

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

Downtown Routing

TPPB | November 4, 2019

MADISON DEPARTMENT



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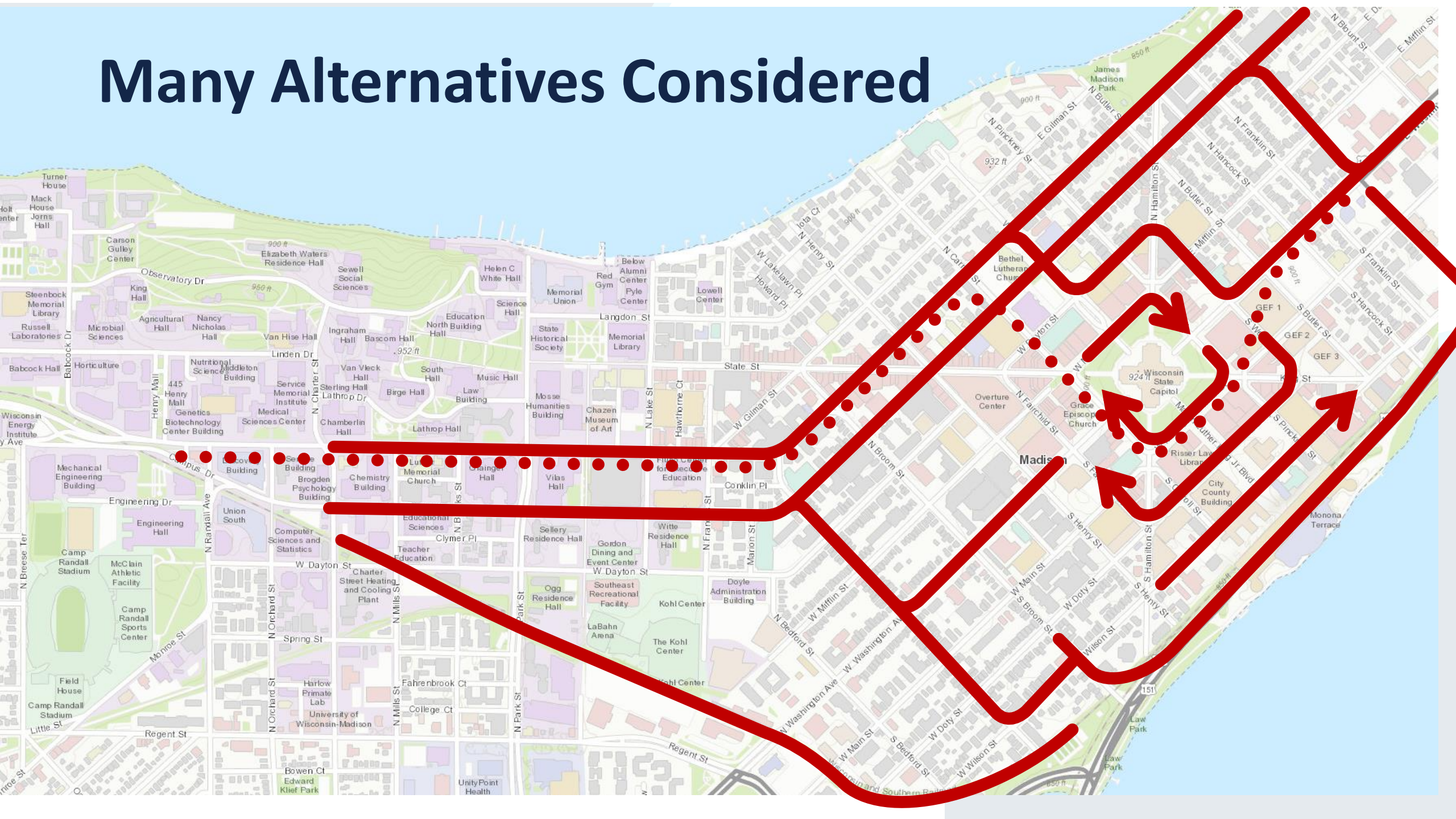
2 Alternatives

Straightforward

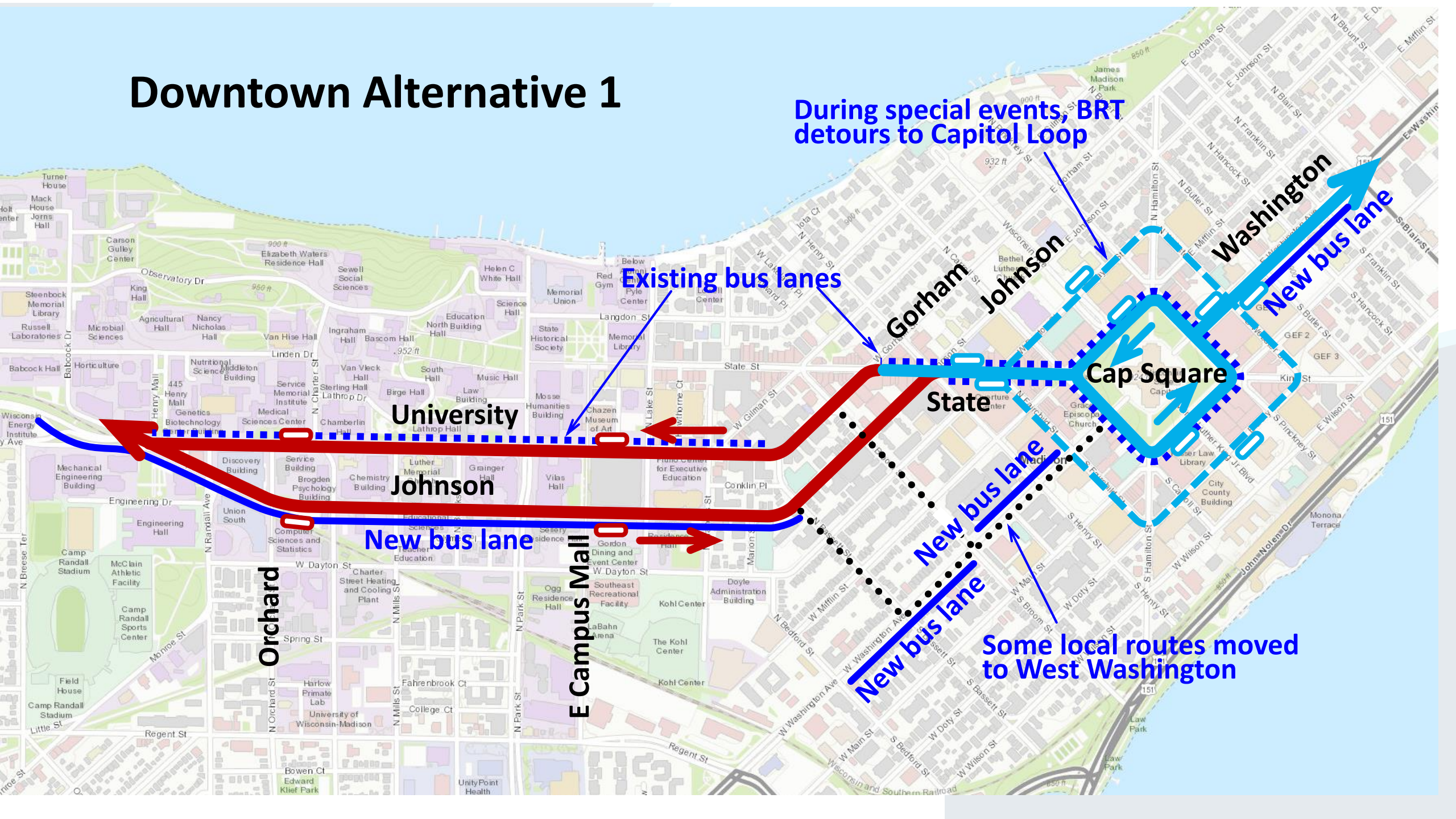
???

Straightforward

Many Alternatives Considered



Downtown Alternative 1



During special events, BRT detours to Capitol Loop

Existing bus lanes

University

Johnson

New bus lane

Orchard

E Campus Mall

State

Gorham

Johnson

Washington

New bus lane

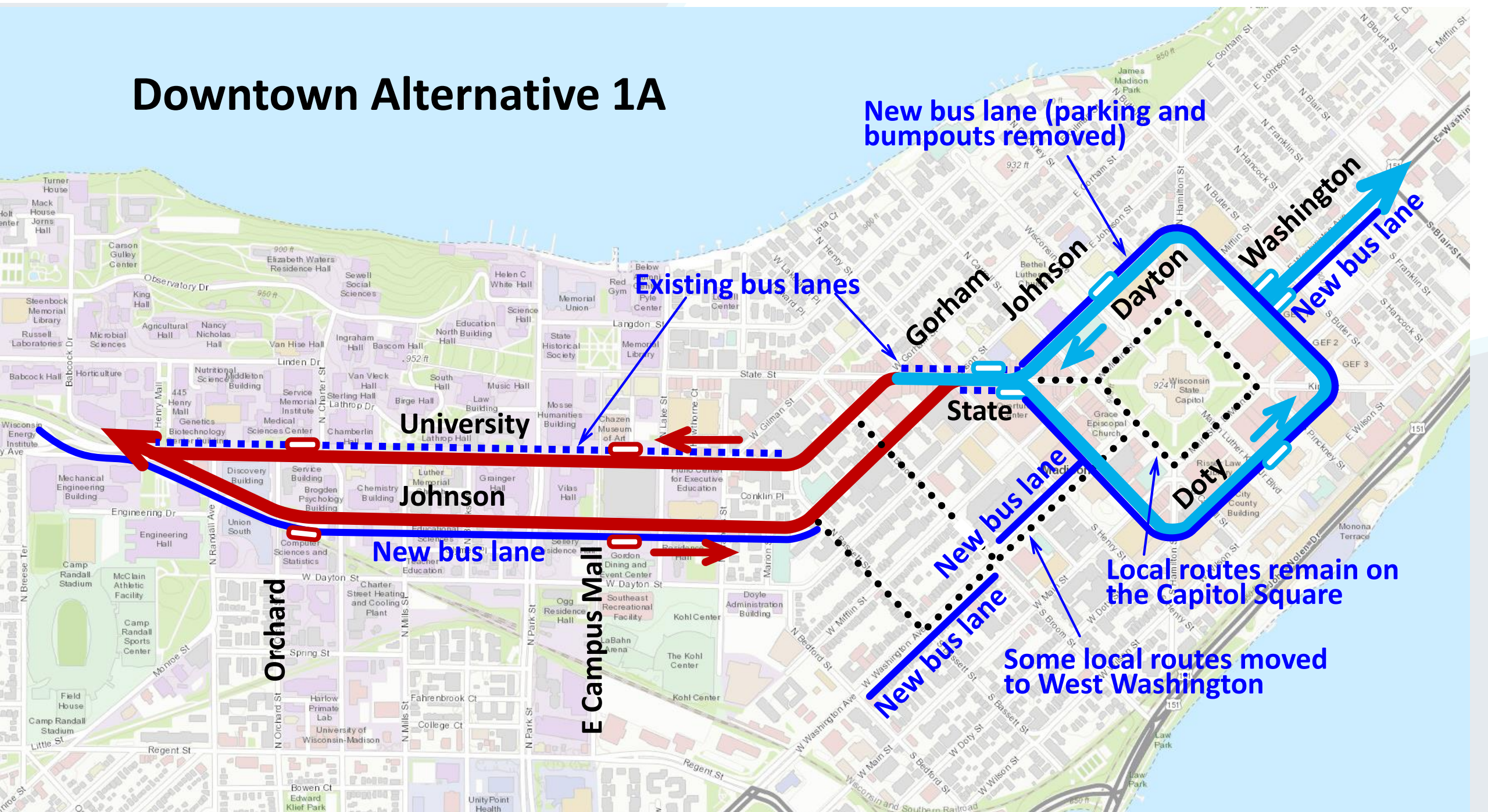
Cap Square

New bus lane

New bus lane

Some local routes moved to West Washington

Downtown Alternative 1A



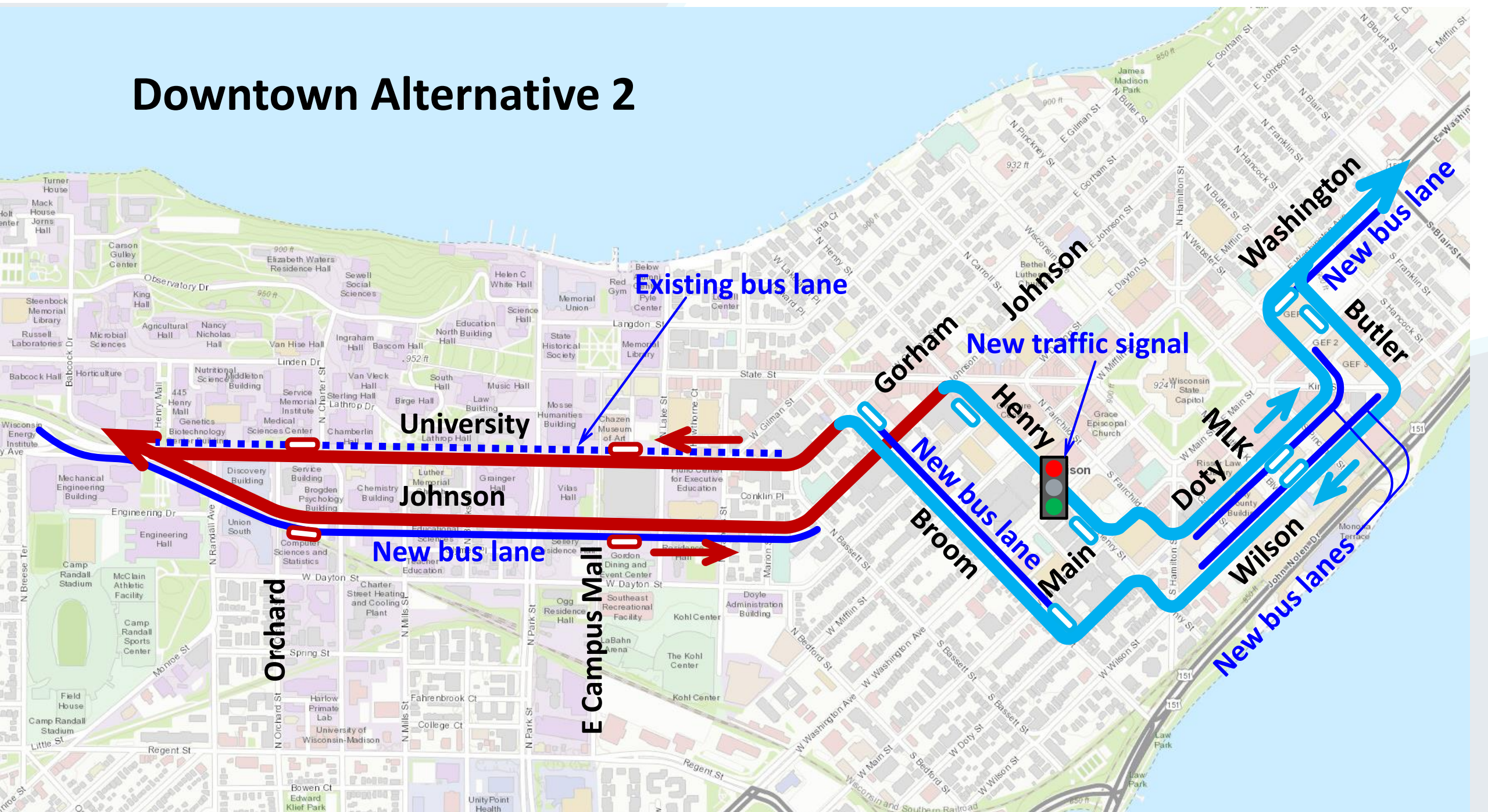
New bus lane (parking and bumpouts removed)

Existing bus lanes

Local routes remain on the Capitol Square

Some local routes moved to West Washington

Downtown Alternative 2



Existing bus lane

New traffic signal

University

Johnson

New bus lane

Orchard

E Campus Mall

Gorham

Henry

Broom

Main

Doty

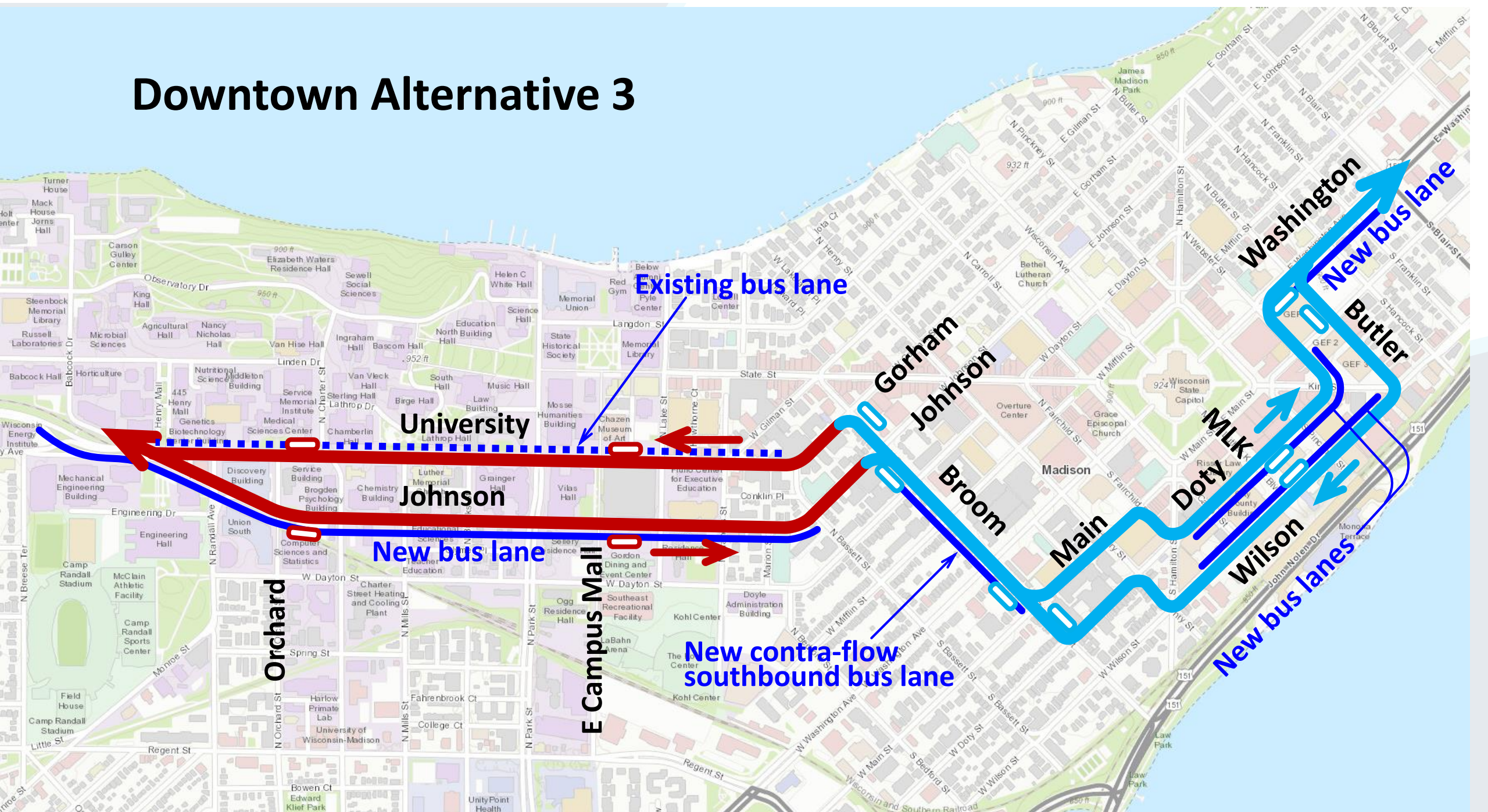
Wilson

Washington

Butler

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

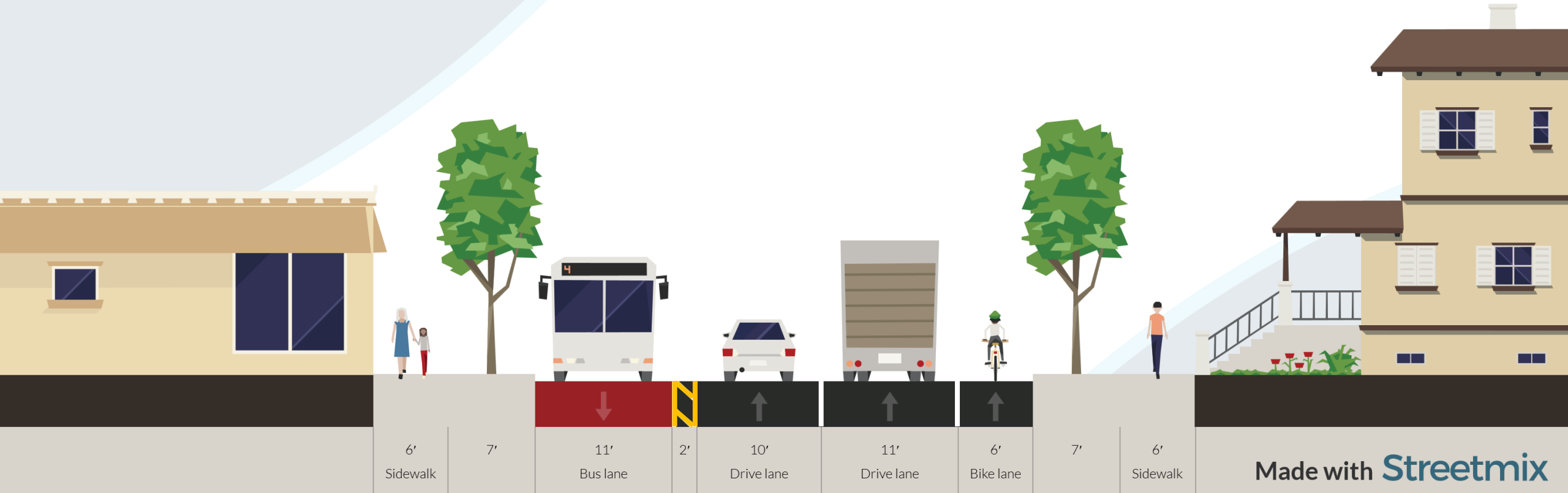
New bus lane

Butler

MLK

New bus lanes

Broom Street Contra-flow Lane

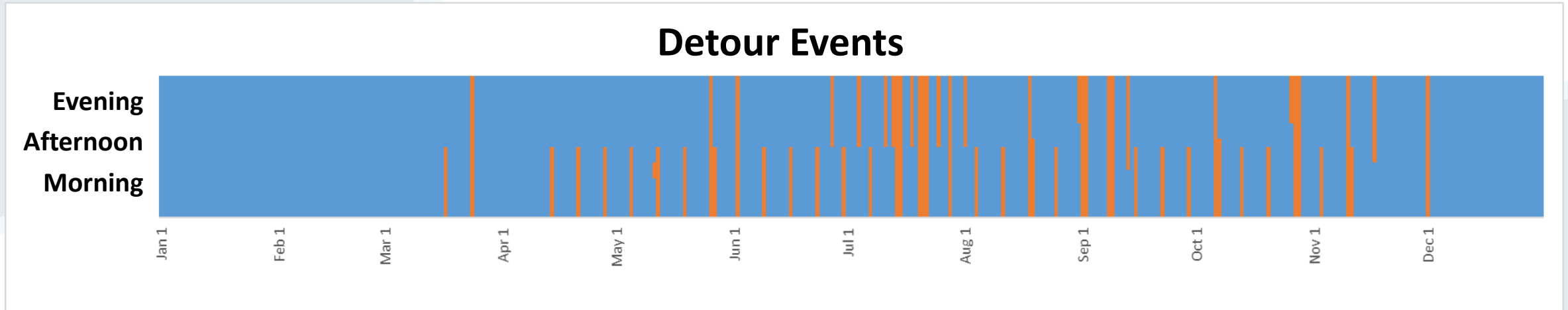


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Detours – Alternative 1



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

Most of that time is weekends in the summer.

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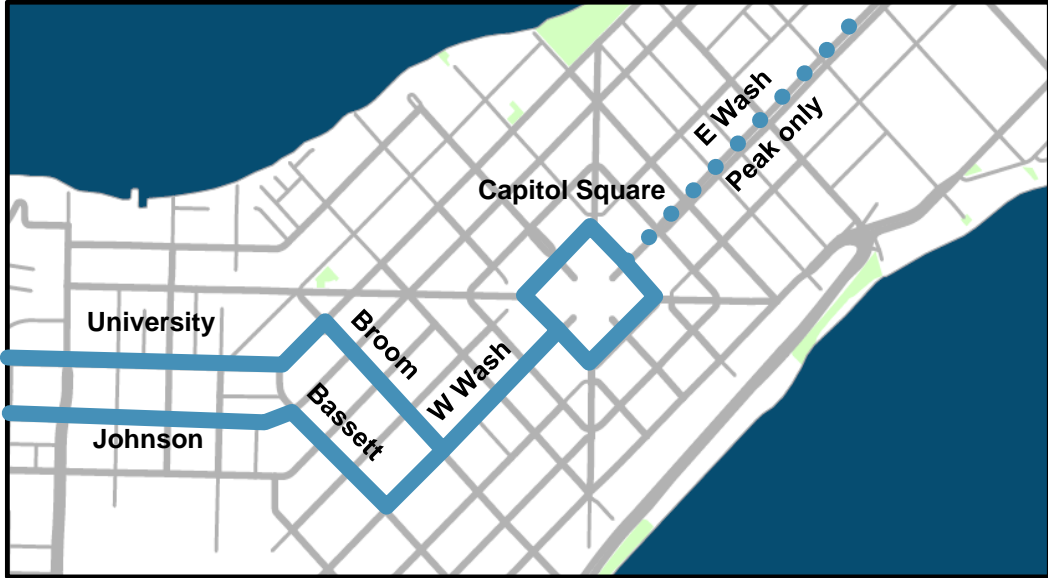
State Street Rerouting (Alternatives 1 and 1A)

Example Routes 14 and 15

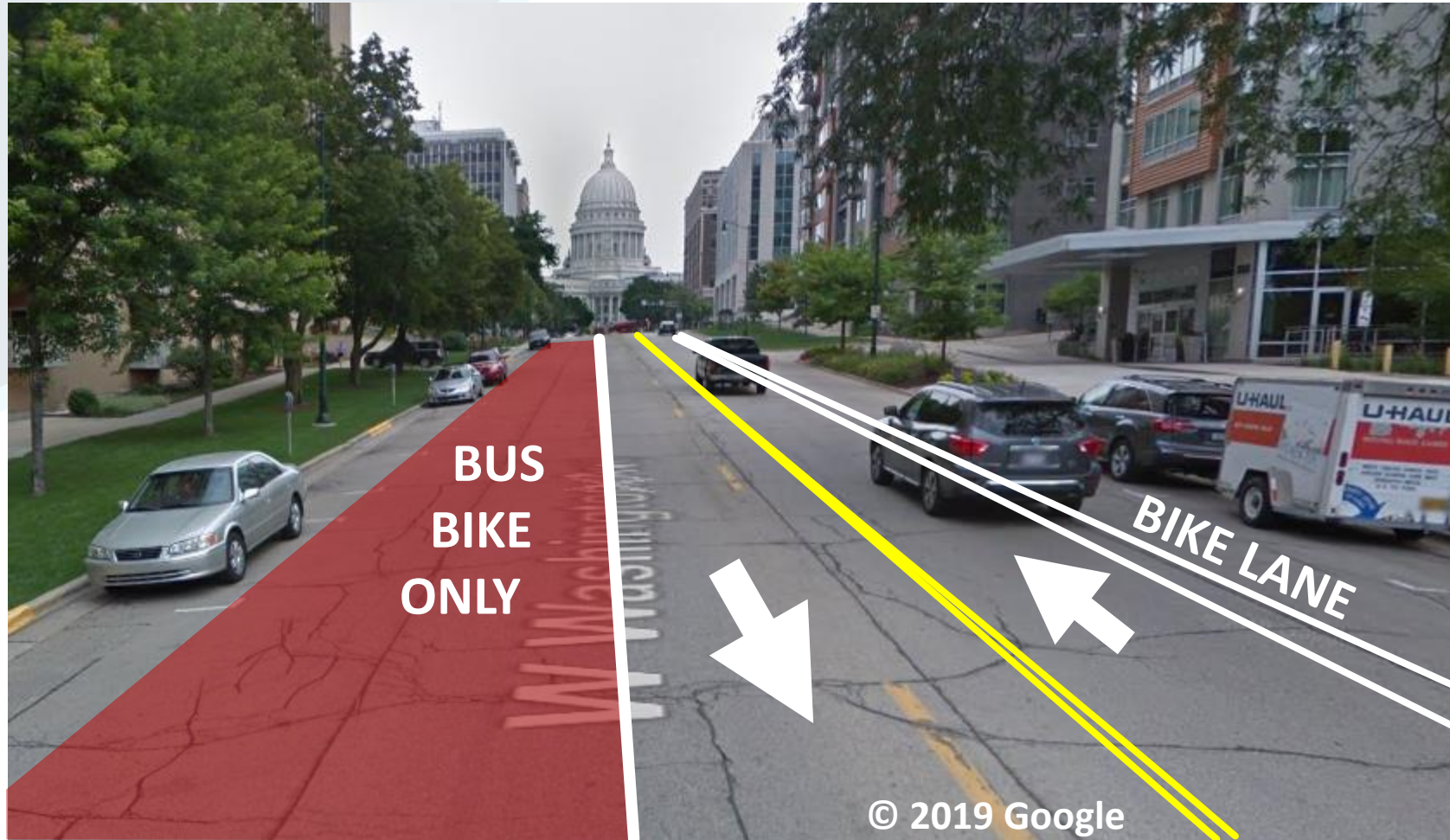
EXISTING



PROPOSED



West Washington Ave – Alternatives 1 and 1A



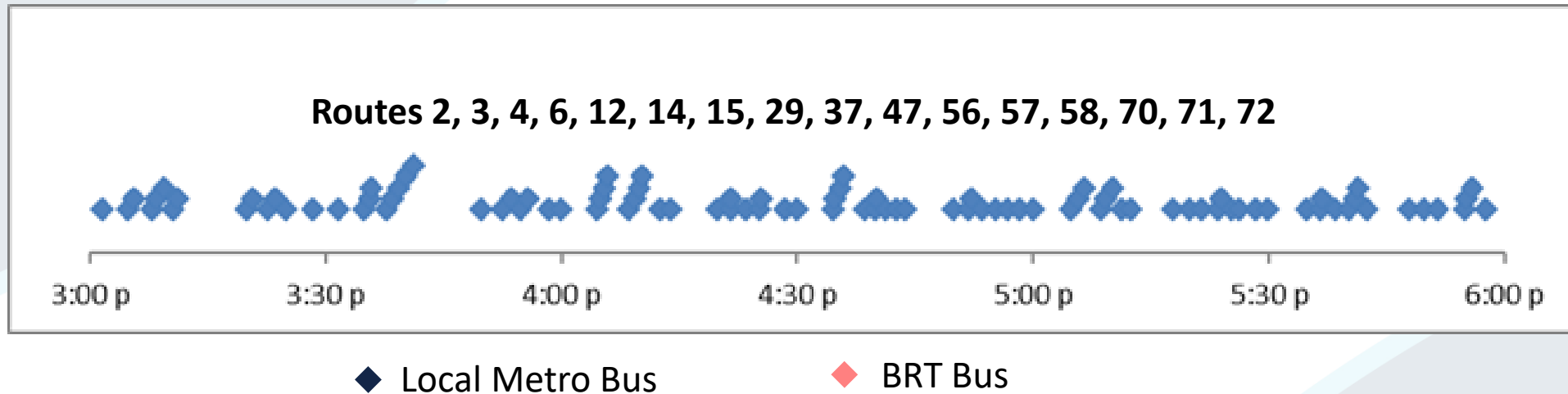
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State Street

Existing Westbound Bus Service on State Street, Afternoon Peak



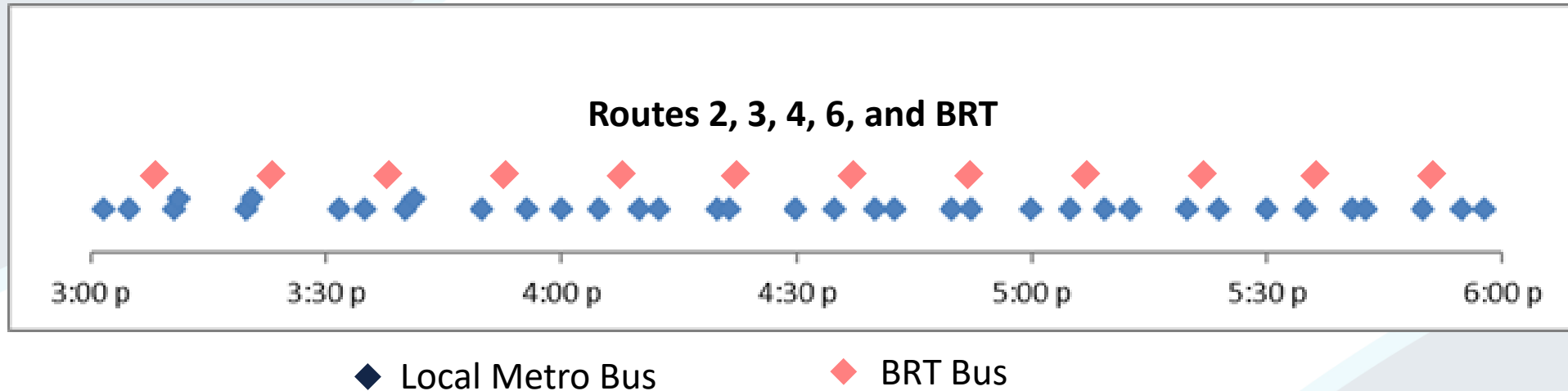
In the afternoon peak period, many buses try to use State Street at the same time.

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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Bike Facilities

Alt	Broom	West Washington	Capitol Loop
Today	Bike lane next to parking	None	Bike lane next to parking
1	No change with project Potentially add protected bike lane in the future	Buffered or protected bike lane uphill, shared bus-bike-right turn lane downhill	No change
1A	No change with project Potentially add protected bike lane in the future	Buffered or protected bike lane uphill, shared bus-bike-right turn lane downhill	Shared bus-bike-right turn lane
2	Shared bus-bike-right turn lane	No change with project Potentially add protected bike lane in the future	No change Doty Street floating bike lane is always against the curb
3	Bike lane	No change with project Potentially add protected bike lane in the future	No change Doty Street floating bike lane is always against the curb

Parking

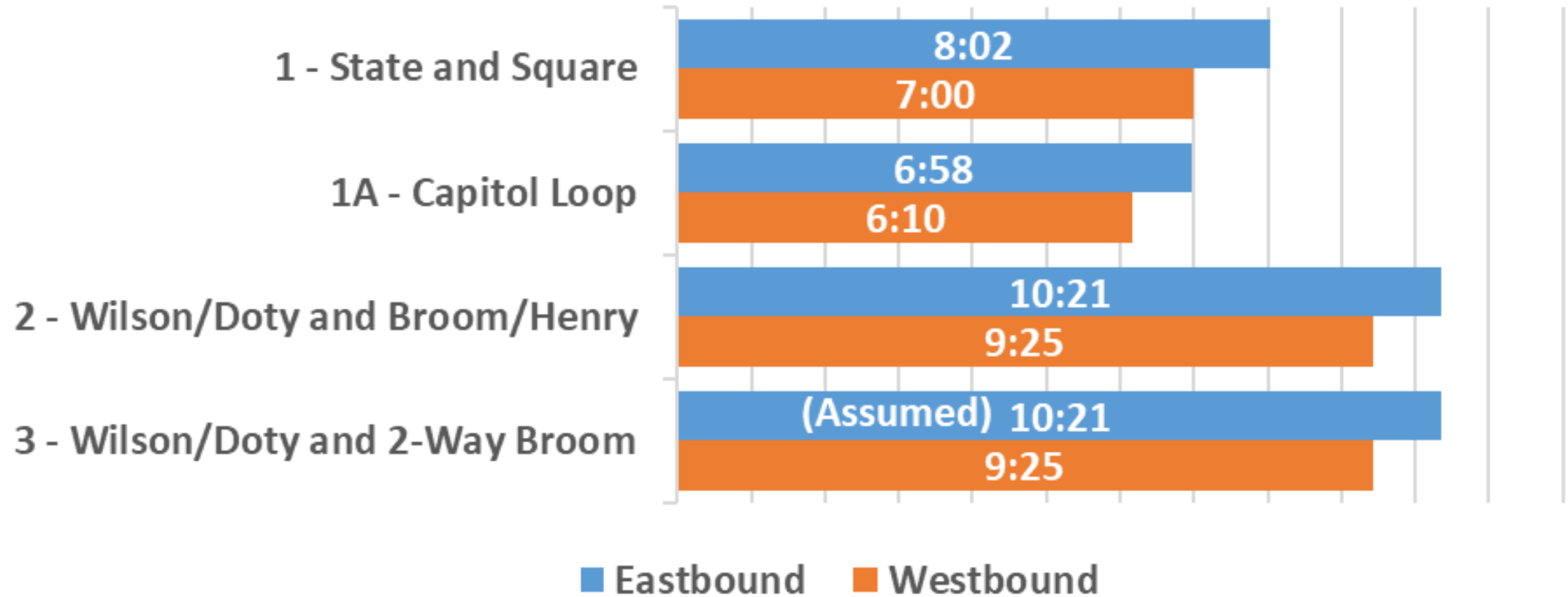
	Alt 1	Alt 1A	Alt 2	Alt 3
Total Parking Spaces Removed	4	85	110	107
Total Metered Parking Spaces Removed	4	85	100	97
Total Parking Revenue Lost yearly	\$8,000	\$170,000	\$200,000	\$195,000

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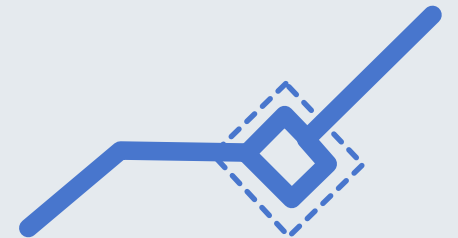
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Travel Times Between Frances and Blair



Observations – Alt 1

- 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 – Alt 3

- 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



Observations – Alt 2

- Alternative 2 has a number of disadvantages
 - Broom and Henry stations are farther apart
 - Smaller station sizes
 - Henry is a low-use street with little pedestrian and vehicle traffic
 - Deliveries at the Overture Center will cause interruptions and detours
 - Significant loss of parking and parking revenue



Observations – Alt 1A

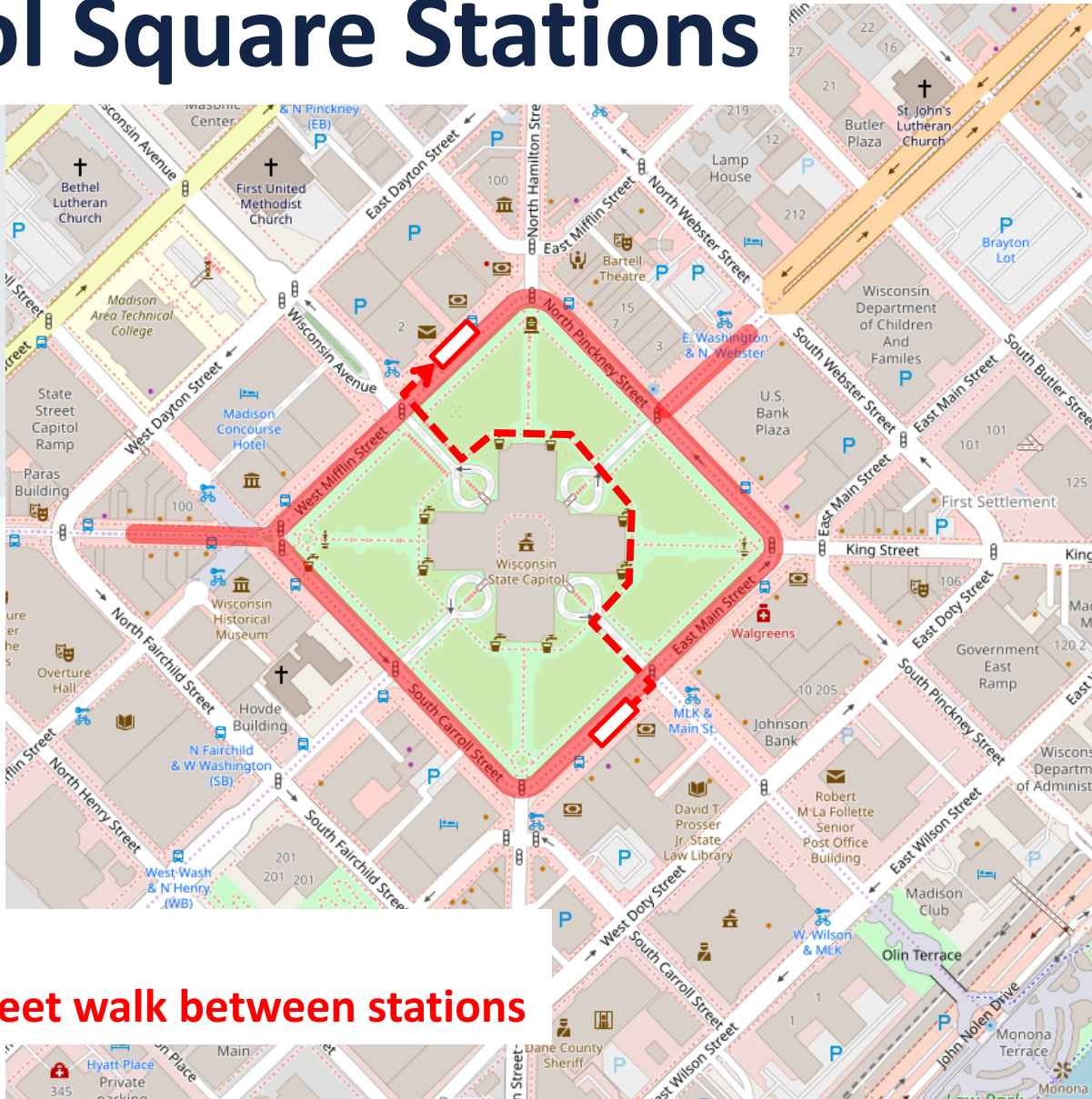
- Alternative 1A has several significant disadvantages
 - Four block walk between major downtown stations. The majority of people who use the system on weekdays would have to walk farther for no reason. New and occasional riders would have difficulty finding their stations.
 - BRT service one block away from local routes would add to the confusion and many people will likely continue to use local service because the overall service levels are higher.
 - Smaller station sizes
 - Significant loss of parking and parking revenue



Alternative 1A

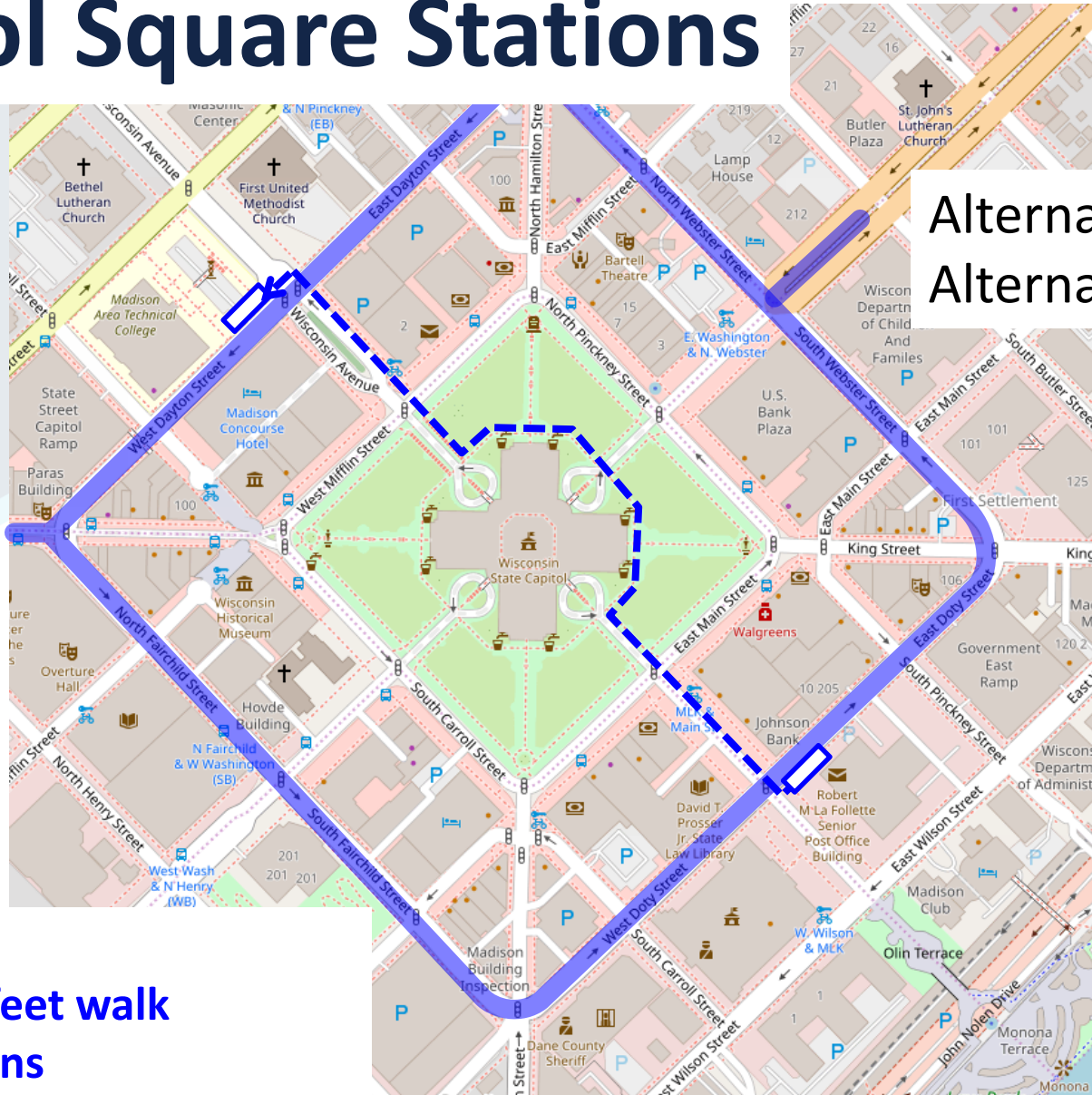
- Staff recommend removing Alternative 1A from consideration
 - No known bus routes, let alone BRT or light rail lines, have complementing stations four blocks apart
 - People going to common destinations looking for BRT or a local bus will no longer be able to stand at one stop and wait for the first bus
 - Stations will be small and cramped with no connecting bus service
 - Because of this, many existing riders will see the BRT system as a degradation of overall bus service and a poor use of limited funds
 - Most support for 1A appears to be support for removing buses from the square

Capitol Square Stations



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

Capitol Square Stations

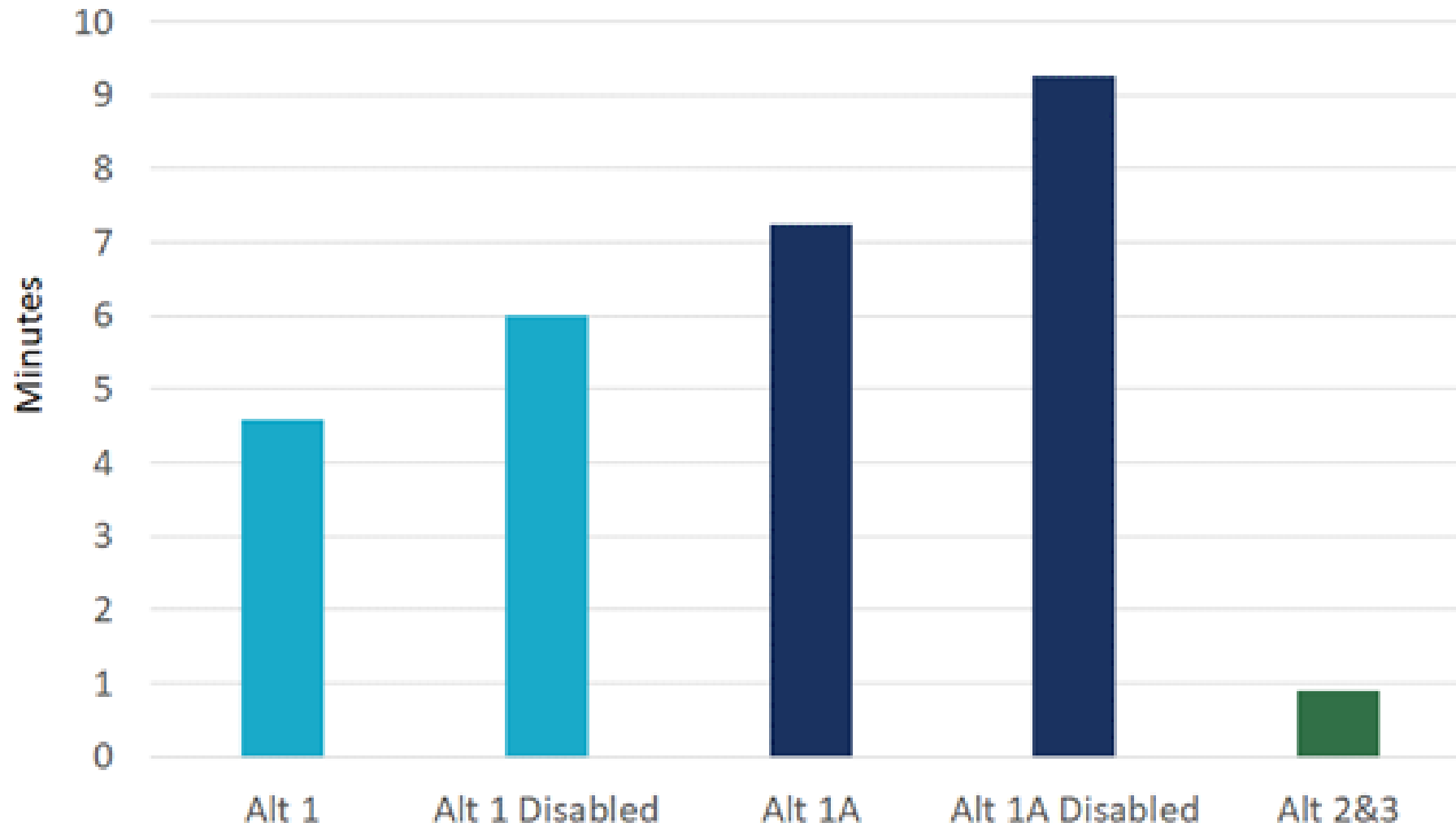


Alternative 1 – 10 percent of the time
Alternative 1A – 100 percent of the time

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

Walk Time to Complementing Station



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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

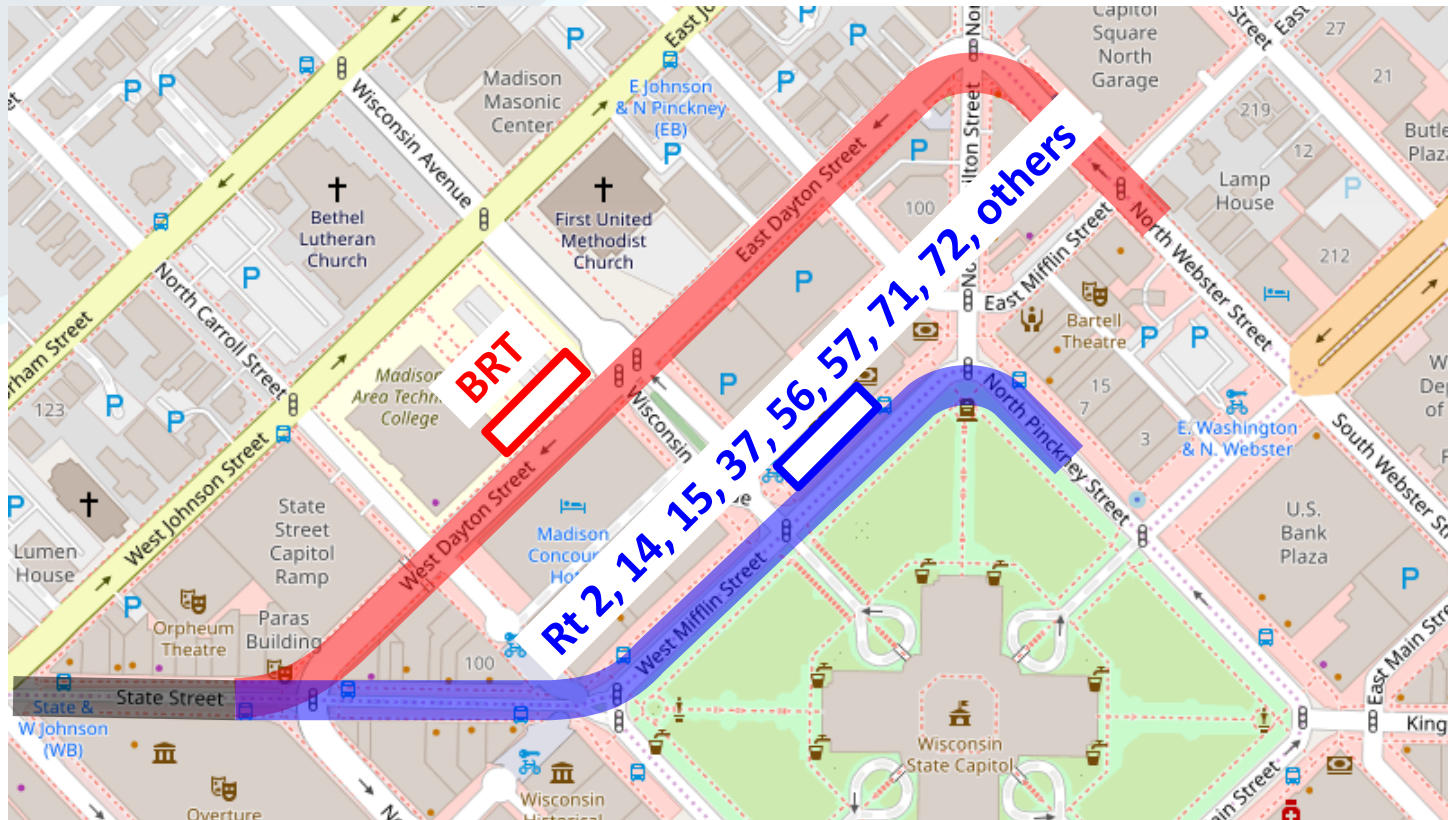


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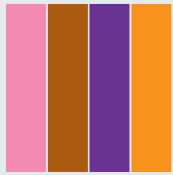
I need to go to the west side at 5:00 pm
I don't care what color my bus is
Where should I go?



By splitting routes to common destinations, riders will have to choose where to go and see lower effective service levels

Downtown Chicago

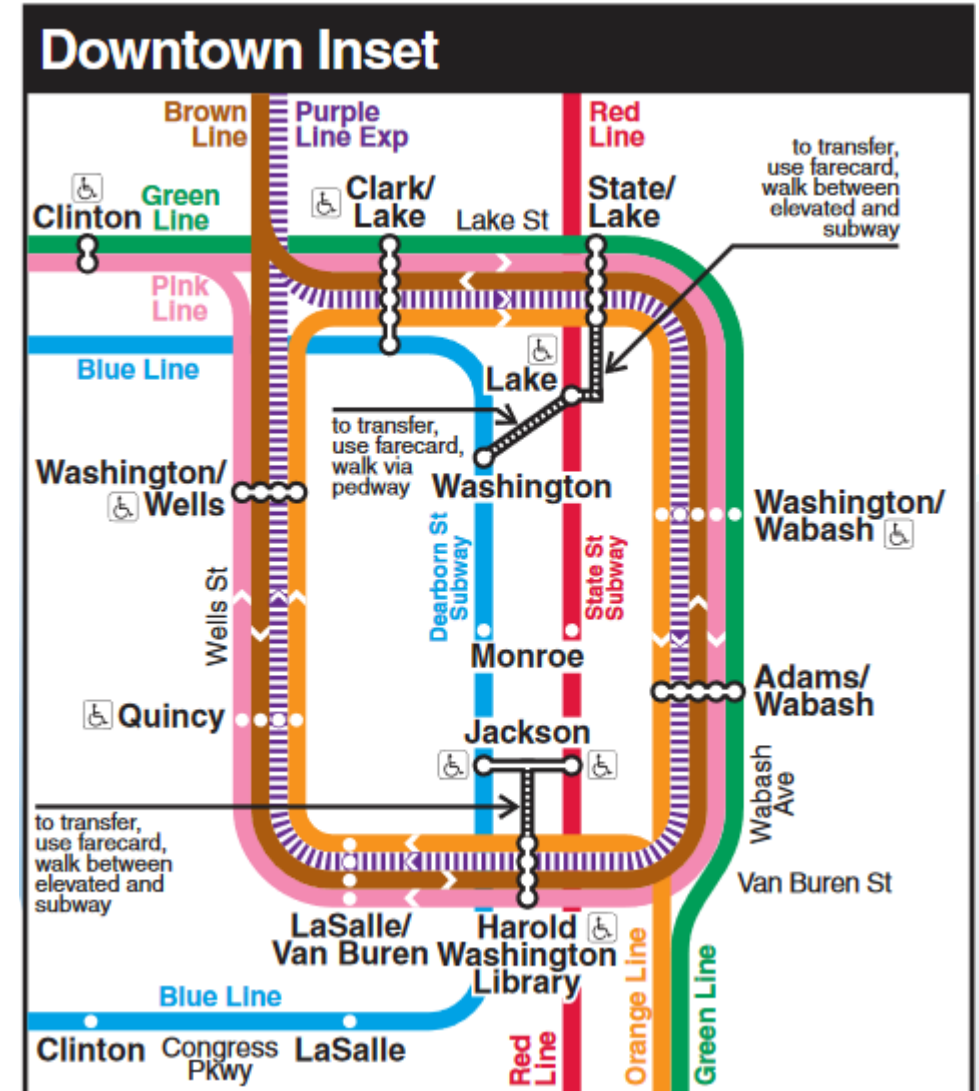
- Routes that end downtown travel around the loop



- Routes that keep going (green, red, blue) have station pairs together



- Why does the green line not go around both sides of the loop like the others?



Chicago Loop

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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Alternative 1



Mifflin and Pinckney

Alternative 1A

Dayton and Wisconsin



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