

MADISON EAST-WEST BUS RAPID TRANSIT (BRT) PLANNING STUDY

Public Meeting 5 Downtown Routing

Madison Senior Center | October 29, 2019 | 6:30 PM


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An aerial photograph of a multi-lane highway during a traffic jam. The road is filled with cars and several buses, with many red brake lights visible. The scene is flanked by green trees. In the center of the image, the words "THE NEEDED" are written in large, bold, white, sans-serif capital letters, spanning across the width of the road.

THE NEEDED



- In the last 5 years, Madison has approved **14,000 dwelling units** creating 120,000 daily trips

- In the last 3 years, Madison has approved **3.3 million square feet** of office, commercial, industrial, and institutional space – creating 60,000 daily trips.

Employment



200,000 jobs in 2010

+85,000 projected for Dane Co 2050

+45,000 projected for Madison 2050

+10,000 in Isthmus



800,000 more daily trips
are projected for the Madison Metro
Region **by 2050**

**We can't continue relying
on the automobile**



Traffic Moves Mostly on Surface Streets



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Key Factors for BRT Success

- It needs to be fast
- It needs to be going where people are going
- It needs to be intuitive and easy to use



2 Alternatives

Straightforward

???

Straightforward

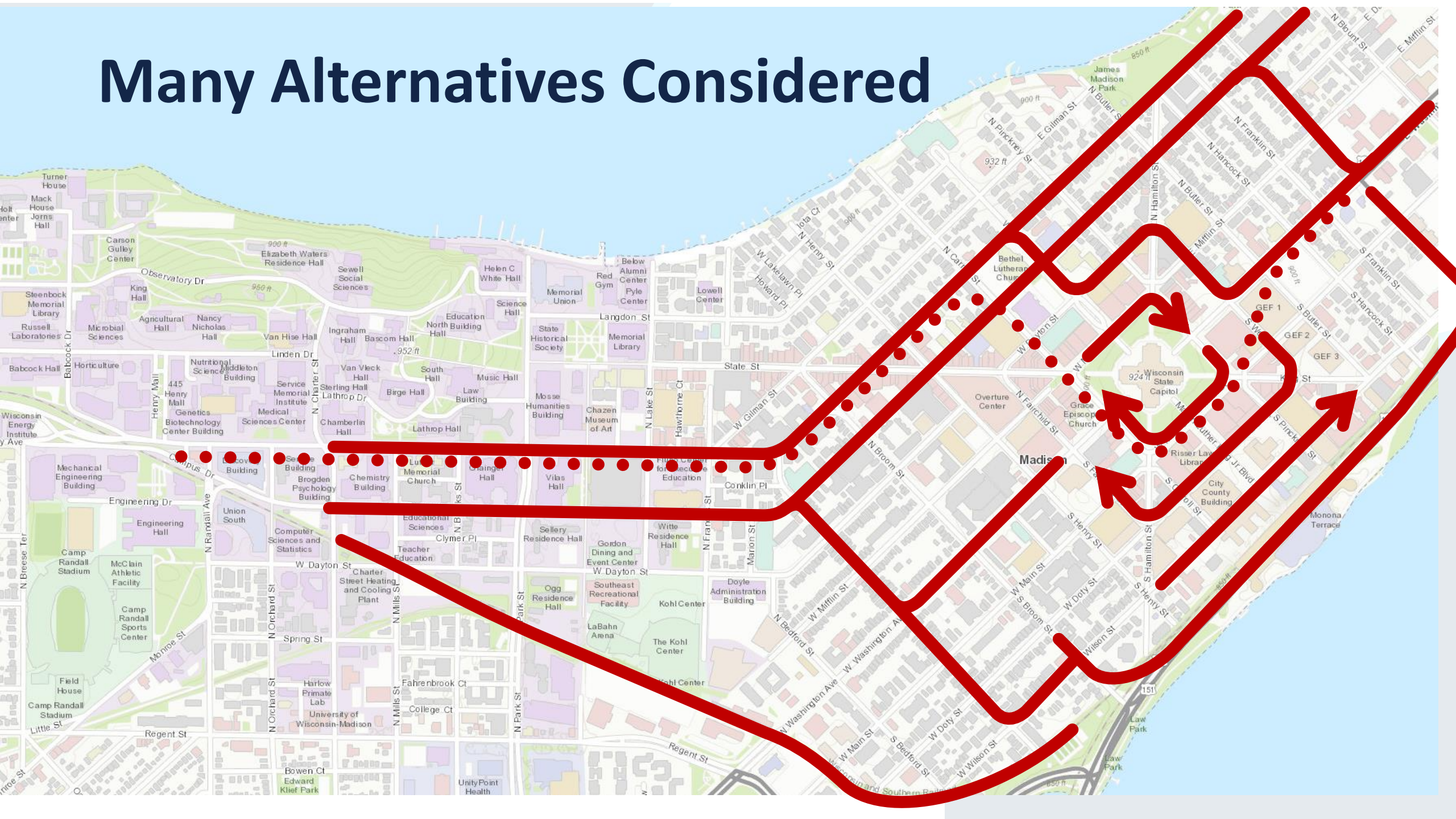
We need to get downtown routing right if we want BRT to work.
If people don't want to use it, it won't work.



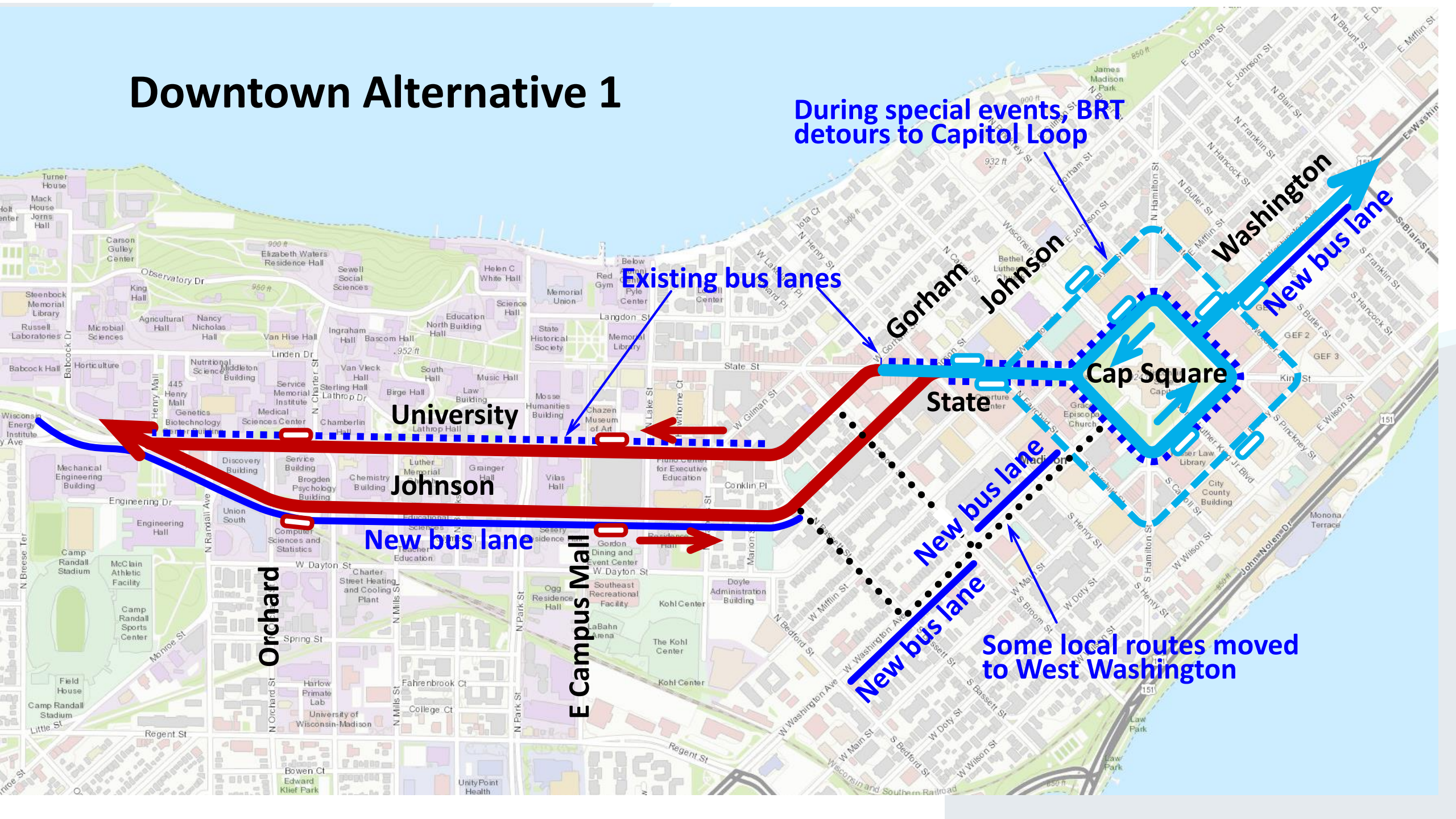
Downtown Goals and Objectives

- Ability to serve important regional destinations
- Ability to provide dedicated running way (bus lanes)
- Provide BRT stations that are:
 - Logically spaced and located
 - Amply sized to serve riders
 - Located in visible, trafficked areas
 - Allow for convenient transfers to local Metro routes
- Fast, reliable BRT travel times
- Acceptable bike routing and facilities
- Minimal impacts to on-street parking and parking revenue

Many Alternatives Considered



Downtown Alternative 1



During special events, BRT detours to Capitol Loop

Existing bus lanes

Gorham
Johnson
Washington
New bus lane

Cap Square

State

University

Johnson

New bus lane

Orchard

E Campus Mall

New bus lane
New bus lane

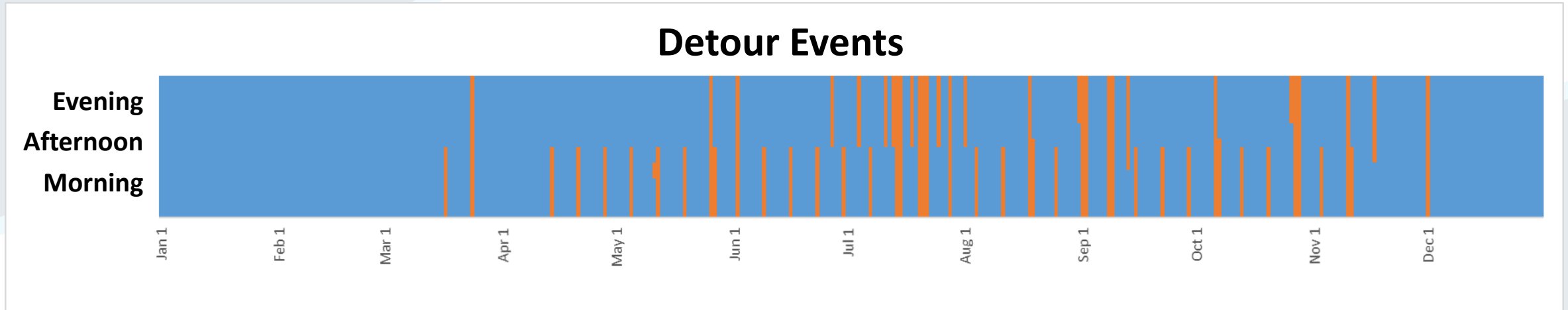
Some local routes moved to West Washington

Detours



Dane County Farmer's Market

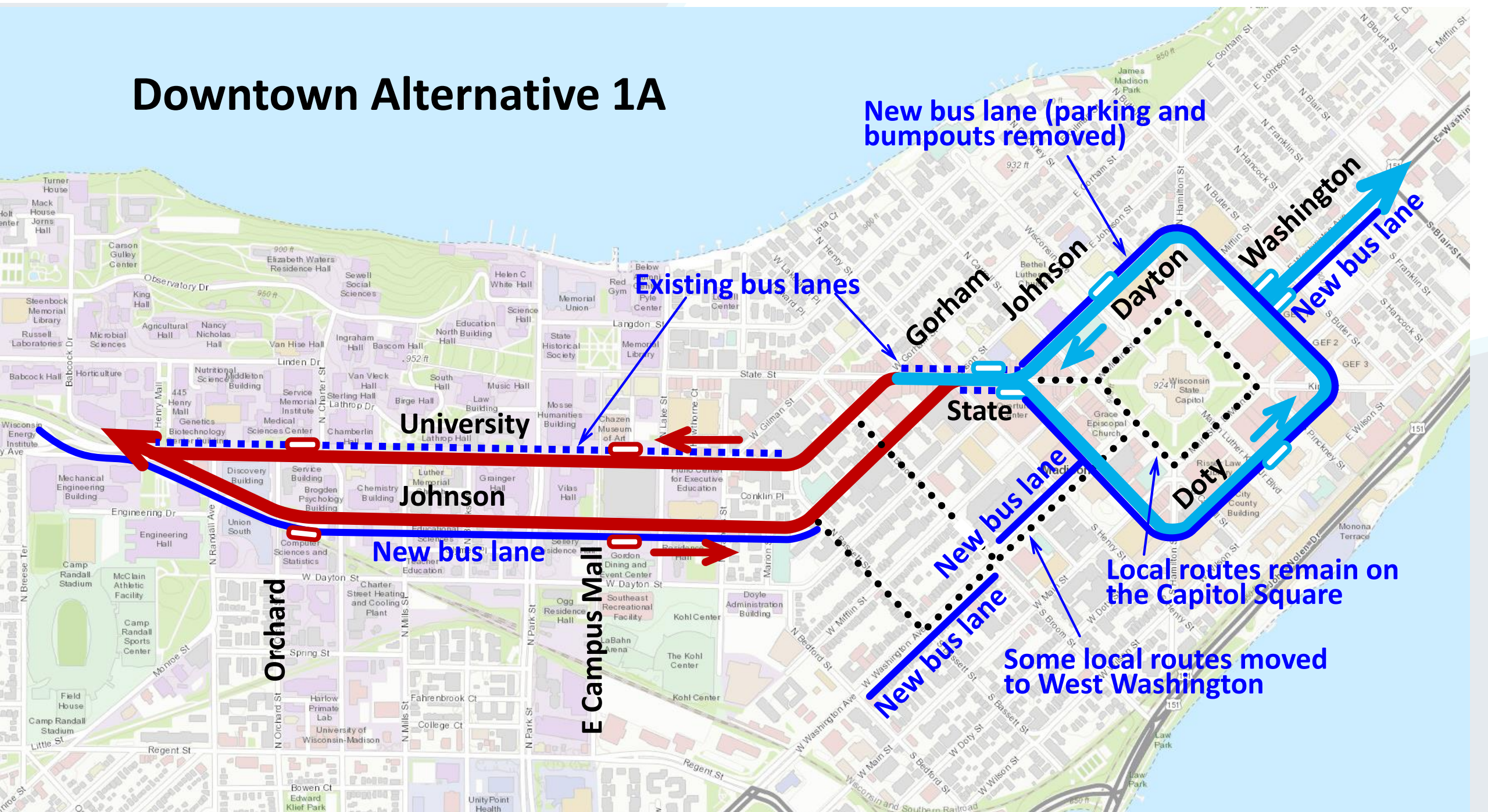
Detours – Alternative 1



Overall, Metro is detoured from Capitol Square about 10% of the time.

Most of that time is weekends in the summer.

Downtown Alternative 1A



New bus lane (parking and bumpouts removed)

Existing bus lanes

Local routes remain on the Capitol Square

Some local routes moved to West Washington

University

Johnson

Orchard

E Campus Mall

State

Gorham

Johnson

Dayton

Washington

Doty

Eastbound and westbound stations are far apart

- Almost all bus and rail lines are designed so that stops and stations are across from each other so that the system is easier to use.
- New riders can find riding the bus complicated and risky



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I don't know the area well. I need to get on the bus going the other way. How do I get there?



State Street Rerouting (Alternatives 1 and 1A)

Example Routes 14 and 15

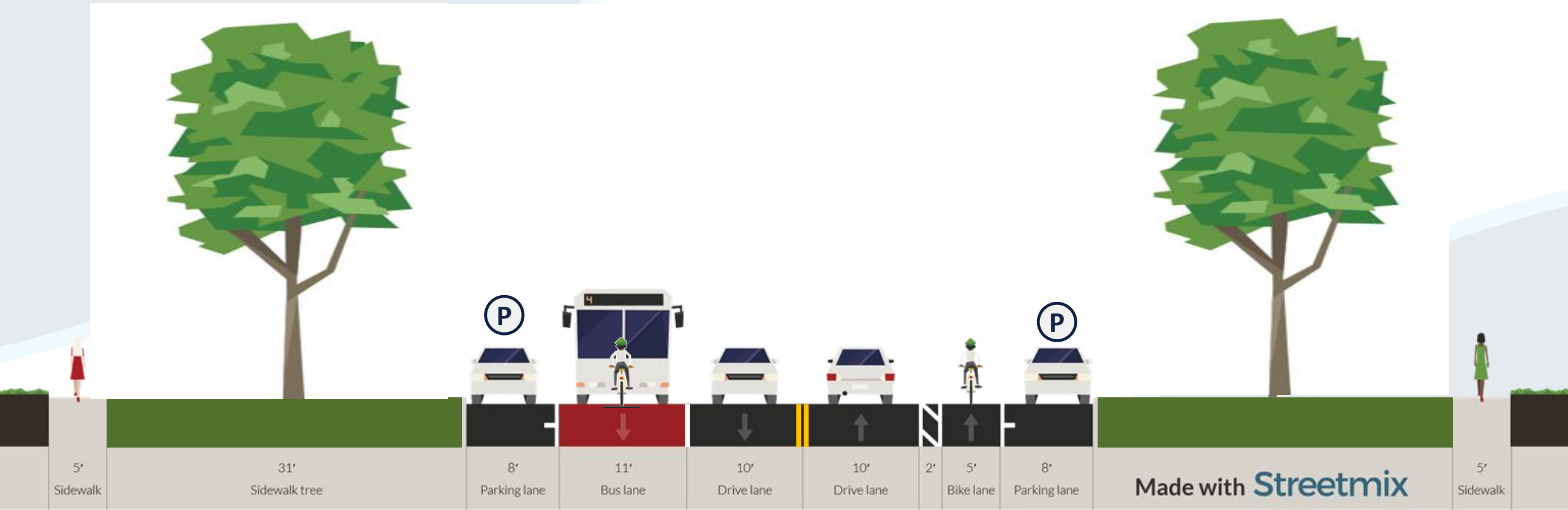
EXISTING



PROPOSED



West Washington Changes with Alts 1 and 1A



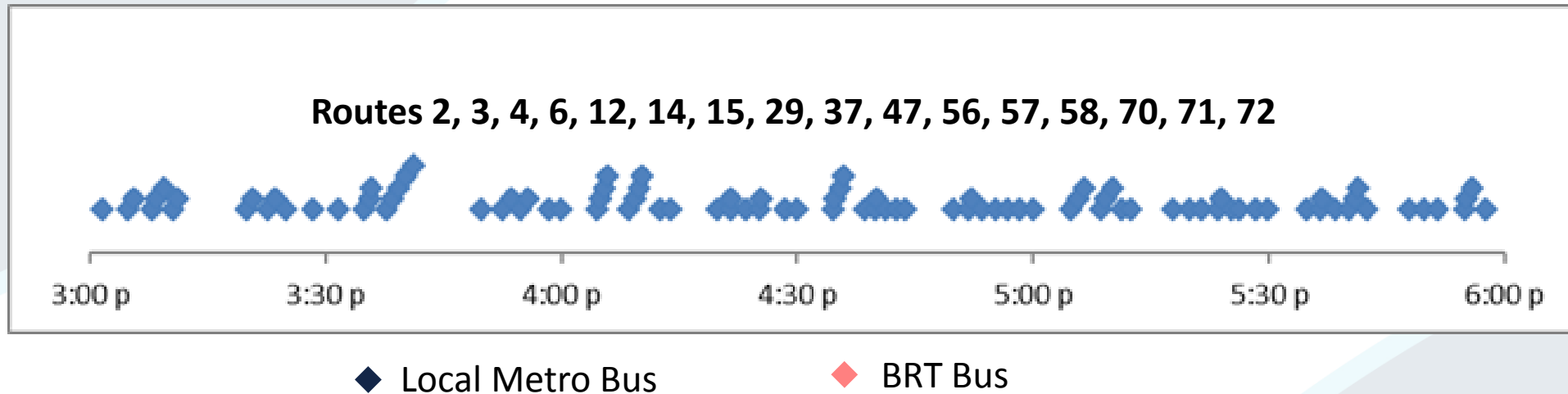
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State Street

Existing Westbound Bus Service on State Street, Afternoon Peak



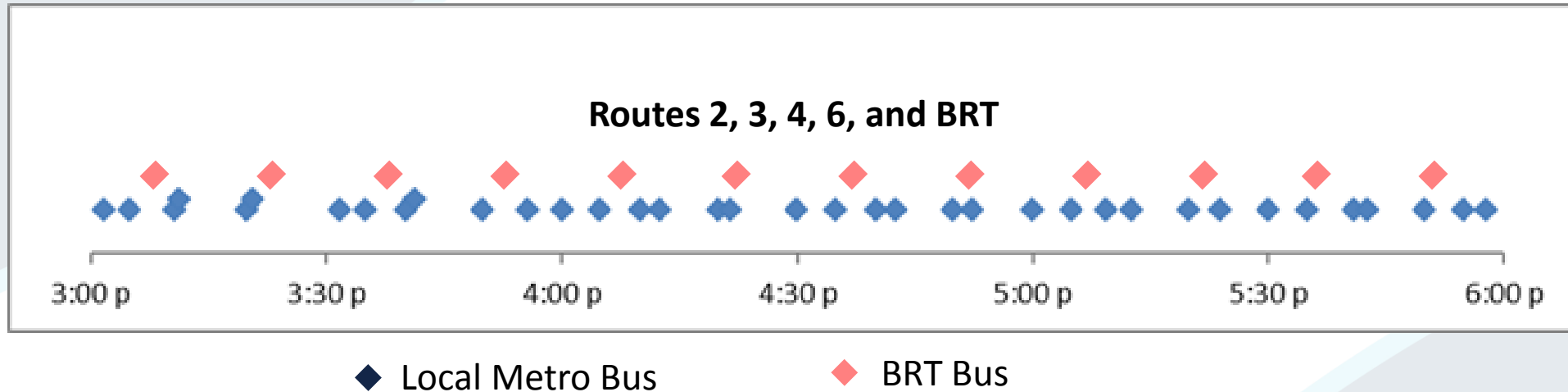
In the afternoon peak period, many buses try to use State Street at the same time.

They stack up at the traffic signals causing delay and pollution.

State Street – Alternatives 1 and 1A

50% Reduction in Bus Volume

Alternative 1 and 1A Westbound Bus Service on State Street, Afternoon Peak



With Alternatives 1 and 1A, regional and commuter routes are moved to West Washington Avenue.

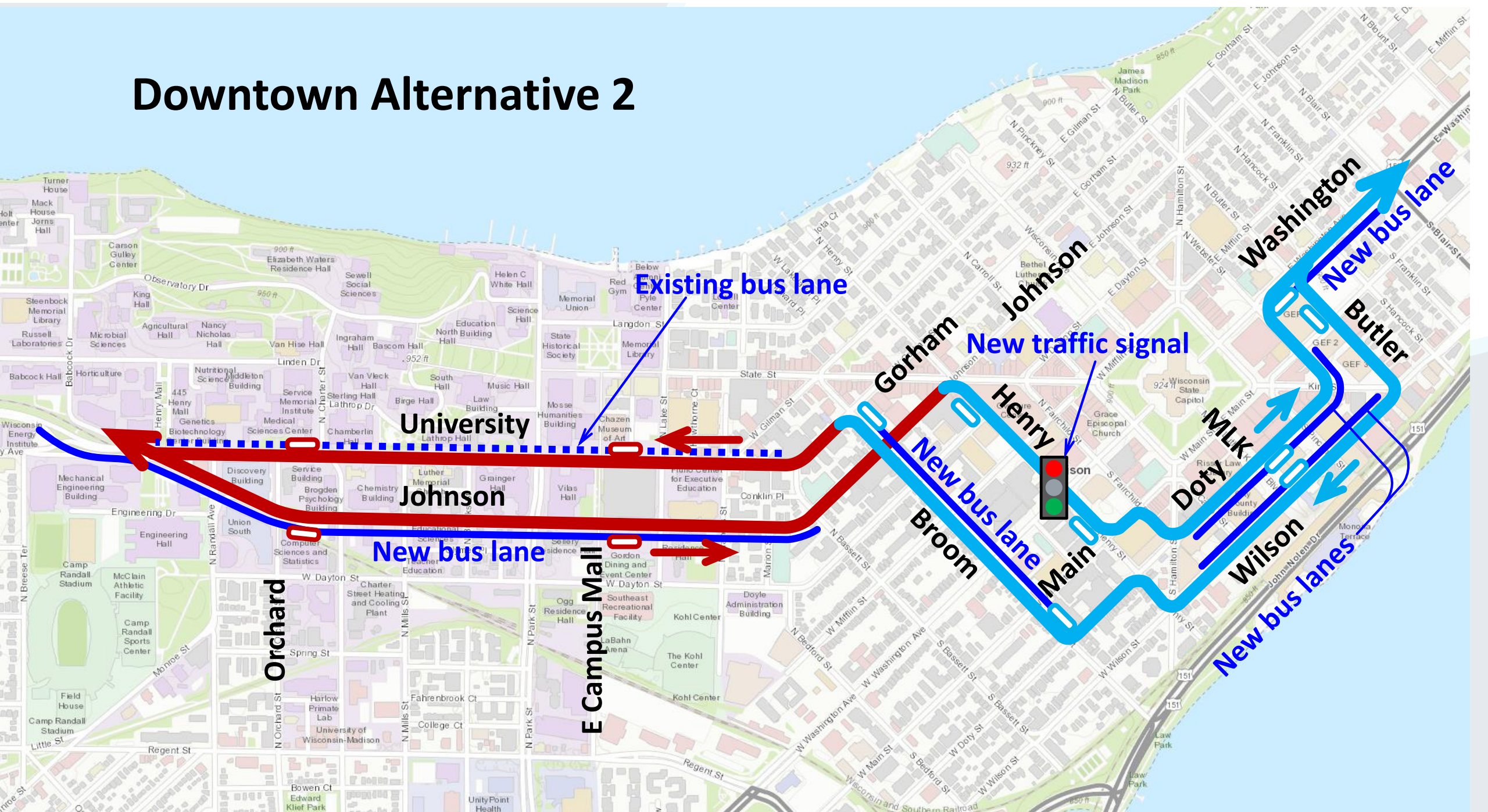
The result is fewer buses on State Street. Service is more consistent throughout the day with less bunching at traffic signals, and some of the buses are electric.

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Downtown Alternative 2



Existing bus lane

New traffic signal

University

Johnson

New bus lane

Orchard

E Campus Mall

Gorham

Henry

Broom

Main

Johnson

Washington

Butler

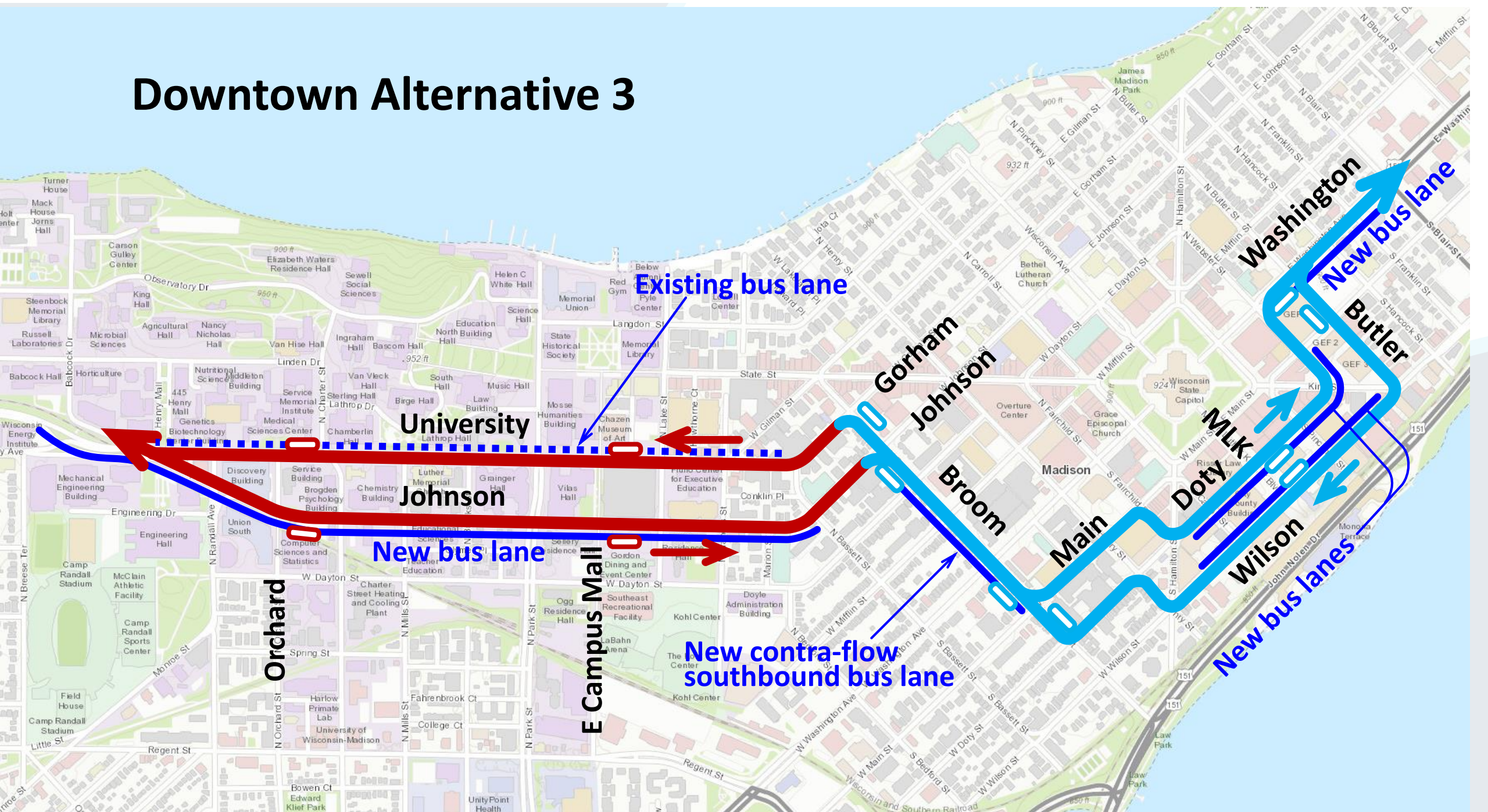
MLK

Doty

Wilson

New bus lanes

Downtown Alternative 3



Existing bus lane

University

Johnson

New bus lane

Orchard

E Campus Mall

New contra-flow southbound bus lane

Gorham
Johnson

Broom

Main

Doty

Wilson

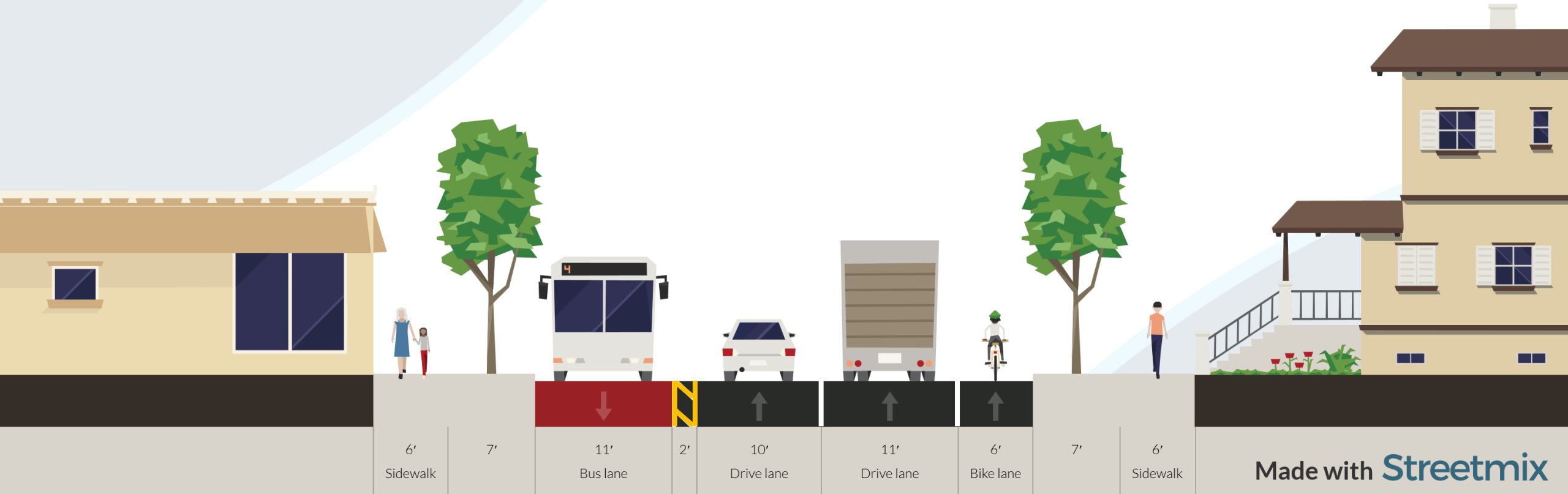
Washington

Butler

New bus lanes

MLK

Broom Street Contra-flow Lane



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Downtown Stations



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Downtown Stations



- Narrow stations are acceptable in lower use areas
- Typically larger station areas are used in downtown areas for pedestrian circulation

Grand Rapids, MI

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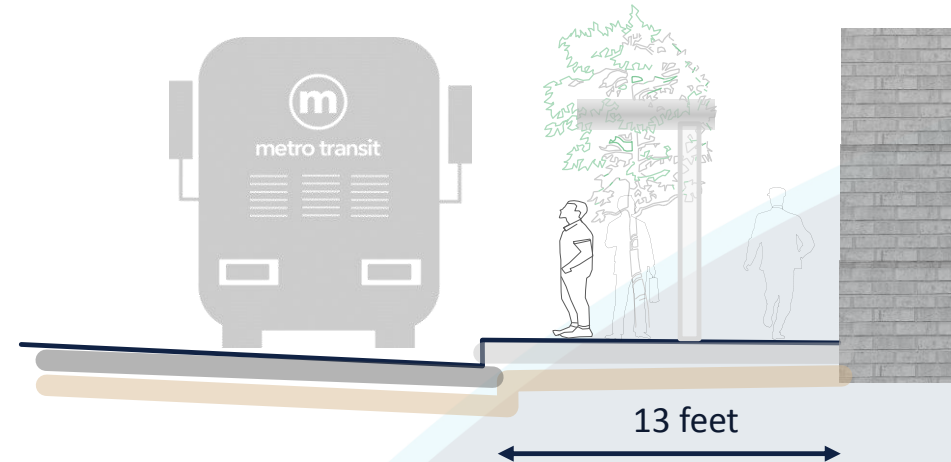


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Downtown Stations



Typical Space Available – Henry– Alt 2

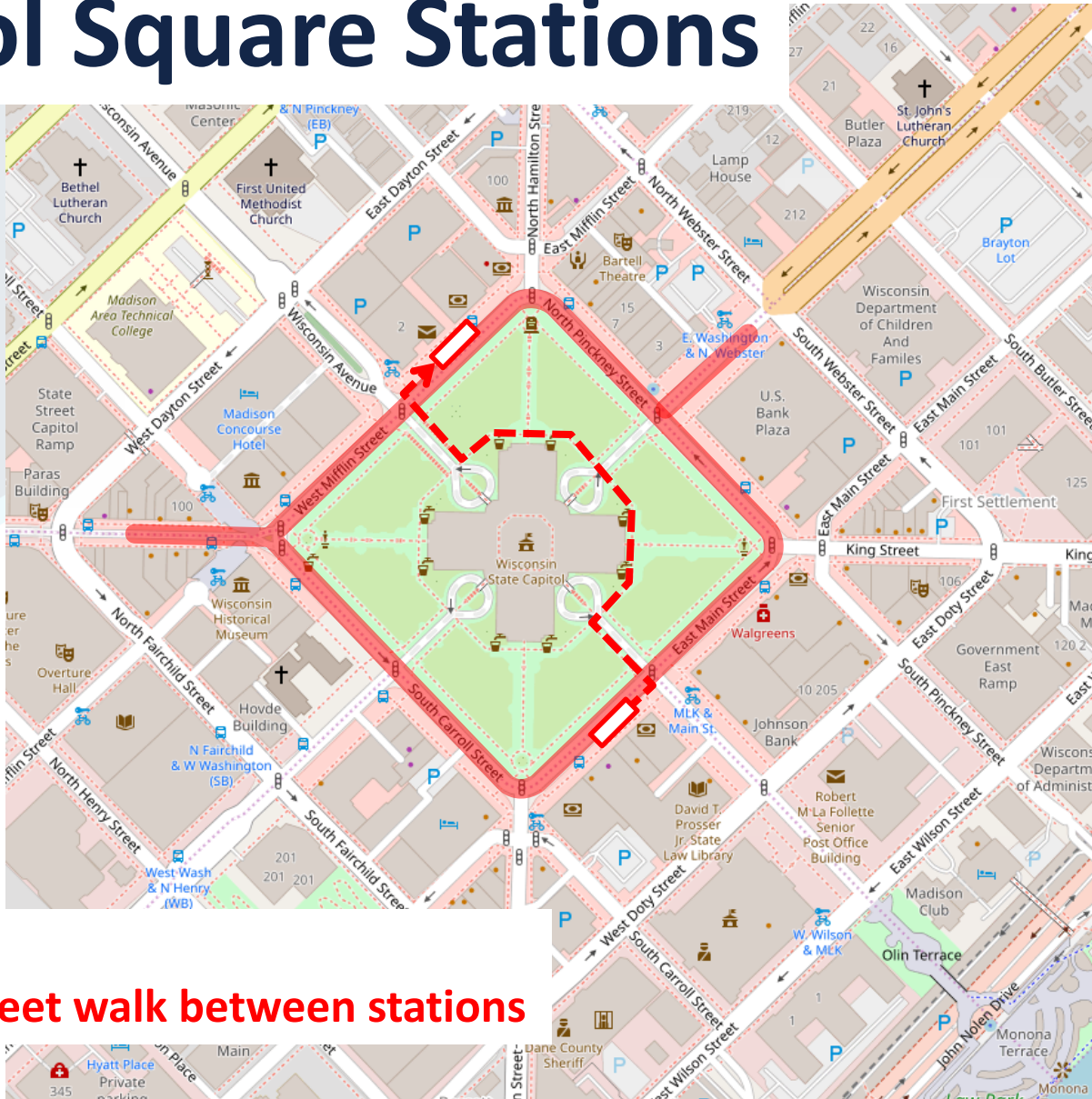


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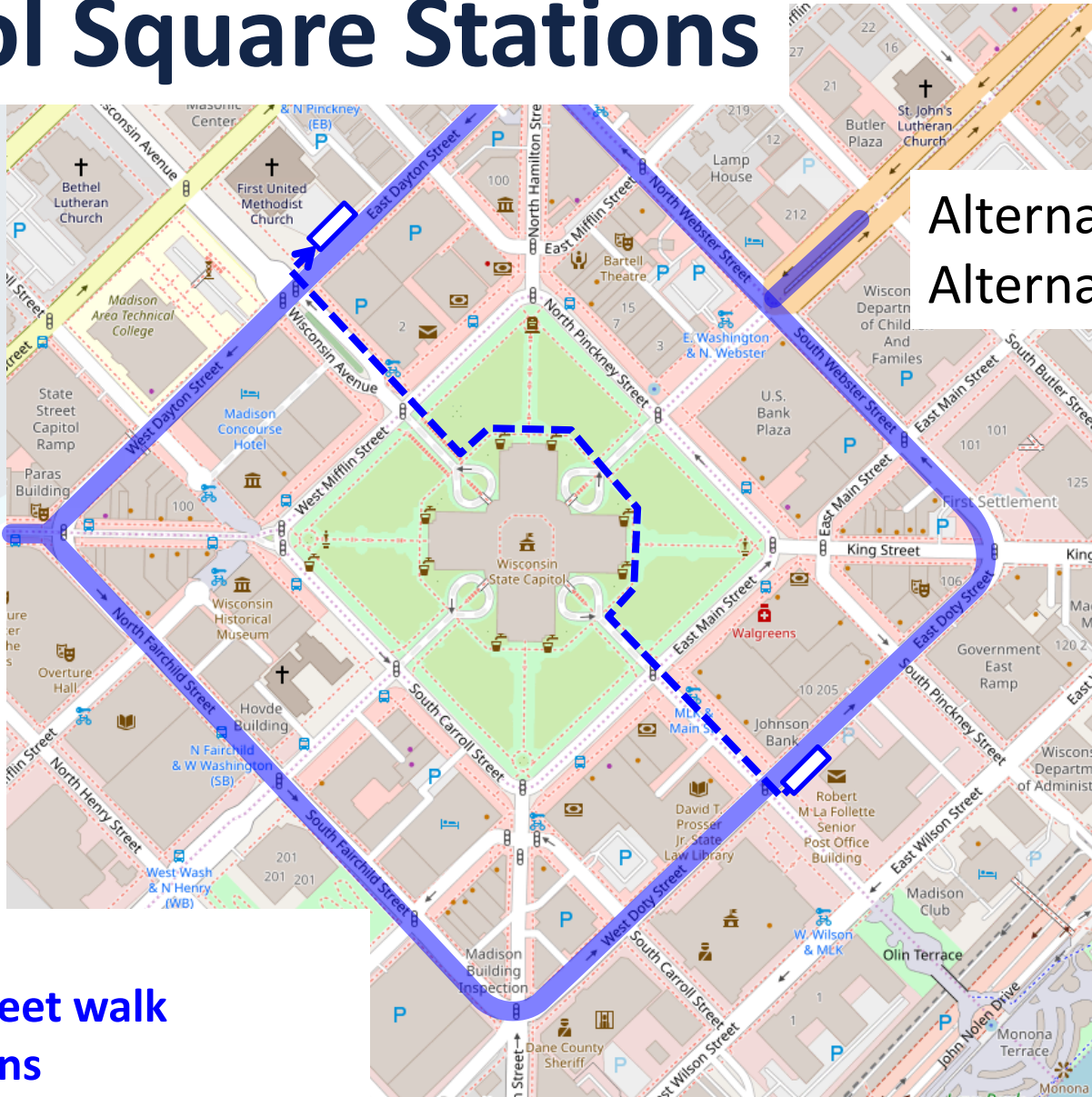
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Capitol Square Stations



Alternative 1
2 block, 1,300 feet walk between stations

Capitol Square Stations



Alternative 1 – 10 percent of the time
Alternative 1A – 90 percent of the time

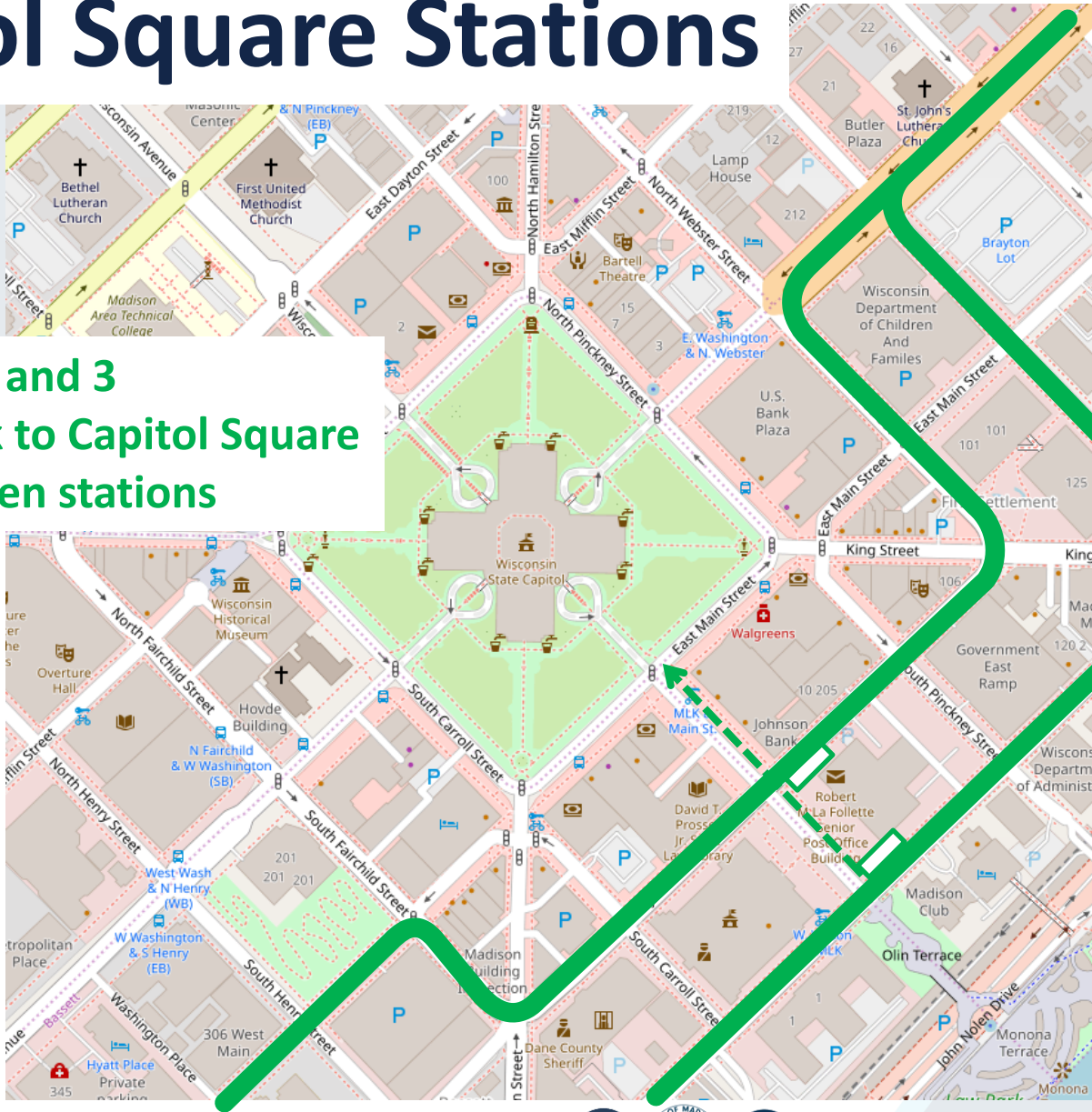
Alternative 1A
4 block, 2,000 feet walk
between stations

Difference, if applied
to existing Metro
routes, amounts to
50,000 walking miles a
year



Capitol Square Stations

Alternatives 2 and 3
1-2 block walk to Capitol Square
1 block between stations



Alternative 1



Mifflin and Pinckney

Alternative 1A

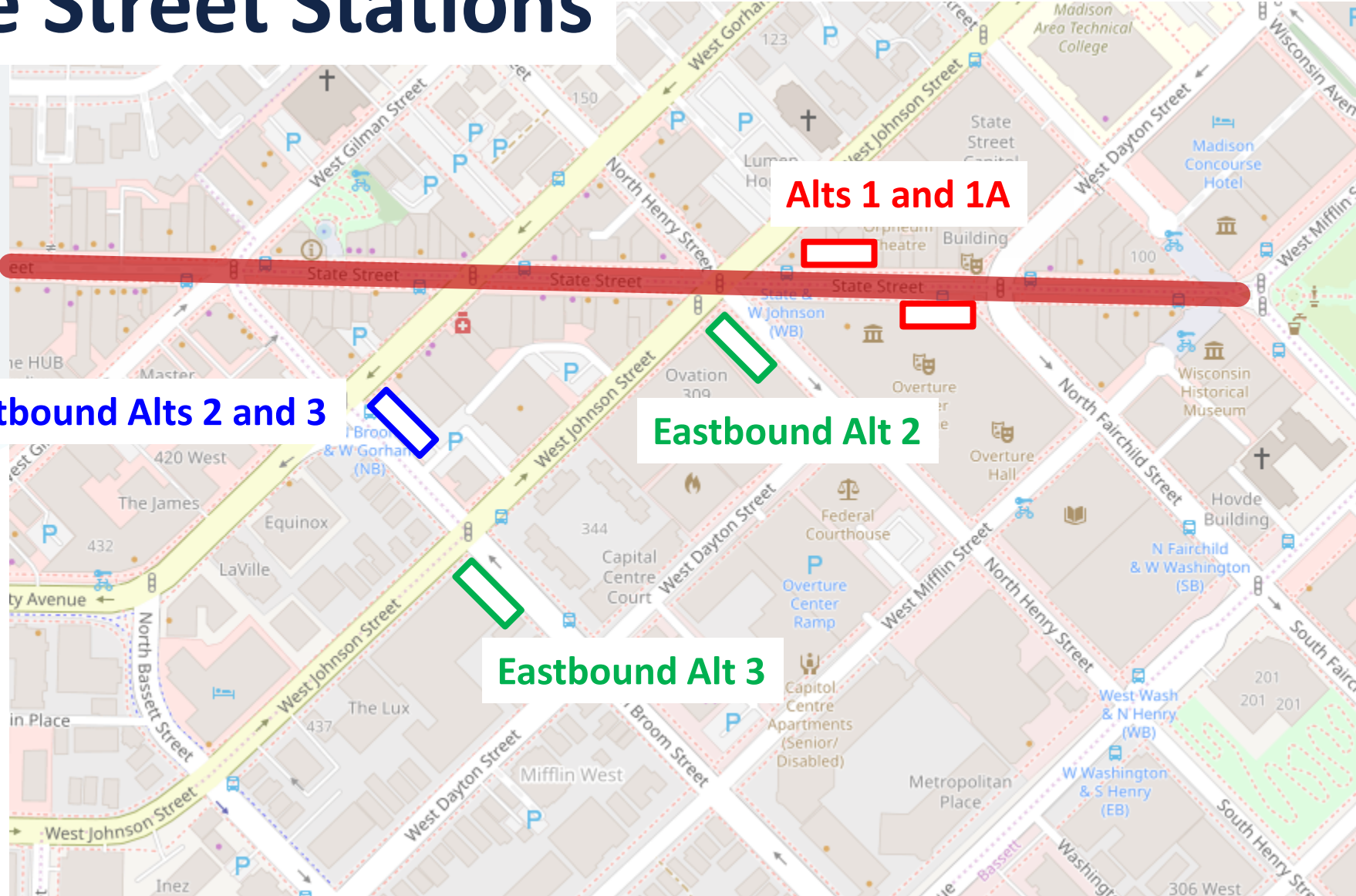
Dayton and Wisconsin



Alternatives 2 and 3



State Street Stations



Alternatives 1 and 1A



State and Fairchild

Alternative 2



Henry and Dayton

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Bassett Neighborhood Stations



Eastbound Alt 2

Eastbound Alt 3

1.5 block walk

Westbound Alts 2 and 3

Local Eastbound Service

Eastbound Alternative 2



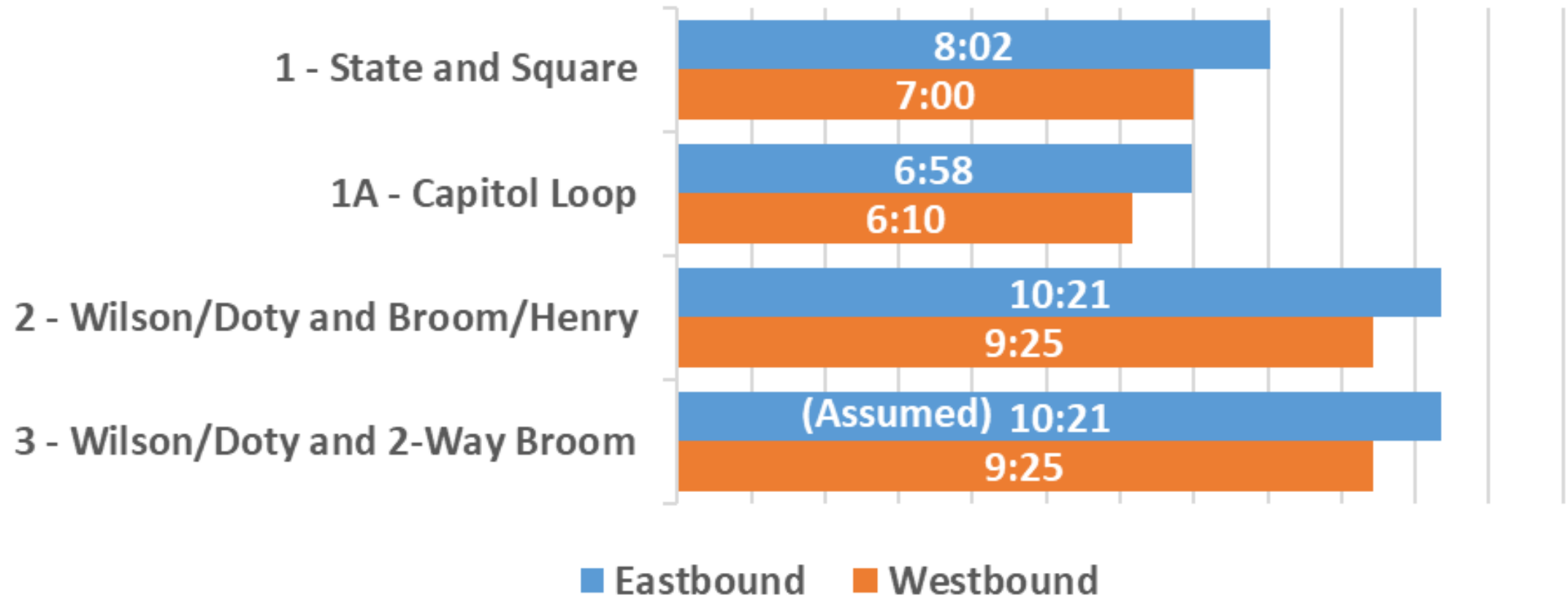
Alternative 3



Broom and Main

© 2019 Google

Travel Times Between Frances and Blair



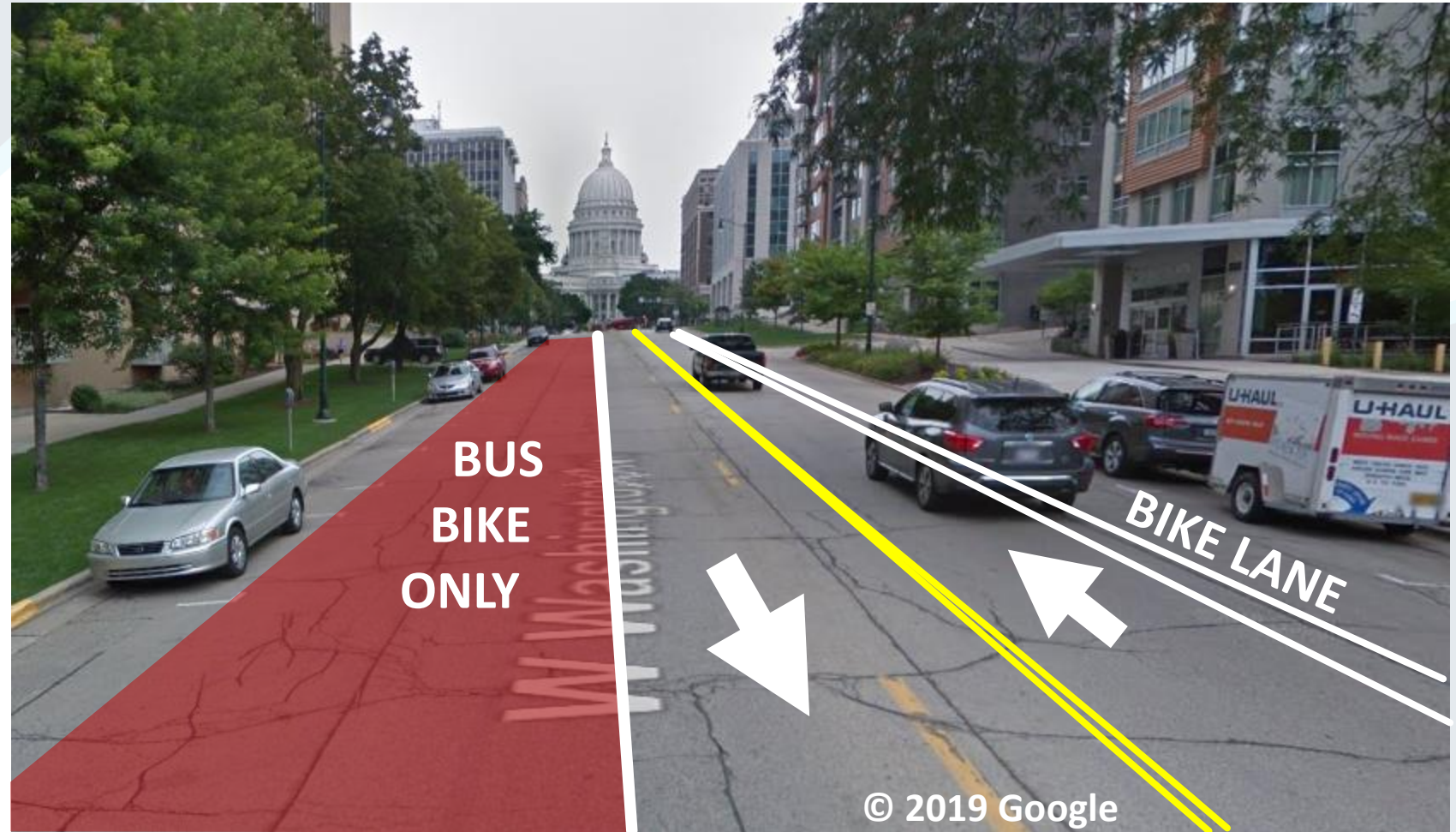
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Bikes – Alternative 1 (Capitol Square)

- No significant changes along BRT alignment
- West Washington Avenue restriped to include a bus lane in one direction



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Bikes – Alternative 1A (Capitol Loop)

- Capitol loop parking and bike lane converted to bus, bike, and right turns only



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Bikes – Alternative 2 (Broom/Henry)

- Northbound bike lane accommodated on Broom Street, bikes cannot use southbound lane
- Doty and Fairchild parking and bike lane converted to bus, bike, and right turns only



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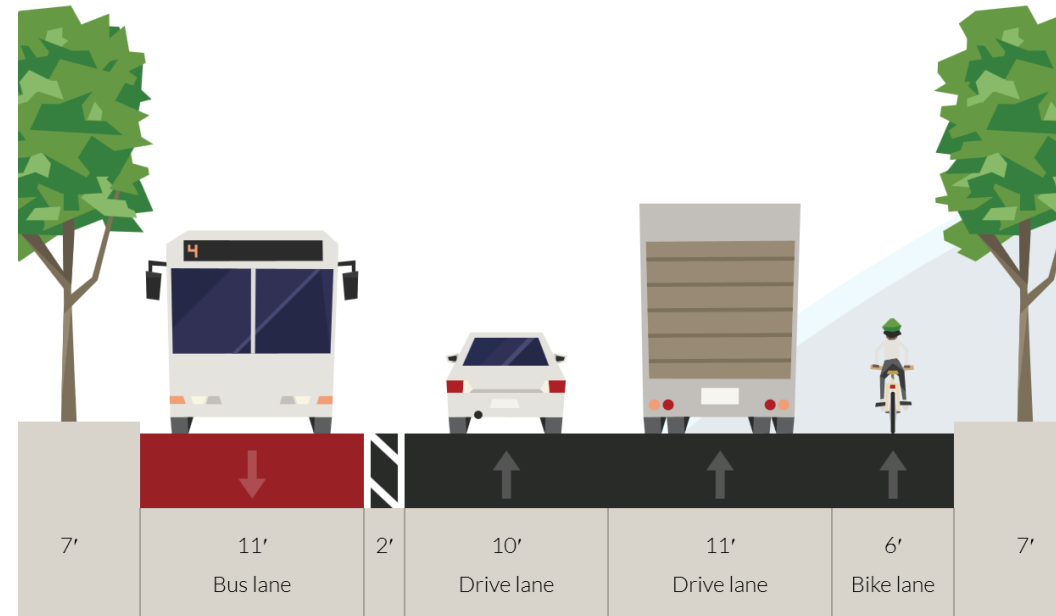
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Bikes – Alternative 3 (Two-Way Broom)

- Broom Street parking and bike lane converted to bus, bike, and right turns only
- Doty and Fairchild parking and bike lane converted to bus, bike, and right turns only



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Parking

	Alt 1
Total Parking Spaces Removed	4
Total Metered Parking Spaces Removed	4
Total Parking Revenue Lost yearly	\$8,000

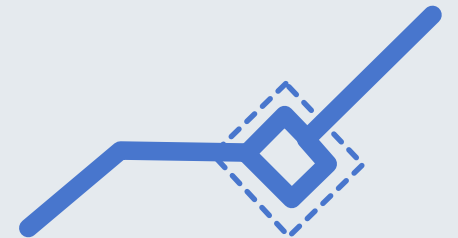
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Observations

- Alternative 1 appears to provide the greatest number of advantages
 - Most direct access to key destinations
 - Eastbound and westbound stations are within a block or two
 - Generous space for stations
 - Does not compete with local service
 - Good transfers to and from local routes
 - Does not reduce parking revenue
 - Reduces the number of buses on State Street, replaces with electric



Observations

- Alternative 3 has the next greatest number of advantages
 - Complementing stations are relatively close together
 - Very few detours
 - Smaller station sizes
 - Travel times are slower
 - Significant loss of parking and parking revenue



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