Wilson Street Corridor Study

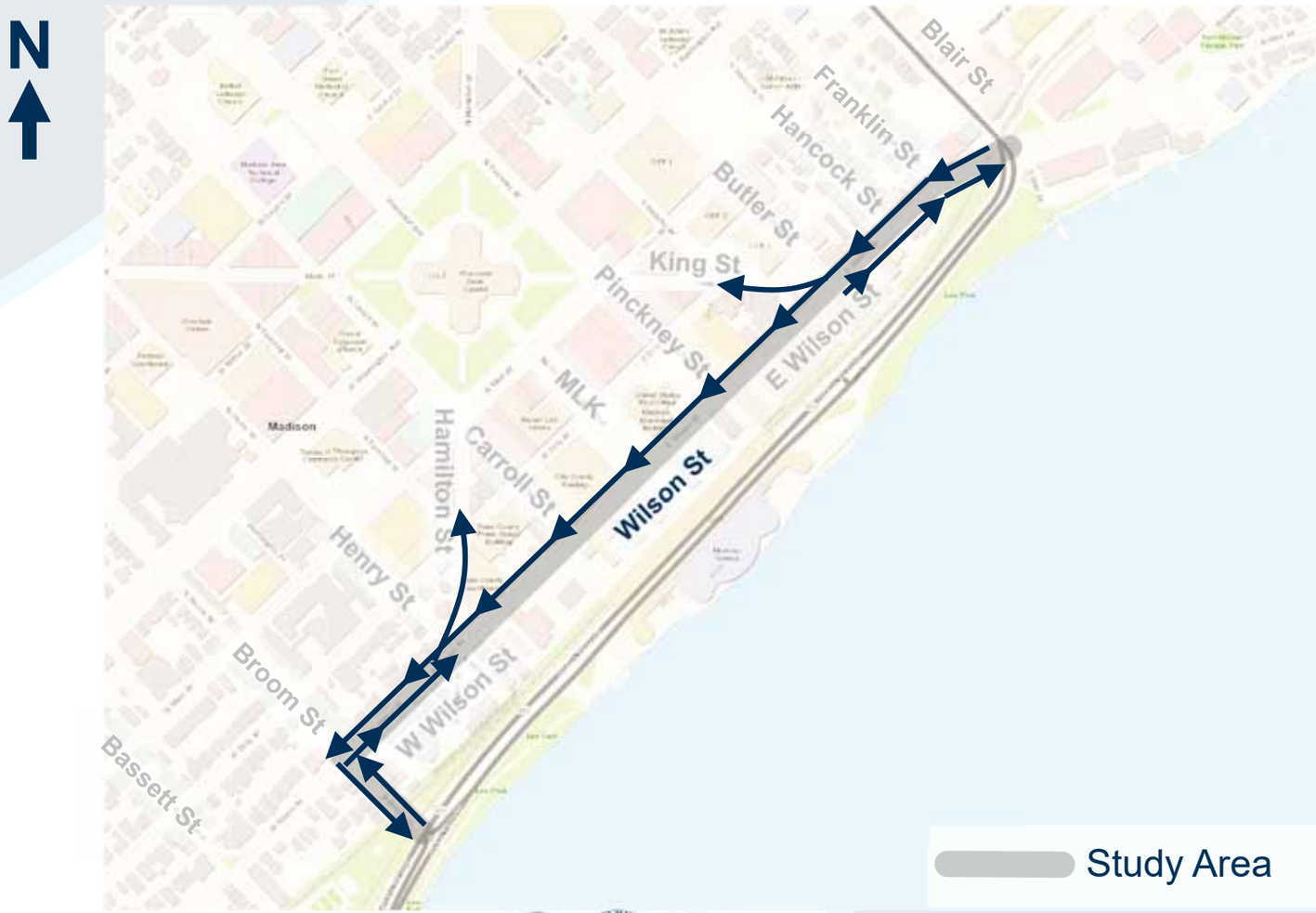
Public Involvement Meeting 3

Outline of evening

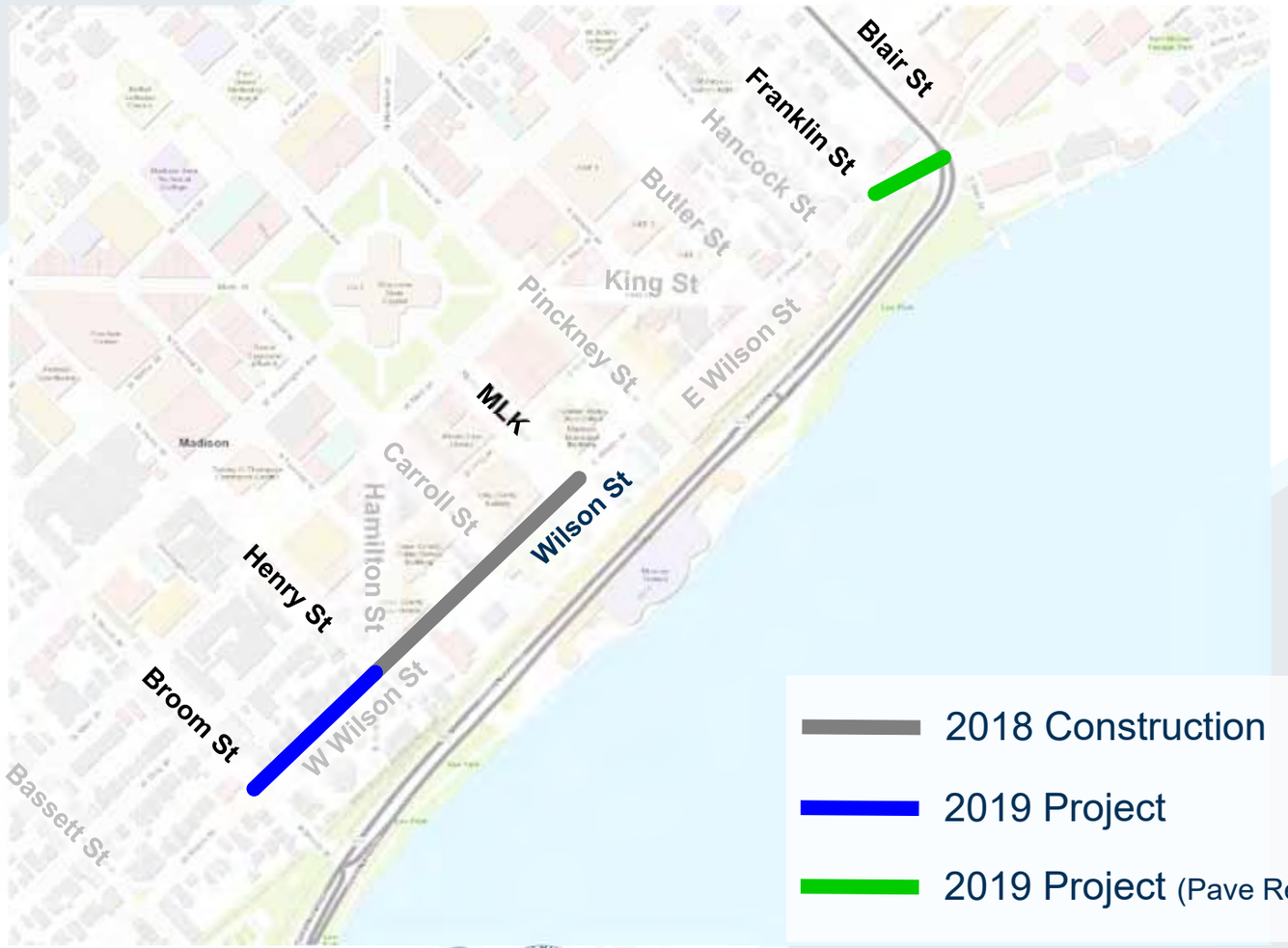
1. Review of Goals and Objectives
2. Discussion of bike network options
3. Discussion of Alternatives
4. Questions – comments
5. Recess
6. Question – comments

80+ slides, please hold questions to the end

Study Limit Location

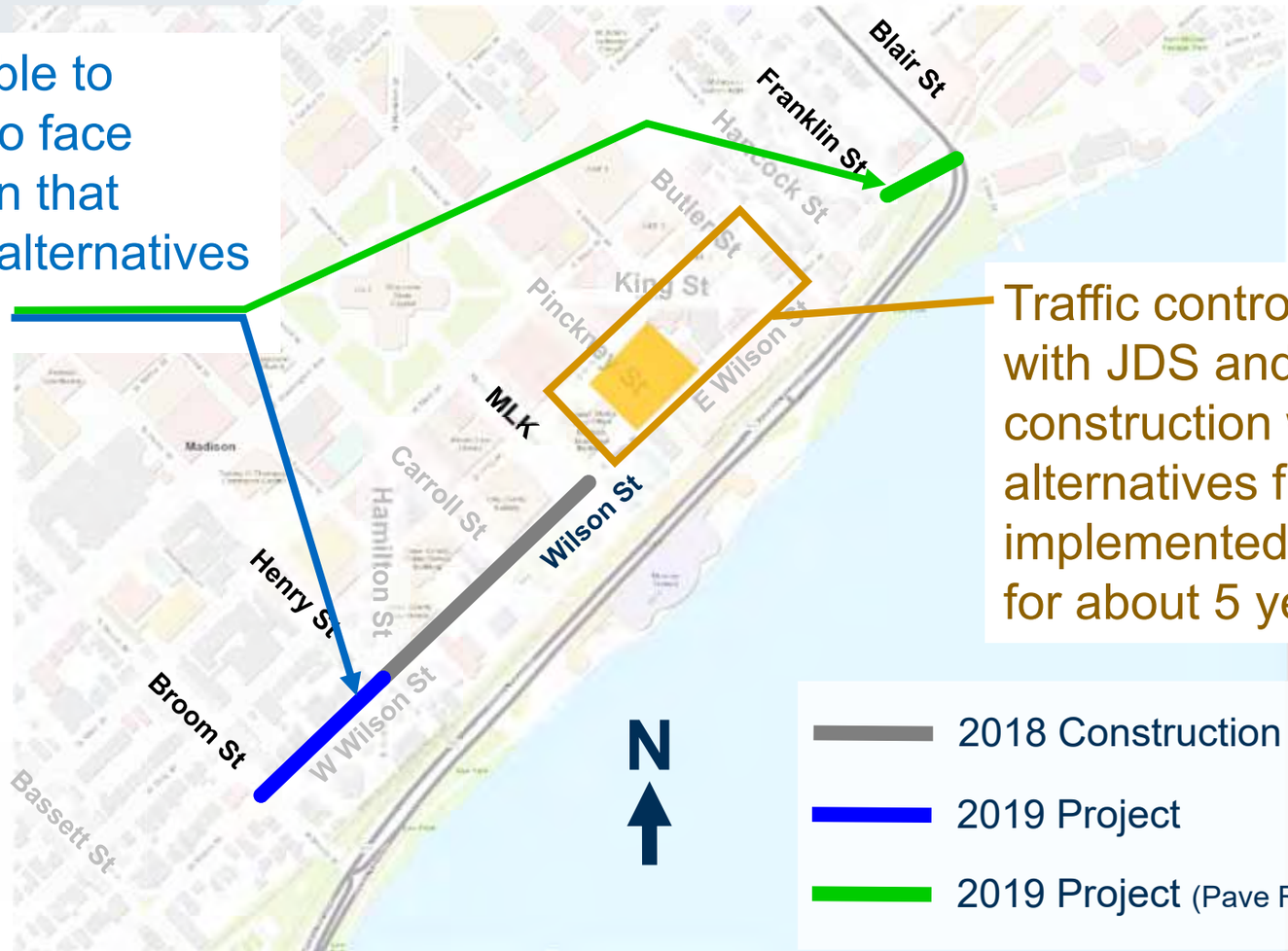


Location


N
Blair St
Franklin St
Hancock St
Butler St
King St
Pinckney St
E Wilson St
MLK
Madison
Carroll St
Hamilton St
Wilson St
Henry St
Broom St
W Wilson St
Bassett St
2018 Construction
2019 Project
2019 Project (Pave Repl)

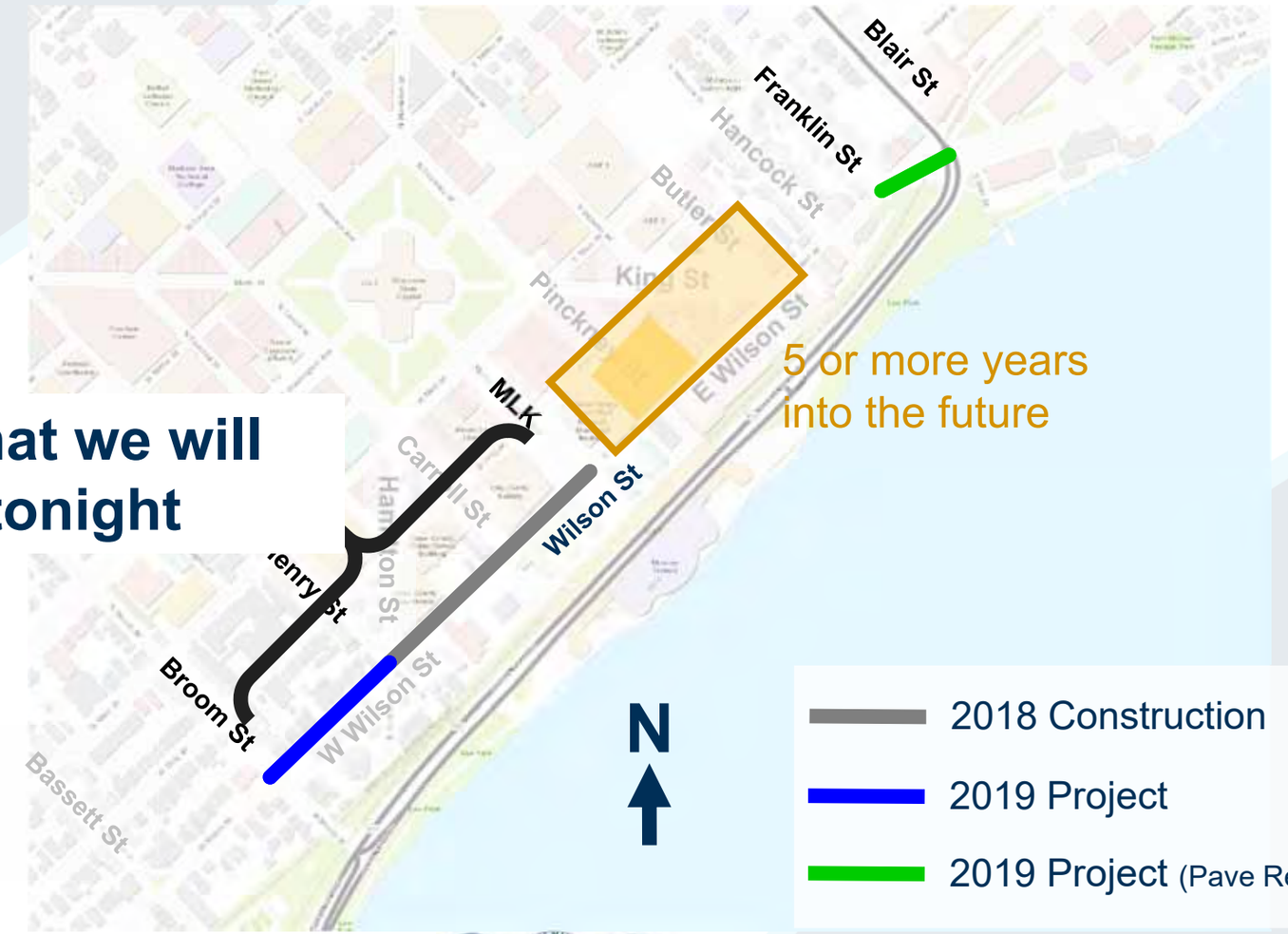
Staging

It may be possible to provide a face to face street dimension that allows multiple alternatives to be pursued.



Traffic control associated with JDS and Hotel construction will prevent alternatives from being implemented east of MLK for about 5 years

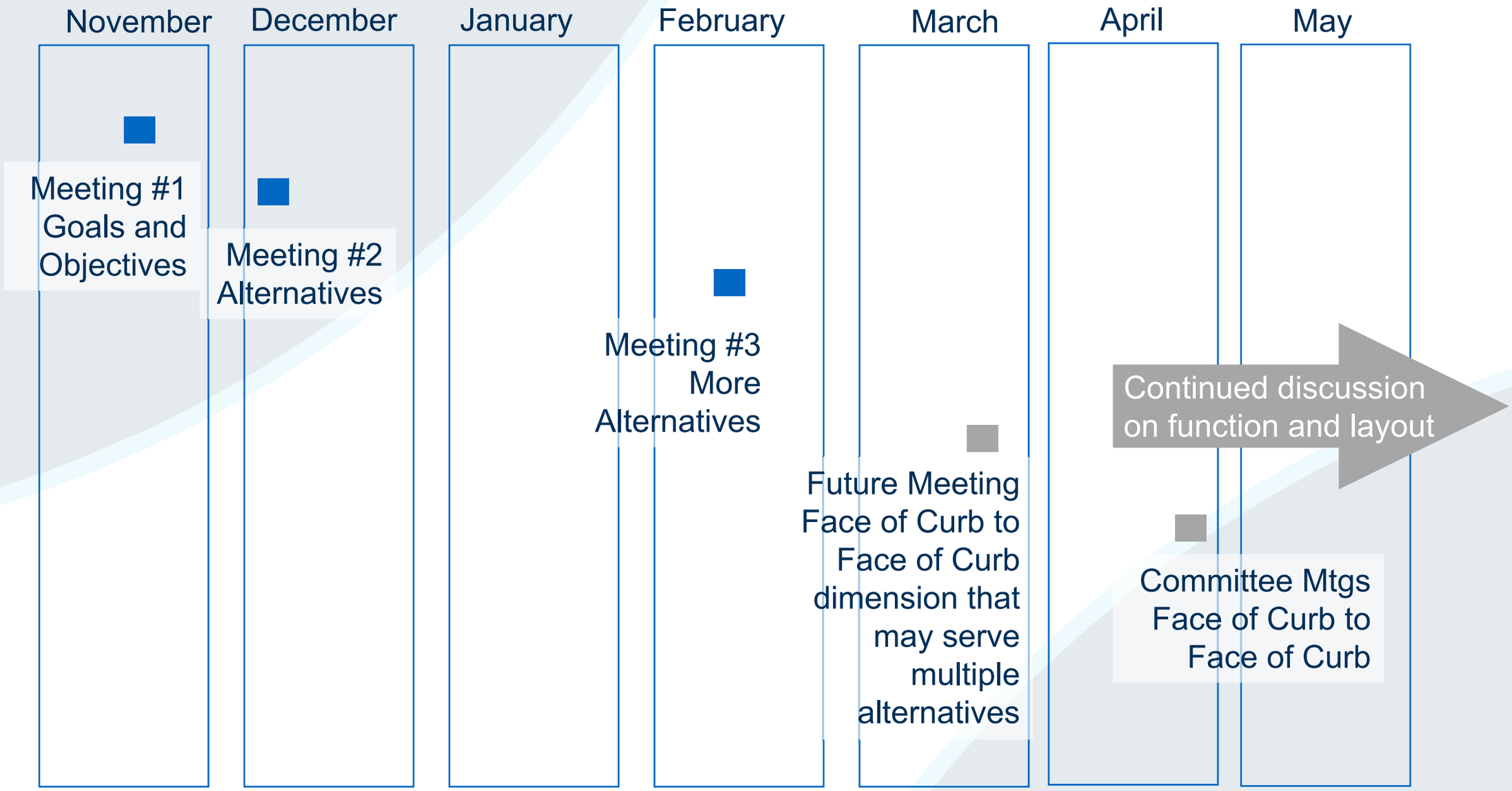
Staging



This is what we will focus on tonight

This meeting is to present information

and to continue a discussion


November
December
January
February
March
April
May
Meeting #1
Goals and
Objectives
Meeting #2
Alternatives
Meeting #3
More
Alternatives
Future Meeting
Face of Curb to
Face of Curb
dimension that
may serve
multiple
alternatives
Continued discussion
on function and layout
Committee Mtgs
Face of Curb to
Face of Curb

Alternatives Analysis

Primarily Concerned How to Arrange Space From Face to Face

Generally 40 to 43 feet west of King Street

Goals & Objectives

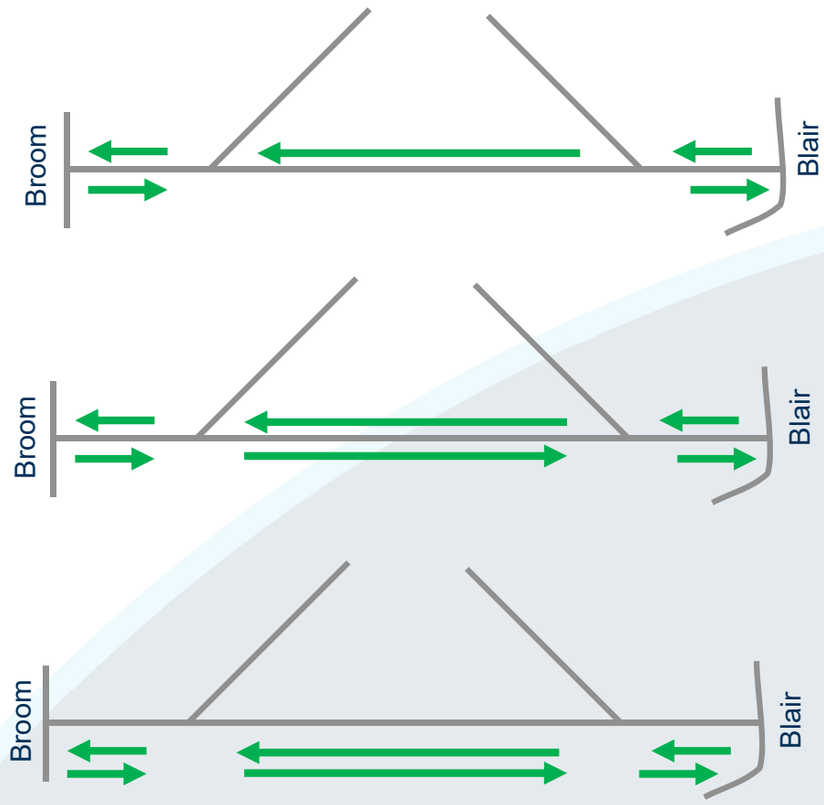
1. Provide Safety for All Modes
2. Improve Bike Connection to Downtown
3. Provide Pleasant Living Area
4. Pleasing Entrance to Downtown
5. Satisfy Parking and Loading Needs
6. Preserve Tree Canopy and Terrace
7. Efficient/Ordered Motor Vehicle Operations
8. Safe Pedestrian Crossings
9. Preserve Infrastructure Investment

How to address all Goals and Objectives involves different arrangements of parking and bike facilities

1. Conventional Bike Lanes West and East

2. Conventional Bike Lanes West and East, Contra Flow Bike Lane in Center

3. Cycle Path, or Separated Two-way Bike Path, Full Corridor



Goals & Objectives

	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
Increase Bike Connectivity			
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			

Goals & Objectives

	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
Increase Bike Connectivity			
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			
Motor Vehicle Operations			

All alternatives retain tree canopy
One alternative requires removal of one tree
Google Streetview

TWO
WAY
TRAFFIC
Google Streetview

Goals & Objectives

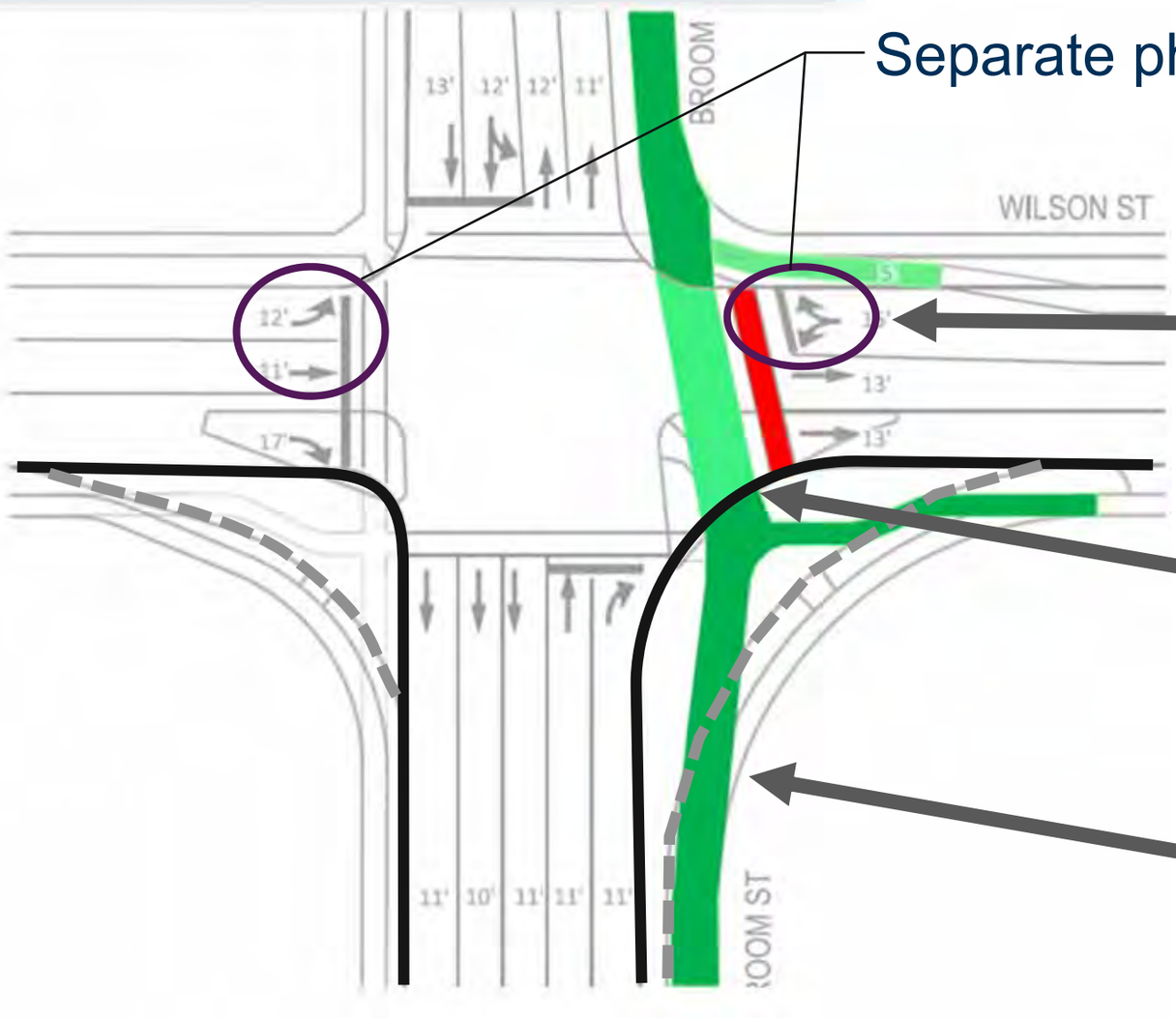
	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
Increase Bike Connectivity			
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			
Motor Vehicle Operations			

Engineering will develop an aesthetically pleasing street section

Crashes

- Separate project will address crashes at Blair St intersection

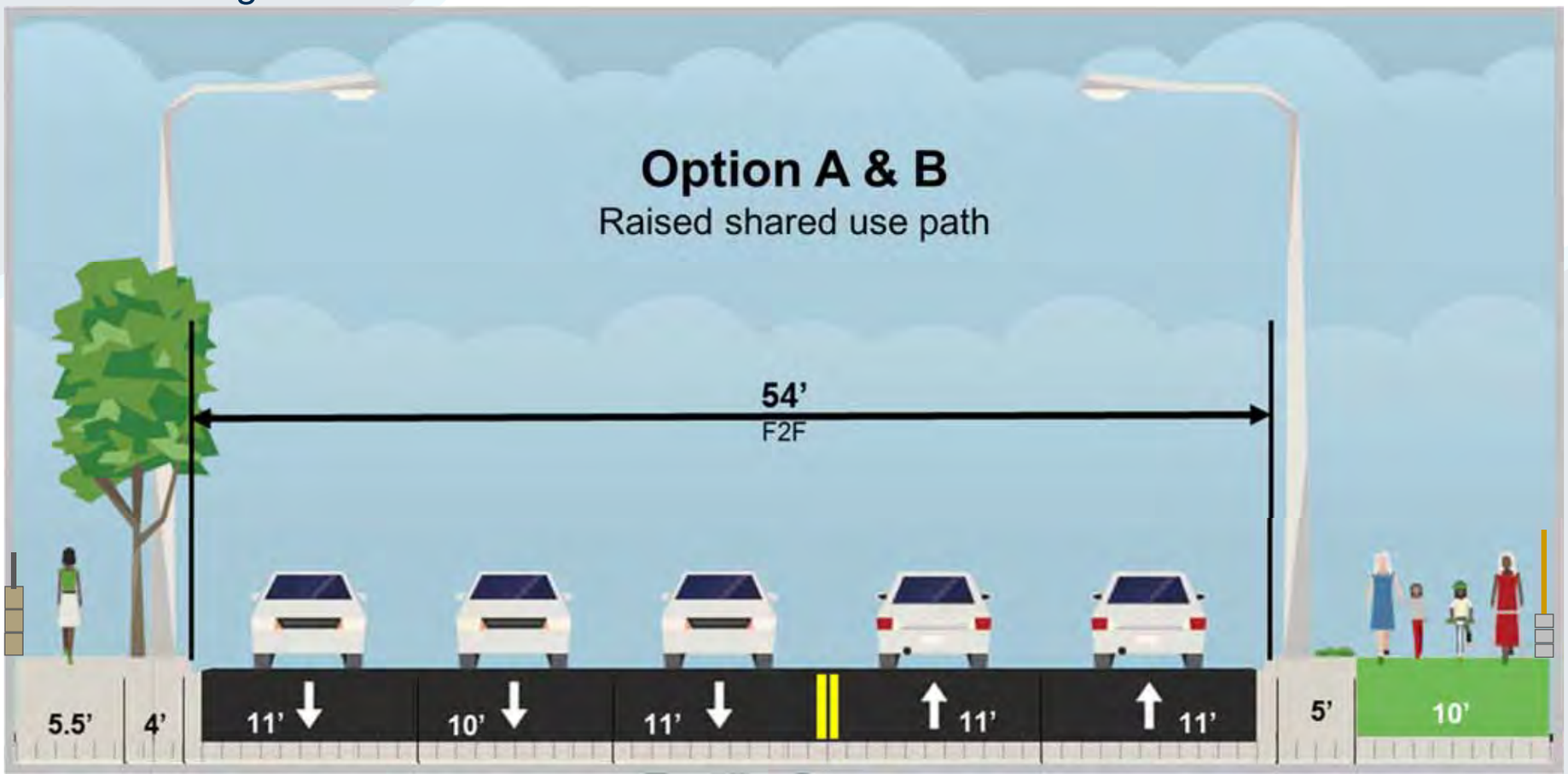
- Signal phasing adjustments will address a common crash type
- Revisions to the NB to EB right turn will reduce speeds



- Separate phasing will reduce crashes
- Northbound right turn (tightened radii) without pork chop island slows speeds
- Raised shared use path provides connection to Capital City Trail.

All Alternatives are considering a raised cycle path at Broom Street

Looking North



Downtown
Monona Terrace
SPEED LIMIT 25
Widen
Narrow lanes
ONLY
ONLY
Google Streetview

Goals & Objectives

	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
Increase Bike Connectivity			
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			
Motor Vehicle Operations			

Pedestrians - MLK Jr Blvd & Wilson St

Two lanes accommodate both pedestrian crossings and vehicles well

95th queue length 176 feet, 2 lanes

95th queue length 815 feet, 1 lane

NORTH

MLK Blvd

STOP

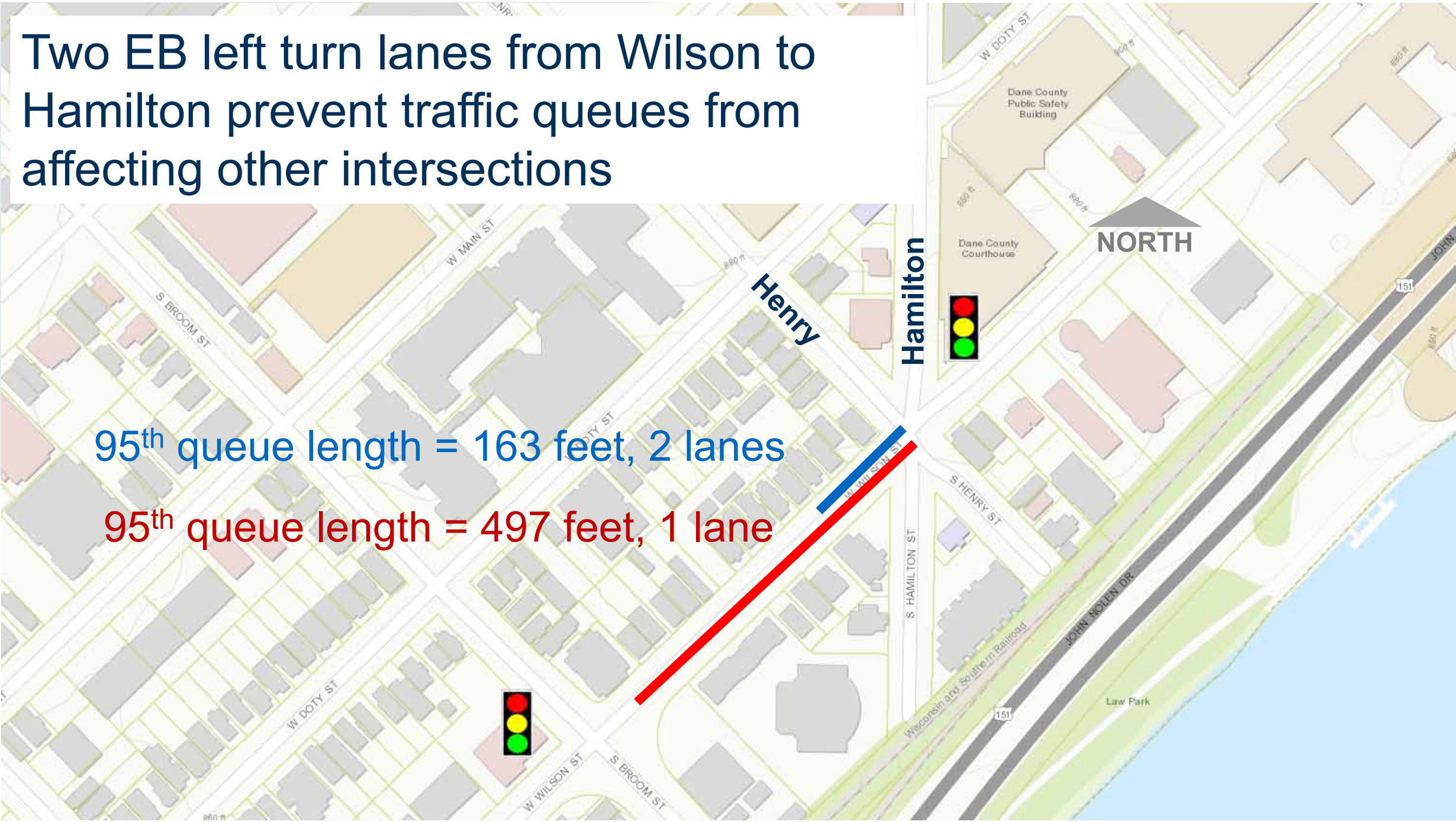
Example of Table Top Intersection

Peoria IL
Terra Engineering ltd.

Goals & Objectives

	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
Increase Bike Connectivity			
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			
Motor Vehicle Operations			

Two EB left turn lanes from Wilson to Hamilton prevent traffic queues from affecting other intersections



Goals & Objectives

	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
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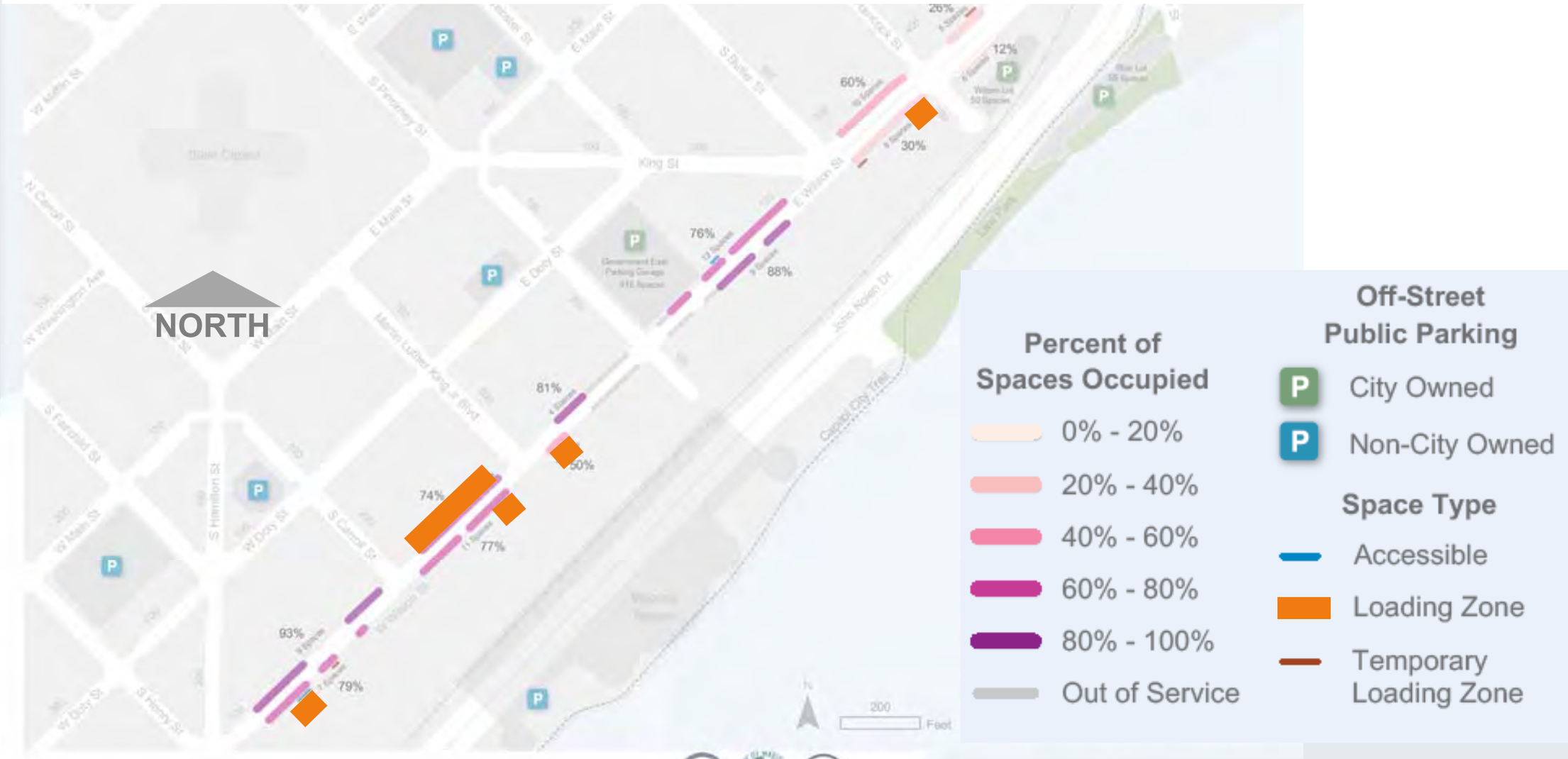
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			
Motor Vehicle Operations			

Parking and Loading



WINNESOTA
REGIONAL TRANSPORTATION
Delivery and Warehouse Solutions for the Upper Midwest
952-948-1001
www.WinnesotaRT.com

405970
FedEx
E59193

elegant foods
where taste matters.
www.elegantfoods.net
CARRIER
HINO

Hilton has from 35 to 40 deliveries per week

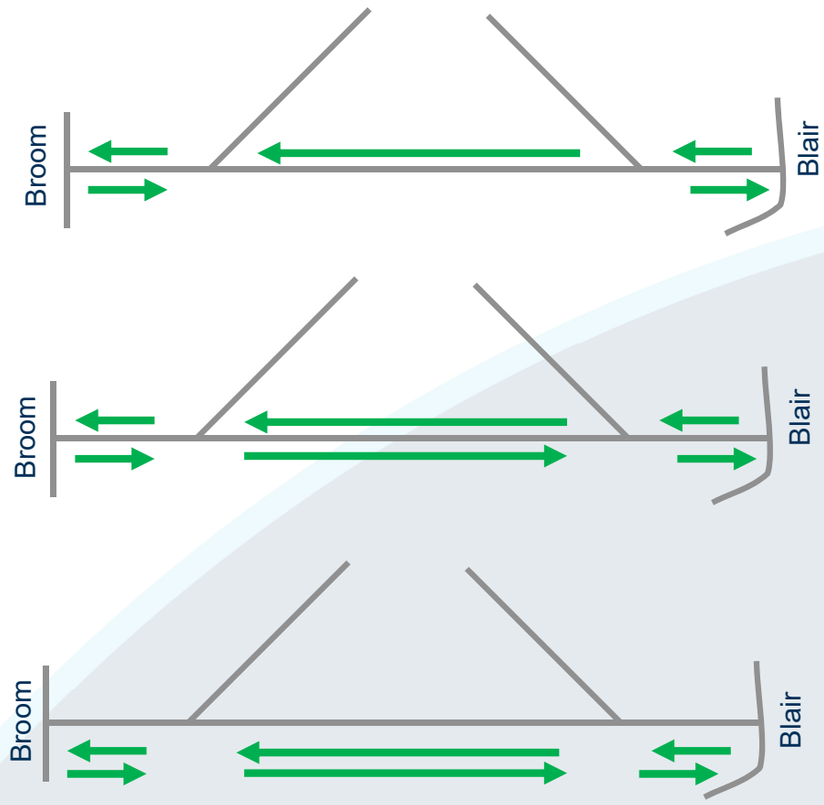
Goals & Objectives

	1 Bike Lns	2 Contra	3 Separated
Provide Safety			
Increase Bike Connectivity			
Pleasant Living Environment			
Pleasing Entrance			
Satisfy Parking and Loading			
Preserve Tree Canopy			
Ped Crossings			
Preserve Infrastructure Investment			
Motor Vehicle Operations			

Inter related

How to address bikes and parking leads to three main alternatives

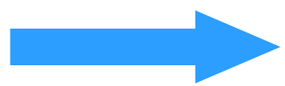
1. Conventional Bike Lanes West and East
2. Conventional Bike Lanes West and East, Contra Flow Bike Lane in Center
3. Cycle Path, or Separated Two-way Bike Path, Full Corridor



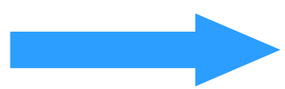
Isthmus is projected to receive 10,000 more jobs by 2050

2010 Mode of Transportation

SOV	61%
MOV	7%
Bike	5%
Walk	10%
Telecom	5%
Transit	10%



10%



20%

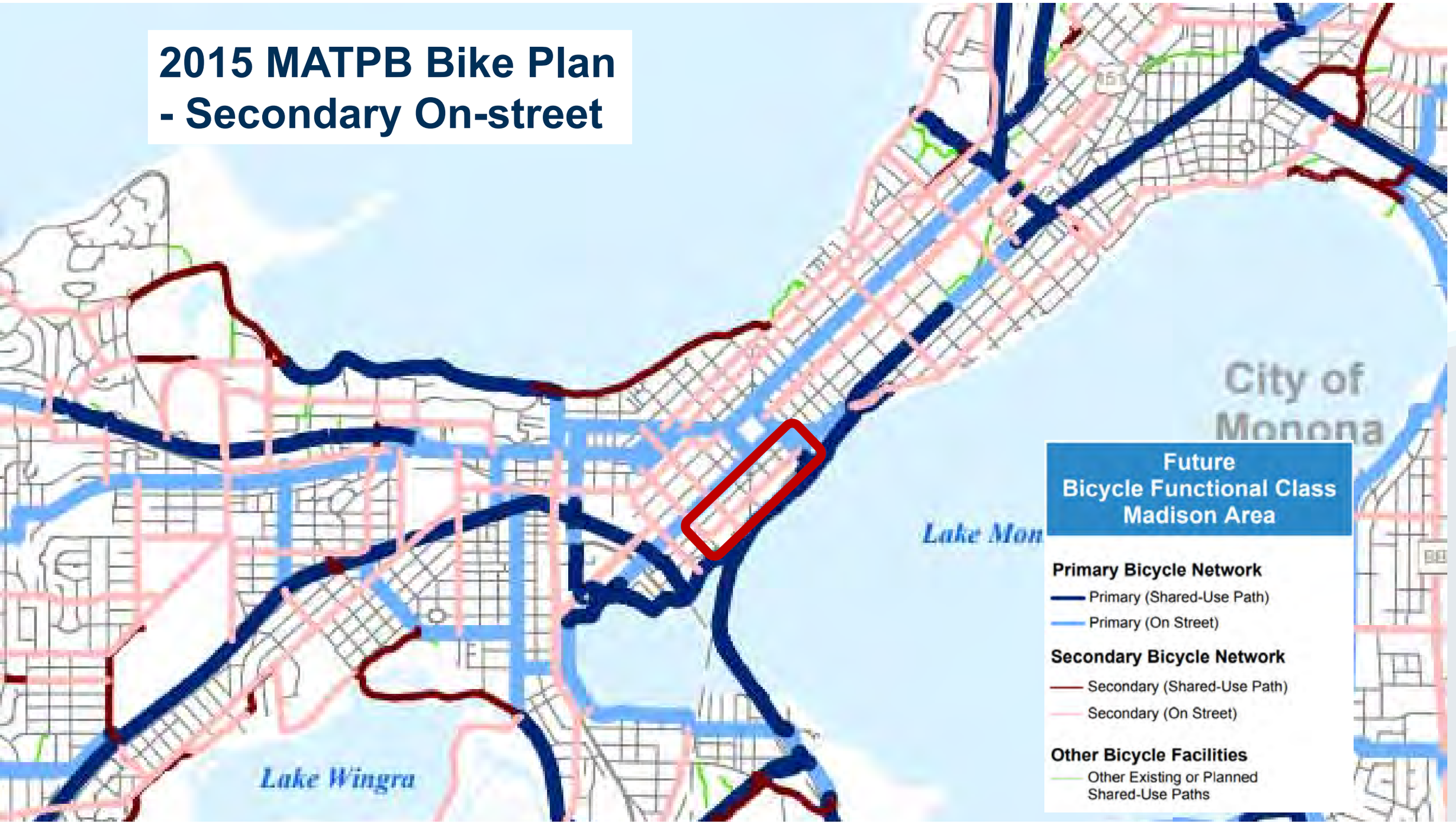
?

Bike Classification of Wilson

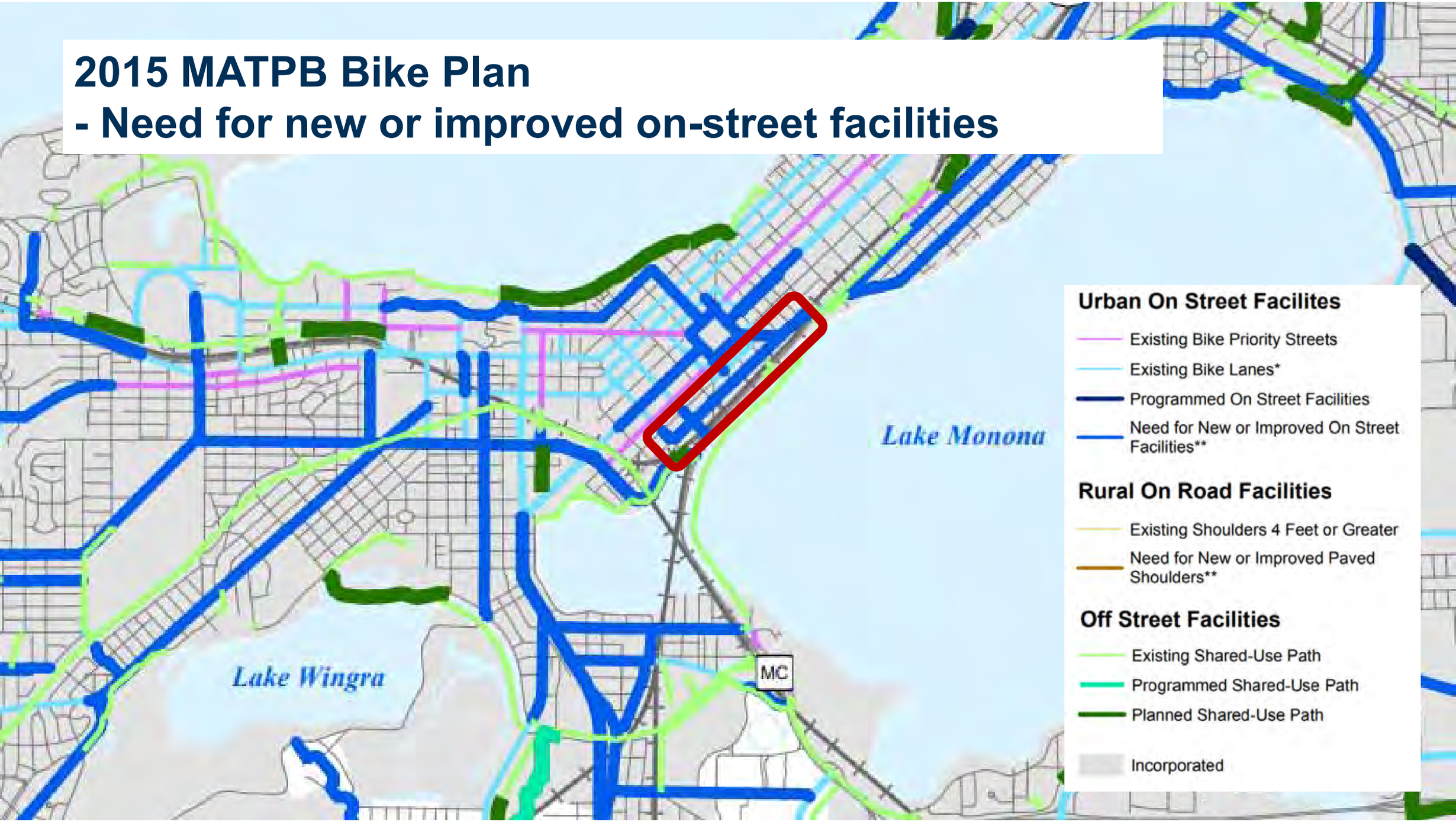
Madison adopted MATPB's bike plan in 2015

Since 2015 some communities are moving towards a low stress network

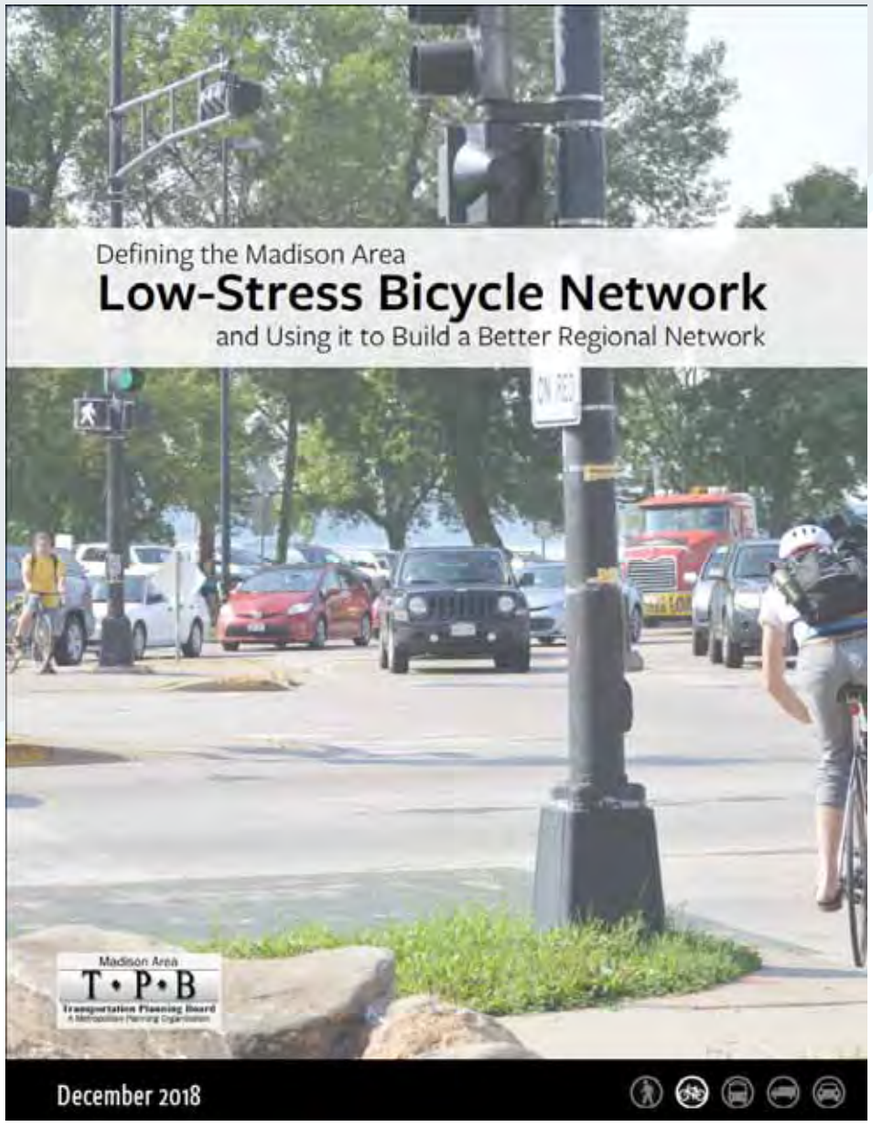
2015 MATPB Bike Plan - Secondary On-street

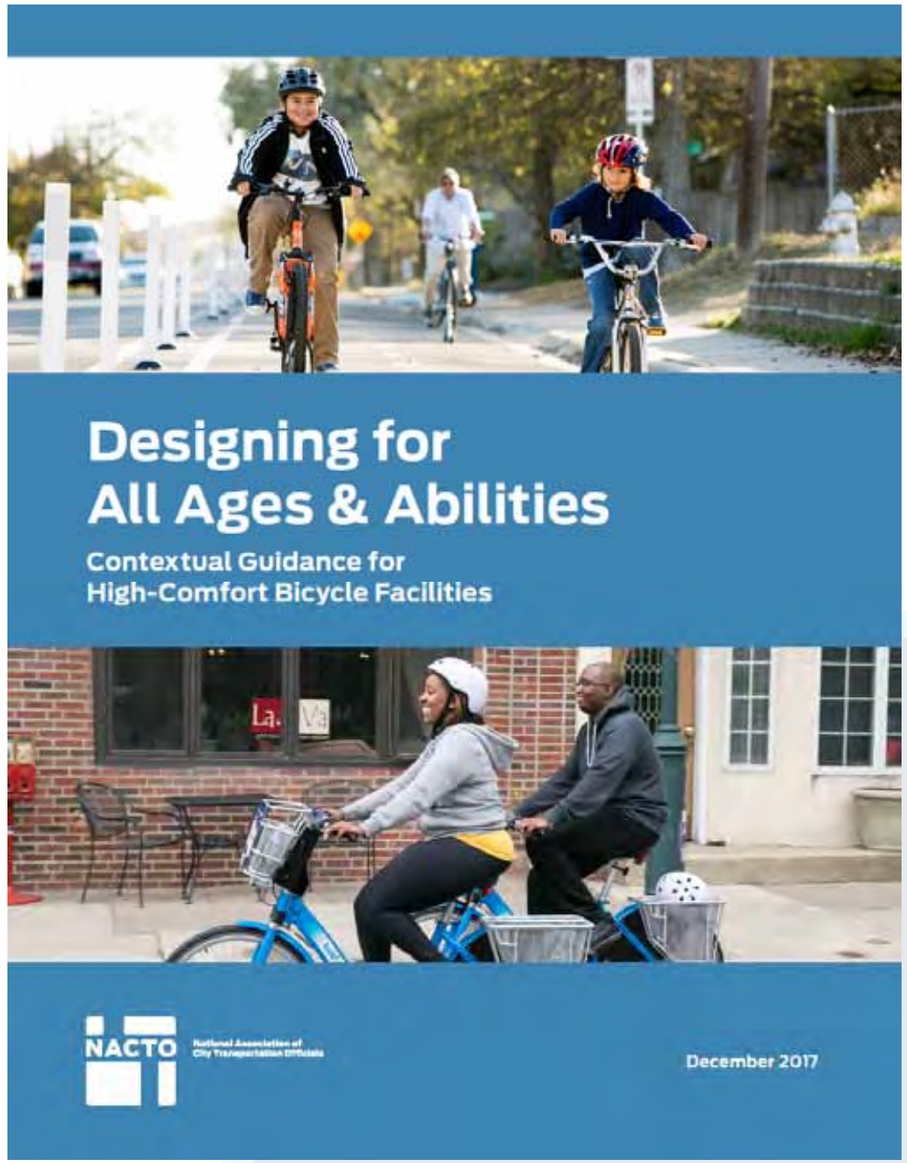


2015 MATPB Bike Plan
- Need for new or improved on-street facilities

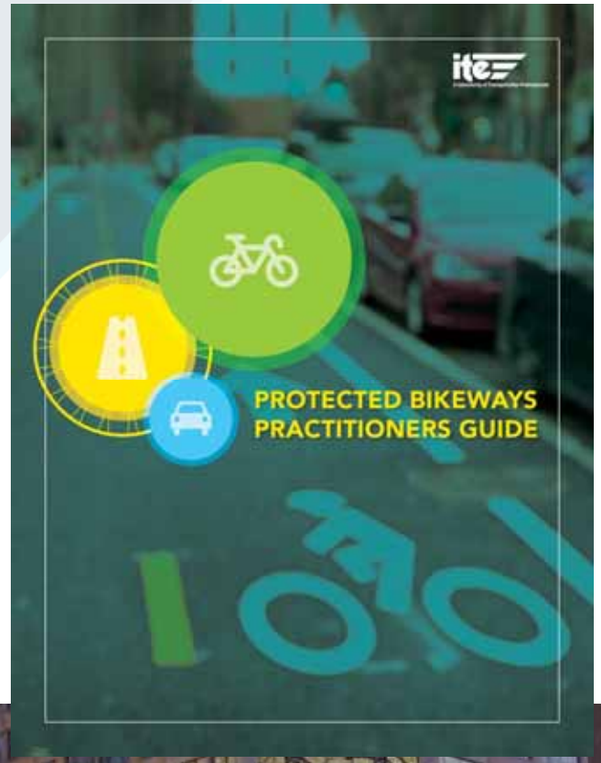


2018 MATPB Low Stress Network Bike Plan - Barrier

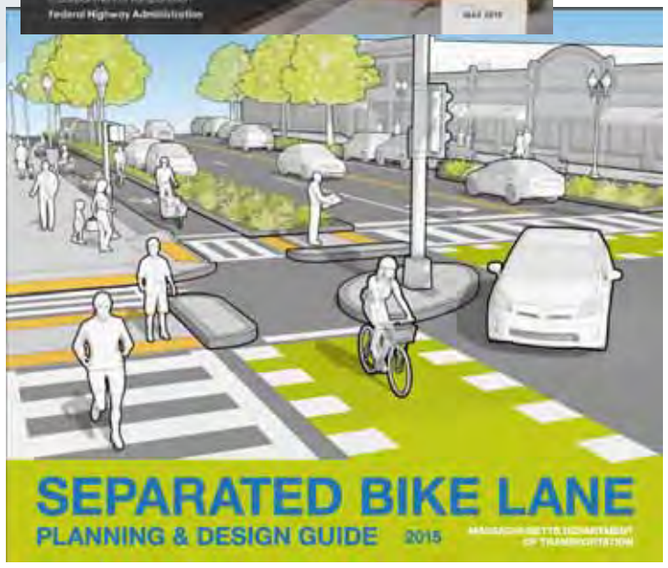

Defining the Madison Area
Low-Stress Bicycle Network
and Using it to Build a Better Regional Network
Madison Area
T • P • B
Transportation Planning Board
December 2018


Designing for
All Ages & Abilities
Contextual Guidance for
High-Comfort Bicycle Facilities
NACTO
December 2017

Federal Highway Administration
SEPARATED BIKE LANE
PLANNING AND DESIGN GUIDE
Federal Highway Administration

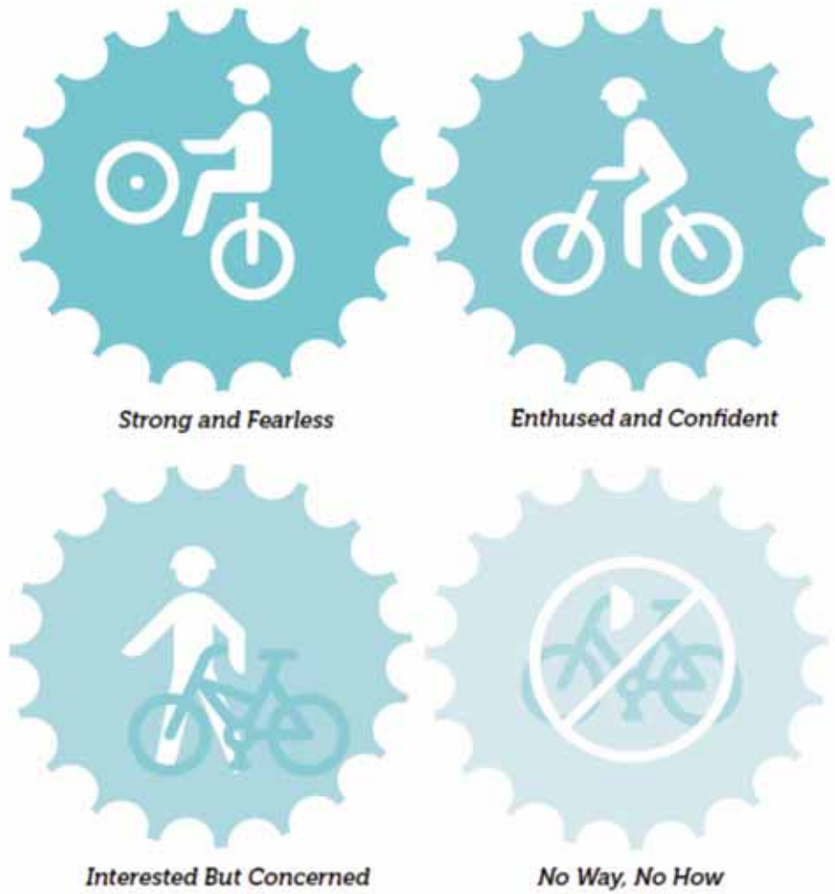

ite
PROTECTED BIKEWAYS
PRACTITIONERS GUIDE

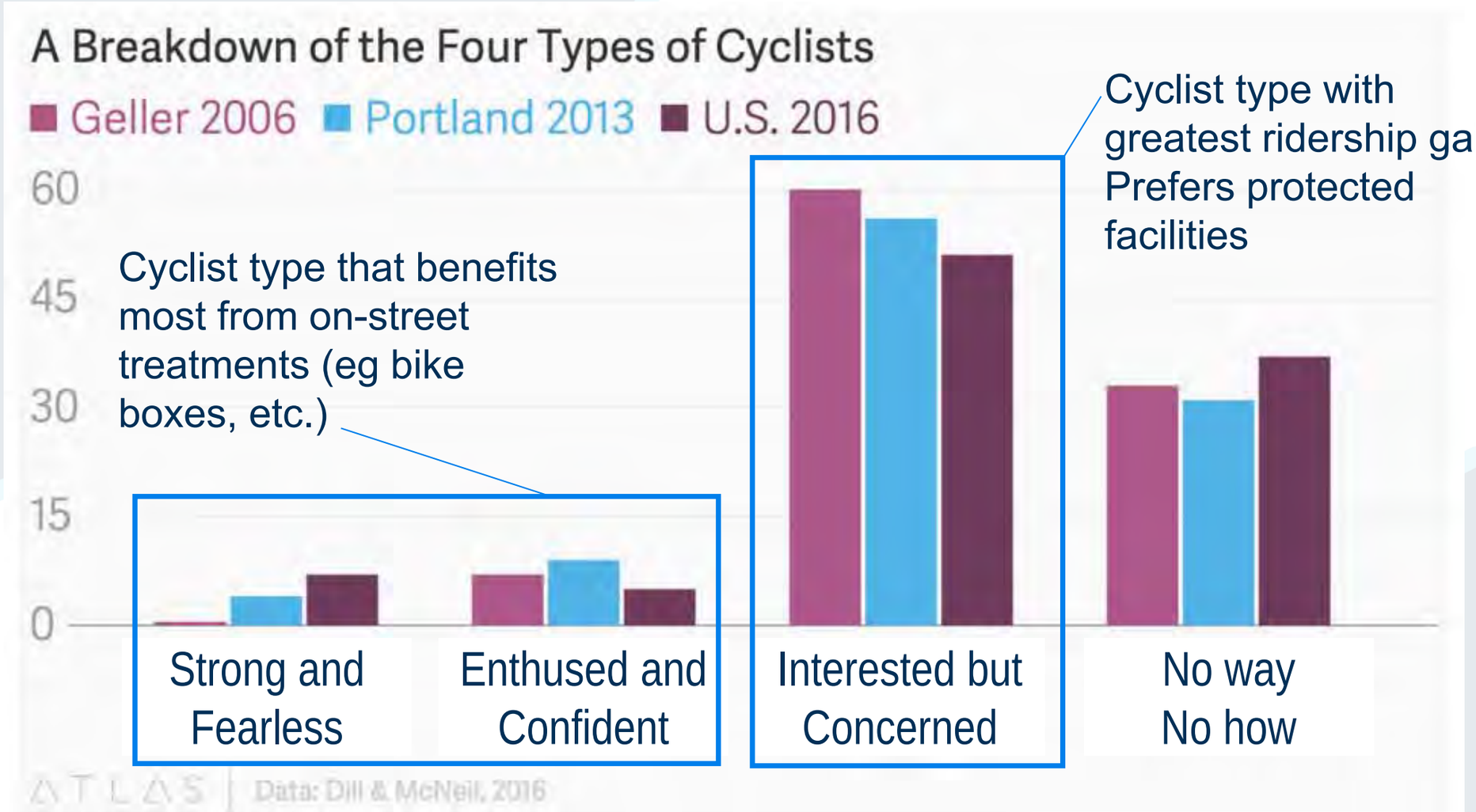
Portland
Protected
Bicycle Lane
Planning and
Design Guide
PBOT


SEPARATED BIKE LANE
PLANNING & DESIGN GUIDE
2015

SEATTLE
STREETS
ILLUSTRATED
Search: streets, curbs, bicycles, design...

Four types of cyclist




A Breakdown of the Four Types of Cyclists
Geller 2006
Portland 2013
U.S. 2016
60
45
30
15
0
Cyclist type that benefits most from on-street treatments (eg bike boxes, etc.)
Cyclist type with greatest ridership gains
Prefers protected facilities
Strong and Fearless
Enthused and Confident
Interested but Concerned
No way No how
ATLAS
Data: Dill & McNeil, 2016

All Ages and Abilities

Users of this guidance should recognize that, in some cases, a bicycle facility may fall short of the All Ages & Abilities criteria but still substantively reduce traffic stress.

Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		*Any*	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts‡	**Protected Bicycle Lane**
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500			
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 3,000 – 6,000			**Buffered or Protected Bicycle Lane**
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 26 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion or stress	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	*Any*	*Any*	**Protected Bicycle Lane**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		*Any*	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

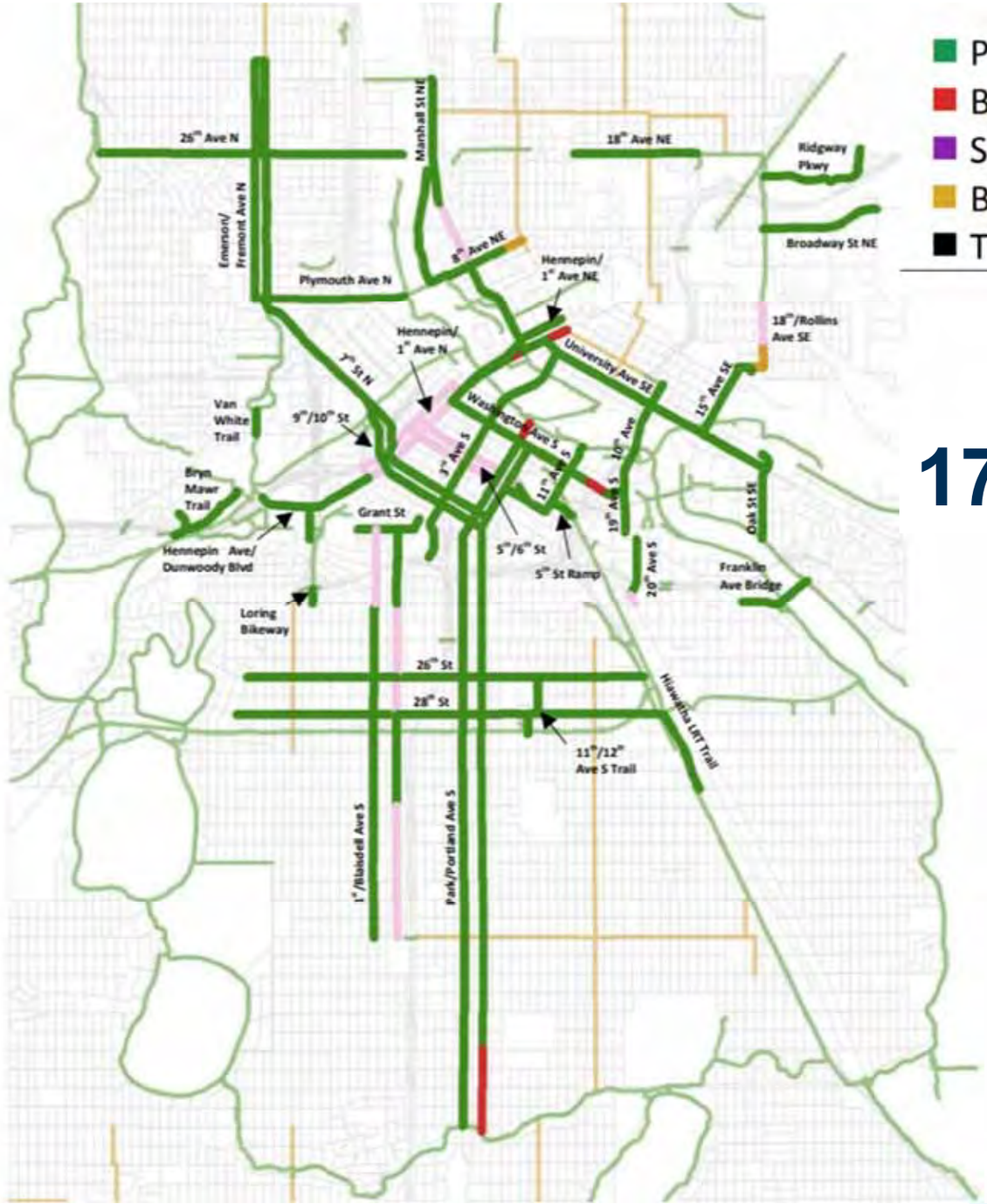
Protected Facilities

Protected Through Route Treatments

Separated Bike Facilities
(cycle track)

Separated Bike Facilities
(raised cycle track)

Separated Bike Facilities
(two-way cycle track)



174 Miles Long Term

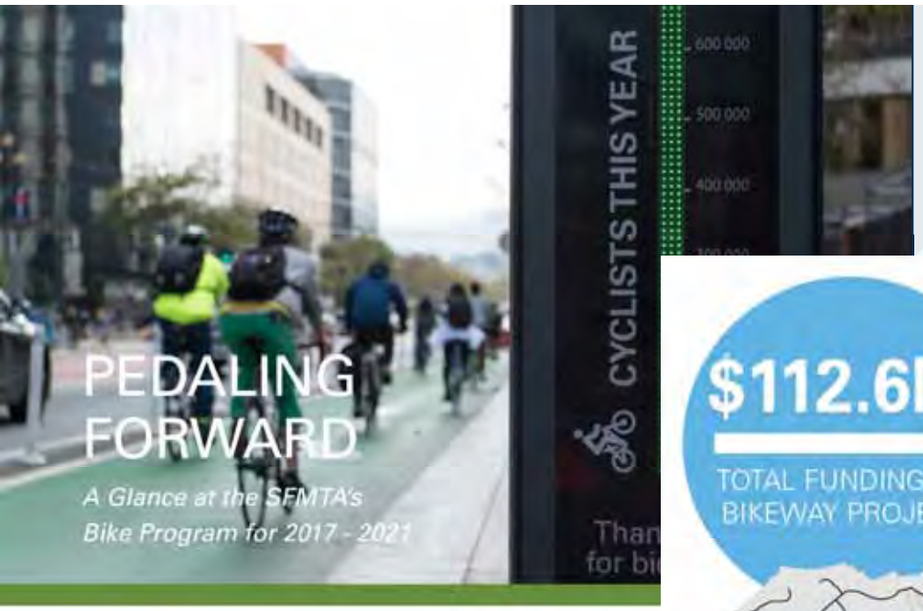
Minneapolis
Protected Bikeway Plan

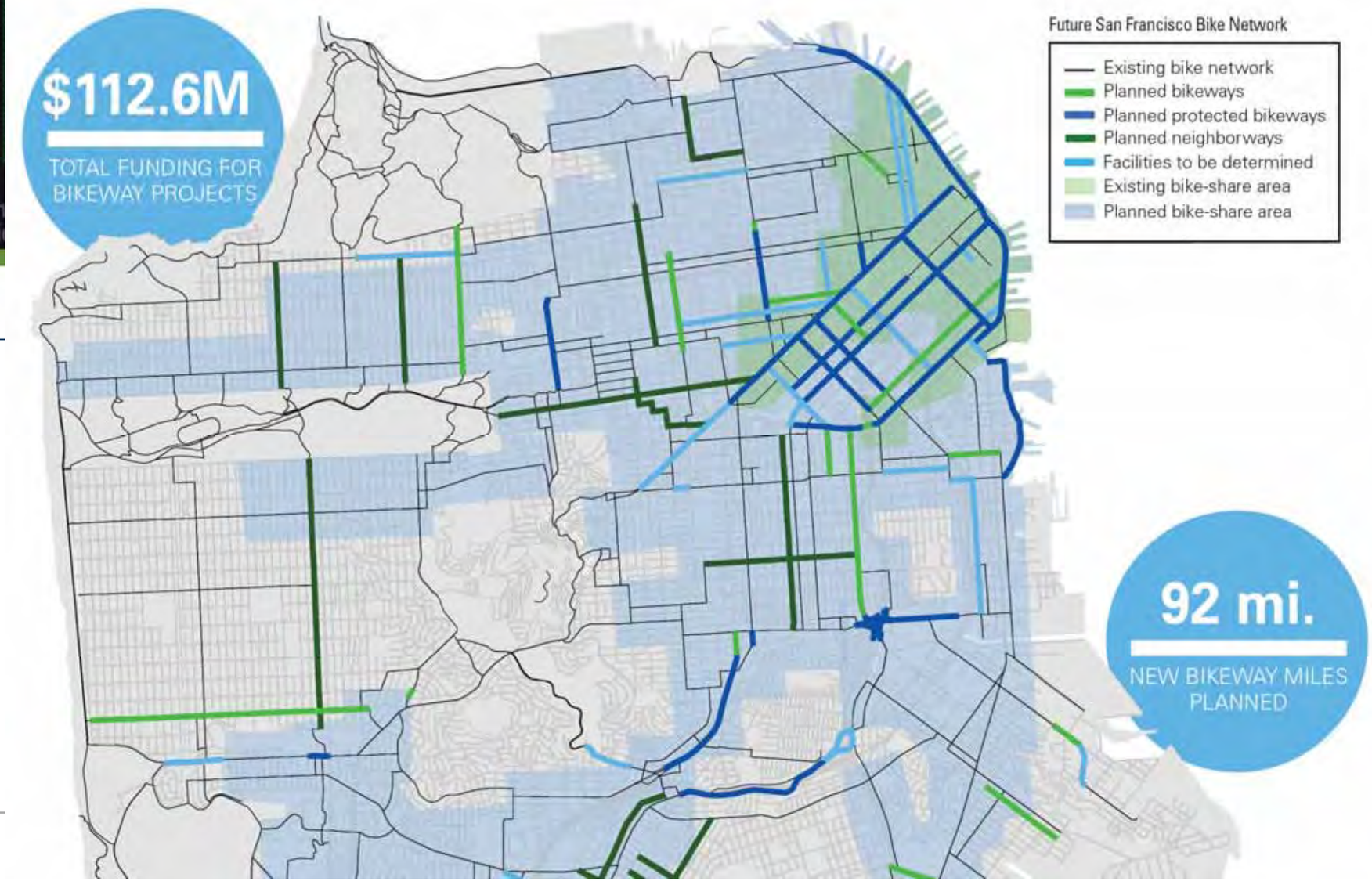
Minneapolis
https://www.twincitiesbiking.org/

Minneapolis

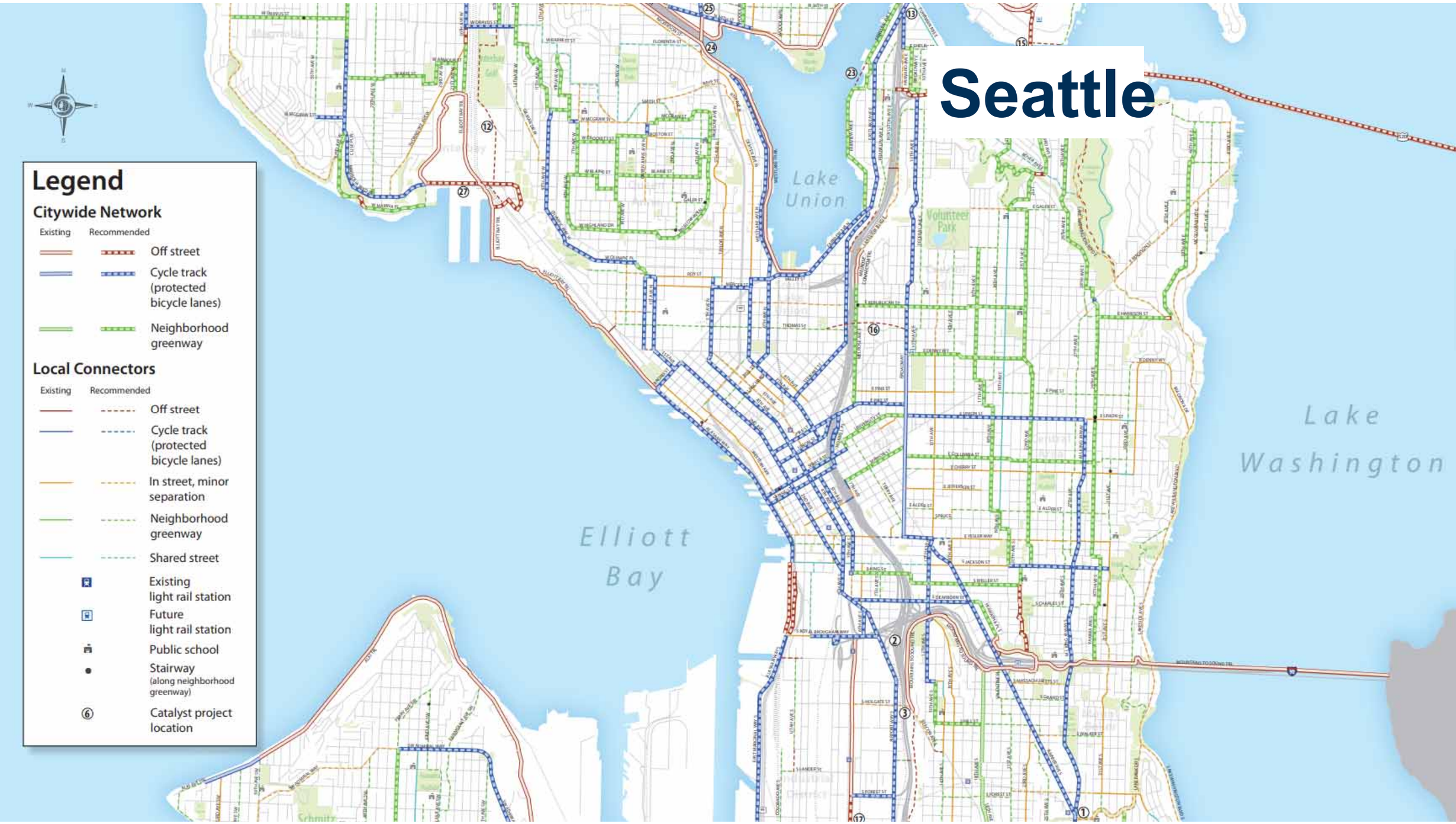
Minneapolis - Des Moines Register

San Francisco





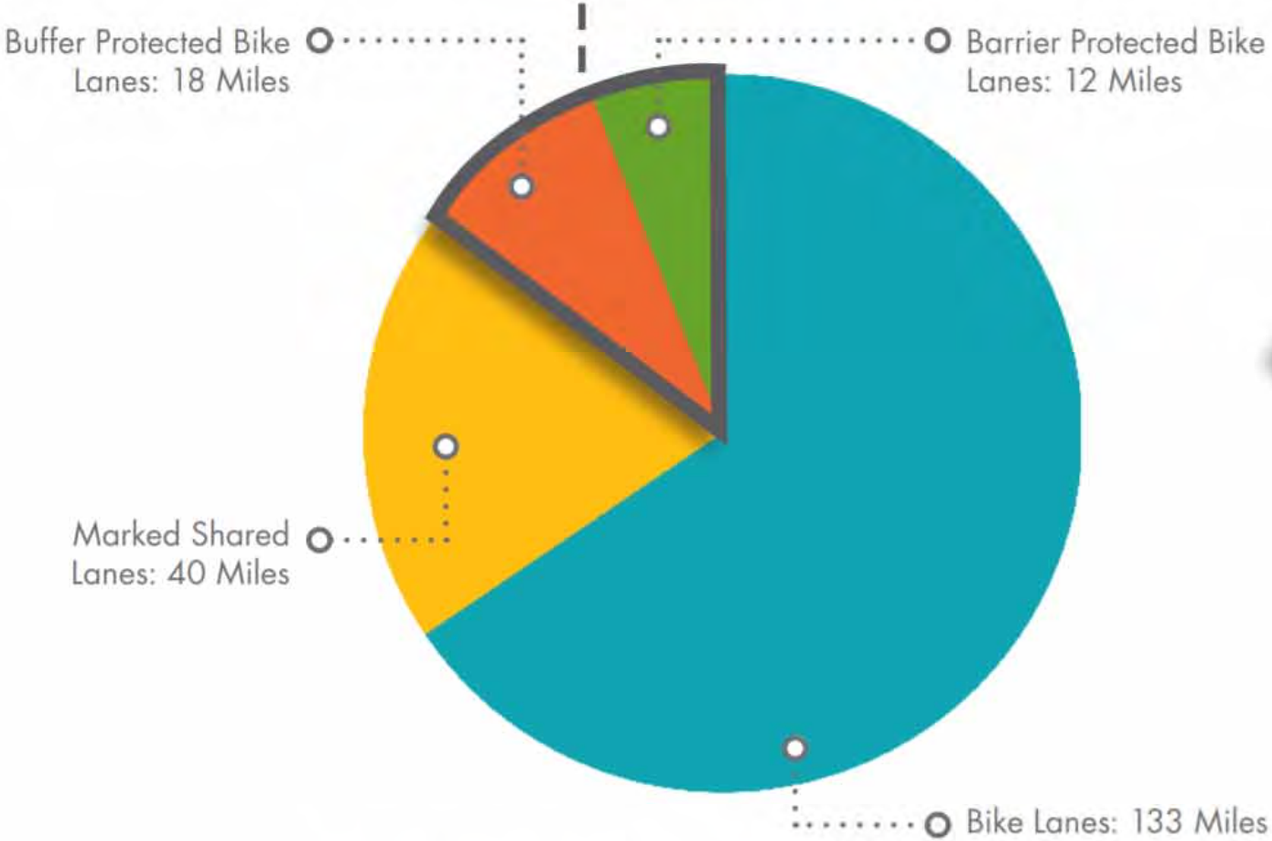
92 Miles


Seattle
Lake Union
Lake Washington
Elliott Bay
Legend
Citywide Network
Existing
Recommended
Off street
Cycle track (protected bicycle lanes)
Neighborhood greenway
Local Connectors
Existing
Recommended
Off street
Cycle track (protected bicycle lanes)
In street, minor separation
Neighborhood greenway
Shared street
Existing light rail station
Future light rail station
Public school
Stairway (along neighborhood greenway)
Catalyst project location

CDOT

CHICAGO DEPARTMENT OF TRANSPORTATION

STREETS FOR CYCLING 2020



PROTECTED BIKE LANES

In 2011, CDOT initiated the installation of barrier and buffer protected bike lanes in Chicago. By 2015 Chicago will have installed over

100 MILES

of these bike lanes.

BIKEWAYS INSTALLED IN CHICAGO

200+ MILES

of on-street bikeways have been installed on Chicago's streeets over the past twenty years.

Chicago

NOTE: One mile of bike lane refers to one mile of centerline lane

PROTECTED BICYCLE NETWORK PROJECTS:

Detroit

COMPLETED:

Cass Avenue

Michigan Avenue

IN PROGRESS:

East Jefferson Avenue

Grand River Avenue

Indianapolis

All images credit: Kevin Kastner

Indianapolis

Kinzie Ave Cycle Track (image credit: Steven Vance)

Indianapolis

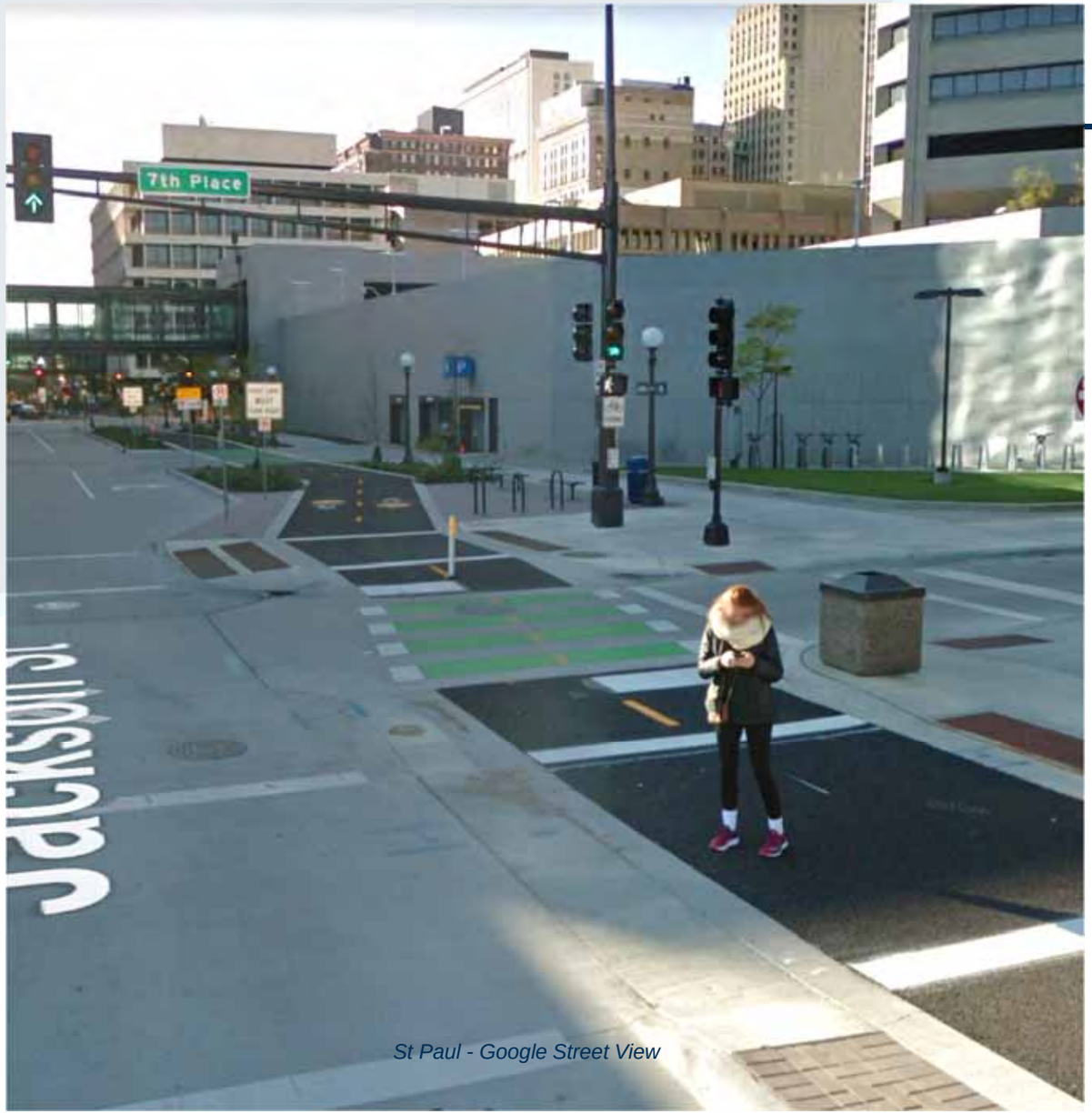
Steven Vance – People for Bikes

Boise ID
http://boisecycletracks.org/cycle-track-examples/

People for bikes

Nationally

Protected paths can be in downtowns

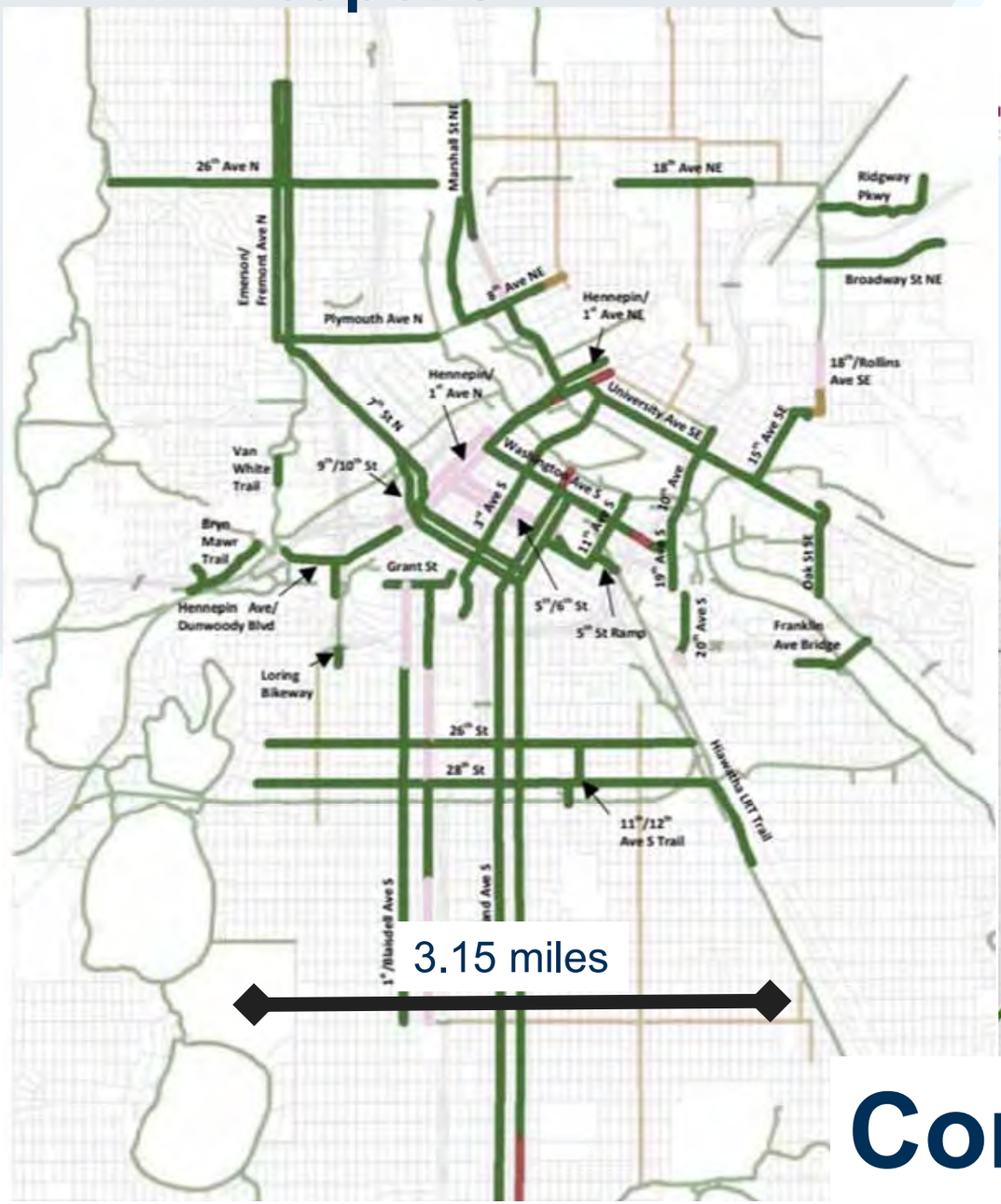


St Paul - Google Street View

St Paul

St Paul - Google Street View

Minneapolis

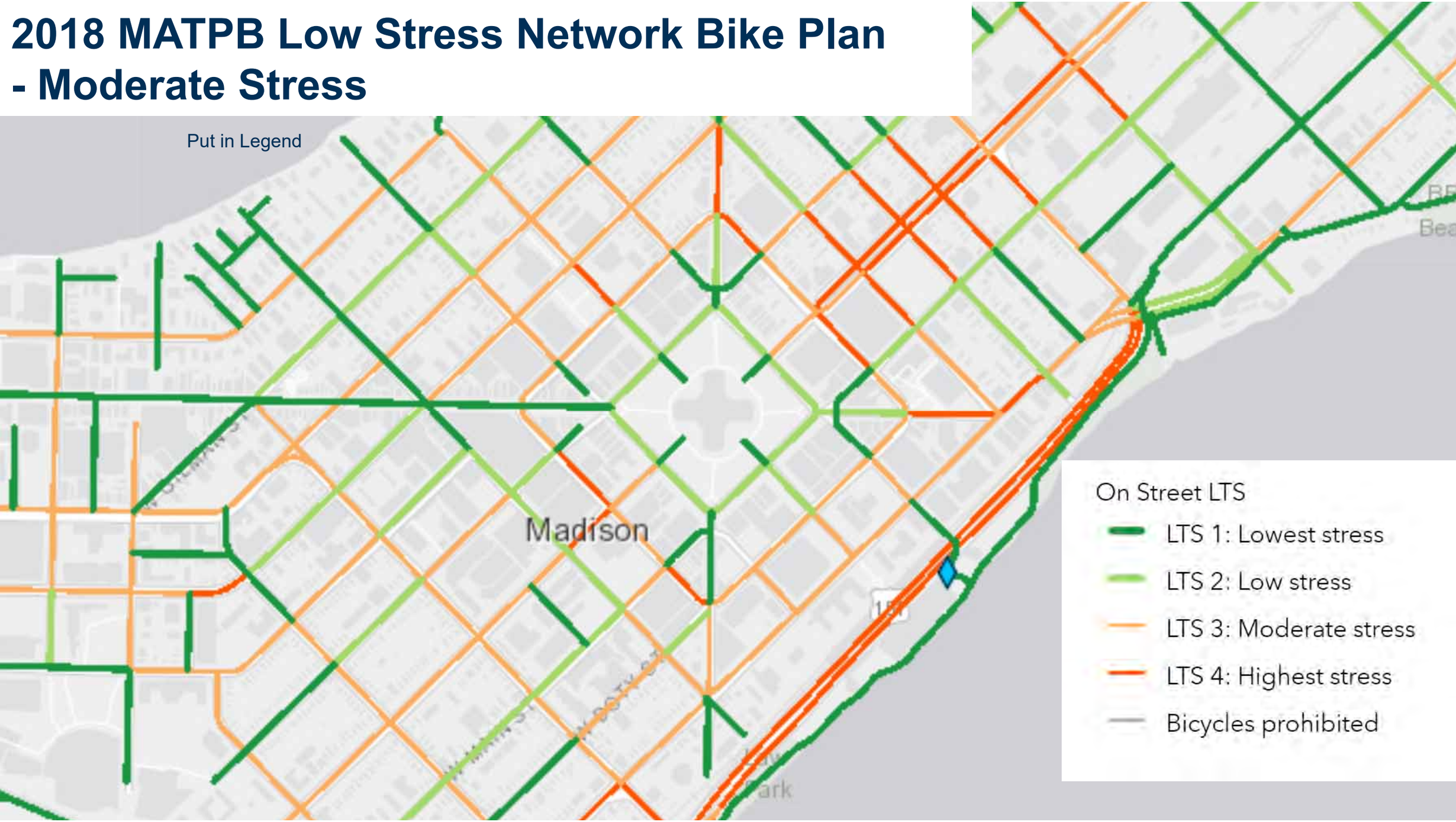


Madison

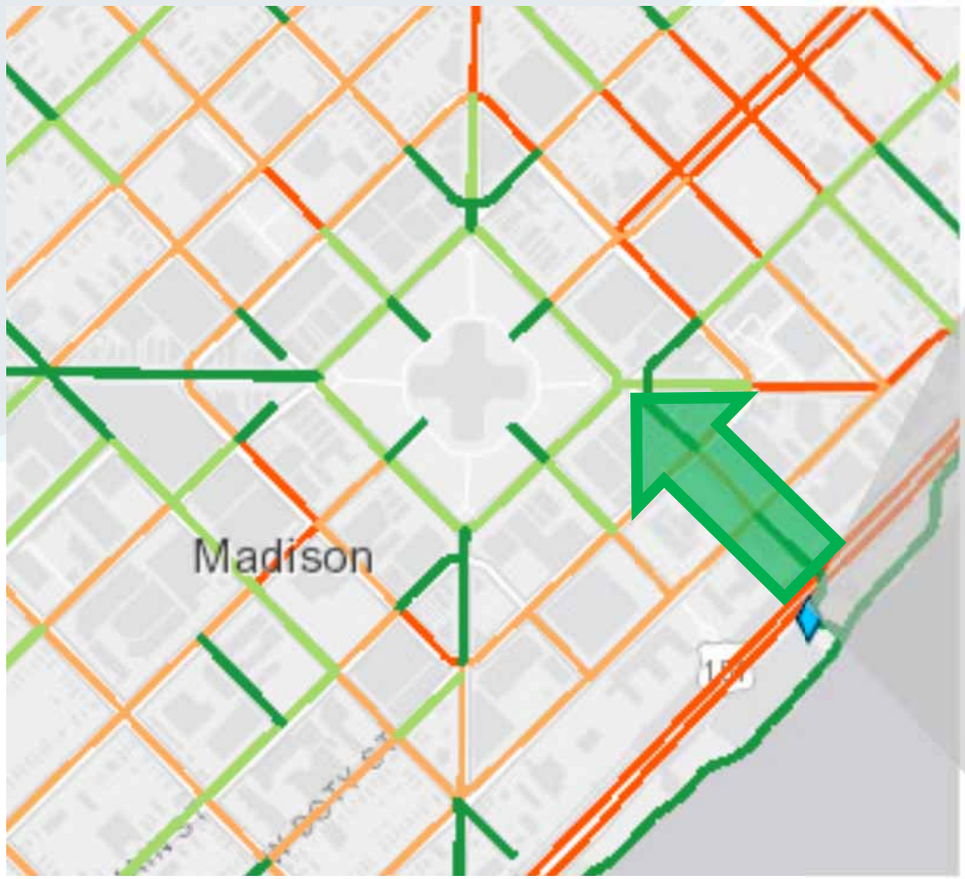
Comparison

2018 MATPB Low Stress Network Bike Plan - Moderate Stress

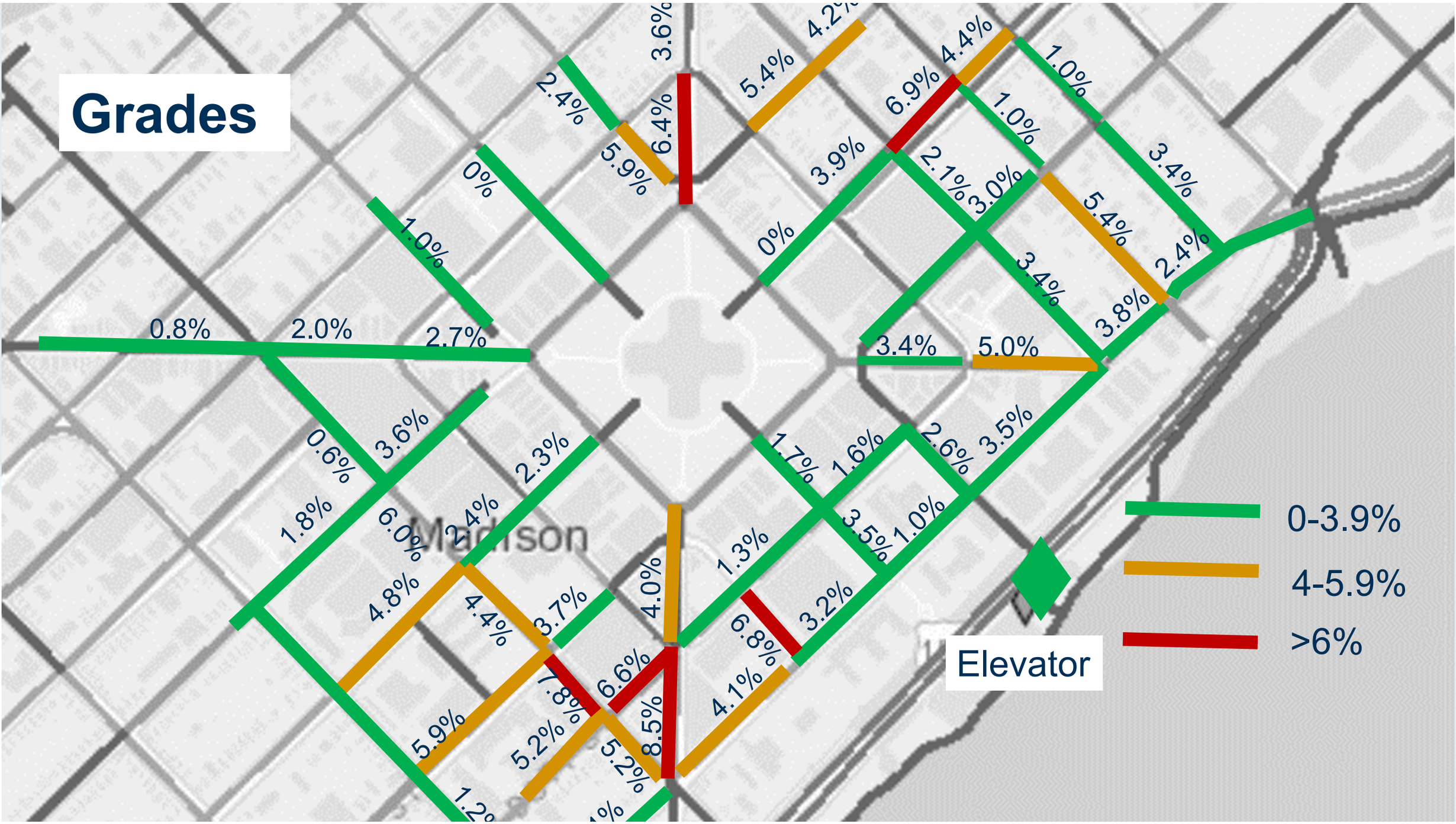
Put in Legend



Monona Terrace bicycle elevator provides one low stress entrance to downtown



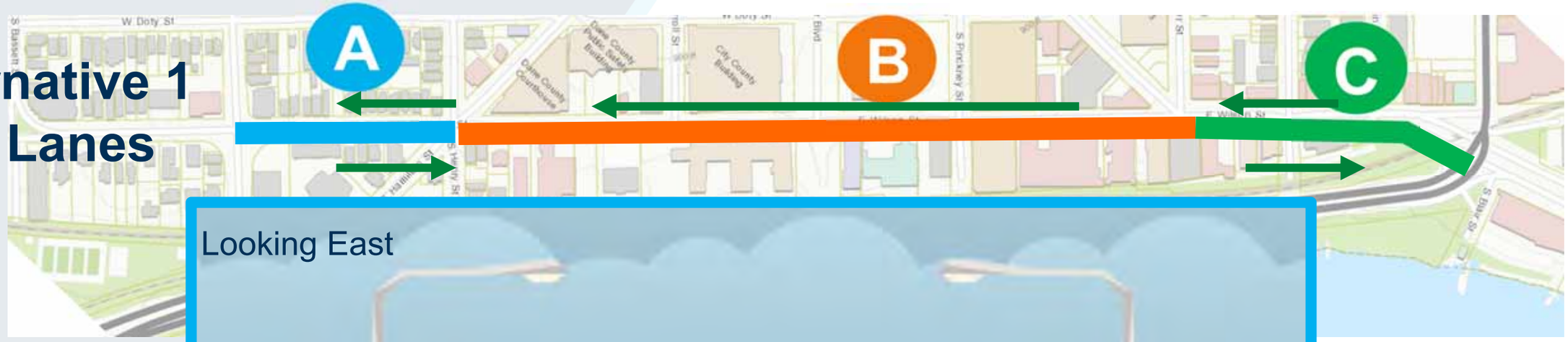
DEPARTMENT OF TRANSPORTATION

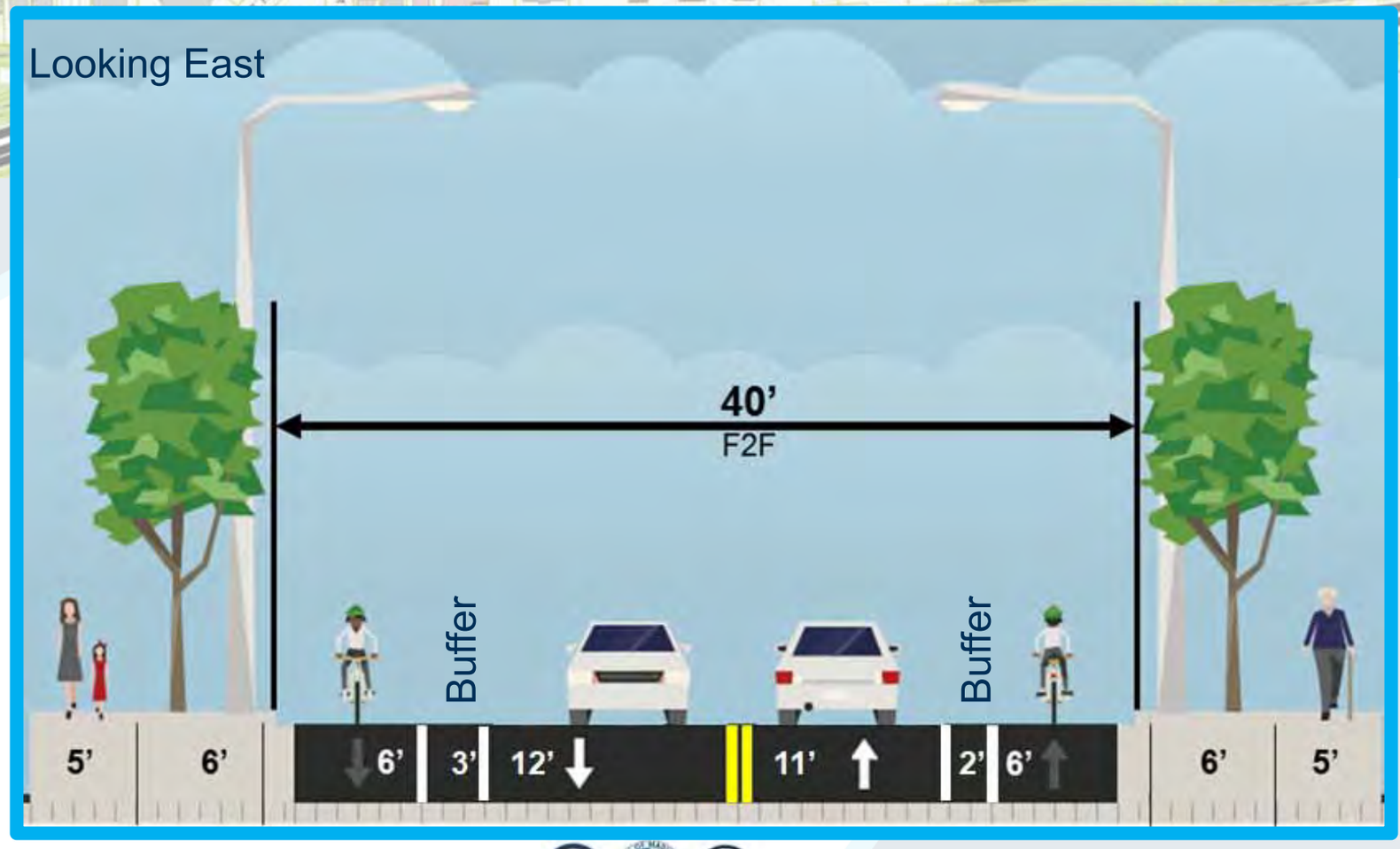

Grades
0.8%
2.0%
2.7%
1.0%
0%
2.4%
5.9%
3.6%
6.4%
5.4%
4.2%
6.9%
4.4%
1.0%
1.0%
3.9%
0%
2.1%
3.0%
3.4%
5.4%
2.4%
3.4%
3.8%
3.4%
5.0%
0.6%
3.6%
1.8%
6.0%
2.4%
2.3%
4.8%
4.4%
3.7%
4.0%
1.3%
1.7%
1.6%
2.6%
3.5%
3.5%
1.0%
3.2%
6.8%
6.6%
7.8%
5.2%
8.5%
5.2%
4.1%
5.9%
Madison
Elevator
0-3.9%
4-5.9%
>6%

Alternative 1

Bike Lanes

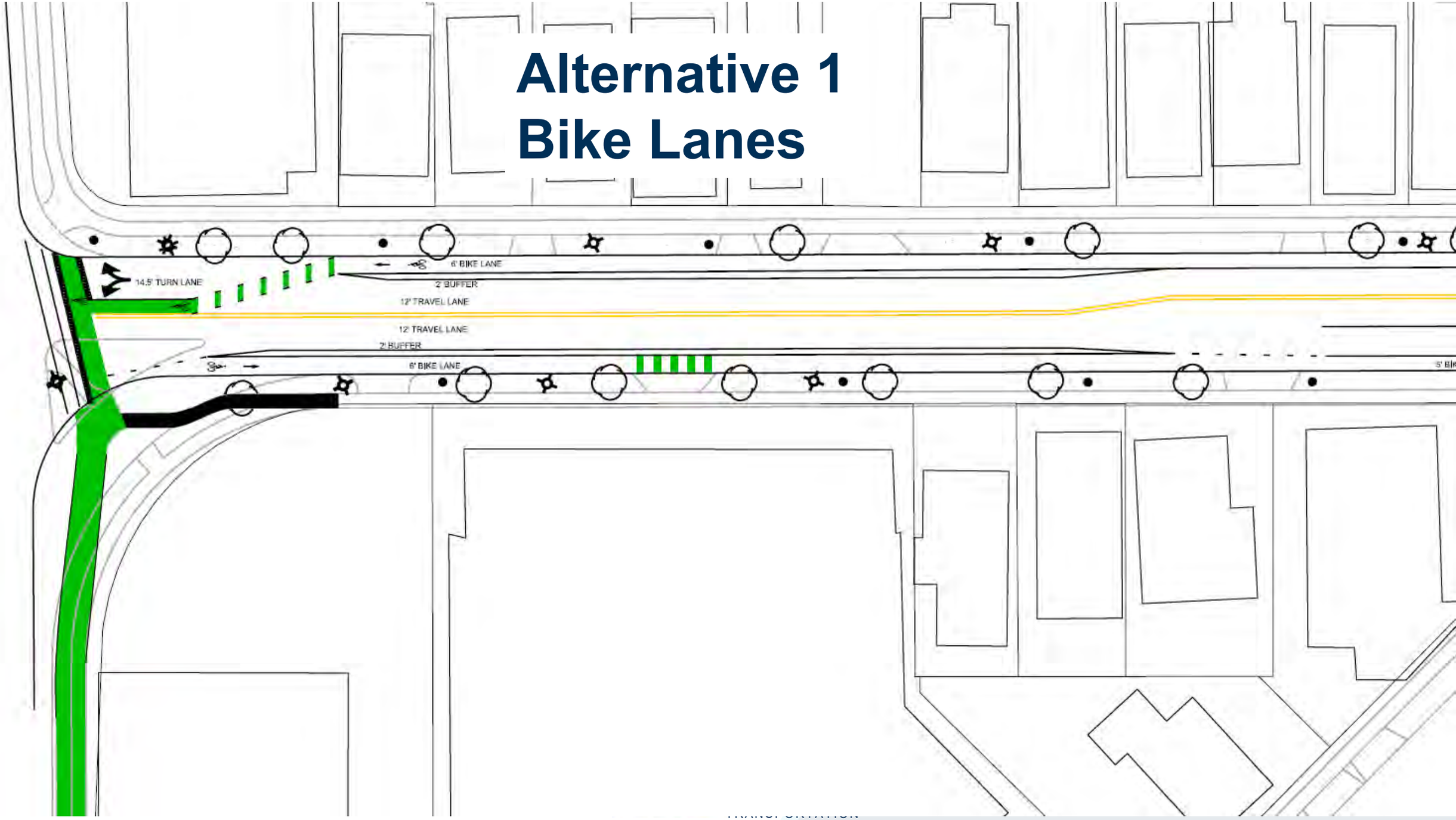
Alternative 1
Bike Lanes



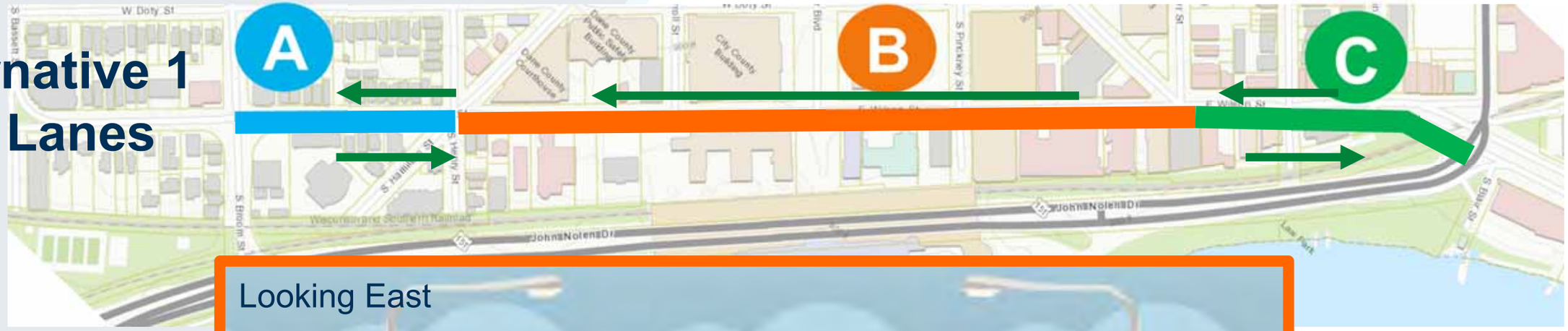


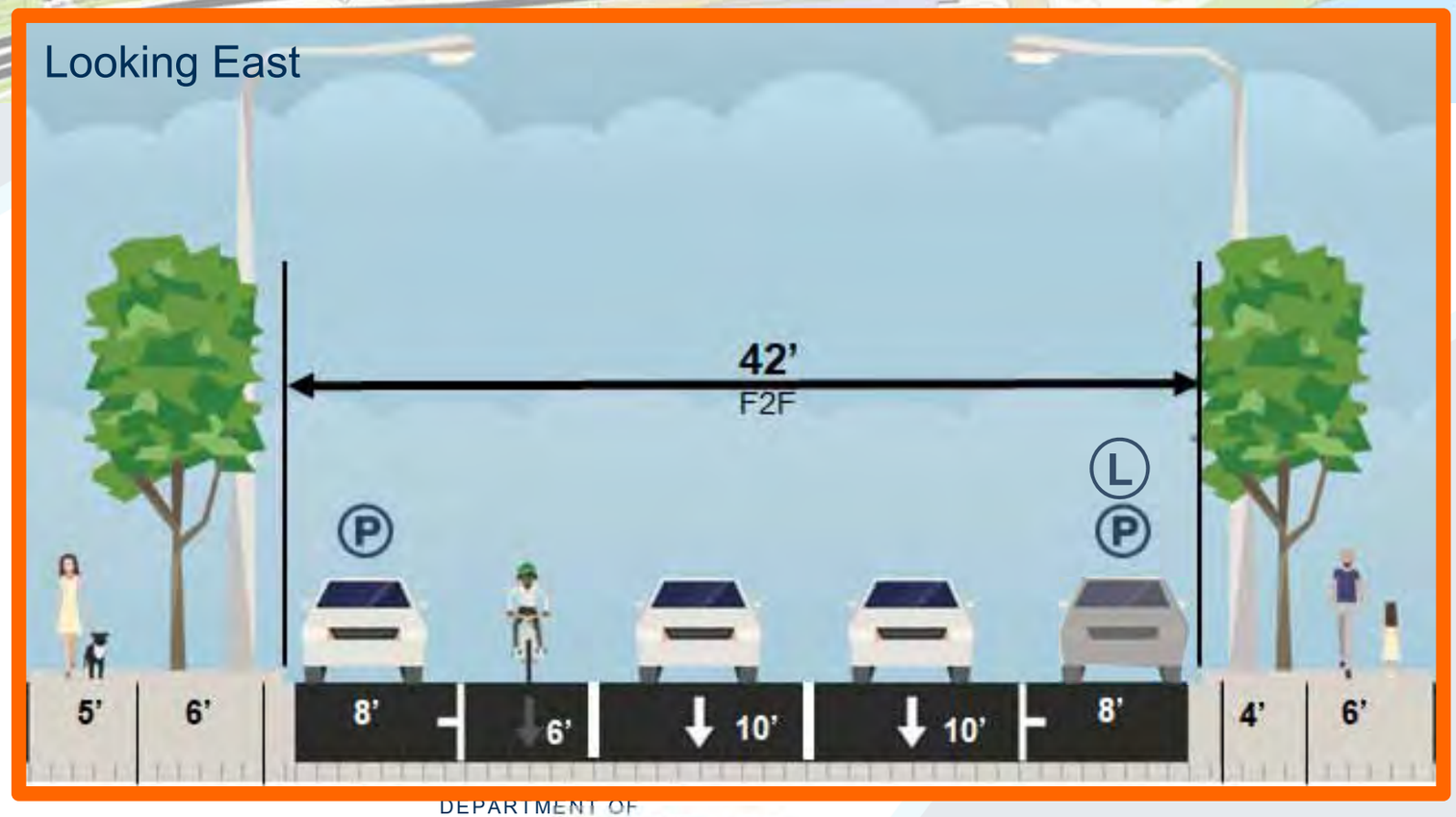
TRANSPORTATION

Alternative 1
Bike Lanes



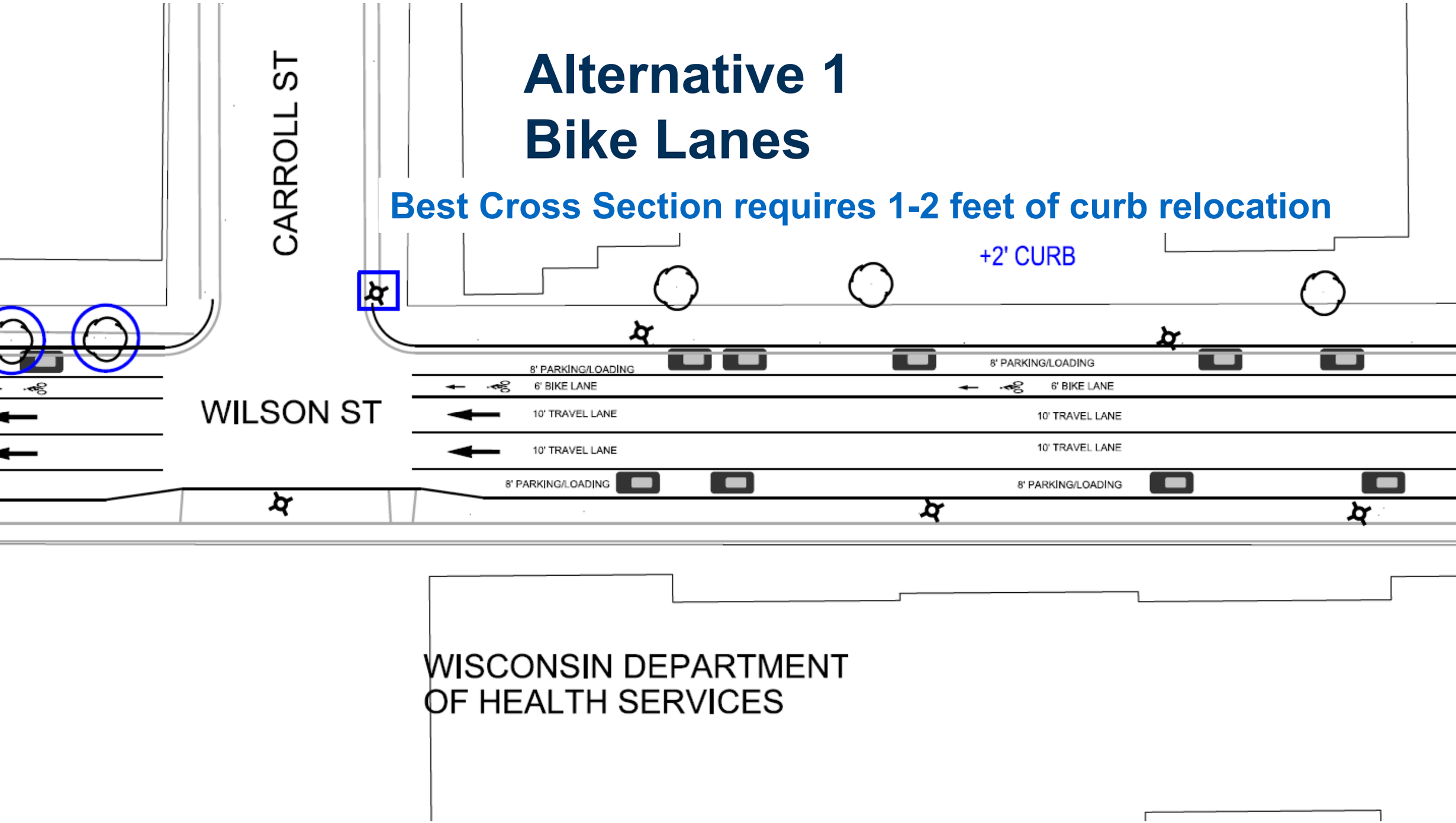
Alternative 1
Bike Lanes





Alternative 1
Bike Lanes

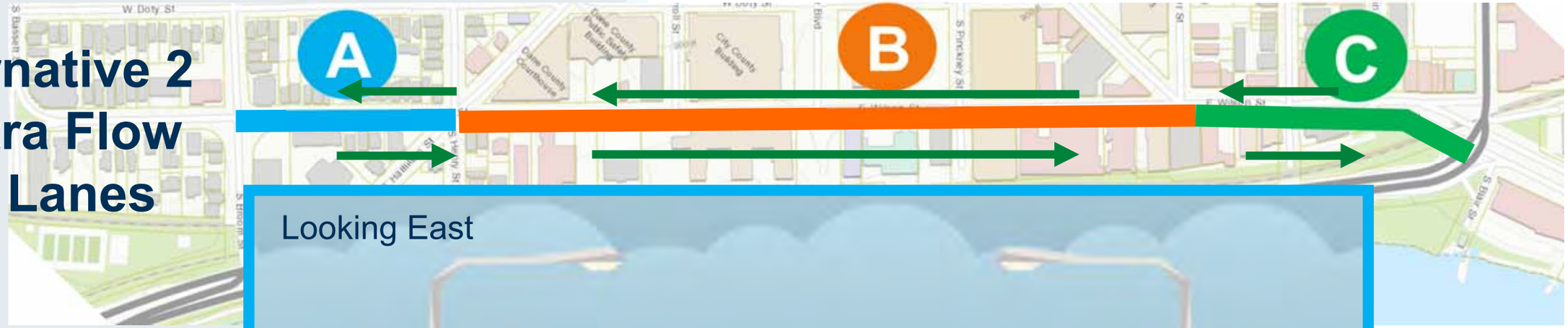
Best Cross Section requires 1-2 feet of curb relocation

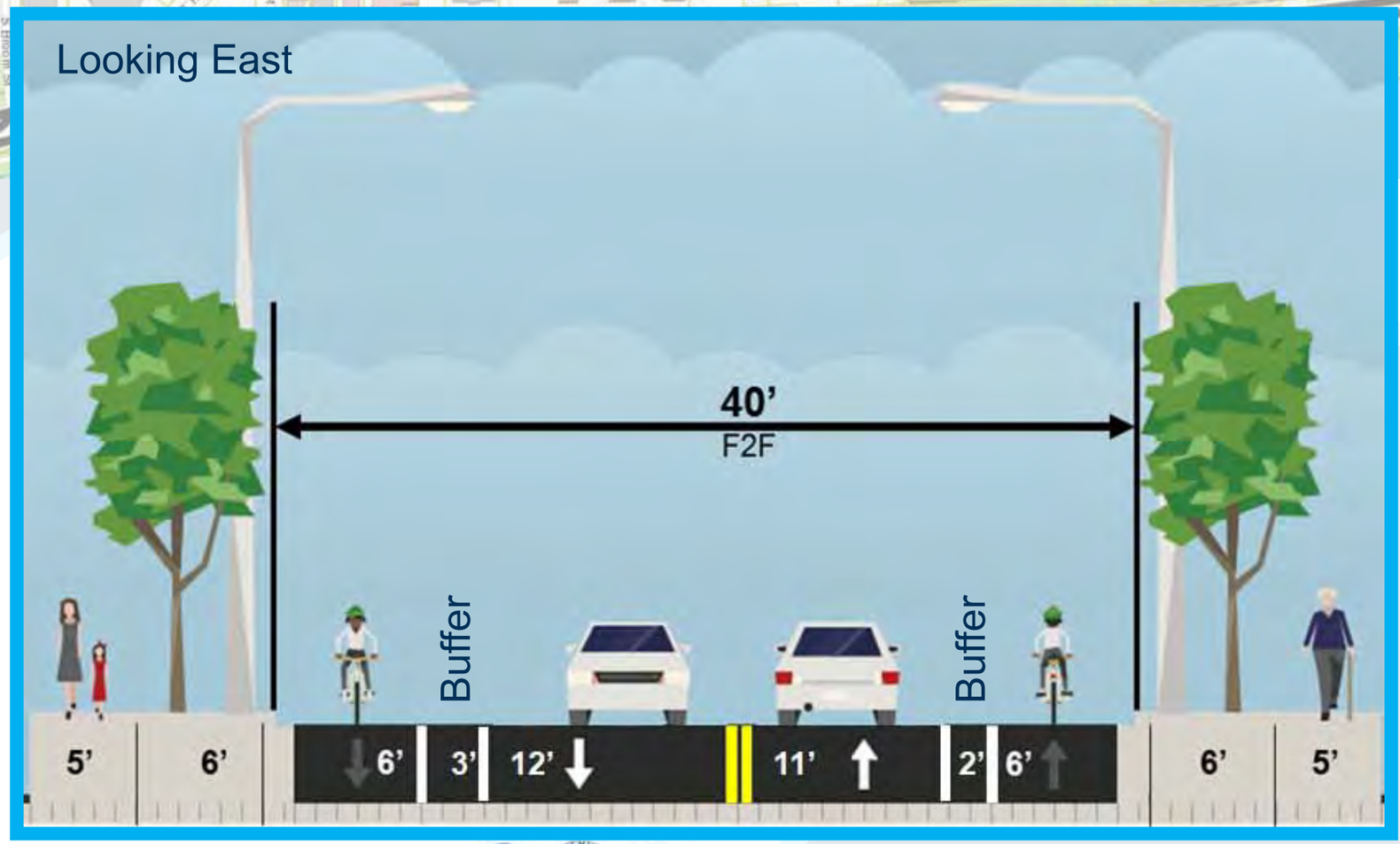


Alternative 2

Contra Flow Bike Lane

Alternative 2 Contra Flow Bike Lanes

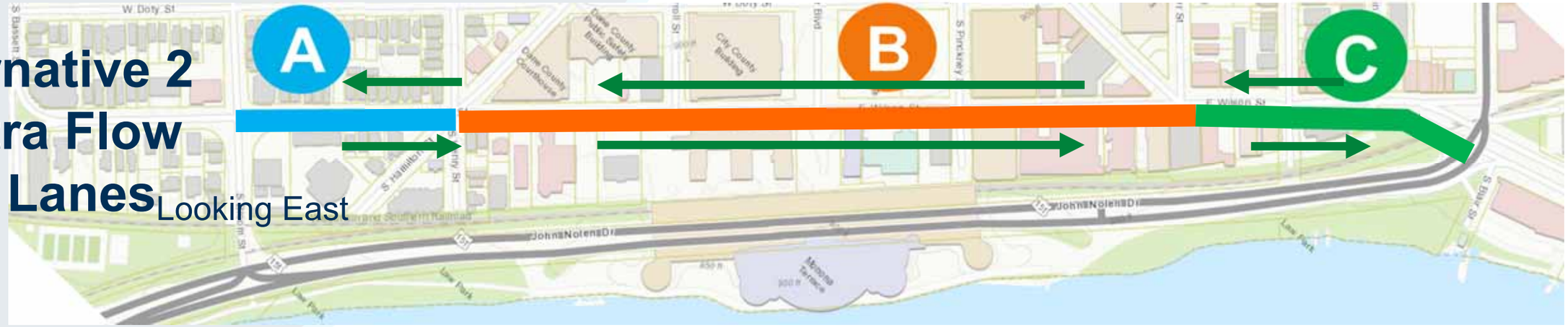


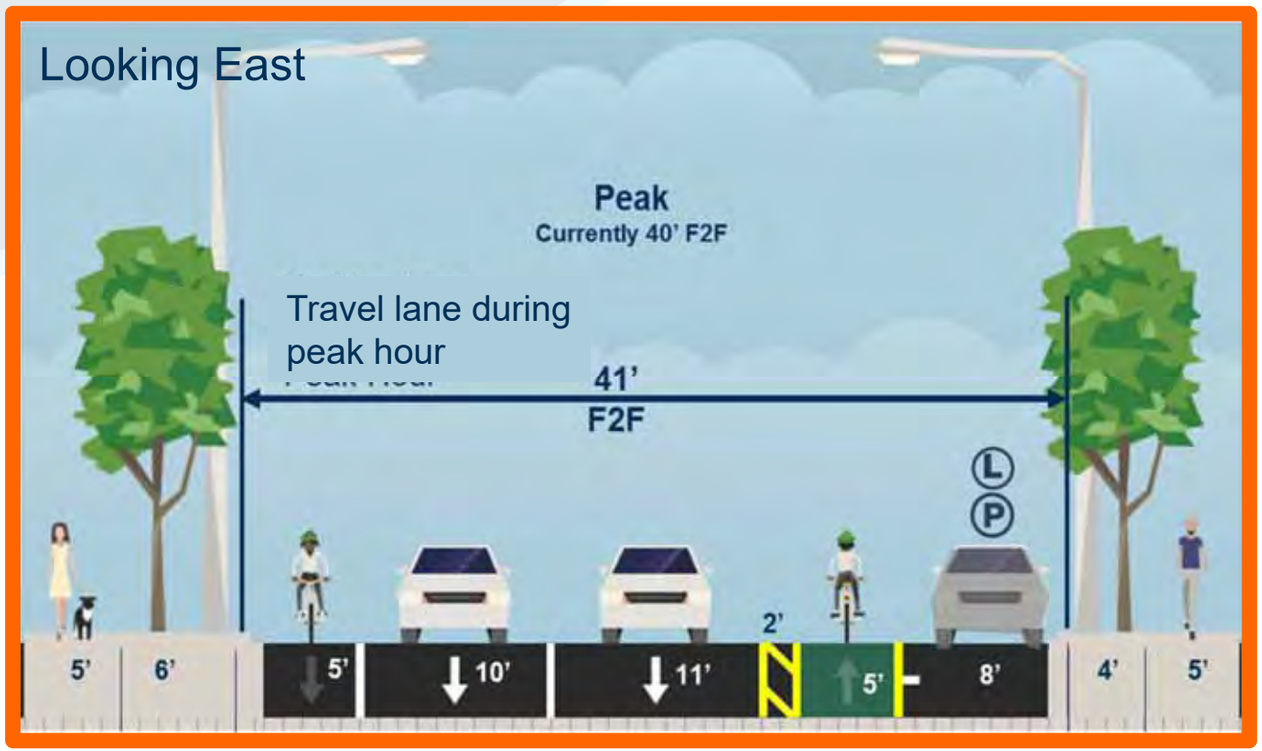


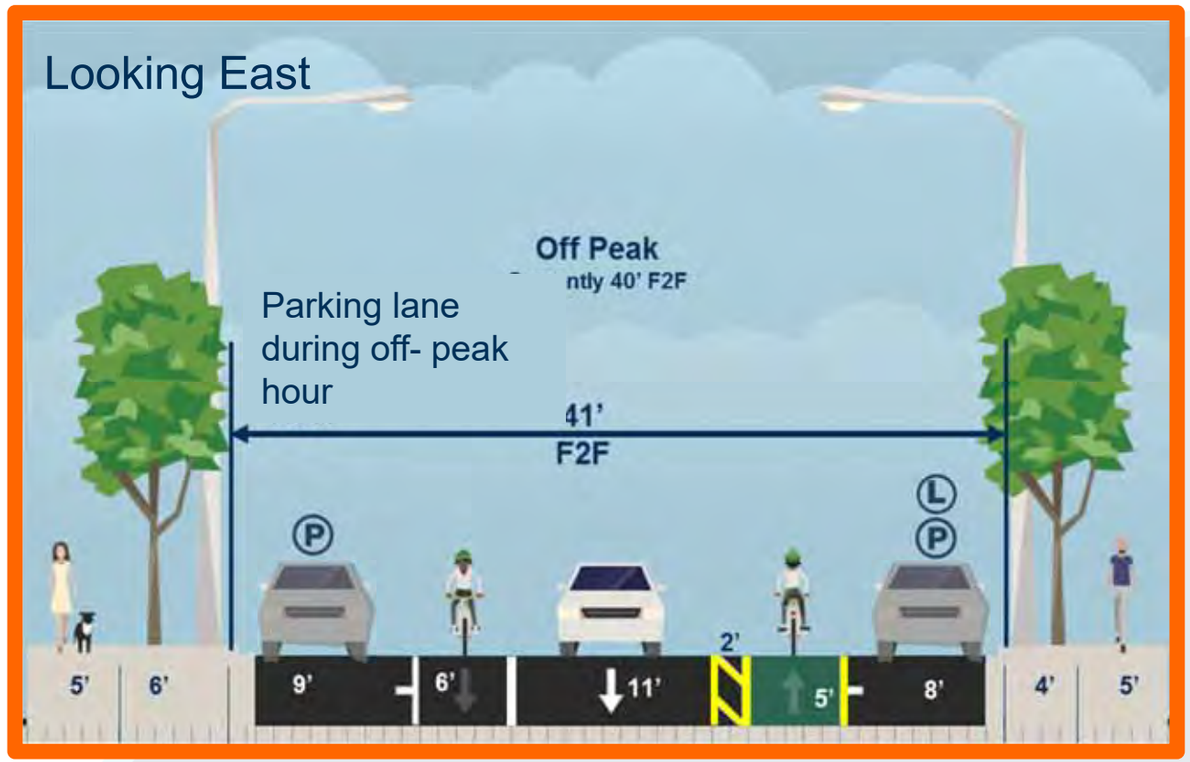
Same as Alternative 1

Alternative 2
Contra Flow
Bike Lanes

Looking East







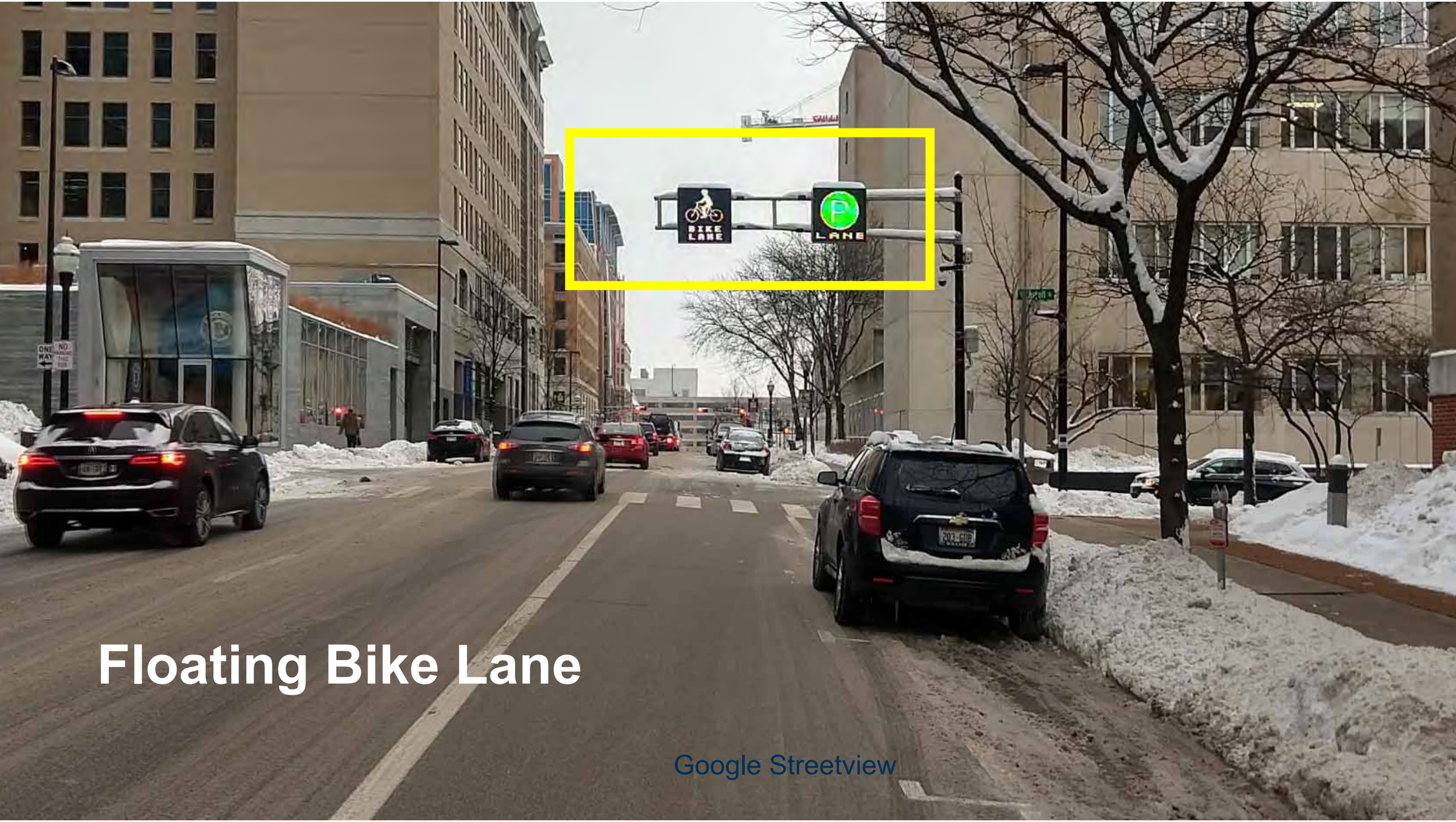
Contra Flow

Contraflow - Santa Cruz

Contra Flow

Contraflow - Philadelphia

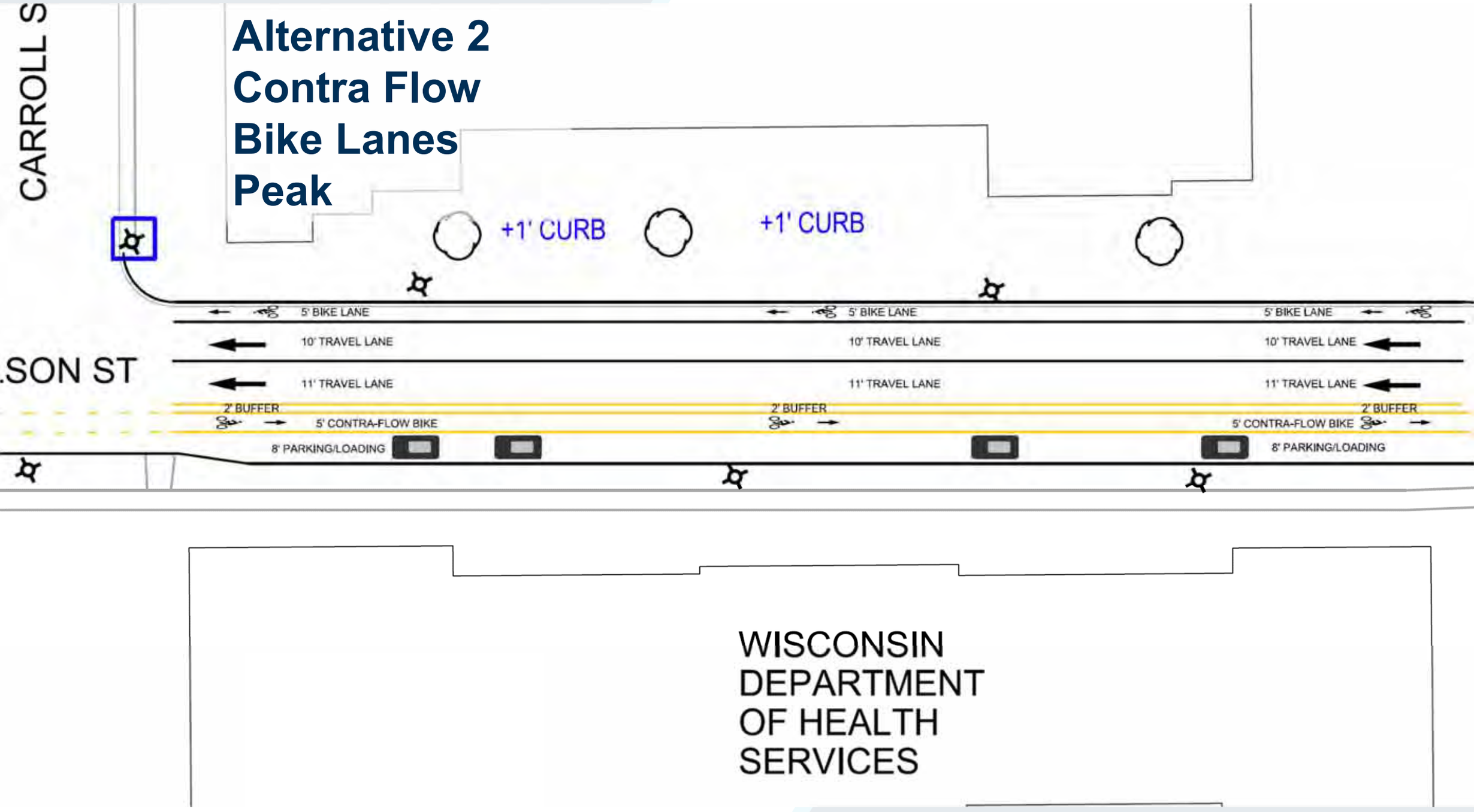
Google Streetview



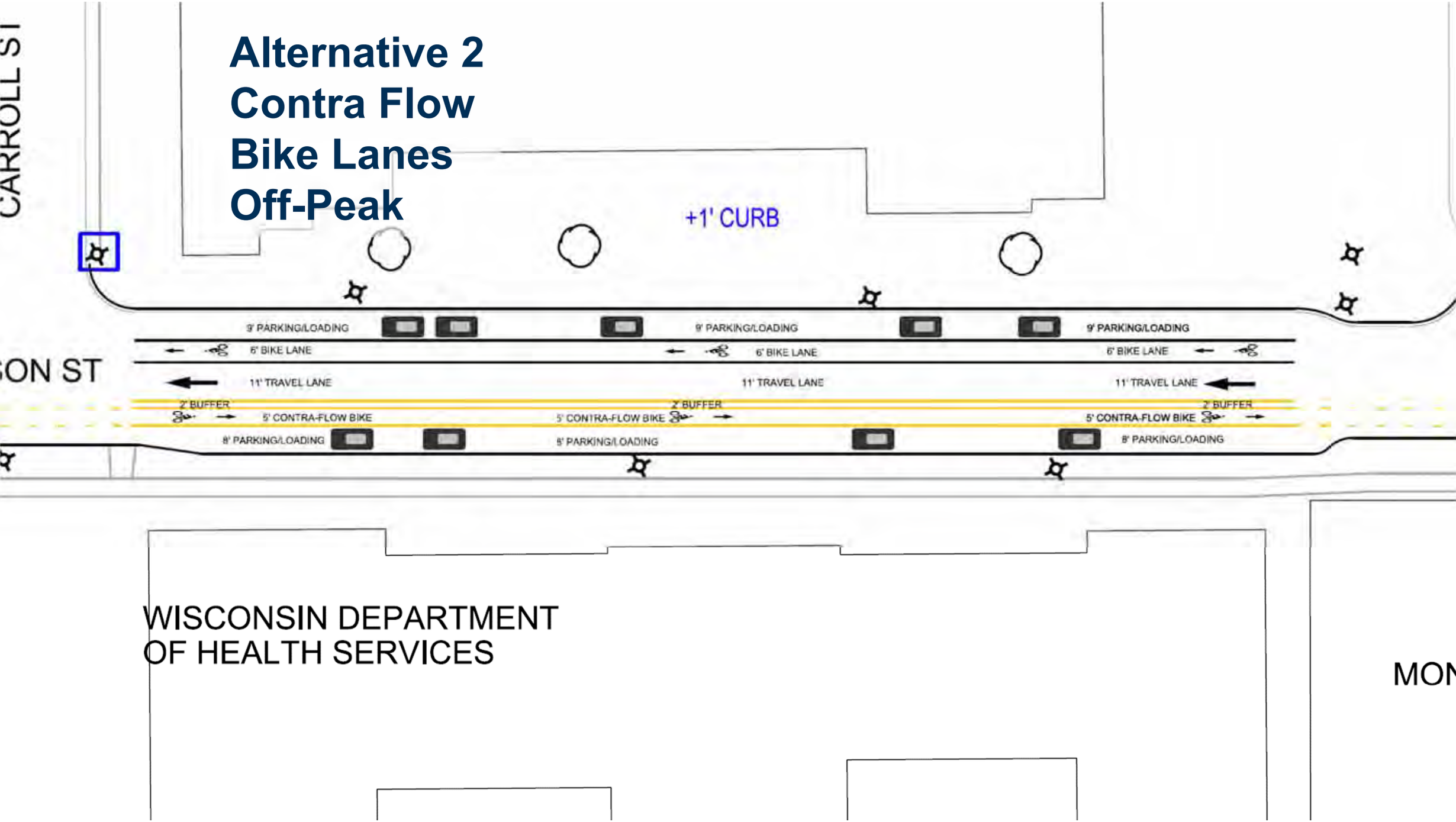
Floating Bike Lane

Google Streetview

Alternative 2
Contra Flow
Bike Lanes
Peak



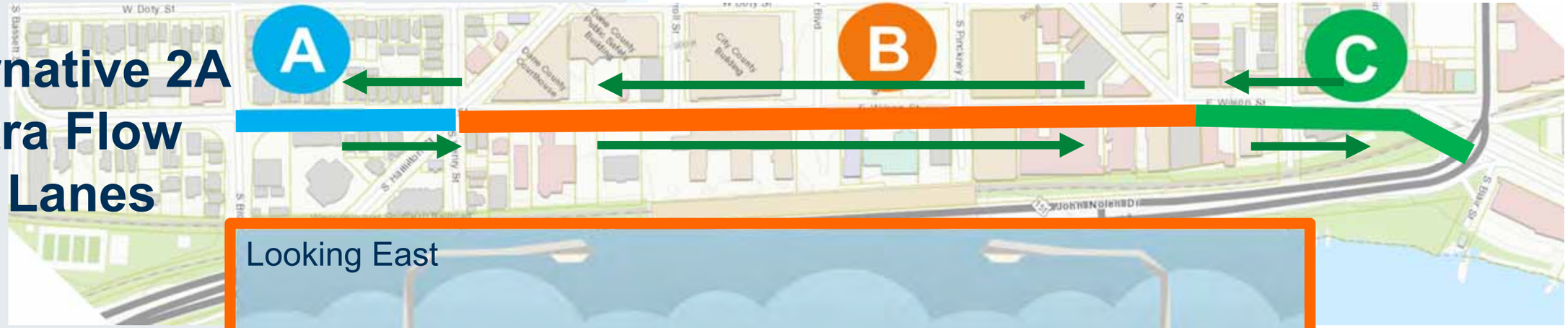
Alternative 2
Contra Flow
Bike Lanes
Off-Peak

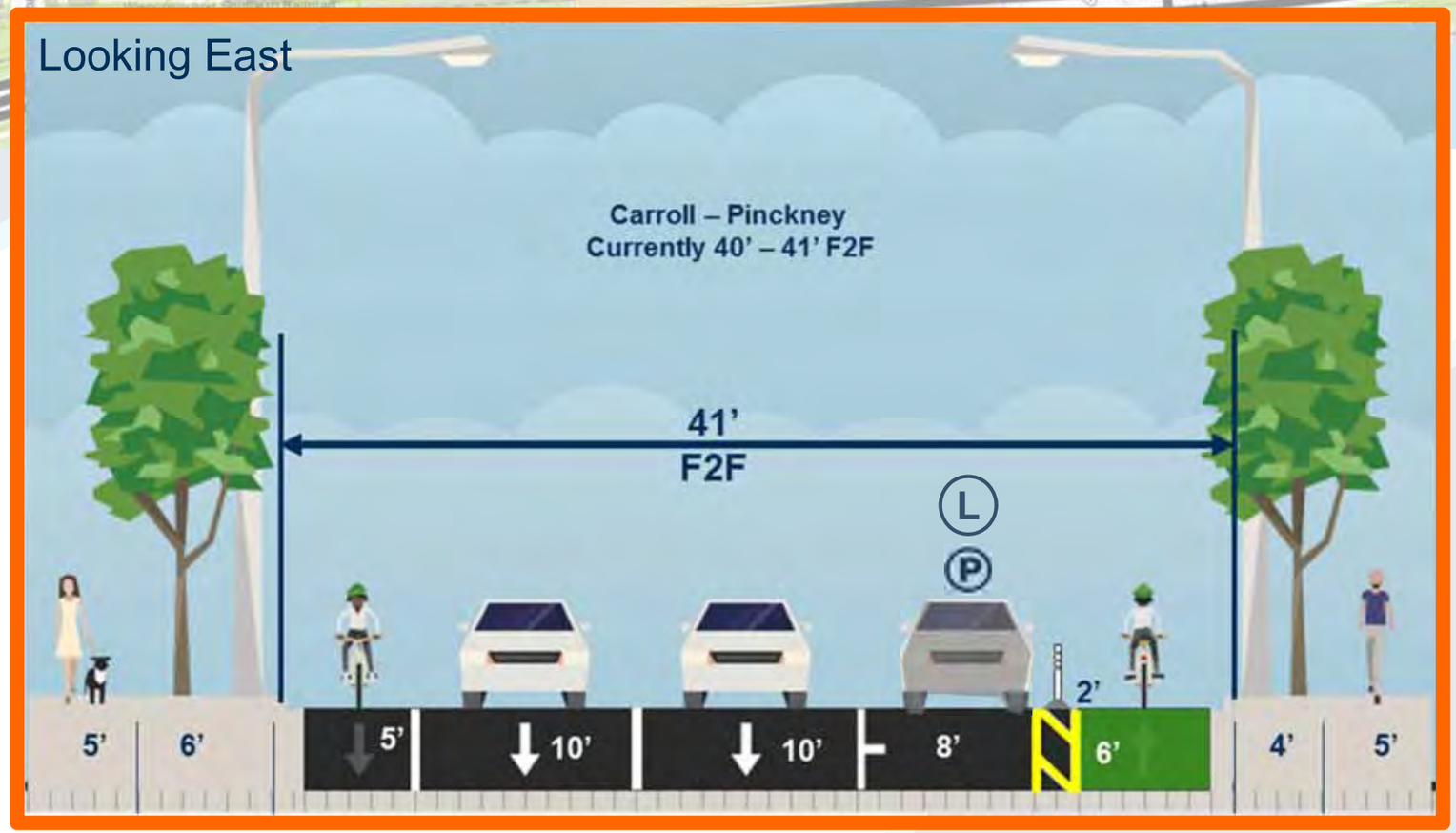


Alternative 2A

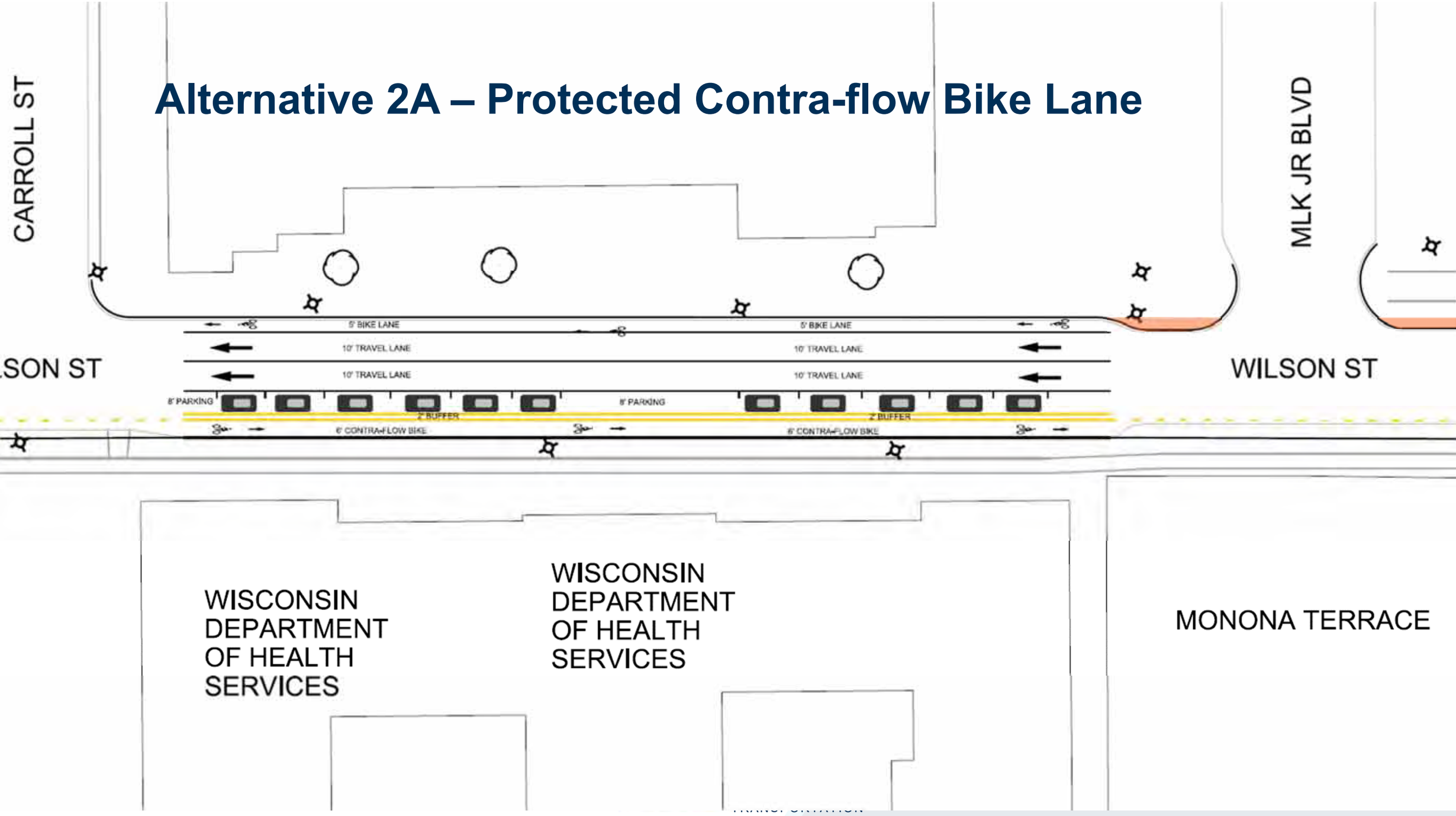
Protected Contra Flow Bike Lane

Alternative 2A
Contra Flow
Bike Lanes



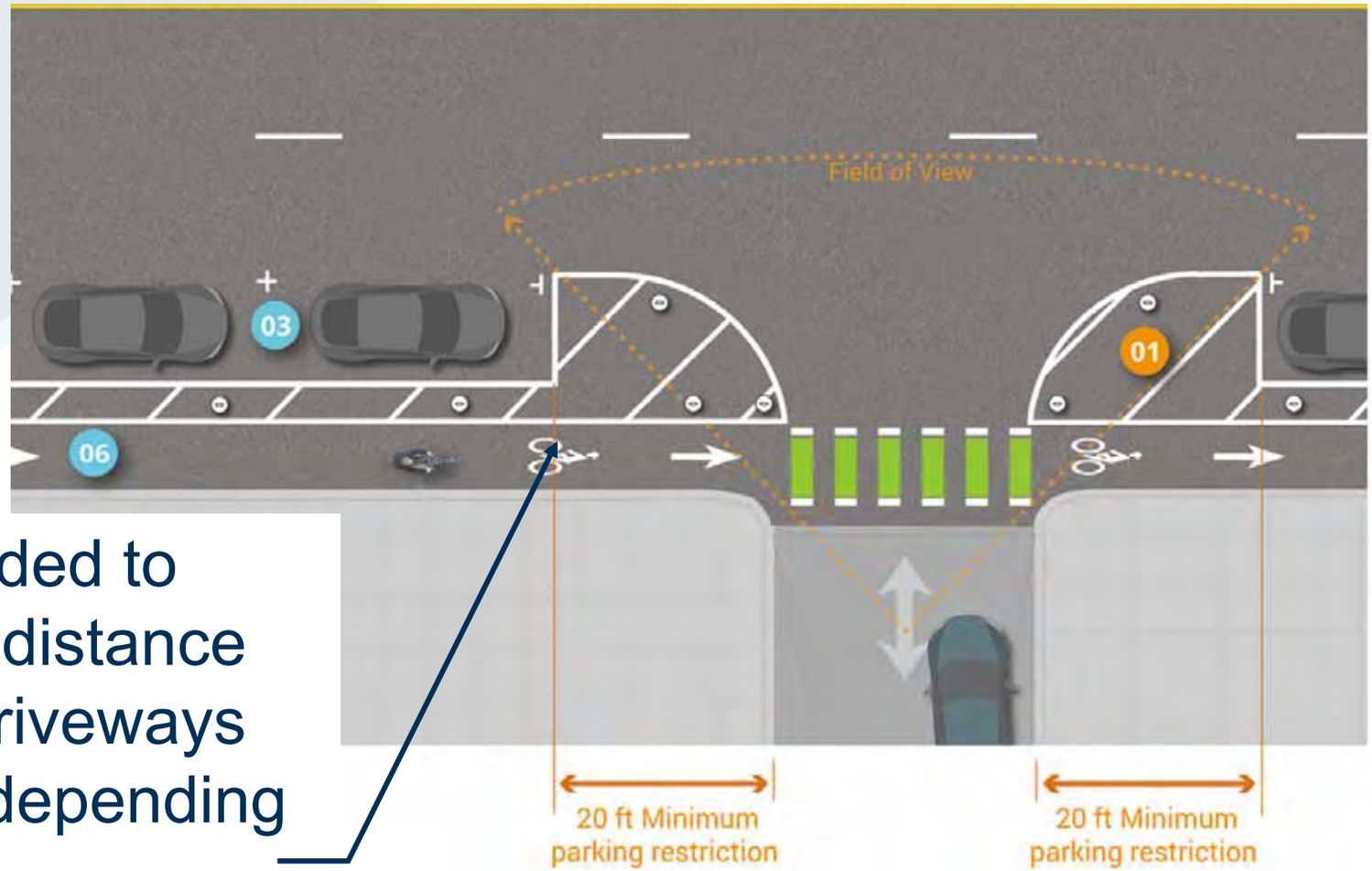


Alternative 2A – Protected Contra-flow Bike Lane



Parking

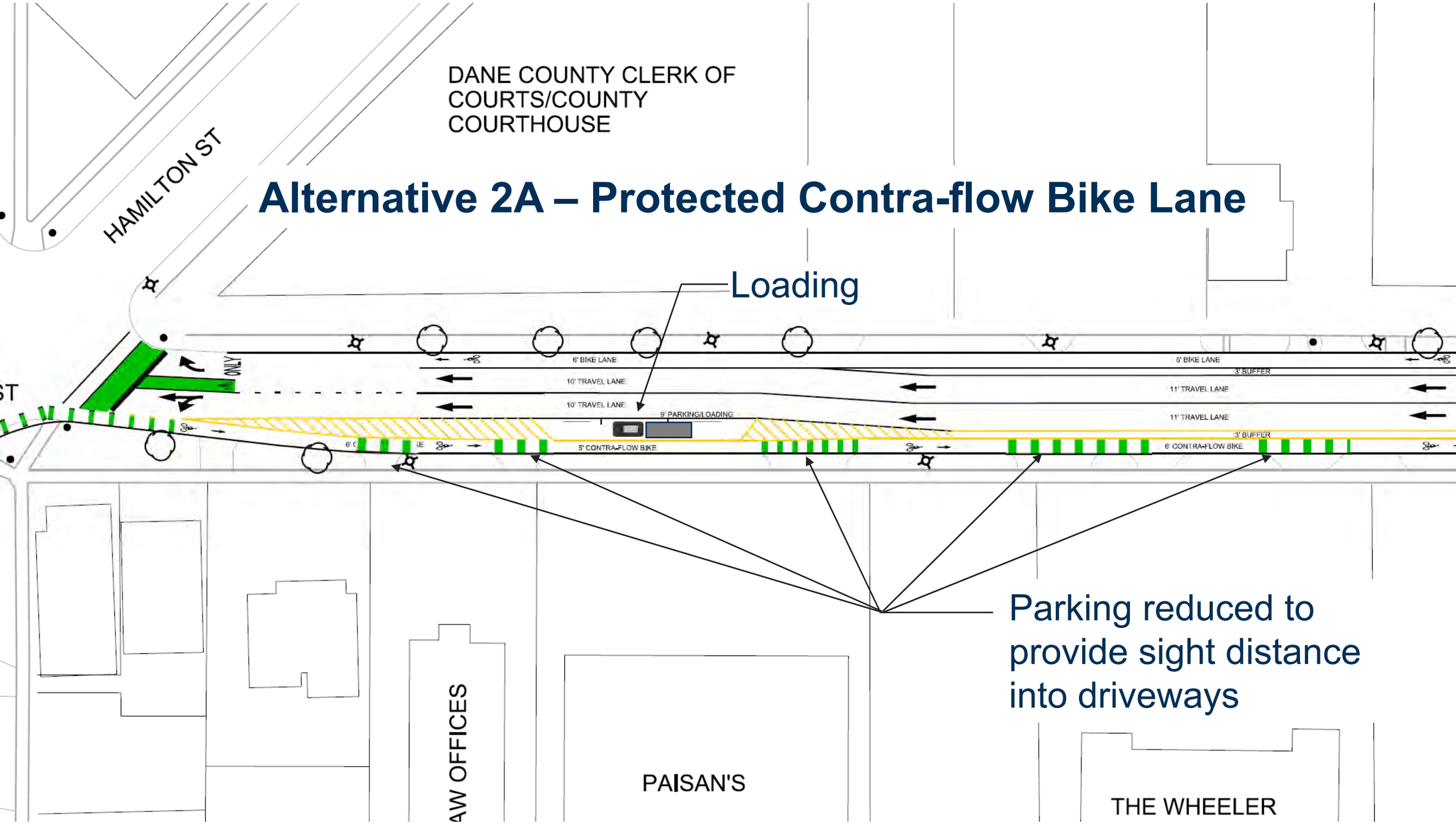
FHWA Separated Bike Lane Design Guide



Distance needed to provide sight distance for those in driveways 20-60 feet – depending on speed

Average Occupancy
Wilson Street
Pinckney St
Carroll St
-9 spaces
-7 spaces
7%
26%
12%
60%
30%
76%
81%
74%
77%
93%
79%
Percent of Spaces Occupied
0% - 20%
20% - 40%
40% - 60%
60% - 80%
80% - 100%
Out of Service
Off-Street Public Parking
City Owned
Non-City Owned
Space Type
Accessible
Loading Zone
Temporary Loading Zone
200
Feet
N

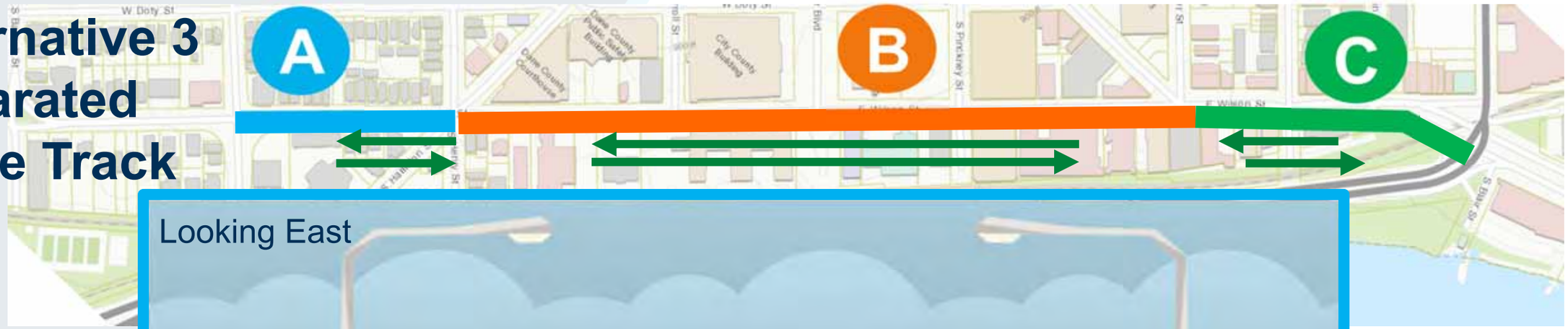
Alternative 2A – Protected Contra-flow Bike Lane

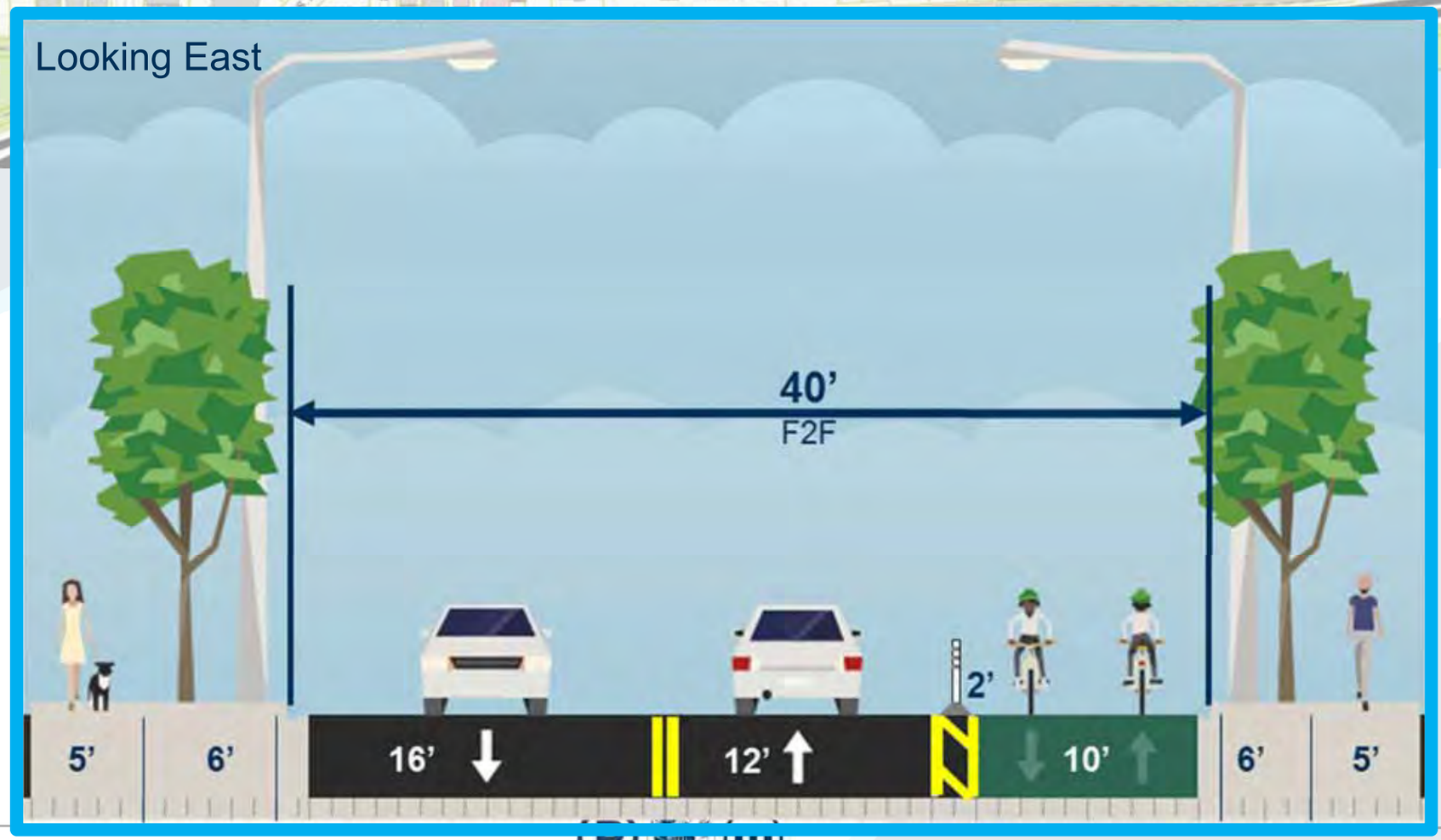


Alternative 3

Separated Cycle Track

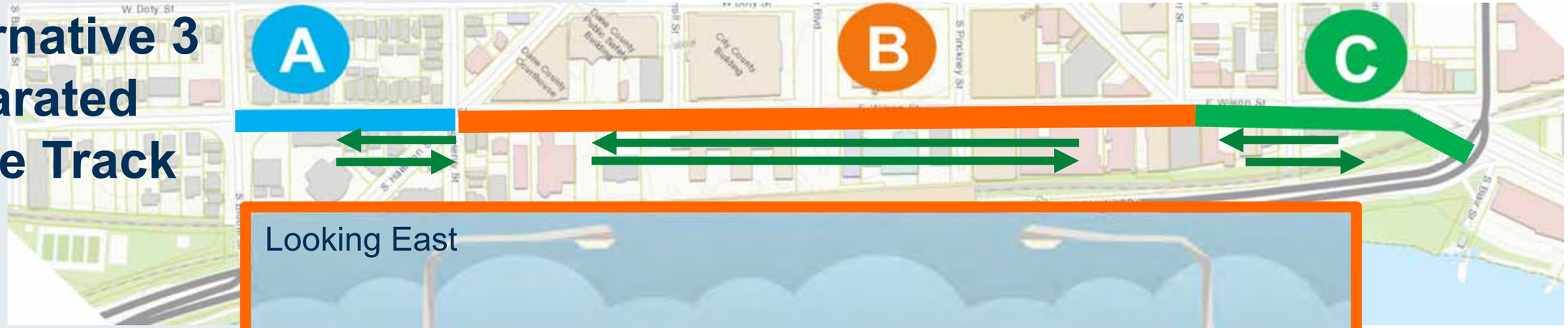
Alternative 3 Separated Cycle Track

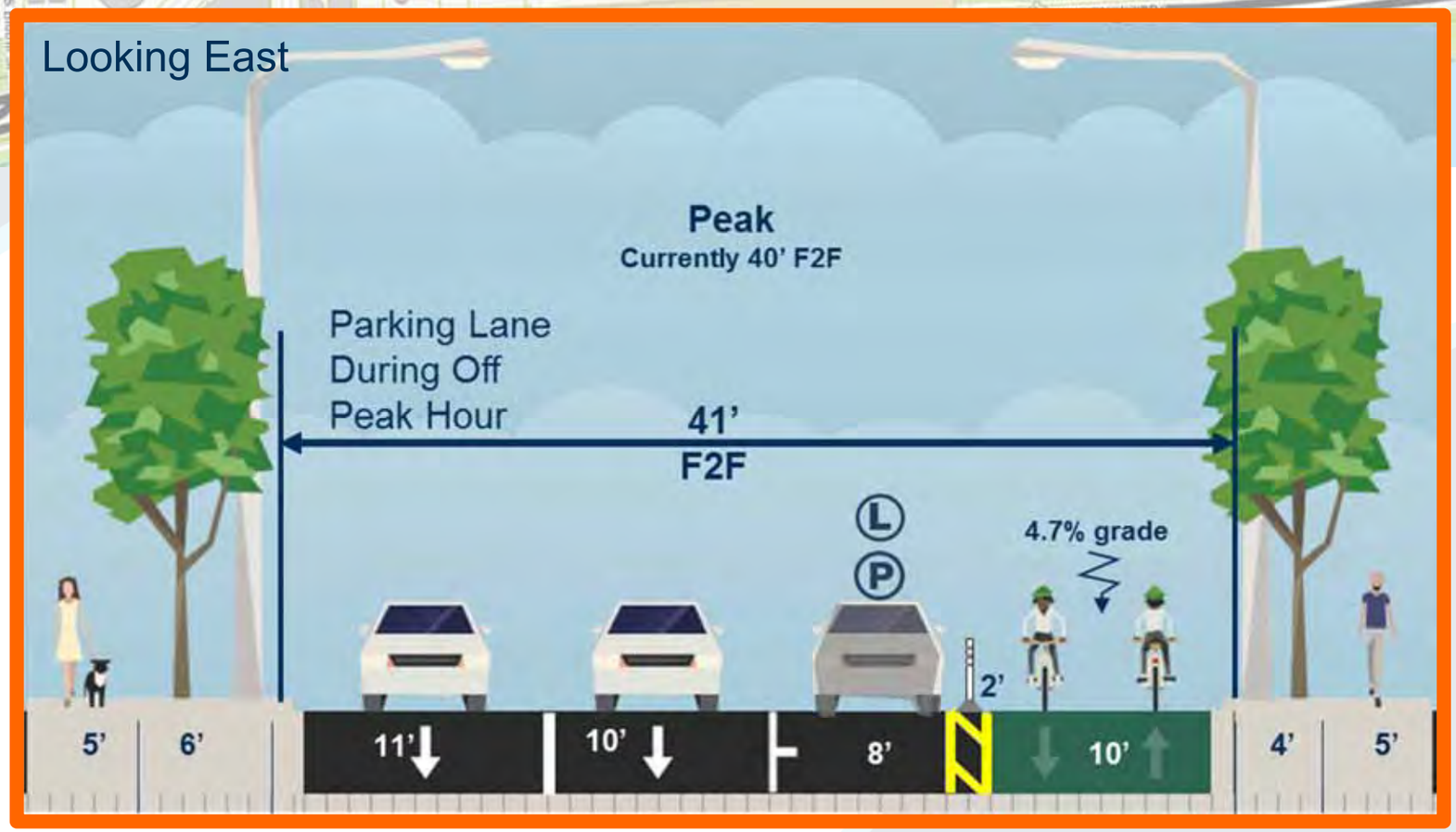




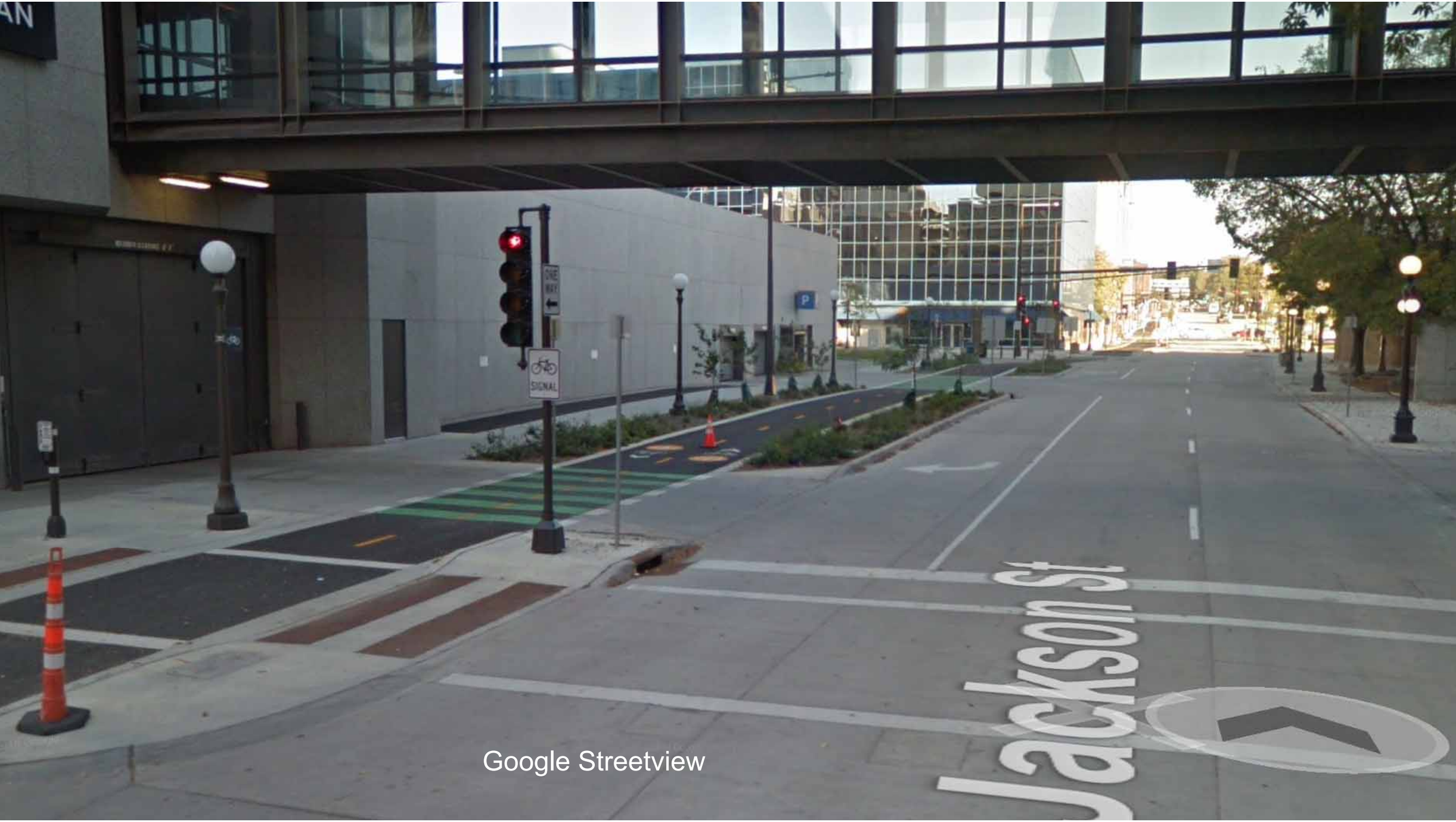
TRANSPORTATION

Alternative 3 Separated Cycle Track





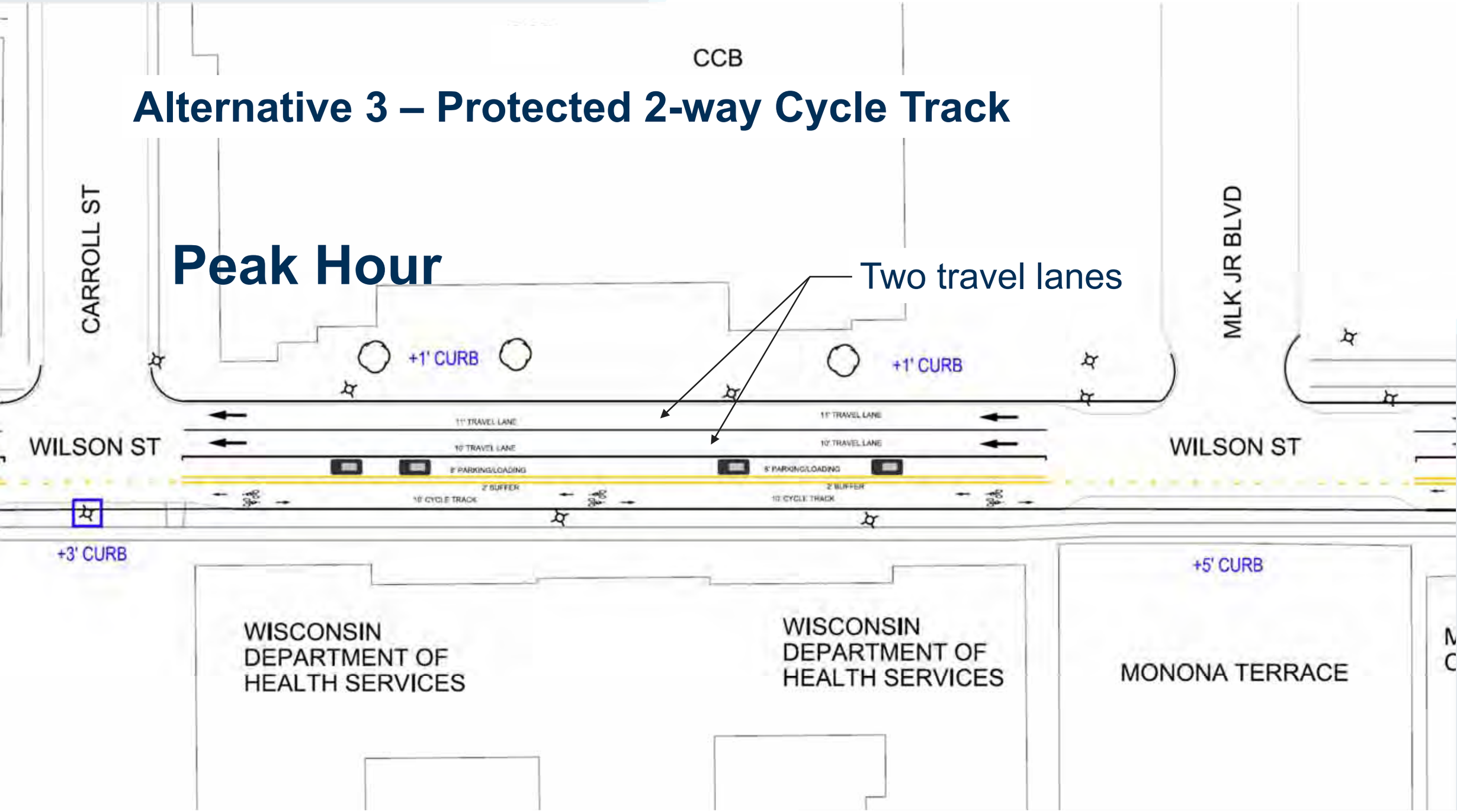
DEPARTMENT OF TRANSPORTATION



Google Streetview

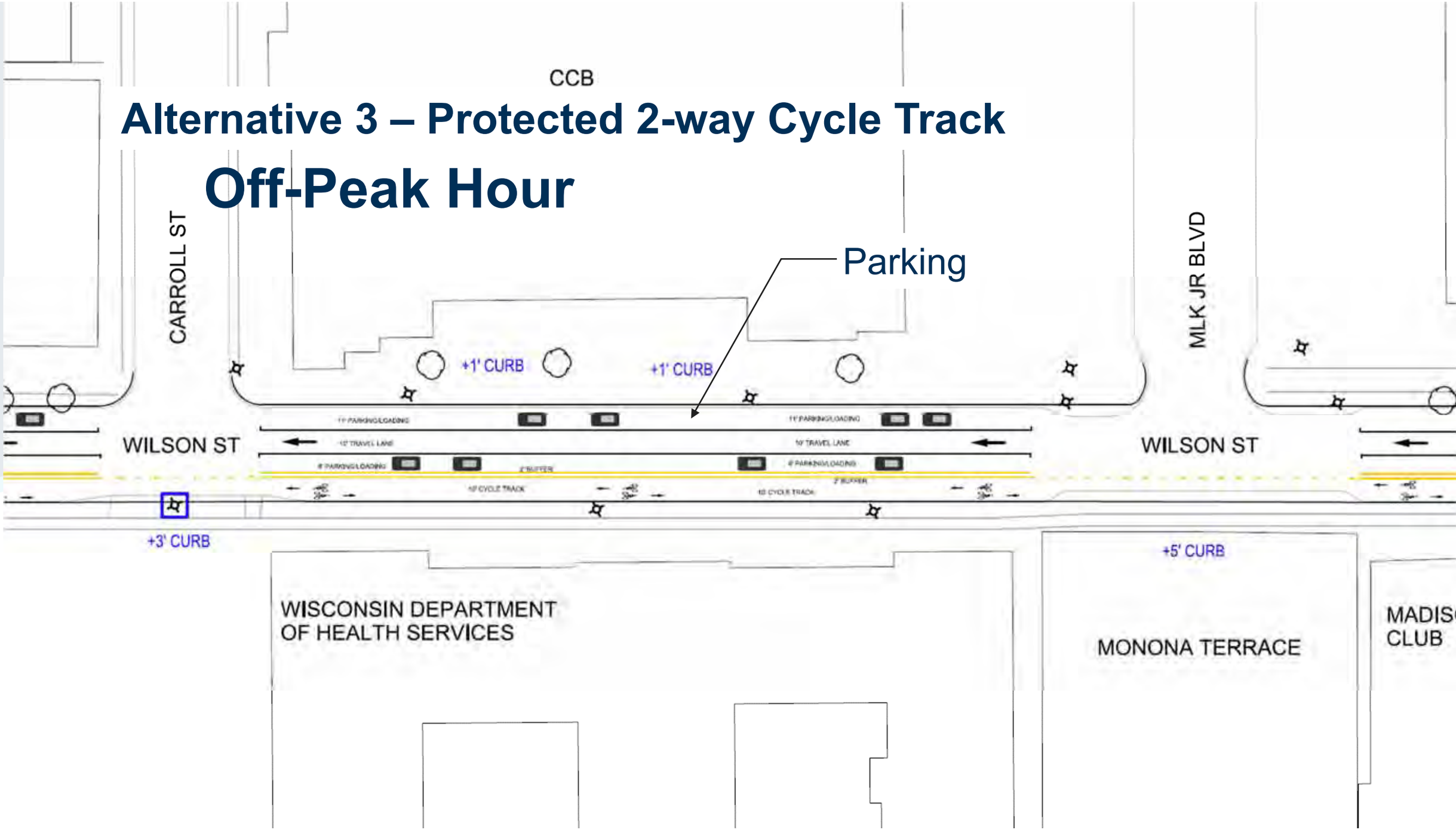
Alternative 3 – Protected 2-way Cycle Track

Peak Hour

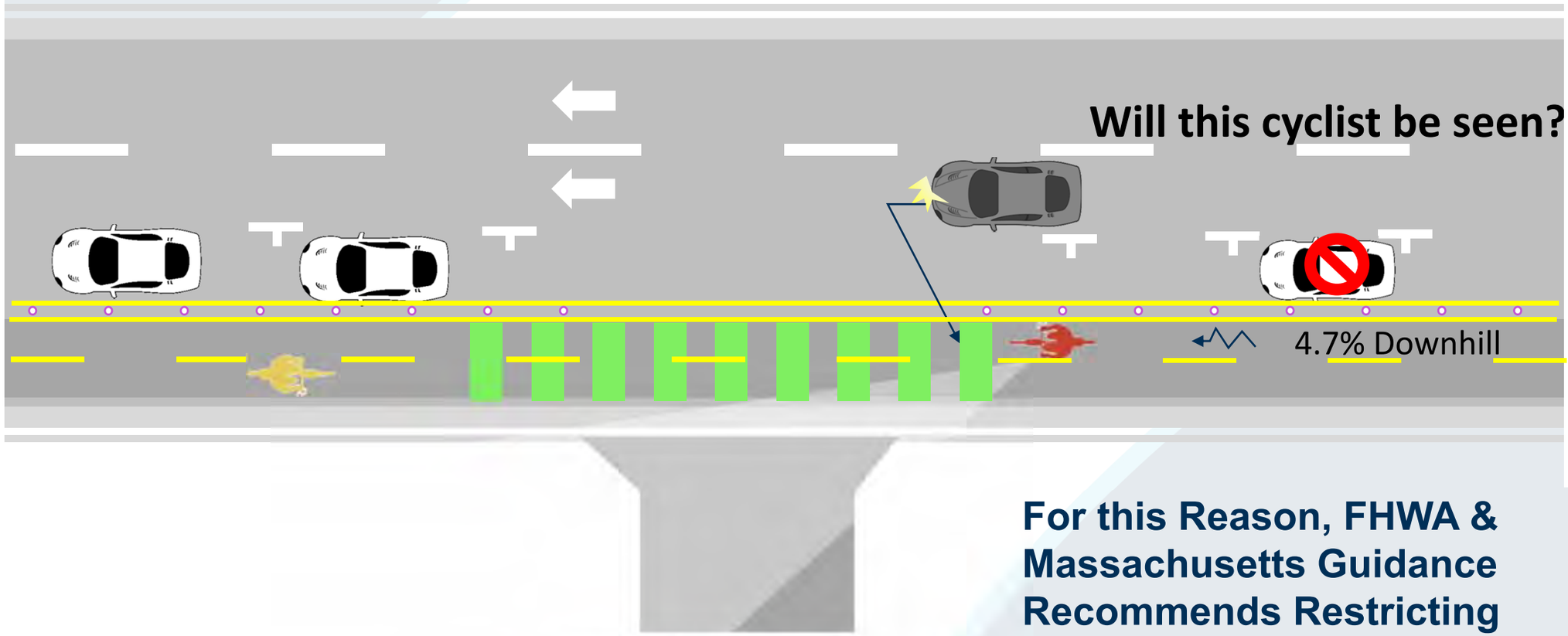


Alternative 3 – Protected 2-way Cycle Track

Off-Peak Hour



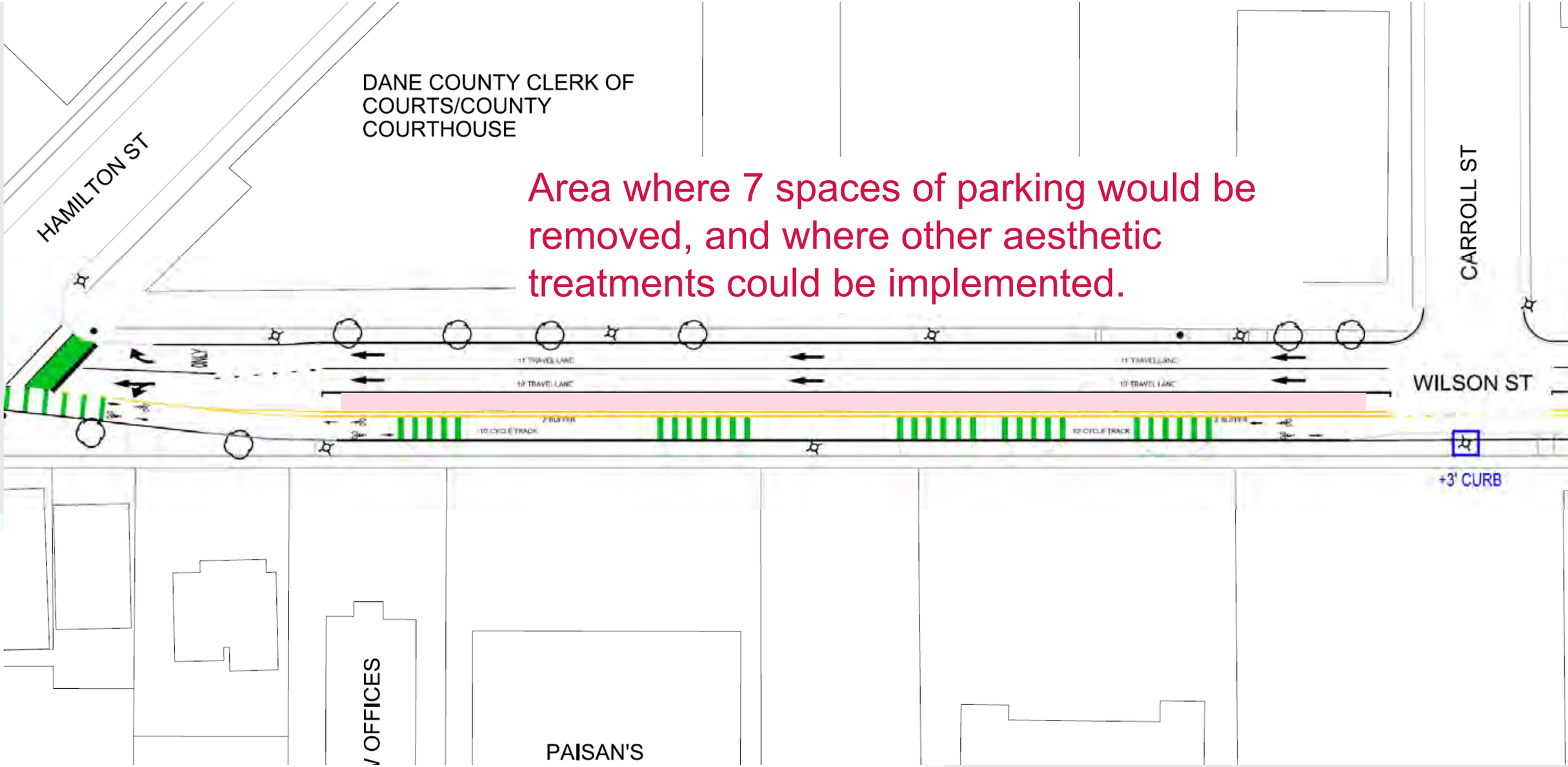
Cycle Track Vision



For this Reason, FHWA & Massachusetts Guidance Recommends Restricting Parking

DEPARTMENT OF TRANSPORTATION

Average Occupancy
Wilson Street
Pinckney St
Carroll St
-9 spaces
-7 spaces
7%
26%
12%
60%
30%
76%
81%
74%
77%
93%
79%
Percent of Spaces Occupied
0% - 20%
20% - 40%
40% - 60%
60% - 80%
80% - 100%
Out of Service
Off-Street Public Parking
City Owned
Non-City Owned
Space Type
Accessible
Loading Zone
Temporary Loading Zone
200
Feet
N



Area where 7 spaces of parking would be removed, and where other aesthetic treatments could be implemented.

ZUPA'S
Deli • Restaurant
FUR
FURS

4th St
St. Paul
Radiology

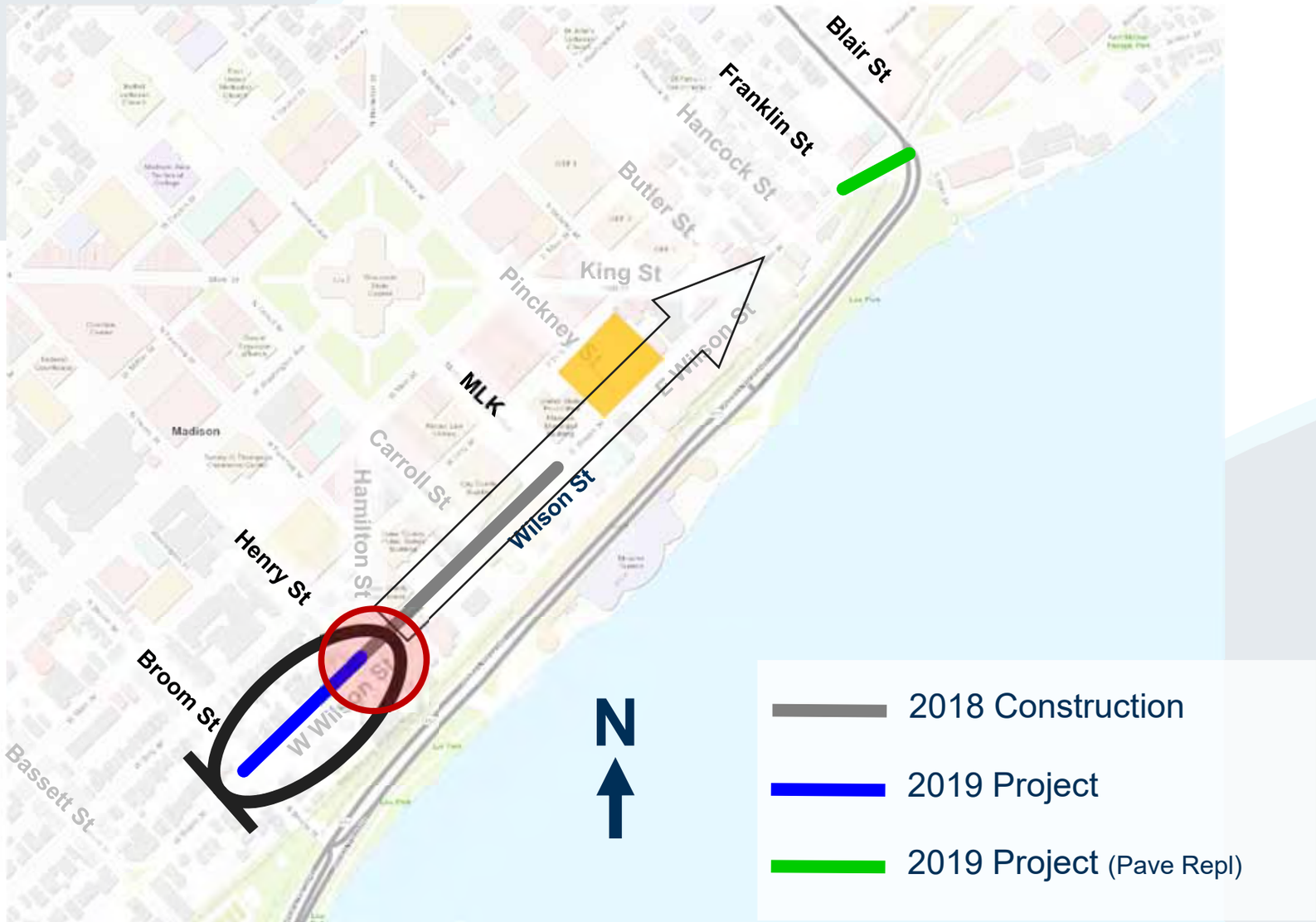
Goals & Objectives

	1 Bike Lns	2 Contra 2	2 Contra 2A	3 Separated
Provide Safety				
Increase/Imp Bike Connectivity				
Pleasant Living Environment				
Pleasing Entrance				
Satisfy Parking and Loading				
Preserve Tree Canopy				
Ped Crossings				
Preserve Infrastructure Investment				
Motor Vehicle Operations				

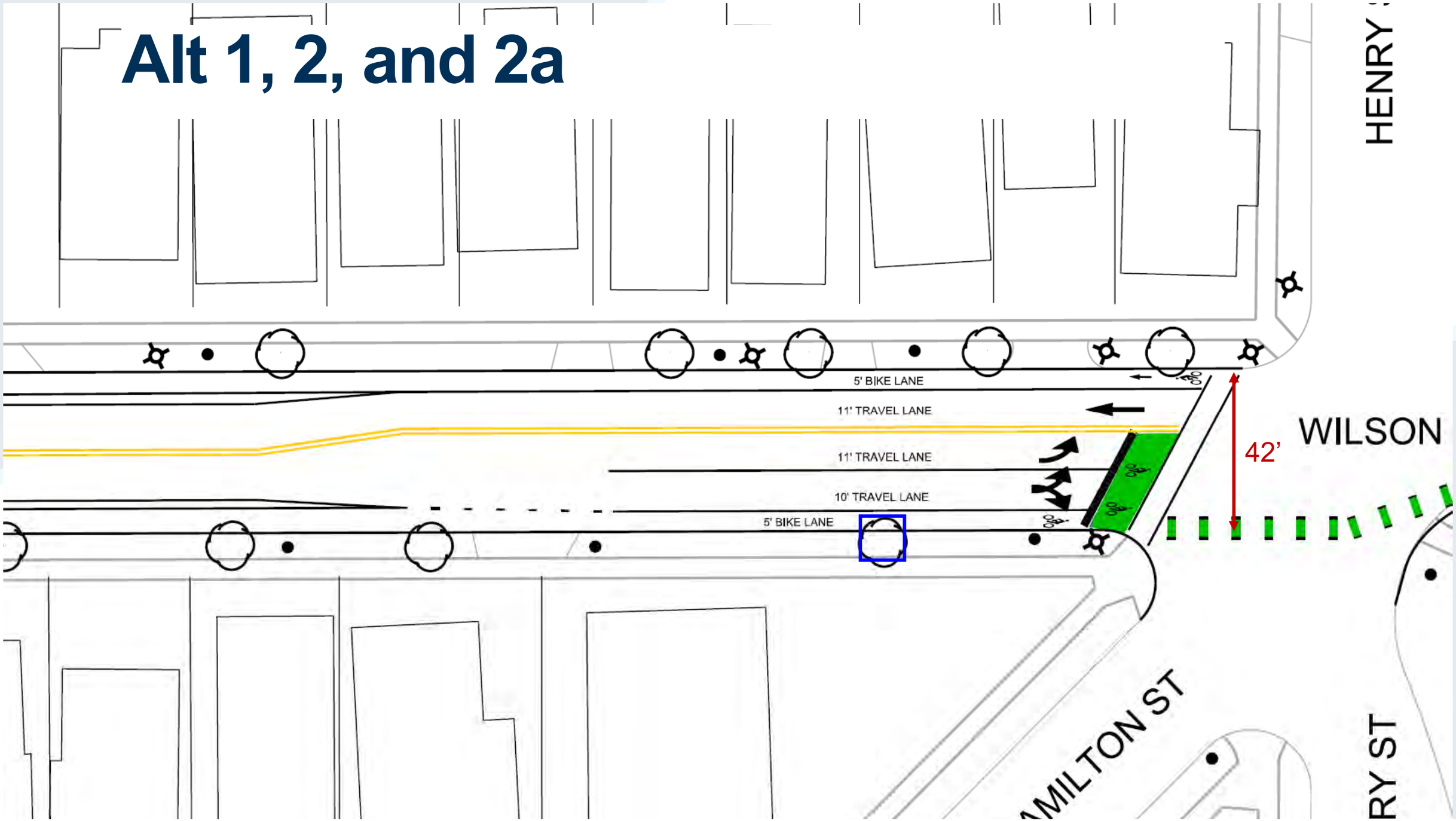
Goals & Objectives

	1 Bike Lns	2 Contra 2 | 2A		3 Separated
Provide Safety				
Increase/Imp Bike Connectivity				
Pleasant Living Environment				
Pleasing Entrance				
Satisfy Parking and Loading				
Preserve Tree Canopy				
Ped Crossings				
Preserve Infrastructure Investment				
Motor Vehicle Operations				

Can we find something for this section, that allows different options to be pursued for the rest of the corridor?

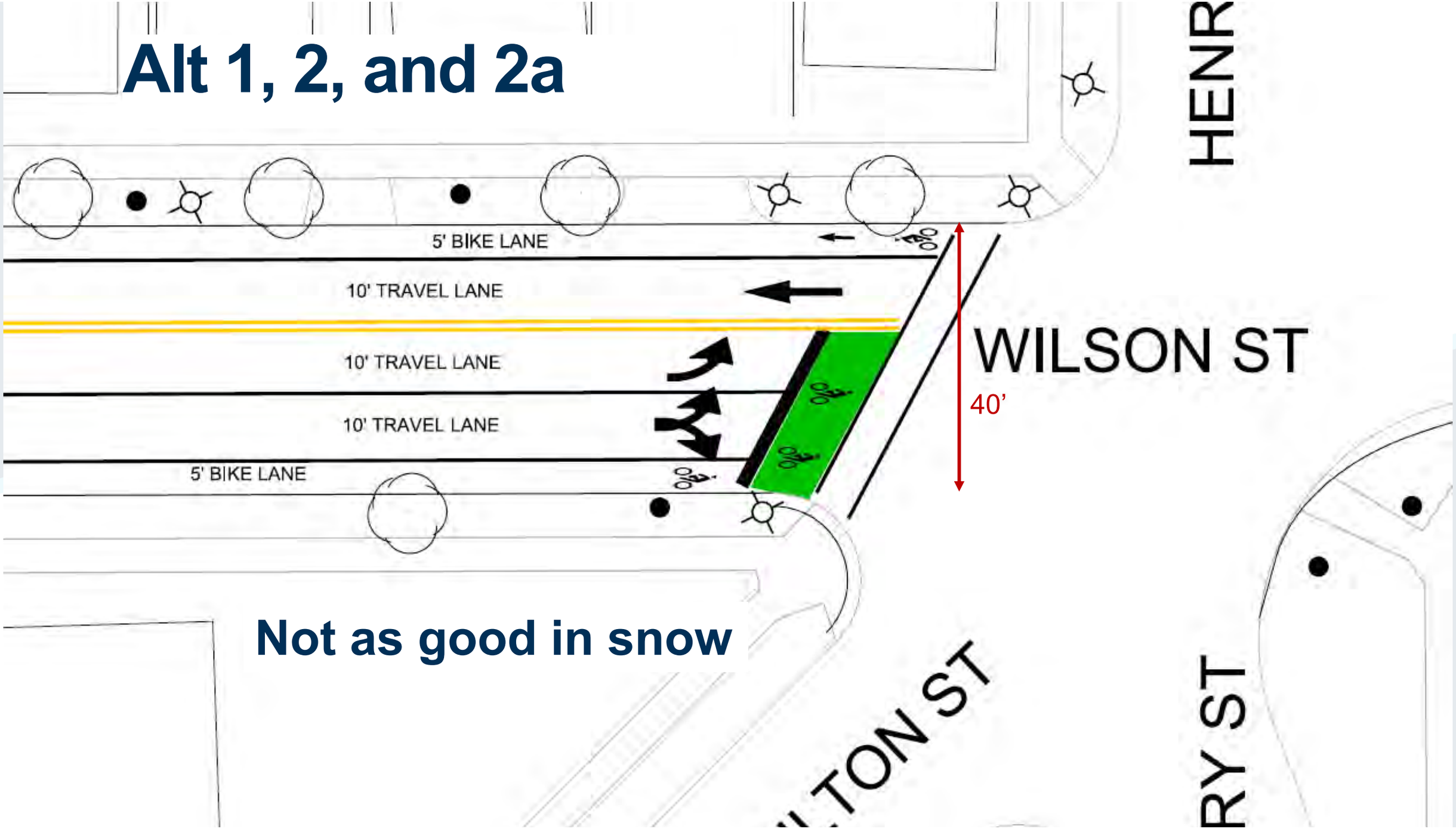


Alt 1, 2, and 2a


HENRY
5' BIKE LANE
11' TRAVEL LANE
11' TRAVEL LANE
10' TRAVEL LANE
5' BIKE LANE
42'
WILSON
MILTON ST
RY ST

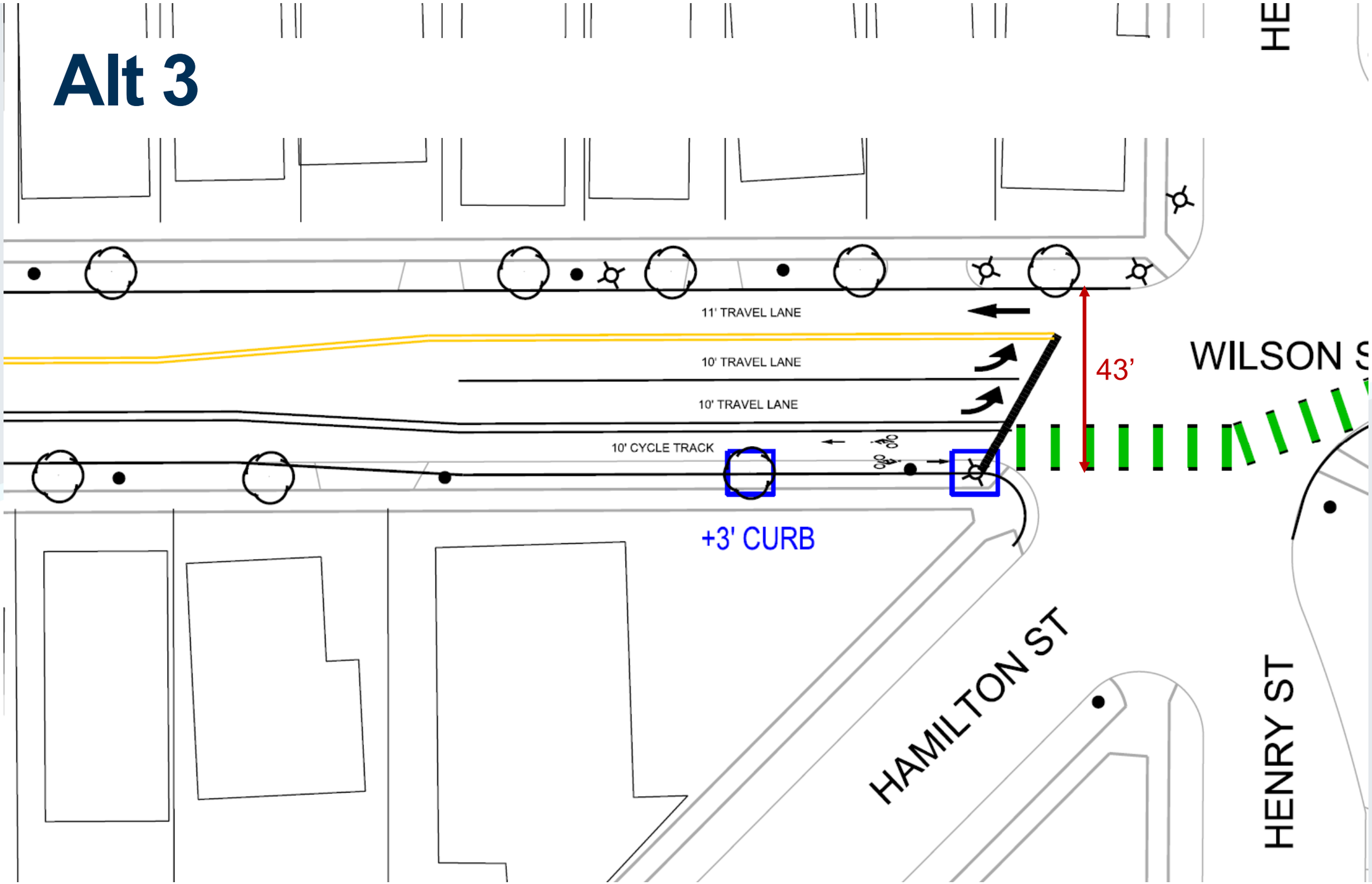
ONLY
WILSON
Google Streetview

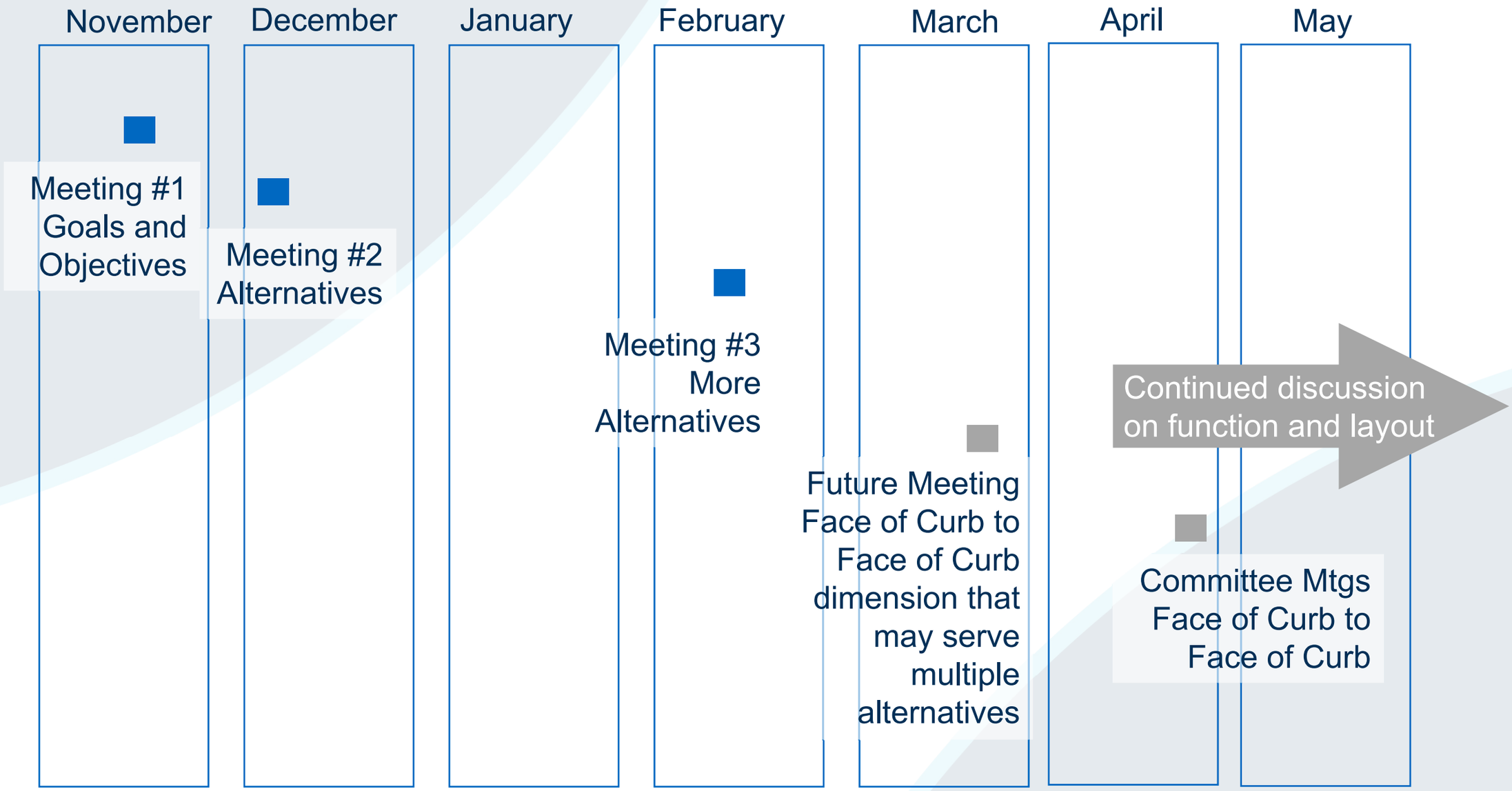
Alt 1, 2, and 2a



Not as good in snow

Alt 3


11' TRAVEL LANE
10' TRAVEL LANE
10' TRAVEL LANE
10' CYCLE TRACK
+3' CURB
43'
WILSON S
HAMILTON ST
HENRY ST


November
December
January
February
March
April
May
Meeting #1
Goals and
Objectives
Meeting #2
Alternatives
Meeting #3
More
Alternatives
Future Meeting
Face of Curb to
Face of Curb
dimension that
may serve
multiple
alternatives
Continued discussion
on function and layout
Committee Mtgs
Face of Curb to
Face of Curb

Wilson Street Corridor Study

Public Involvement Meeting 3

EXTRA SLIDES