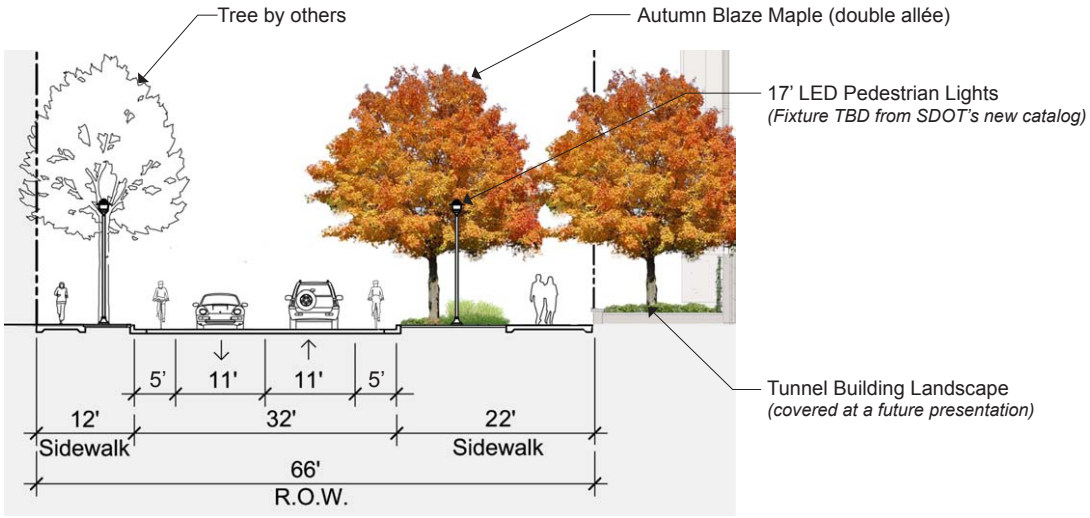
South side trees will need to be smaller variety of maple if overhead utilities remain.

Use 12-18 foot tall, LED pedestrian lights consistent with the SDOT catalog.

CHARACTERISTICS AND DESIGNATIONS

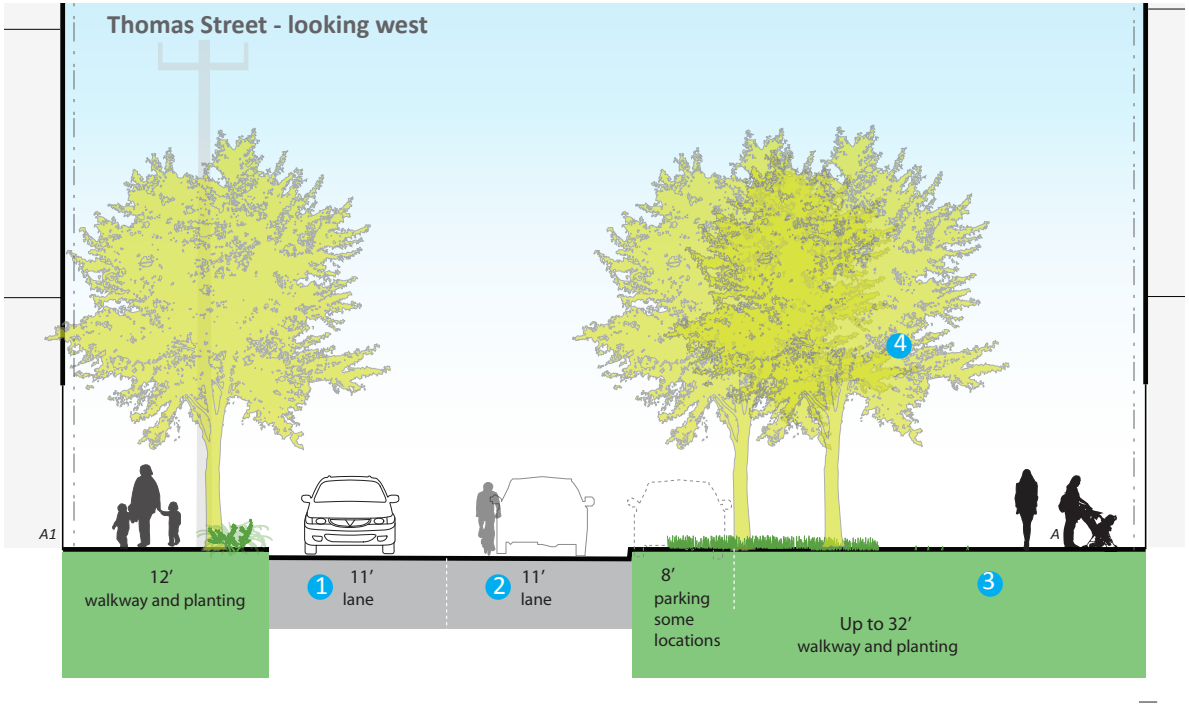
- Will be reconnected between South Lake Union and Uptown as part of the AWV project
- Non-arterial green street; adjacent land uses primarly commercial; likely new mixed-use
- Goes through Seattle Center as a pedestrian route to the west; connects to waterfront via new West Thomas Street overpass.
- Portion of the Lake to Bay Loop trail on Thomas St.
- Proposed to accommodate a bicycle route
- Close to on axis with the Space Needle
- Overhead power lines in some locations limit tree canopy opportunity and views to the Space Needle.

Thomas Street - at 8th Ave. N. looking west



Thomas Street section as designed as part of Alaskan Way Viaduct replacement project. Dedicated bicycle lanes are present west of Dexter Avenue only.

THOMAS STREET CONCEPT



Proposed Configurations

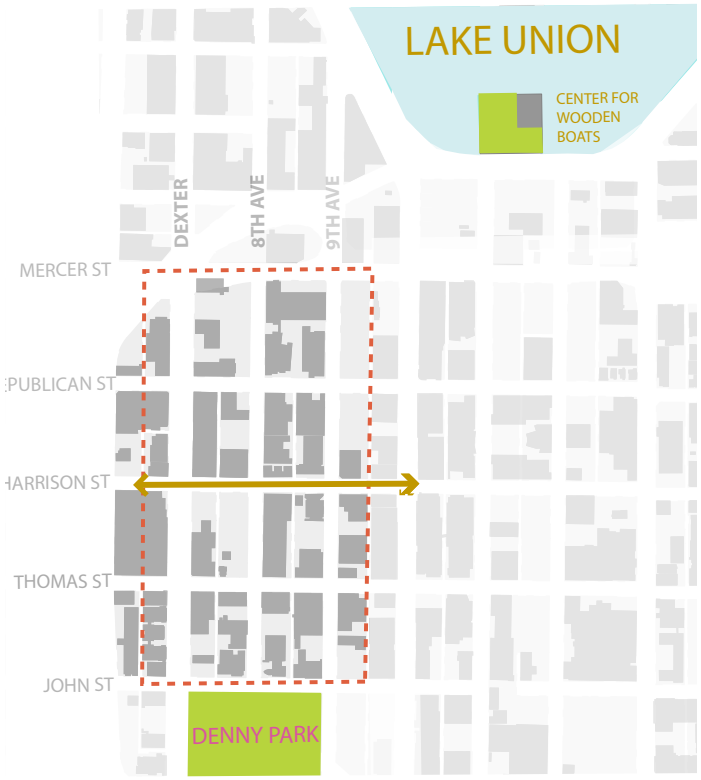
1. 1-travel lane each way
2. Bicycles share roadway with slow-moving vehicle traffic (east of Dexter Ave.)
3. Encourage wide north side sidewalk and planting area up to 32’ wide. 8’ parallel parking may be included in some locations, reducing walkway width to roughly 24’.
4. Autumn Blaze Maples preferred for consistency with other plans

Note: See Thomas Green Street Concept Plan (Section 6.1.8 City of Seattle Right of Way Improvements Manual) for more detailed plans and design concepts for Thomas Street.

This page left intentionally blank.

HARRISON STREET CONCEPT

Harrison Street's design allows flexibility so that transit may be accommodated over time. Outer lanes of the four-lane roadway section may be used for on-street parking at certain times of day, and may accommodate future transit priority lanes if transit routes were added to Harrison Street in the future. Because Harrison Street is expected to handle a high volume of vehicles heading to and from SR 99, the level of traffic on Harrison will likely be the highest for the three reconnected east-west streets. Eleven foot sidewalks will include street trees and landscape zones where appropriate.



EXISTING CONFIGURATION + ISSUES

1-lane each way

Parallel parking both sides

Sidewalk and street trees either side

DESIGN INTENT

Formalize the section of the street as it is designed from 5th Ave. N. to Aurora as part of the AWV replacement project.

Provide a comfortable pedestrian experience including buffering from traffic.

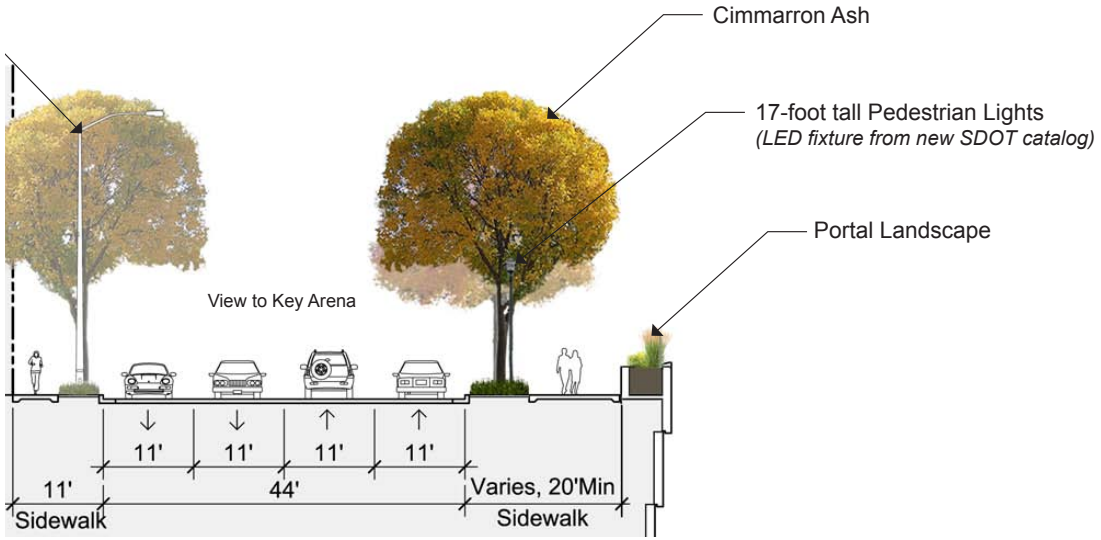
Design for possible future inclusion of transit on the street.

Provide flexibility for changes to the traffic volumes and use of the street over time.

CHARACTERISTICS AND DESIGNATIONS

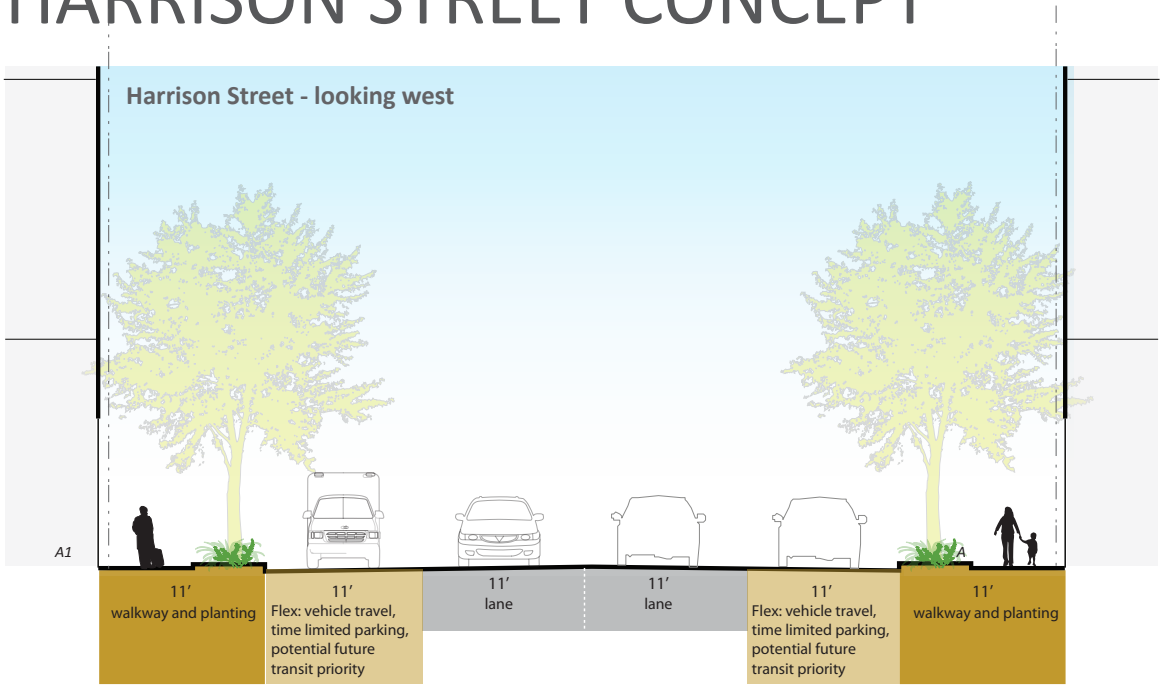
- Will be reconnected between South Lake Union and Uptown as part of the AWV project
- Will take significant traffic to and from SR 99 north portal after completion of the AWV replacement project - likely at a minor arterial roadway volume.
- Will be a future access to the large Seattle Center parking garage.
- Identified in the SLU mobility plan as having potential for new east-west transit routes.
- De-emphasized for bicycle use because of heavier traffic and turning movements expected after completion of the AWV replacement project.
- On axis with Key Arena.

Harrison St. at Dexter looking west



Harrison Street section as designed as part of Alaskan Way Viaduct replacement project.

HARRISON STREET CONCEPT

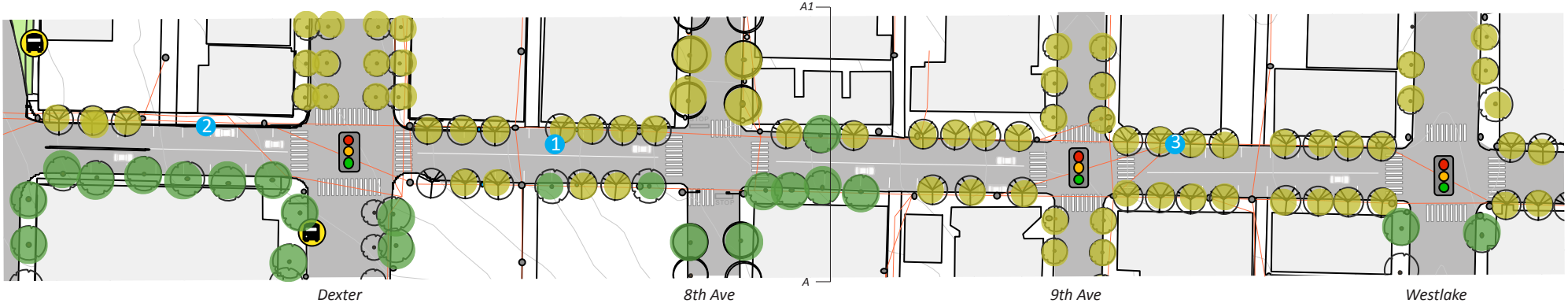


Proposed Configurations

1. Inside lane ---1 travel lane each way at 11’
2. curbside lane is flexible: may be used as time limited parking or future transit priority lane
3. 11’ sidewalk with planiting area - keep existing trees where healthy and add new Cimmarron Ash trees where possible

Encourage building setbacks near transit stops, and integration of transit zone features with building facades

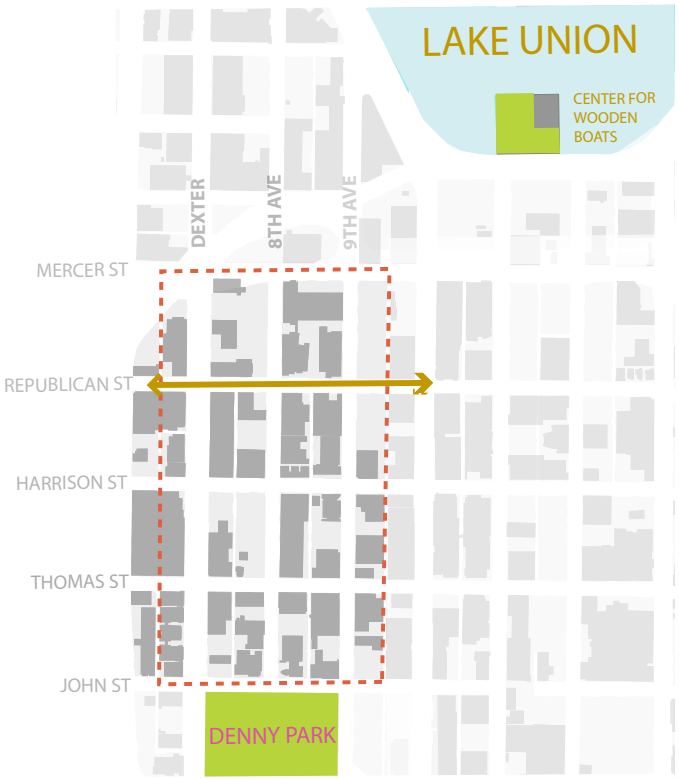
Encourage undergrouding of utilities



This page left intentionally blank.

REPUBLICAN STREET CONCEPT

The South Lake Union segment of Republican Street runs from Broad Street on the west to Eastlake Avenue on the east, separated from Capitol Hill by I-5. Republican Stret will not be reconnected across SR99 by the reconstruction of Aurora. The street will take significant volumes of traffic exiting northbound SR 99 heading to the east. Parts of the north side of Republican Street have been improved with the construction of the UW Medicine buildings.



EXISTING CONFIGURATION + ISSUES

1-lane each way

Bikes ride in street

Parallel parking both sides

Sidewalk both sides, sparse street trees

DESIGN INTENT

Consistency with Commercial Connector Street per ROW Improvement Manual

Pleasant neighborhood street with moderate traffic

Extend design language of UW Medicine buildings and amenity areas

Encourage undergrounding of power lines with new development

CHARACTERISTICS AND DESIGNATIONS

- Republican Street is designated as a minor arterial roadway. It will not be reconnected across Aurora.
- Will carry SR99 northbound exiting traffic.
- Republican Street is the south edge of the UW Medicine buildings, and there is a transit stop for the shuttle near 8th Avenue. High quality streetscape and connection to internal green spaces along the UW Medicine block will be extended with new development by UW.
- The view to the west looks to the Gates Foundation buildings and campus.
- Power poles on south side will limit street trees unless utilities are undergrounded with development.

Street edge along UW Medicine at shuttle stop

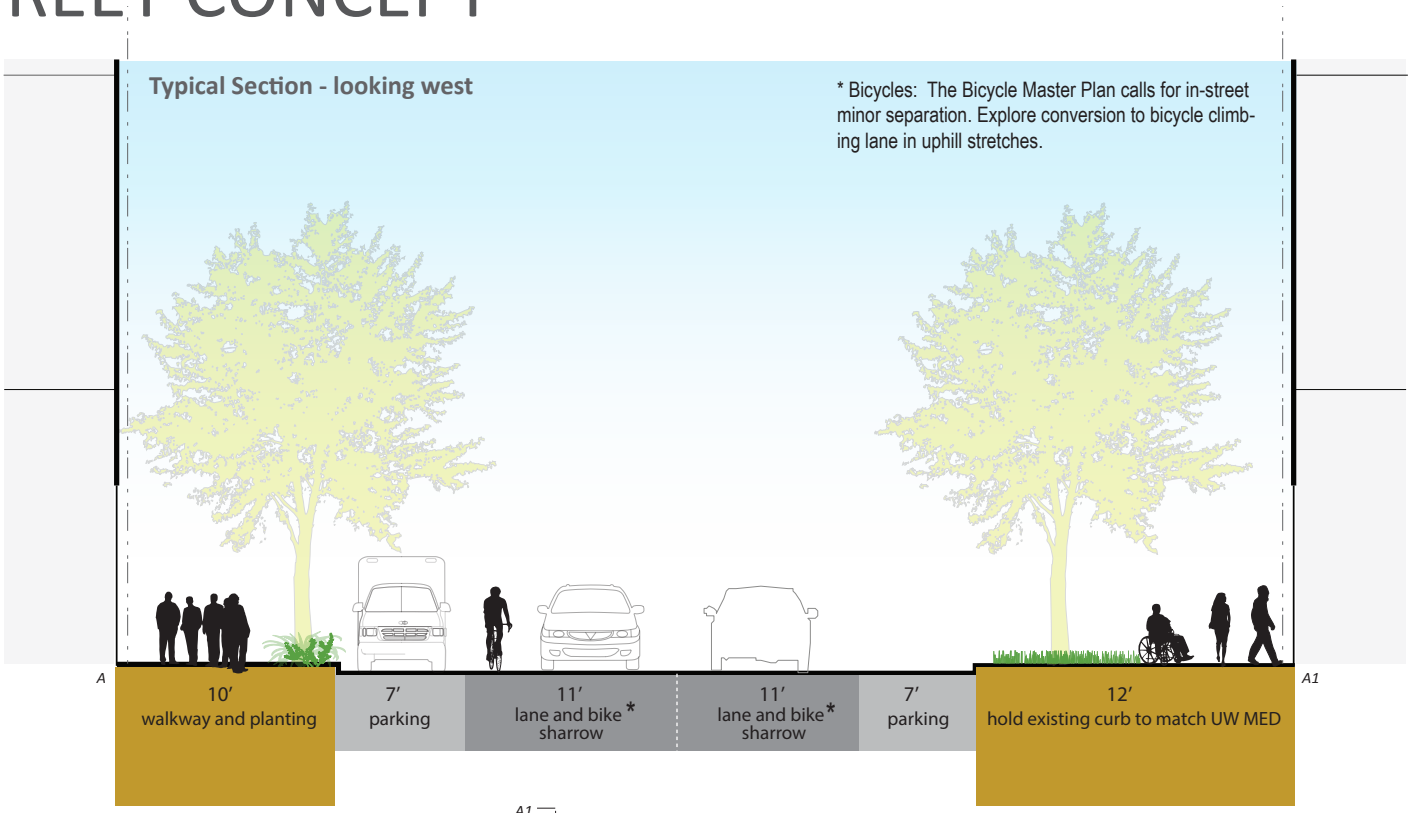
Republican Street - looking east

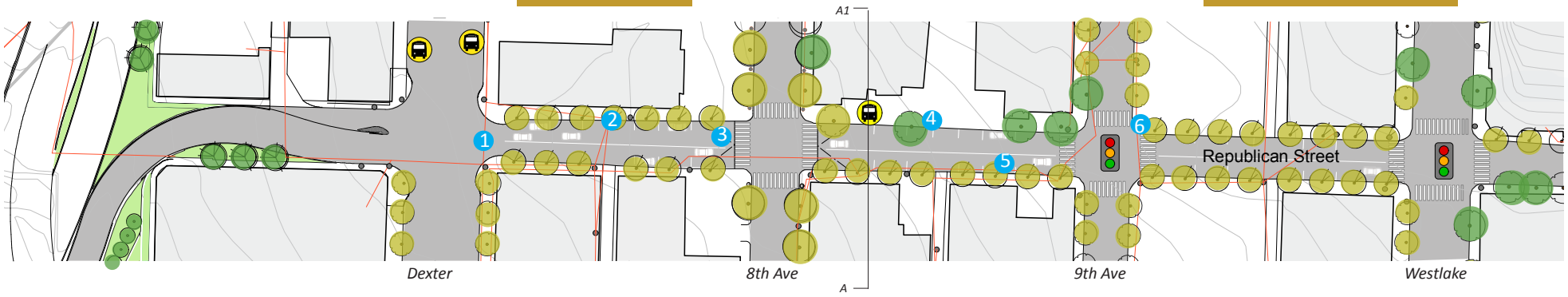
Republican Street - looking west

REPUBLICAN STREET CONCEPT

Proposed Configurations

1. 11’ travel lanes; one each direction
2. 7’ parallel parking both sides
3. Bicycles in shared roadway with addition of dedicated climbing lane in uphill sections of the roadway.
4. Keep north curb line set by UW Med development.
5. Extend landscape character from UW Medicine on north side of street
6. Encourage undergrounding of utilities with development





This page left intentionally blank.

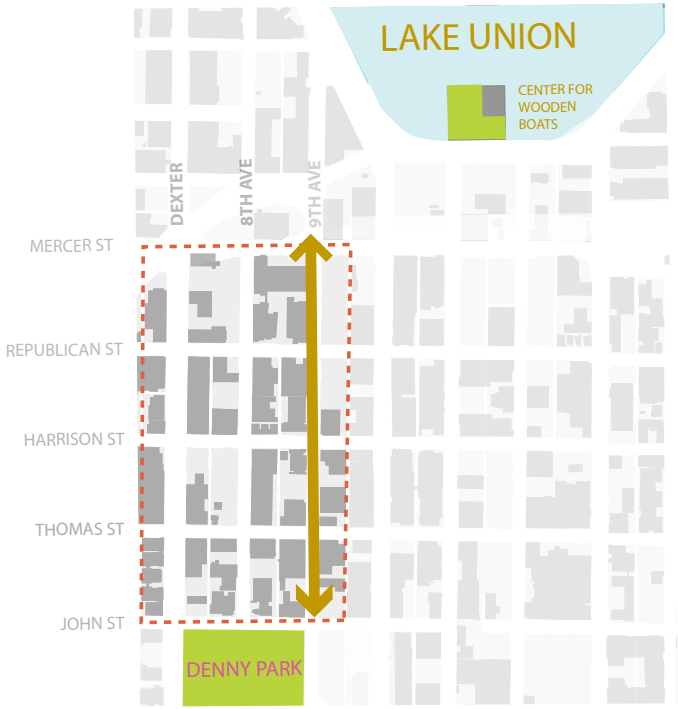
STUDY AREA STREETSCAPE CONCEPTS

9TH AVENUE CONCEPT

9th Avenue is not a central focus of the South Lake Union Street Concept Plans. But as an edge to the study arrea, general design guidance and parameters are included to provide direction for future development adjacent to the roadway and to provide a clear vision for the neighborhood.

9TH AVE

9th Avenue North is identified for a future cycle track in the 2013 Seattle Bicycle Master Plan. It connects to the Cheshiahud Lake Union Loop Trail to the north, and will be a connection to Belltown and Downtown. It is also designated as a Principal Arterial and a Minor Transit Street. The proposed section shows an 11-foot travel lane in each direction, with a separated bicycle facility on either side. The section allows the option of a broad 15-foot sidewalk and planting zone. Inclusion of parallel parking is also possible, in which case sidewalk and planting area width would be reduced to around 8' as the cycle track moves closer to the edge of the right of way.



EXISTING CONFIGURATION + ISSUES

1-lane each way

Bike lanes both directions

Parallel parking and sidewalks both sides.

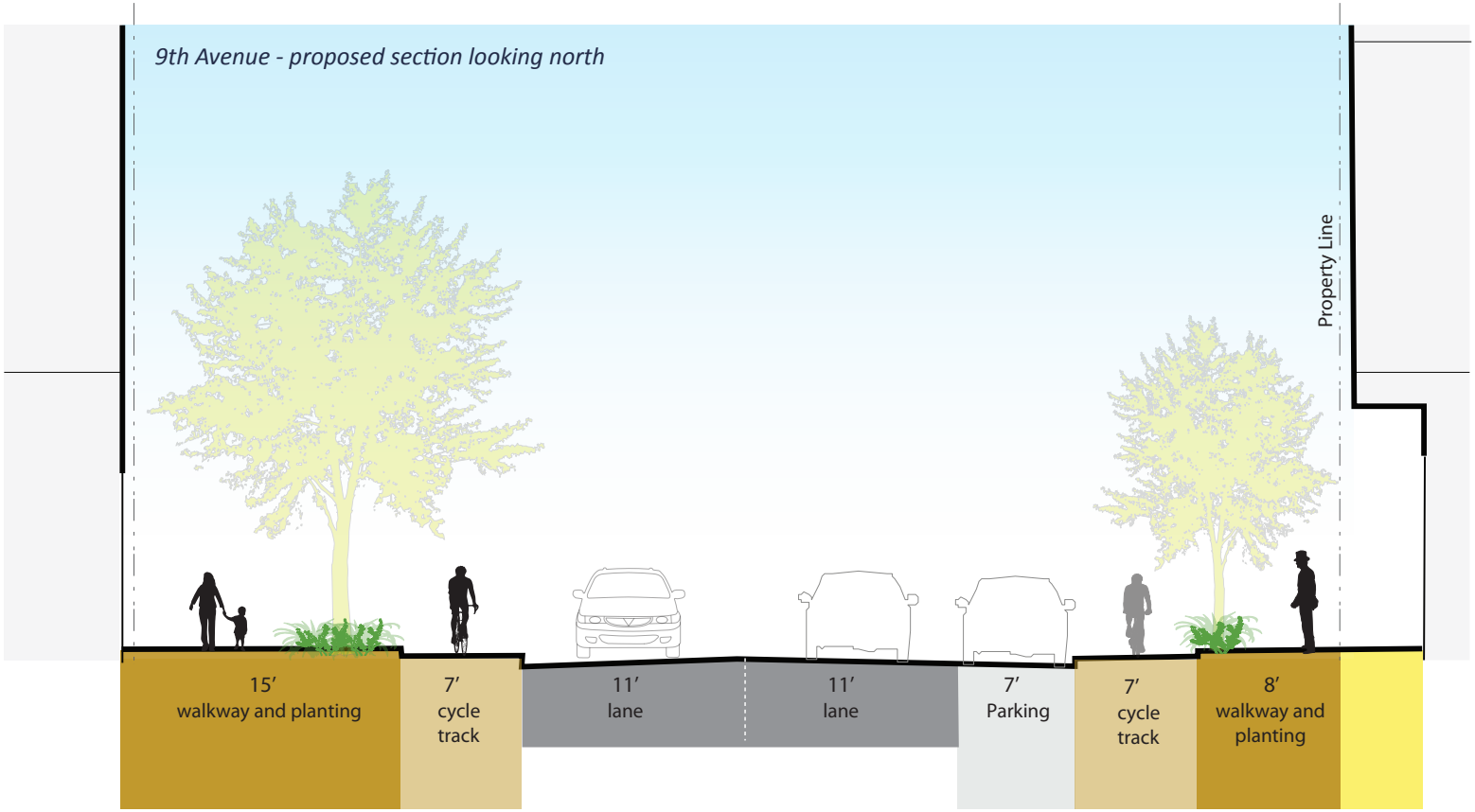
Street trees primarily on west side, tall power lines on east side

DESIGN INTENT

Multimodal. Accommodates vehicles, transit, and a potential future cycle track.

Principal Arterial traffic volumes.

Varied width of sidewalk and planting area, and cycle track configuration depending on inclusion of on-street parking, and on presence of left turn pockets at major intersections.



Option where on-street parking is not present.

Option with on street parking and voluntary bulding setback of first floor.

PROPOSED CONFIGURATION

- 1 travel lane each direction.
- Separated cycle track (grade change or buffer element)
- Locations without on-street parking may include wide sidewalk up to 15’ in width
- Loctions with on-on street parking result in narrower sidewalk widths. Adjacent private property may be encouraged to setback ground-floor of structure to accommodate wider sidewalk space.

9th Avenue - looking north near Harrioson St.

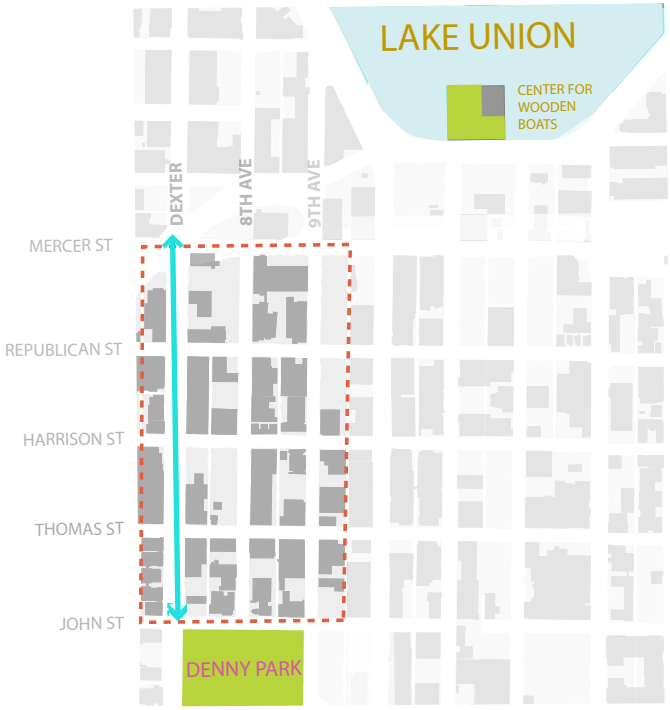
STUDY AREA STREETSCAPE CONCEPTS

DEXTER AVENUE CONCEPT

DEXTER

Dexter Avenue holds strong potential for streetscape improvement because of its unusual width (108' Right of Way), and its role as a significant piece of the city's cycling infrastructure. A cycle track will be implemented on 7th Ave. to the south of the study area associated with the planned Amazon.com campus. A cycle track is identified for the study area portion of Dexter Ave. in the 2013 Bicycle Master Plan. This concept plan explores how a seperated cycle track could be configured on Dexter Ave. within this study area.

View of Dexter Avenue at Harrison



EXISTING CONFIGURATION + ISSUES

2-lanes each way

Parallel parking both sides

Sidewalk on both sides, street trees some places

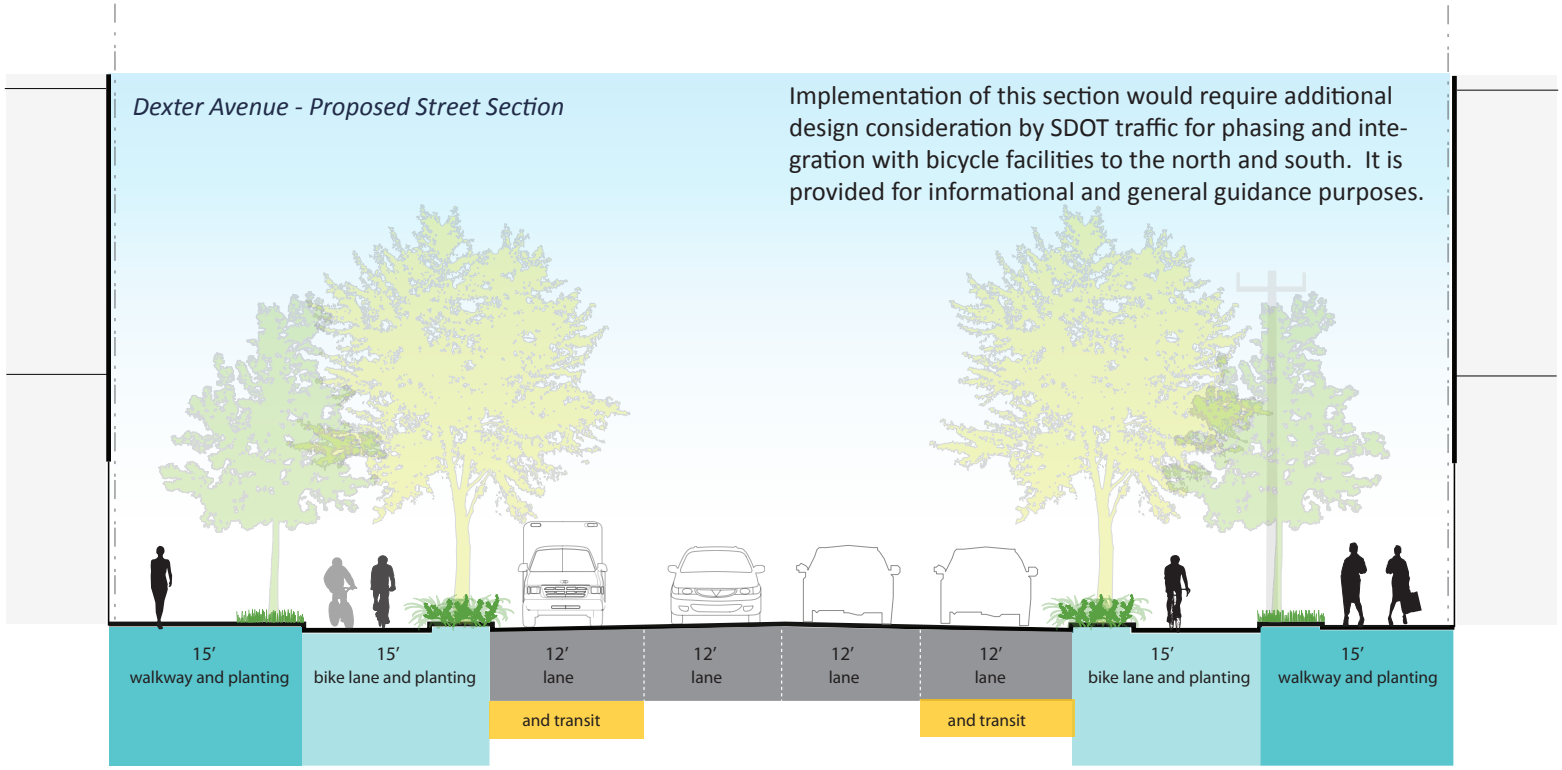
Utility lines and cobra-head lighting

DESIGN INTENT

Boulevard with cycle track

Comfortable pedestrian crossing east to west

Transit stop amenities



CHARACTERISTICS AND DESIGNATIONS

Dexter is designated as a Minor Arterial on the City of Seattle Arterial Classifications Map. Several bus routes are located on Dexter Ave. And Dexter Ave. is identified for a future cycle track in this section of the study area. Currently this portion of Dexter Ave. also includes on street parking on both sides of the street.

PROPOSED CONFIGURATION - POTENTIAL

The section above explores a configuration that accommodates the proposed cycle track on Dexter Ave. This configuration would allow for a wide 15′ sidewalk and planted buffer. The proposed section removes on street parking in this area. Outside lanes would accommoate transit use. Modification of the curbside zone adjacent the cycle track would be required to locate bus zones at the curb edge.

Dexter Avenue - existing conditions

This page left intentionally blank.

III. Streetscape Design Elements

Intersections + Midblock Uses

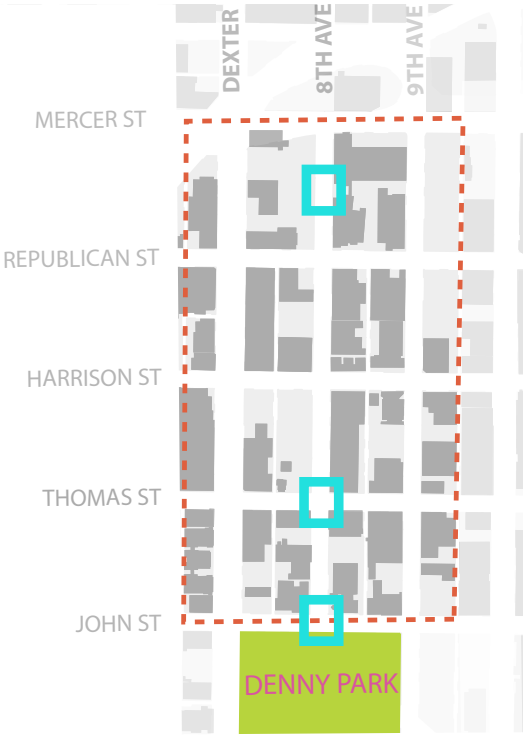
Cycle Tracks

INTERSECTIONS ENHANCEMENTS

Intersection design along 8th Avenue should be considered in terms of the potential shared-use function of the street. There are different intersection conditions along 8th Ave, and three places may merit special treatment.

The identified locations on the graphic at right show possible locations for pedestrian-friendly enhanced intersection crossings. Specific techniques could include enhanced materials or textures in crosswalks or for the pavement spanning the intersection. Or a possible technique could be a “tabled” intersection - a gentle rise in the elevation of the roadway surface spanning the intersection.

Intersection enhancement at 8th Ave. and John St. would highlight the connection to the park. Intersection enhancment at Thomas St. would compliment the east/west running green street. At UW Medicine, a tabled intersection would facilitate movement of people and material between UW buildings.



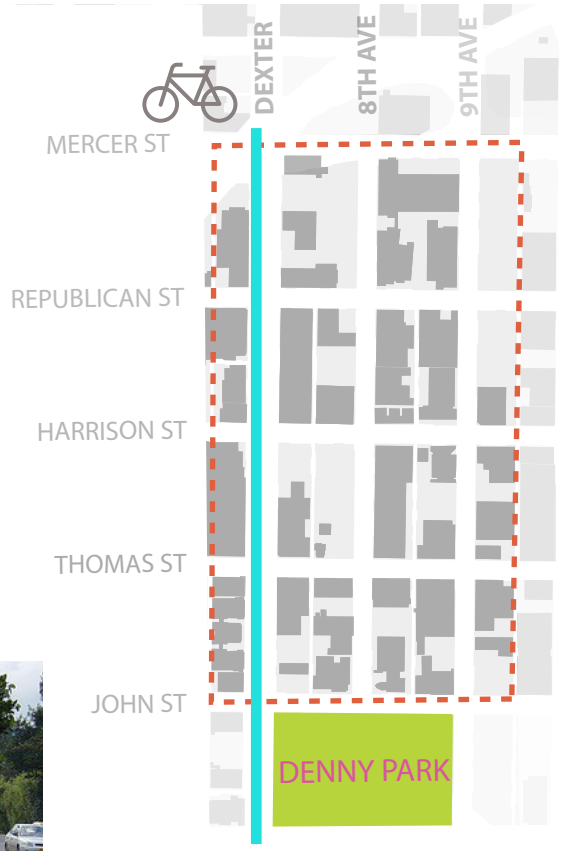
Example residential street table intersection - New Haven, CT

8th Avenue at Thomas Street

8th Ave midblock at the UW Medical Center

CYCLE TRACKS

Design for a cycle track on Dexter Ave. should be consistent with proposed designs for the cycle track nearby the Amazon.com campus to the south in the Denny Triangle. Along Dexter, it will be important to design for safe pedestrian crossing of any cycle facility, and the incorporation of transit stops. In general, a cycle track should be separated from traffic by a grade change or buffer element. It should also be separate from sidewalk facilities. Changes in materials, texture and color are effective for cycle track delineation.



Example Cycle Track - Botaga

Example Cycle Track

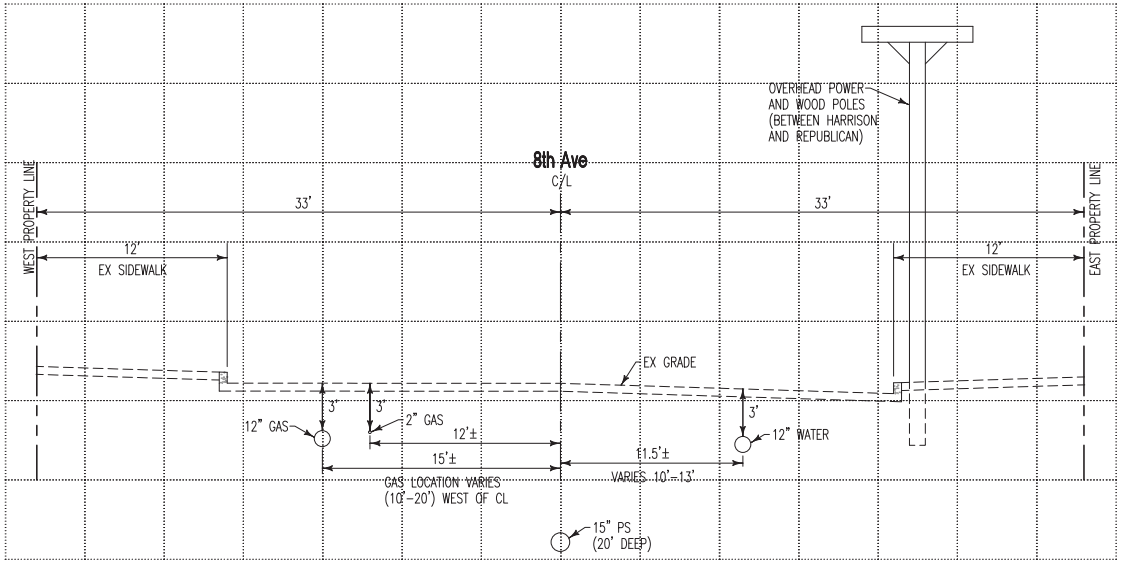
APPENDIX

UTILITY CONSTRAINTS AND COORDINATION

The following pages summarize utility constraints and coordination issues in the study area - particularly on 8th Ave. N. Coughlin Porter Lundeen a civil engineering firm engaged in multiple specific development projects in the vicinity, advised the team on civil issues in the project area. The concept plans in this document are designed in consideration of existing utility locations and constraints.

One utility topic of particular impact in the area is the presence of overhad electrical lines. The concept plans are designed taking into consideration that Seattle City Light does not have plans to underground the 26kV lines in the area. However, developers may elect to underground the overhead utility lines adjacent to a proposed project in order to better achieve elements of the concept plan, and to improve flexibility for right of way configurations and location of buildings in proximity to the electrical lines.

COUGHLIN PORTER LUNDEEN
STRUCTURAL · CIVIL · SEISMIC ENGINEERING



Scale: 1"=5'

Typical Existing 8th Avenue Section
(Between John and Republican)

Project: South Lake Union - 8th Avenue | Designed By: SSN | Date: 11/21/12
Project No: | Client: Weinstein A/U | Checked By: SMR | Sheet: 1 of 1

413 PINE STREET · SUITE 300 · SEATTLE, WA 98101 · P: 206/343-0460 · F: 206/343-5691
www.cplinc.com

COUGHLINPORTERLUNDEEN
STRUCTURAL · CIVIL · SEISMIC ENGINEERING

PROJECT RECORD

DATE:	11/28/12		
TO:	Lesley Bain	FROM:	Coughlin Porter Lundeen
COMPANY:	Weinstein AIU	PROJECT:	8th Avenue design
		CPL PROJECT #:	

Utilities

A typical cross section of 8th Ave between John and republican is attached to this memorandum. Utility locations vary per block, but typically there is a 15-inch combined sewer that runs down the centerline of the street. This line is roughly 20-feet deep and serves as both the sewer and storm collection point down 8th. On the west side of the street there are several gas lines. These lines are roughly 3-feet deep and vary between 10-20 feet west of the centerline. On the east side of the street there is a 12-inch water main. This line is 3-feet deep and varies between 10-13 feet east of the centerline. There are no overhead lines except for local power to street lighting on the blocks between John and Harrison. The block between Harrison and Republican has overhead 26KV electrical lines that run along the curb line on the east side of the street.

Sewer/Storm:
8th Avenue has a 15-inch combined sewer that runs from south to north down the centerline of the street. The main is roughly 20-feet deep as it runs down 8th. Any street work that replaces or creates over 10,000sf of impervious area will trigger detention requirements in the right of way. Every 10,000sf of new or replaced impervious area requires 700cf of detention. This detention volume can be offset by using GSI such as rain gardens or porous pavement to mitigate runoff rates. Water quality treatment is not required in this area because it drains to a combined sewer.

Water:
A water main runs down the east side of 8th Avenue. The main is 10-13 feet east of the street centerline and sits roughly 3-feet below ground. If the curb on 8th is moved further out into the street it could sit relatively close to this water main. Curb placement and drainage structures on the east side of 8th will require careful coordination with this water main.

Overhead Lines:
The lighting down 8th Avenue is powered by overhead lines from John Street to Harrison Street. Overhead power to the lighting is the only overhead utility for these two blocks. While undergrounding overhead power to lights we typically see a requirement to run 2-2" and 2-3" conduits down each side of the street. For a residential street, with no plans for future intersection signalizations, this requirement may be reduced to 2-2" conduits. One conduit would feed power to the lights and the other would serve as a backup. The existing poles appear old and they may not serve the required lighting for the road improvements so new light poles may also be required.

The block between Harrison Street and Republican Street has overhead 26kv electrical lines on the east side of the street. These lines were recently undergrounded north of Republican with an underground duct bank. That duct bank was installed three to five feet below the road surface and consisted of 2-2", 2-3", and 10-5" conduits. The duct bank was roughly 1'-7" wide and 4'-0" high. It's likely that the overhead lines on 8th could be undergrounded with a new duct bank similar in size. Typically SCL requires at least one new 8X18 vaults at each corner of a block when undergrounding overhead power. In addition to installing the new duct bank, several new vaults would be required at the corner of 8th and Republican and 8th and Harrison.

Gas Lines:
A local 2" line and a 12" high pressure gas line run down the west side of 8th Avenue. Between John and Harrison the 2" gas line runs typically 12-feet west of the centerline and the 12" gas line runs typically 15-feet west of the centerline. The lines move further west between Harrison and Republican and typically run between 15-20 feet west of the centerline. Both gas lines are roughly 3-feet deep so these relatively shallow lines may interfere with future curb placement and rain garden installation.

Green Stormwater Infrastructure (GSI)

The South Lake Union Urban Design Framework released in 2010, classifies 8th Avenue as a woonerf street. The design framework goes on to define a woonerf as a street that may act as a linear open space, utilizing ROW for active or agricultural uses like P-Patches. 8th Avenue is also classified as a street suitable for infiltration facilities. Green stormwater infrastructure used on typical streets that allow infiltration includes rain gardens, porous sidewalk pavement, and new tree planting. With 8th Avenue being an active agricultural space with limited car access we are presented with the opportunity to explore some other GSI items that aren't typically used in streets. Those items are dispersion, porous pavement in the roadway, and cistern reuse.

Sheet Flow Dispersion:
Up to 20-feet of impervious area can be fully dispersed through a 10-foot vegetated buffer. Typical Seattle sidewalks don't have large enough planters to provide full dispersion, but 8th Avenue may provide a unique opportunity to use this GSI element. Dispersion would by a good candidate to mitigate sidewalks that are near locations where rain gardens can't be installed. The east side of 8th Avenue has a relatively shallow water main that may interfere with rain garden installation. This makes dispersion more desirable in that area.

Porous Pavement:
Currently the City of Seattle has only approved porous concrete sidewalks for use as GSI. Porous pavement is not typically approved for roadways because of concerns for long term reliability under traffic loading. With 8th Avenues limited vehicle traffic we have the opportunity to explore using porous pavements in the sidewalk and roadway. Pavement systems that could be used in the roadway include grasspave, porous pavers, and porous concrete. Porous pavement can collect runoff from up to three times the area of the facility. This presents the opportunity to sheet flow or direct runoff in runnels from typical impervious areas over to porous pavement pockets.

Cisterns:
If 8th Avenue is to be used for active agriculture such as a P-Patch application, small cisterns might be useful for irrigation needs. An easy way to collect water and direct it to a cistern is to collect water from canopies along the sidewalk. This application would allow for above ground cisterns and wouldn't require a pump. The cisterns could be equipped with an overflow that directs water through a runnel or sheet flows to porous pavement.