

Madison East-West Bus Rapid Transit (BRT) Planning Study

Downtown Coordinating Committee – March 19, 2020

MADISON DEPARTMENT



OF TRANSPORTATION



METRO
FORWARD





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

Bus Rapid Transit

A silver bus rapid transit vehicle is shown on a city street. The bus has "HealthLine" and "Cleveland Clinic" branding on its side. In the background, there are buildings, including one with "WEST STATE UNIVERSITY" signage. A semi-transparent text box is overlaid on the image, containing a list of features.

- **Frequent Service (15 minutes throughout the day)**
- **Dedicated bus lanes (>50%)**
- **Improved fare payment**
- **High-end stations with amenities**

Cities that have recently invested in Bus Rapid Transit

- Indianapolis, IN
- IndyGo Redline
- 13 miles, \$98 million
- Systemwide bus ridership up 30 percent



- Richmond, VA
- Pulse
- 8 miles, \$65 million
- Systemwide bus ridership up 17 percent





Cleveland Healthline



Cleveland Healthline



NEWLY RENOVATED
OFFICES FROM 100-20,000 SF
MARKET RATE RENTAL. SPACE AVAILABLE NOW

E WASHINGTON ST

usbank

NEWSPAPERS

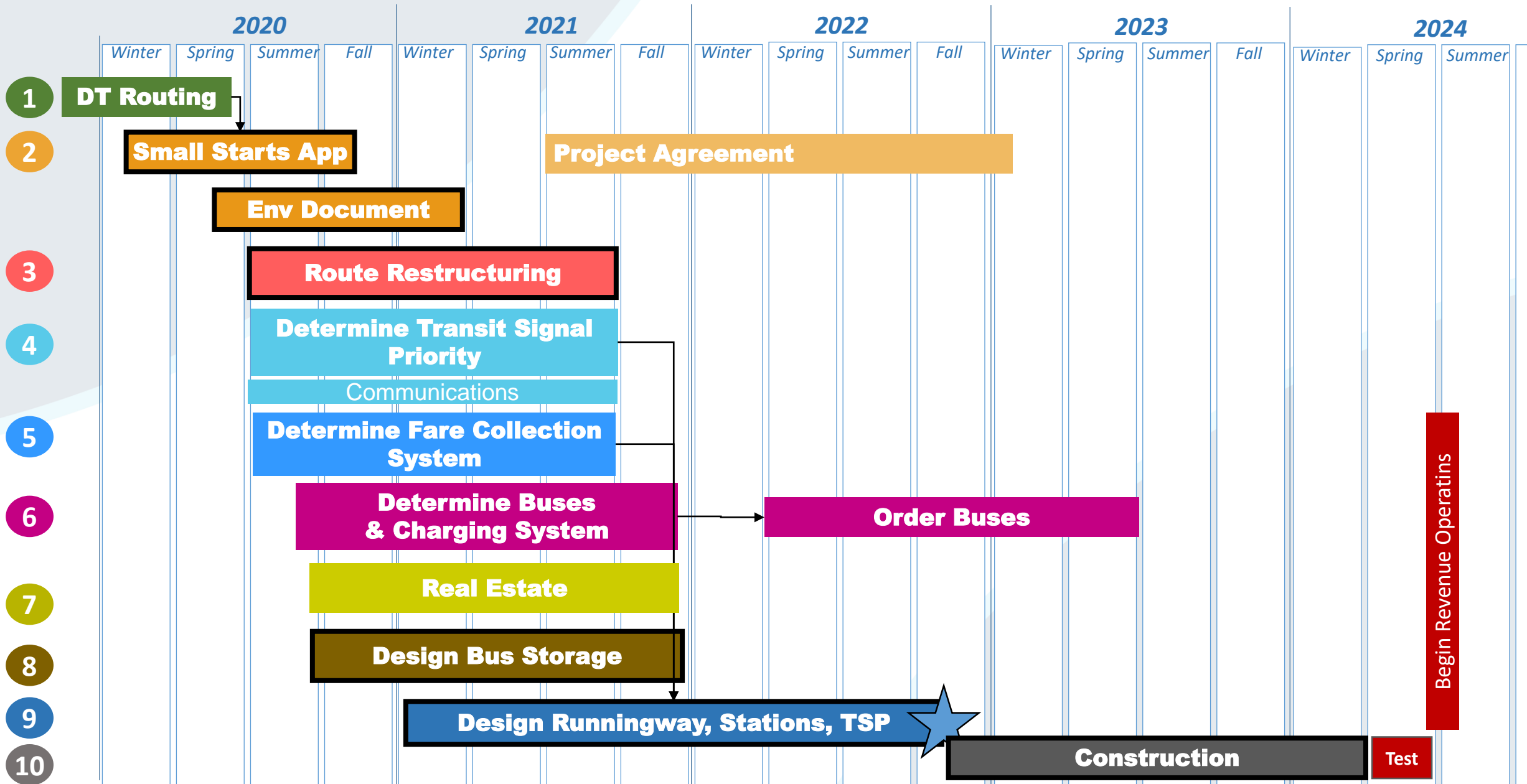
151 UNION STATION
P511
The People's Court
www.THE11.com

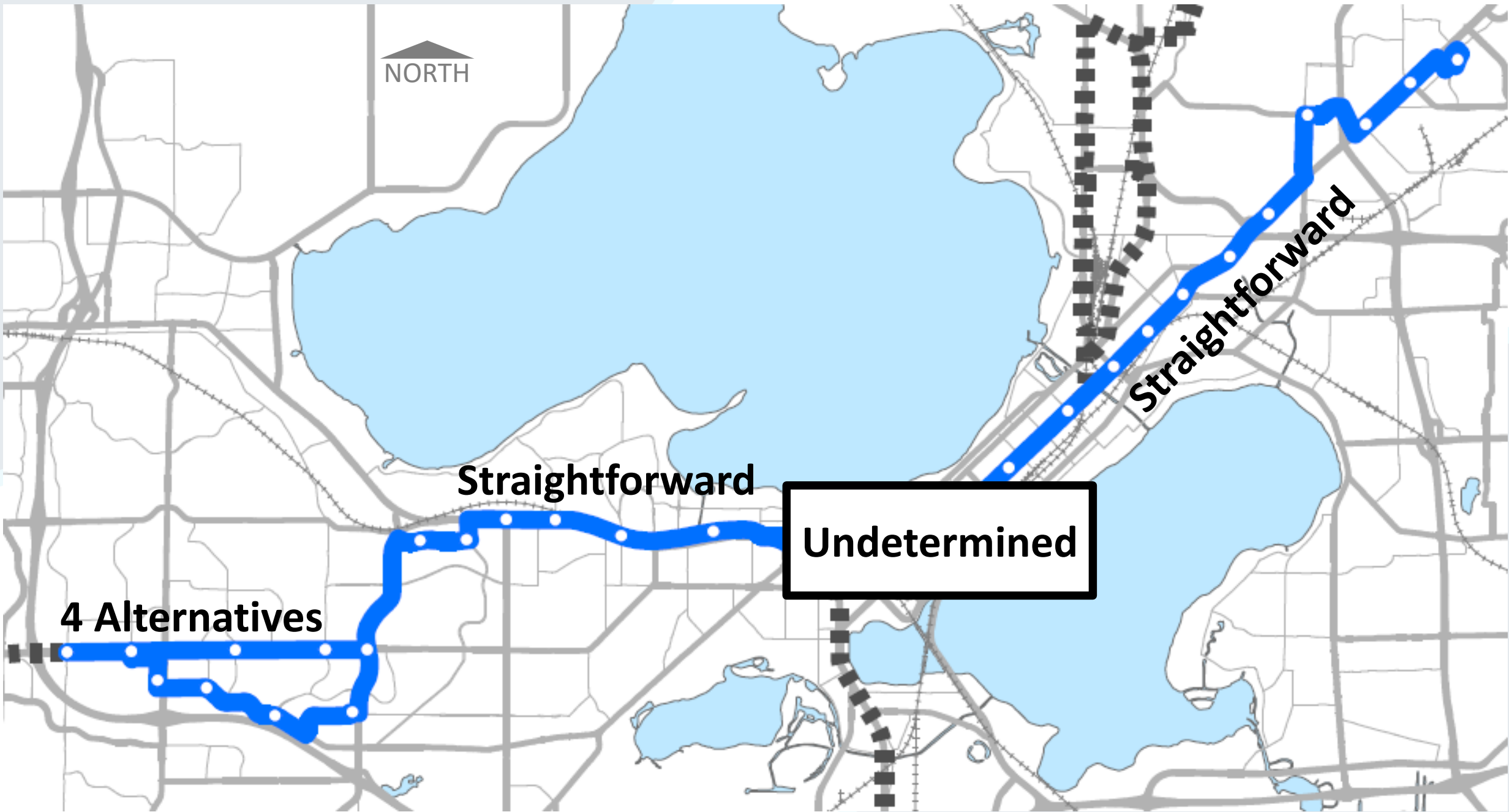
Chicago Transportation Department

Madison Example – Johnson Street Bus Lane



BRT Schedule and Key Tasks





NORTH

Straightforward

Undetermined

Straightforward

4 Alternatives

Downtown Alternative 1

Several sub-Options with different station configurations

During special events, BRT detours to Capitol Loop

Existing bus lanes

University

Johnson

New bus lane

Orchard

E Campus Mall

State

Gorham

Johnson

Cap Square

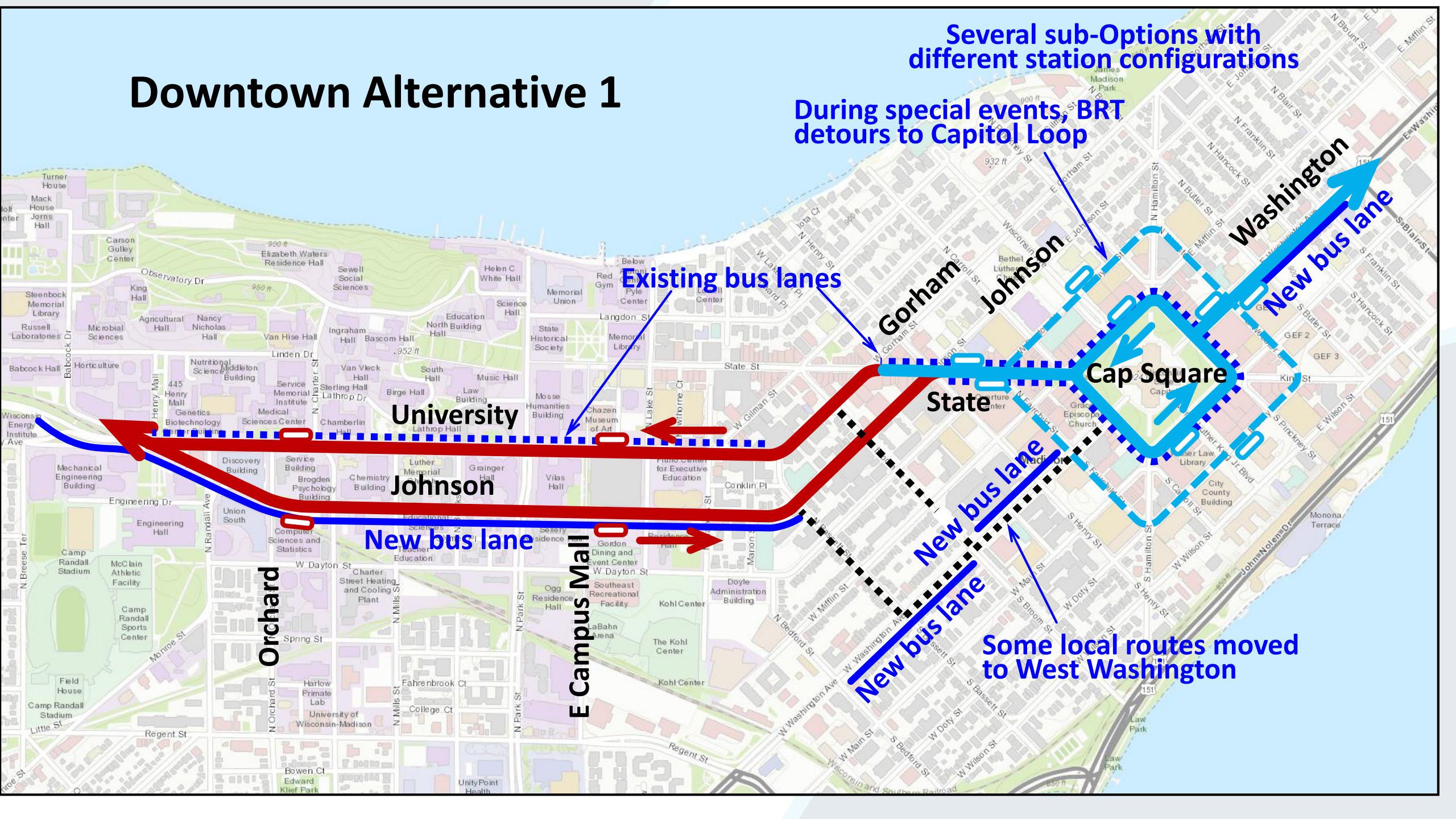
Washington

New bus lane

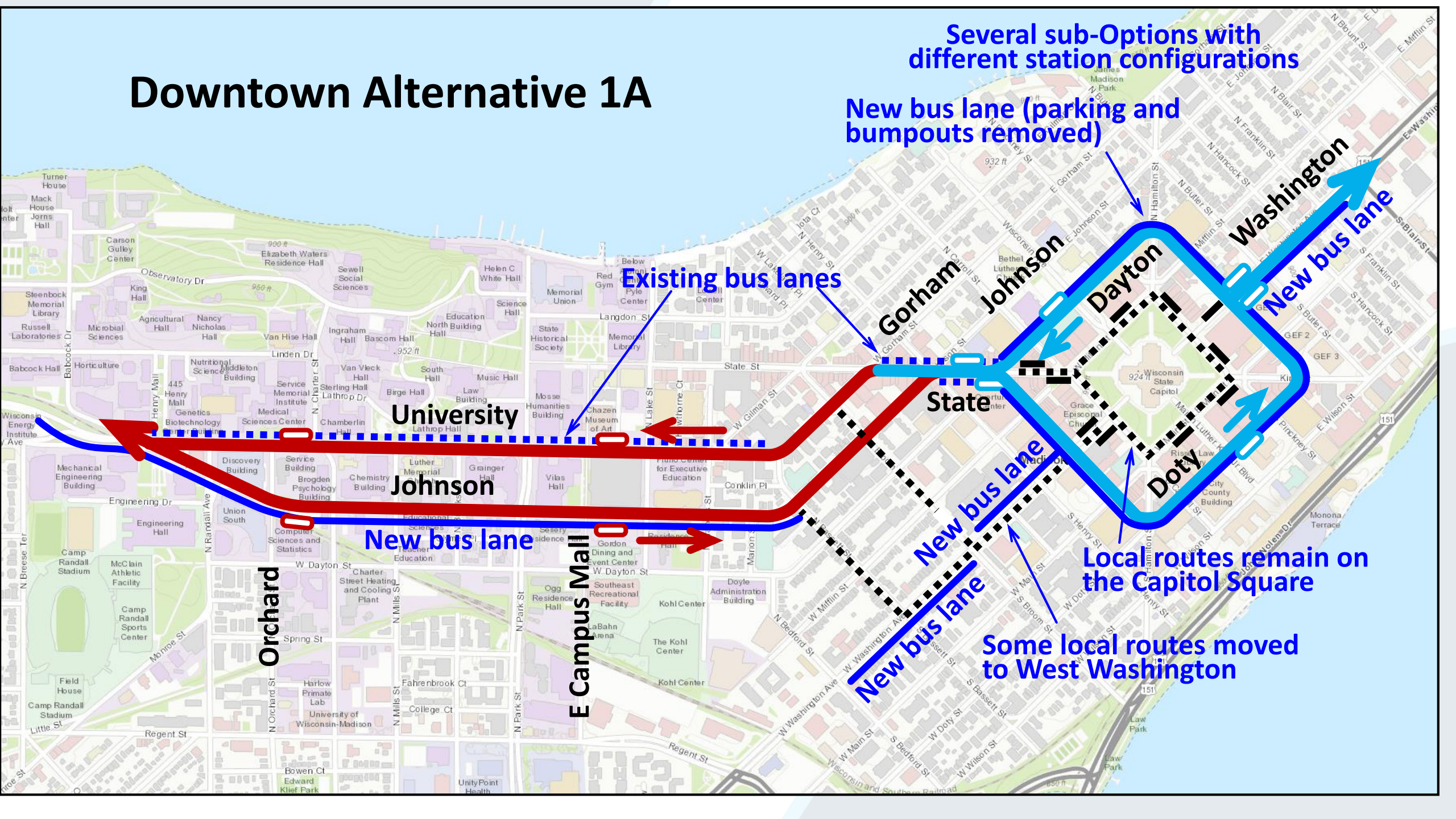
New bus lane

New bus lane

Some local routes moved to West Washington



Downtown Alternative 1A



Several sub-Options with different station configurations

New bus lane (parking and bumpouts removed)

Existing bus lanes

Gorham

Johnson

Dayton

Washington

New bus lane

University

State

Johnson

Doty

New bus lane

New bus lane

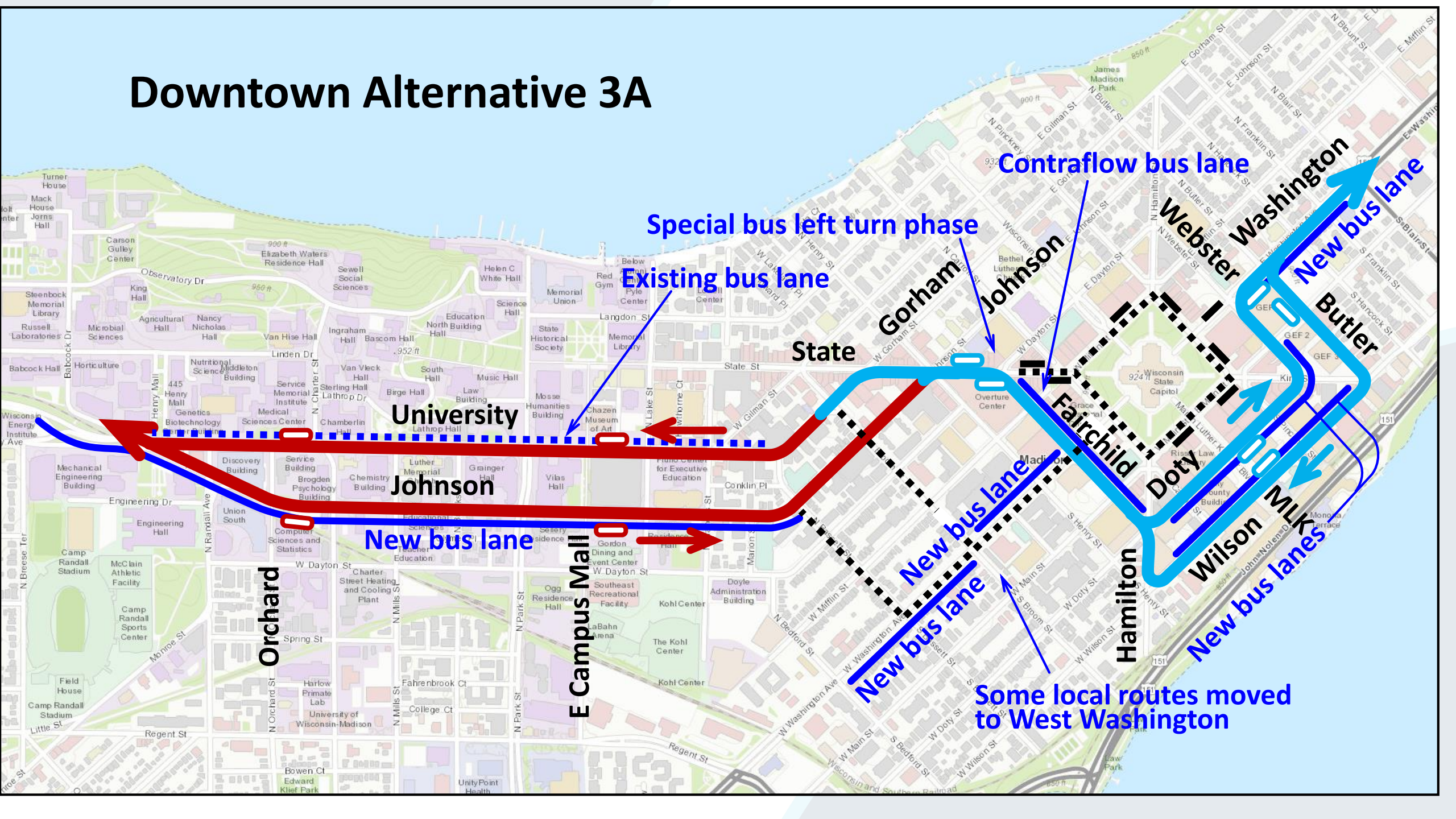
Local routes remain on the Capitol Square

Orchard

E Campus Mall

Some local routes moved to West Washington

Downtown Alternative 3A



Special bus left turn phase

Existing bus lane

Contraflow bus lane

State

Gorham

Johnson

Webster

Washington

Butler

University

Johnson

New bus lane

Orchard

E Campus Mall

New bus lane

New bus lane

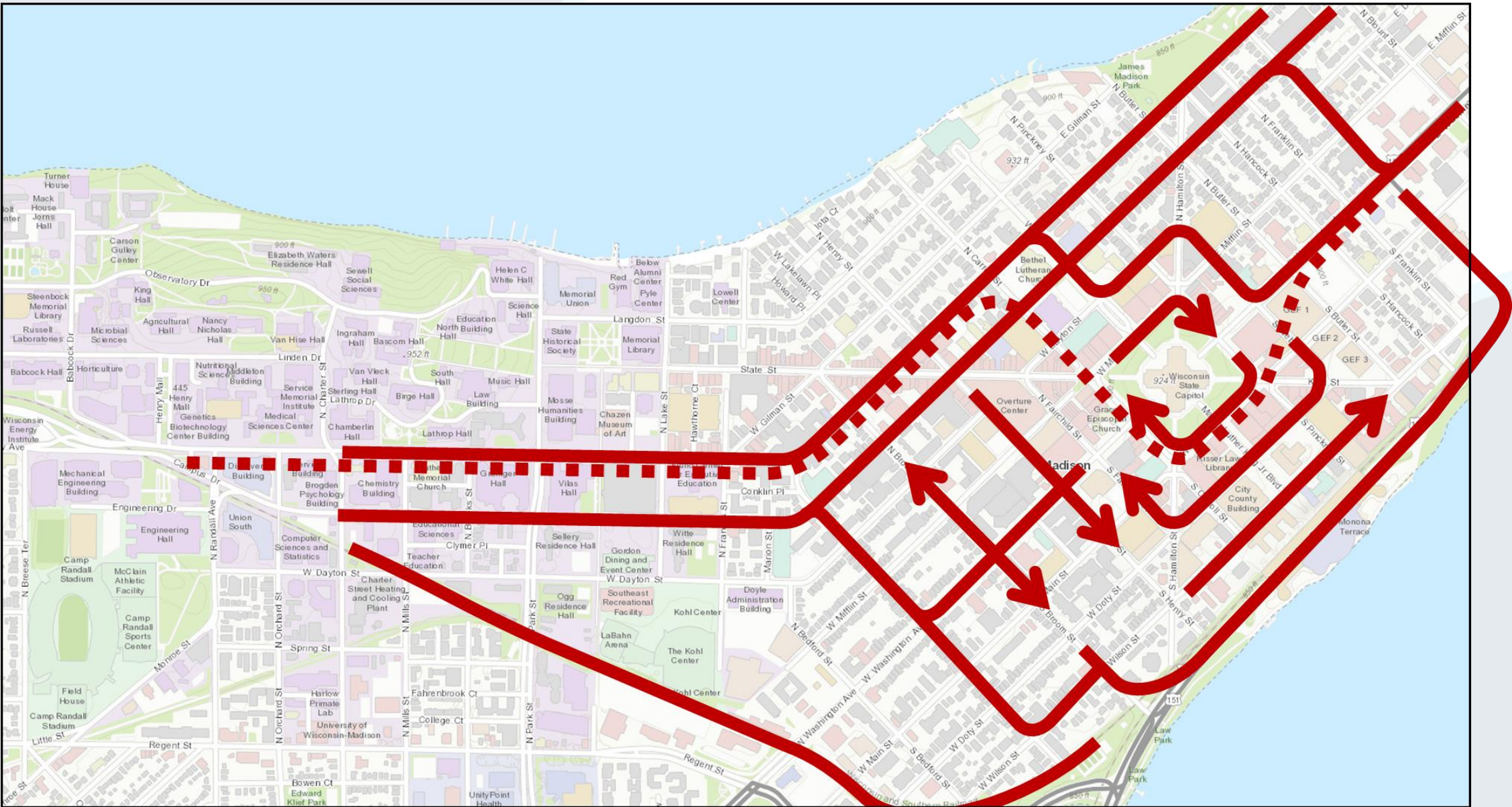
Some local routes moved to West Washington

Hamilton

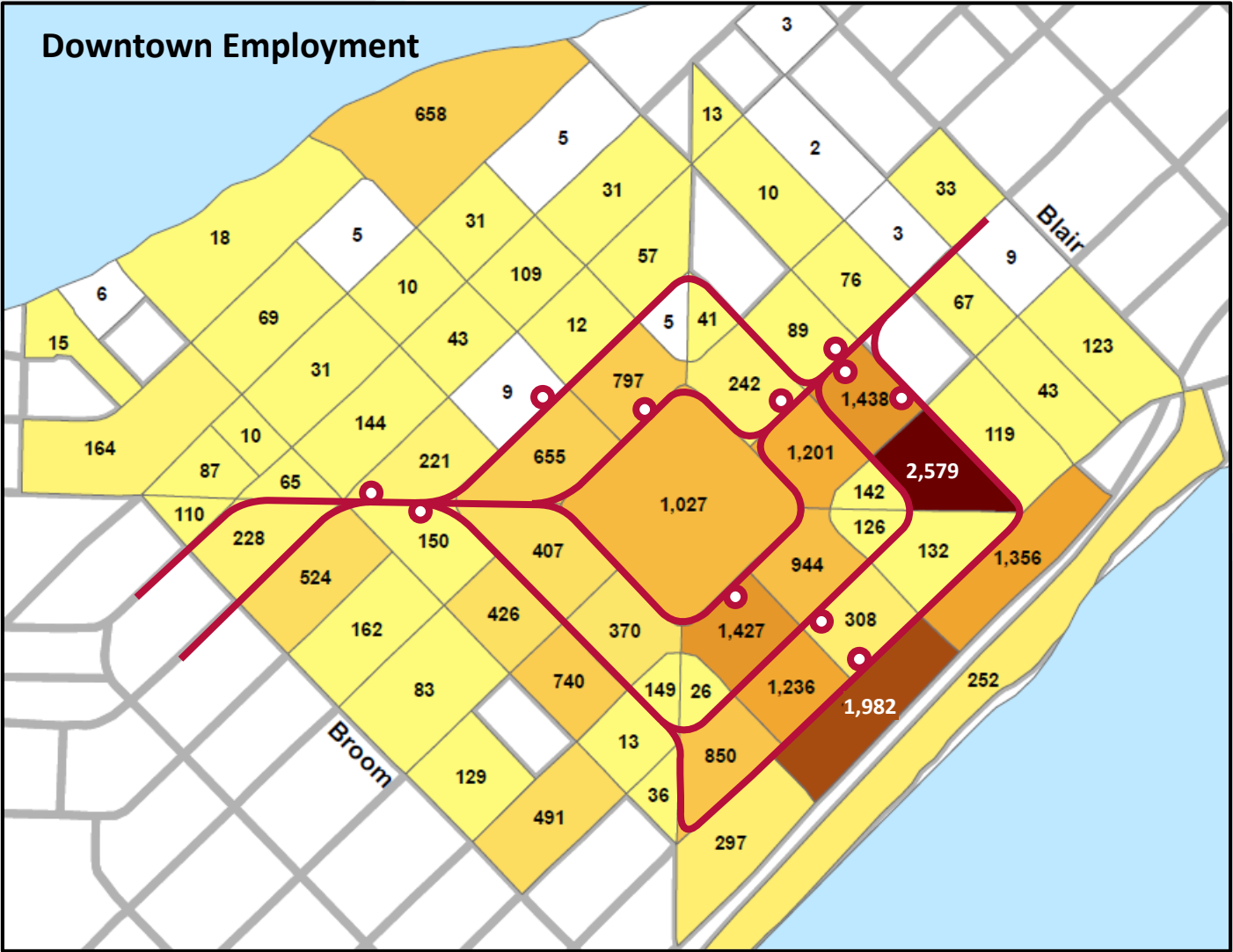
Wilson MLK

New bus lanes








Dismissed Alternatives

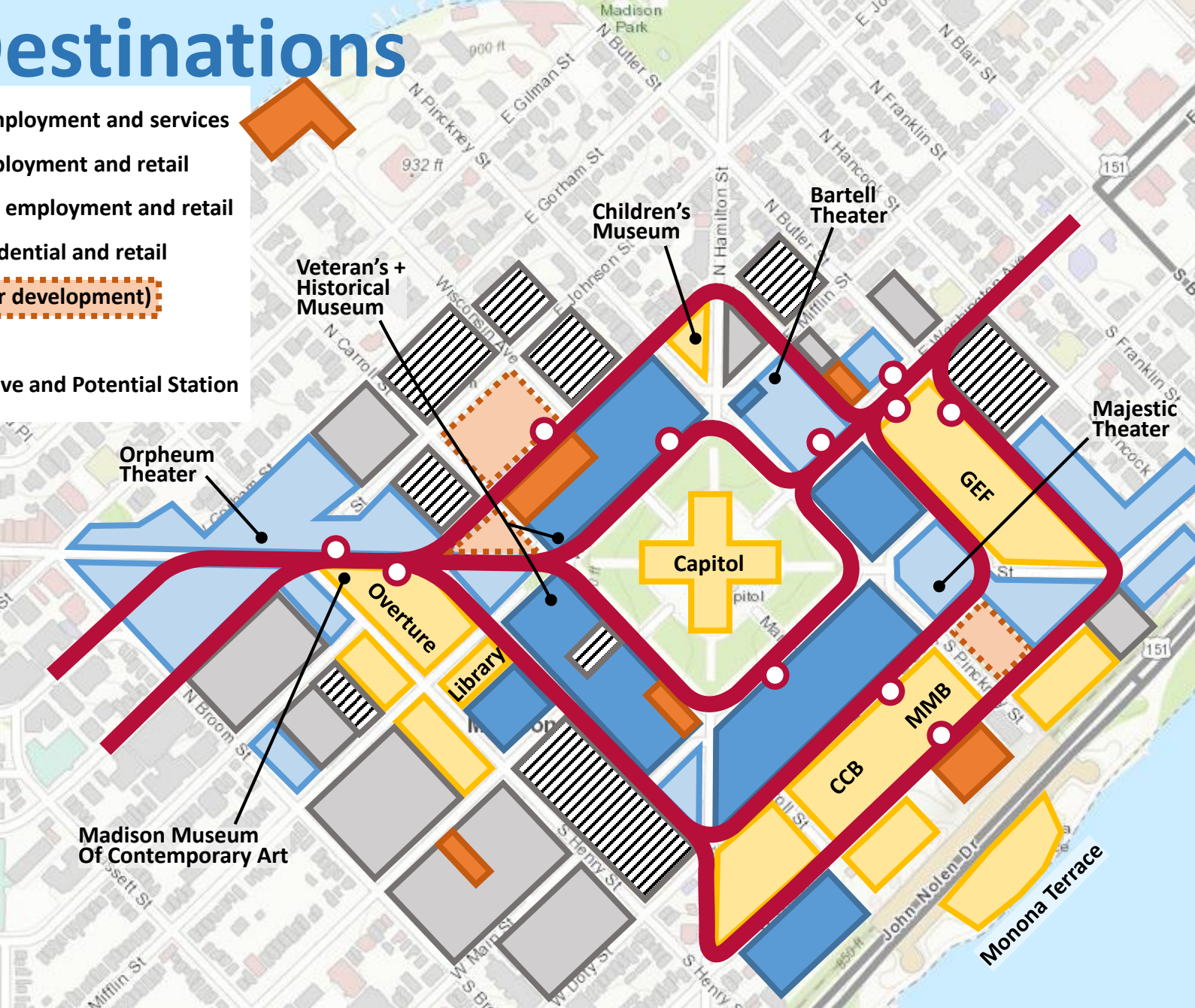


Employment

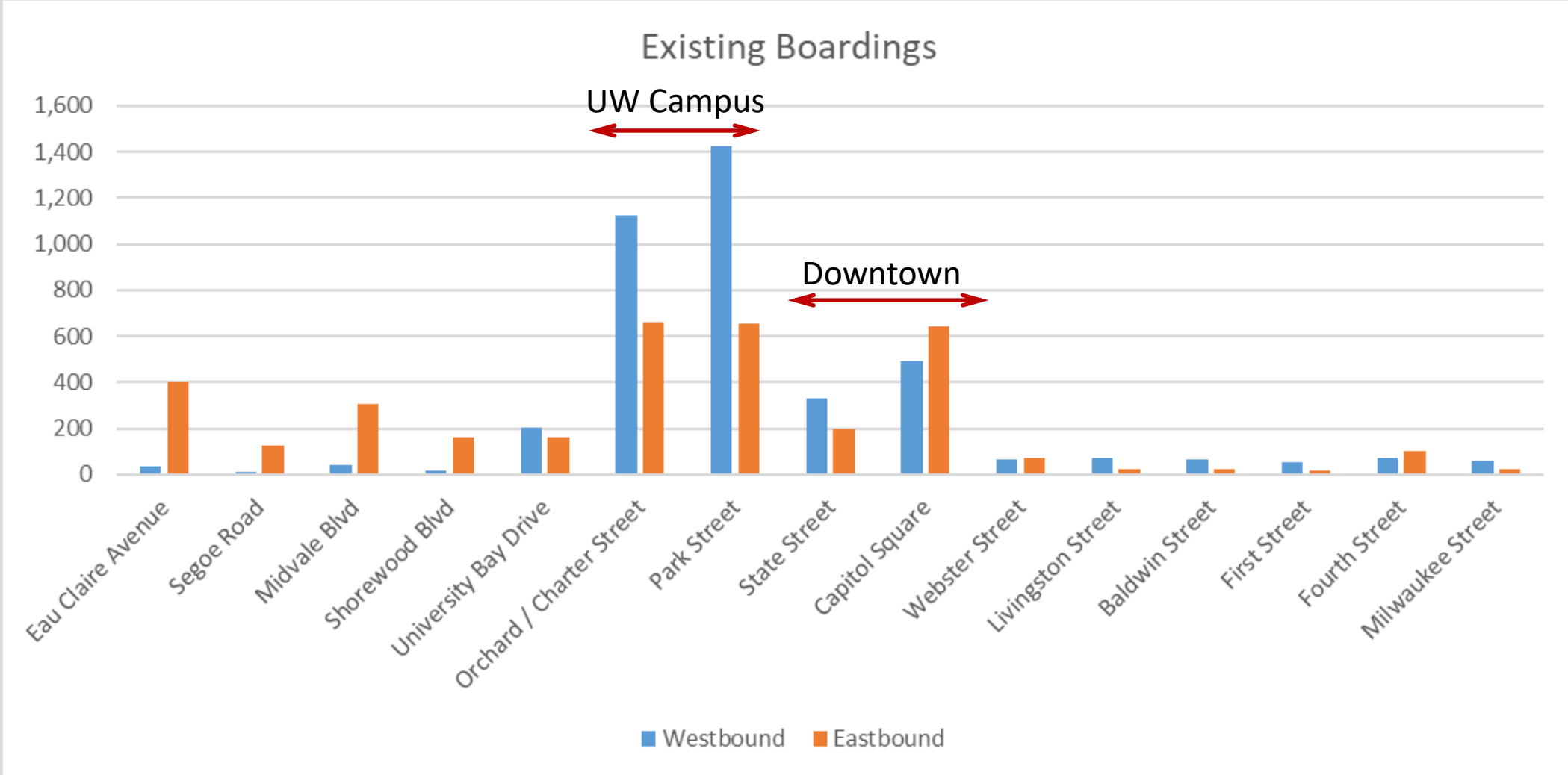


Downtown Destinations

-  Municipal employment and services
-  High rise employment and retail
-  Low/mid rise employment and retail
-  High rise residential and retail
-  Hotel (under development)
-  Other
-  BRT Alternative and Potential Station



Boardings by Stop

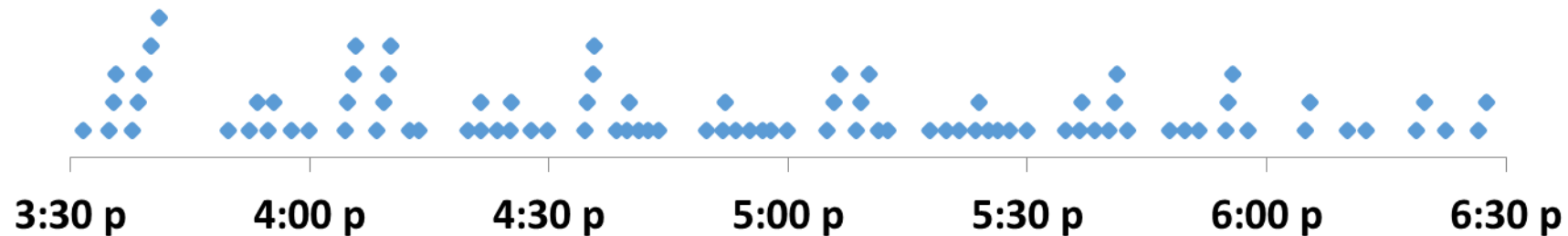


Downtown Madison is a very large generator of transit trips

Capitol Square and State Street Today

- **Moderate bus volumes during the mid day, evening, weekend**
 - A few buses per hour, they generally do not stack up.
- **High bus volumes during peak periods**
 - Over 30 buses per hour. The added volume is commuter routes and regional routes.
 - They often stack up at State Street signals because only one can go through at a time.
 - In the evening, outdoor dining is affected by the noise and fumes.

2018 Afternoon Trip Distribution WB State at Johnson



Middle of the day



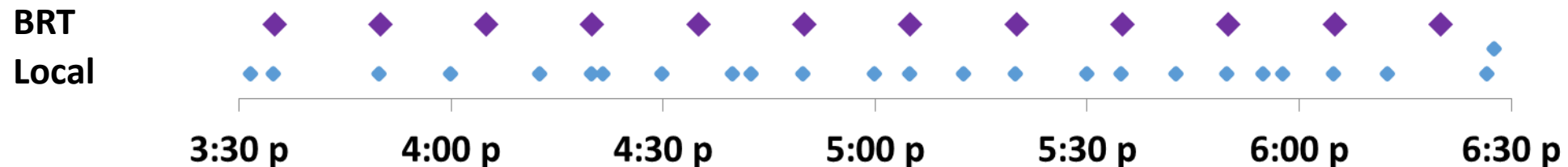


Afternoon peak period

Capitol Square and State Street With BRT

- **Core city routes and BRT remain**
 - A few buses per hour, they generally do not stack up
 - BRT and potentially some local buses are electric
- **Commuter and regional routes moved to West Washington**
 - The bus volumes overall are much lower and spread throughout the day
- **Some layovers on the square may be moved, changes to improve the streetscape, and potentially close two bus stops**

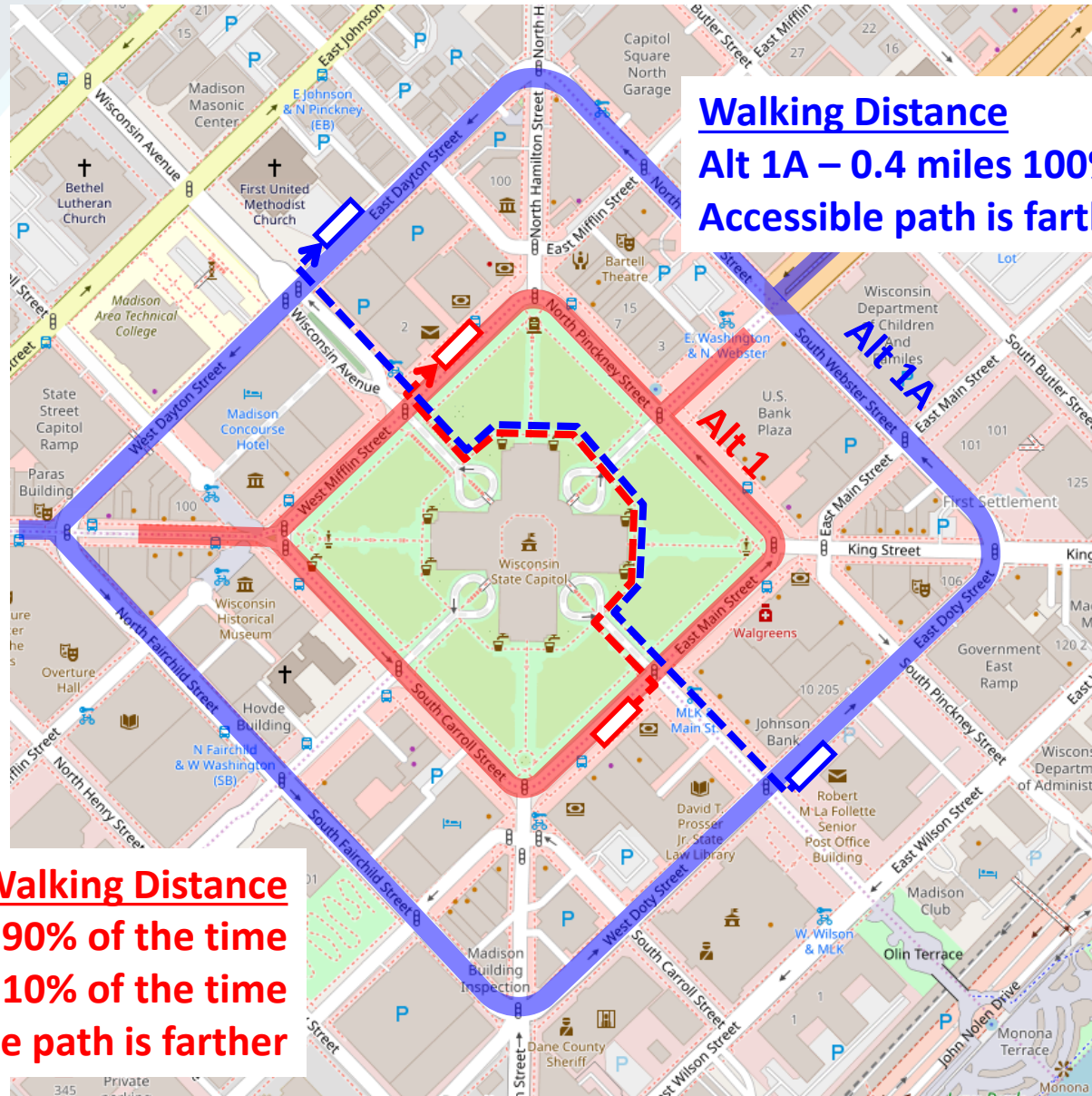
BRT Afternoon Trip Distribution WB State at Johnson



Distance Between Stations

Most or all transit stops or stations come in pairs so riders can easily navigate the system.

People will have a hard time finding their return stations for Alternative 1A.



Walking Distance

Alt 1A – 0.4 miles 100% of the time

Accessible path is farther

Walking Distance

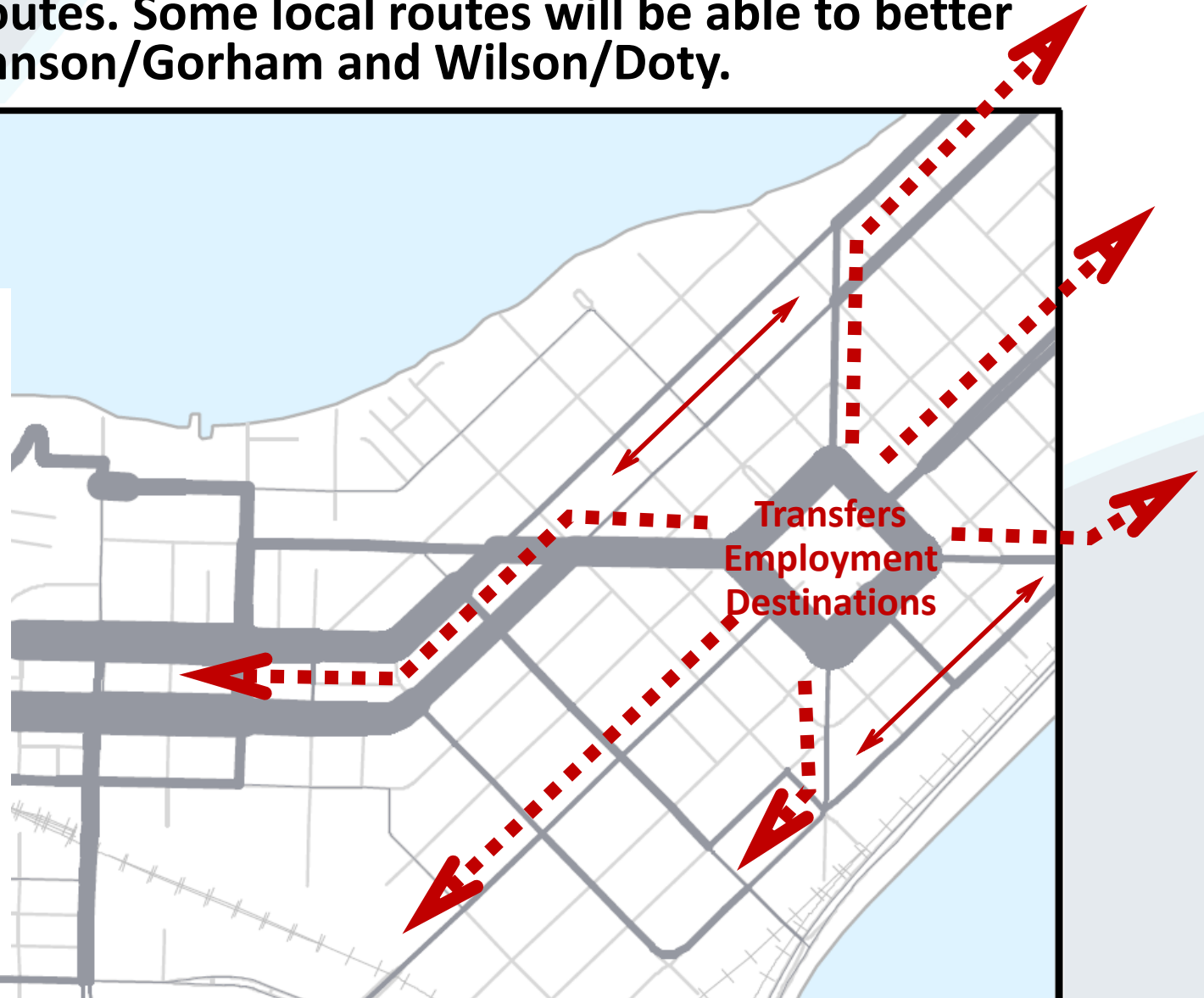
Alt 1 – 0.25 miles 90% of the time

0.4 miles 10% of the time

Accessible path is farther

Transfers

With Alternative 1, people will be able to make transfers to local routes. Some local routes will be able to better utilize Johnson/Gorham and Wilson/Doty.



An estimated 1 out of 4 boardings on the square is a transfer

Why the Square makes for good transfers

- **Wide sidewalks and shelters**

- Helps people who need to wait for a long time. Many bus routes on weekends are hourly.
- Sidewalks on University Avenue and Johnson Street are narrower and can be full of students.

- **Pedestrian safety**

- The Capitol Square is well lit and has pedestrian traffic.

- **Bathrooms, food, and coffee**

- The Capitol Square has businesses that are open to the public.

- **Good for coordinating schedules for transfers**

- Riders know the bus will not leave before its scheduled time which is published in the Ride Guide. Time points can only be in certain locations.
- For example, we generally do not want time points in the University/Johnson and Park Street area because buses cannot easily pass each other – we want to keep them moving.

Station Areas

- Enough space for high volumes of riders
- Pedestrian friendly
- Well lit and pedestrian activity – important for safety



Equity and Accessibility

City staff interviewed bus riders on the Capitol Square during the day:

- 55% indicated that walking one block to transfer would be a problem
 - Those with mobility problems expressed greatest concern
- 78% indicated that eliminating stops on the square would be a problem
- 25% indicated that detours were a problem for them

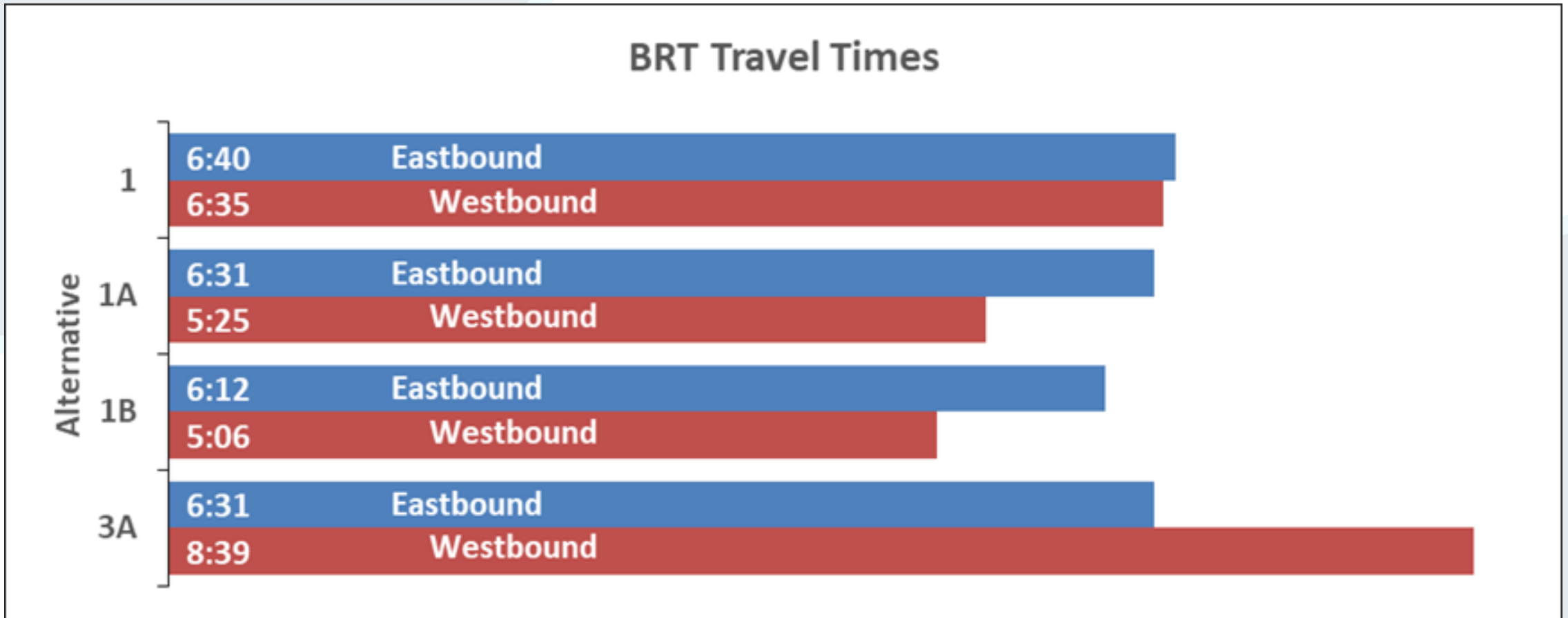


Safety

- Of the people interviewed, personal safety was a concern, particularly for women
- Factors that made women feel safe included lighting and the amount of pedestrian traffic



Travel Times



Parking Impacts

Route	Spaces Removed	Notes
Capitol Square	4	East Washington at Webster
Capitol Loop	85	Outside of capitol loop
Wilson-Fairchild	104	Wilson, Doty, and Inside of Fairchild

Removing metered parking stalls on the Capitol Loop and Wilson Street would have significant revenue impacts to the City with the loss of up to \$200,000 annually.

Bike Impacts

Route	Impact
Capitol Square	None – bus volumes are similar or lower, no infrastructure changes
Capitol Loop	Capitol Loop bike lanes are converted to bus, bike, and right turn lanes
Wilson-Fairchild	Fairchild bike lanes would be lost, bikes would operate in mixed vehicle traffic

Detour Improvements with BRT

- **Detour signs**

- Bigger, better, easier to read
- More staff effort dedicated to putting up, maintaining, taking down
- Temporary BRT signage where BRT will stop

- **Real-time signs**

- New real-time signs will have more information and tell riders where to go rather than being blanked out

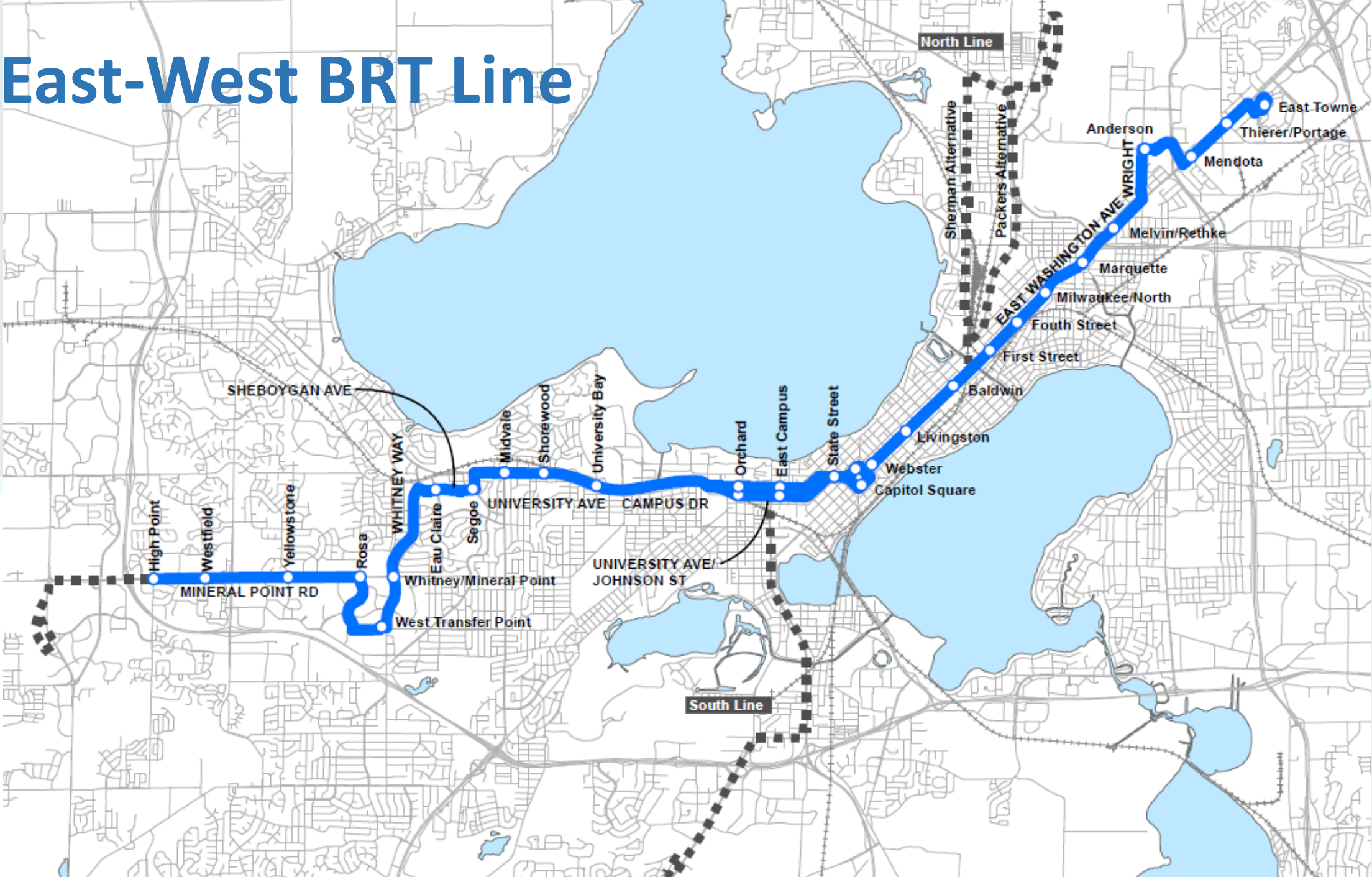
- **Amenities**

- New bus stop planned Eastbound Johnson far side State Street will better accommodate State Street detour
- Full-length concrete terrace at Dayton and Wisconsin
- Possibly shelters or awnings

- **Other**

- Signal timing improvements to keep buses on time when detoured

East-West BRT Line



Next Steps

- **Resolution adopting “Locally Preferred Alternative” (route and stations)**
 - Allows the City to enter “Project Development” (LPA) and apply for a federal Grant
 - Does not lock the city into one alignment, can be changed if warranted as design proceeds
- **Route Network Study**
 - Could influence the LPA and broader bus operations downtown
- **Preliminary Design**
 - Stations, runningway, vehicles, technology
- **Final Design and Construction**
- **Open for service August 2024**

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OF TRANSPORTATION

Supplementary Slides

MADISON DEPARTMENT



OF TRANSPORTATION

Downtown Alternative 1E

(Stations on Webster but not the Square)

During special events, BRT detours to Capitol Loop

Existing bus lanes

University

Johnson

New bus lane

Orchard

E Campus Mall

State

Gorham

Johnson

Cap Square

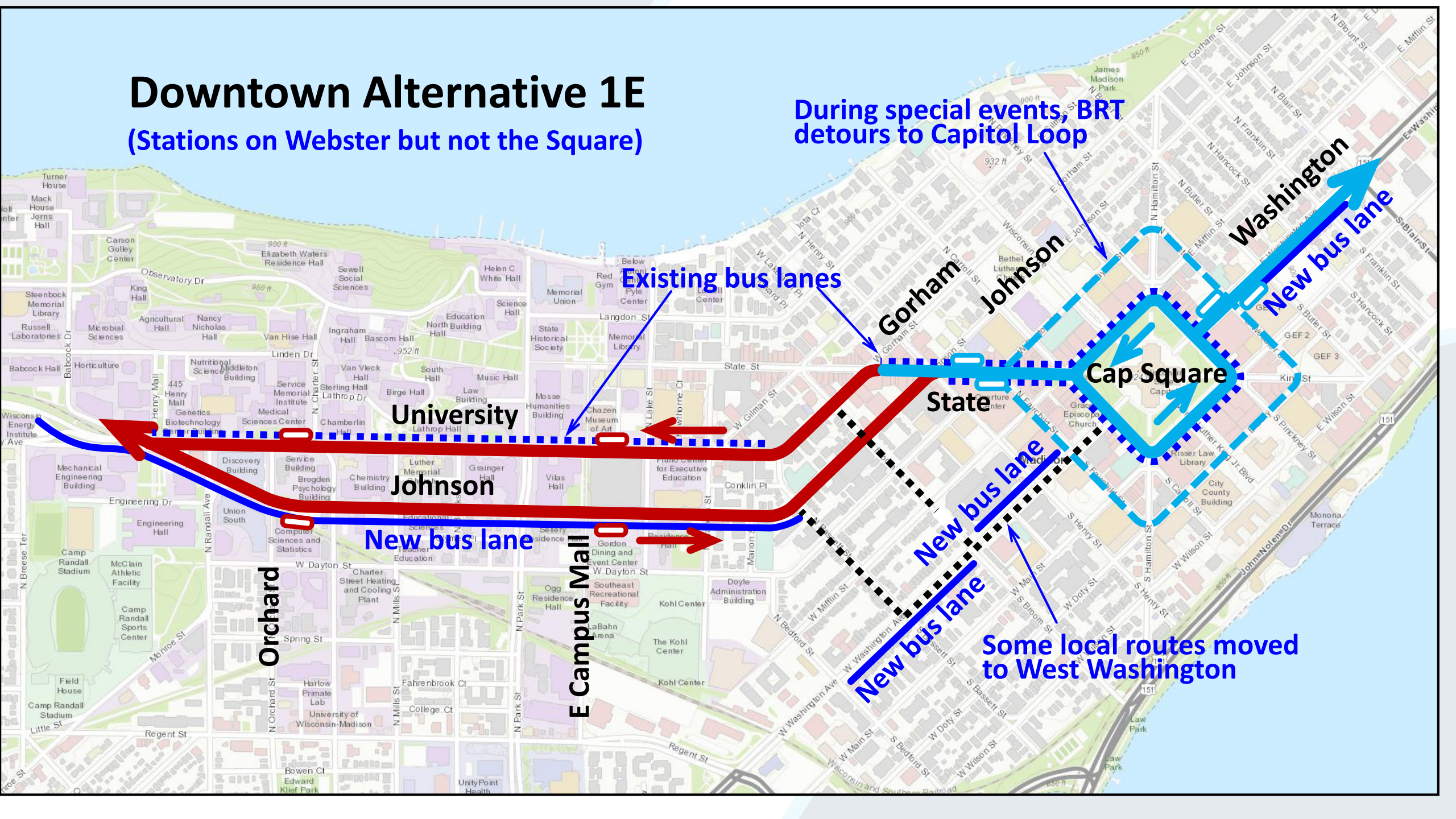
Washington

New bus lane

New bus lane

New bus lane

Some local routes moved to West Washington



Downtown Alternative 1F

(Stations on the Square but not Webster)

During special events, BRT detours to Capitol Loop

Existing bus lanes

Gorham
Johnson

0.65 miles to
Livingston Street

Washington

New bus lane

Cap Square

State

University

Johnson

New bus lane

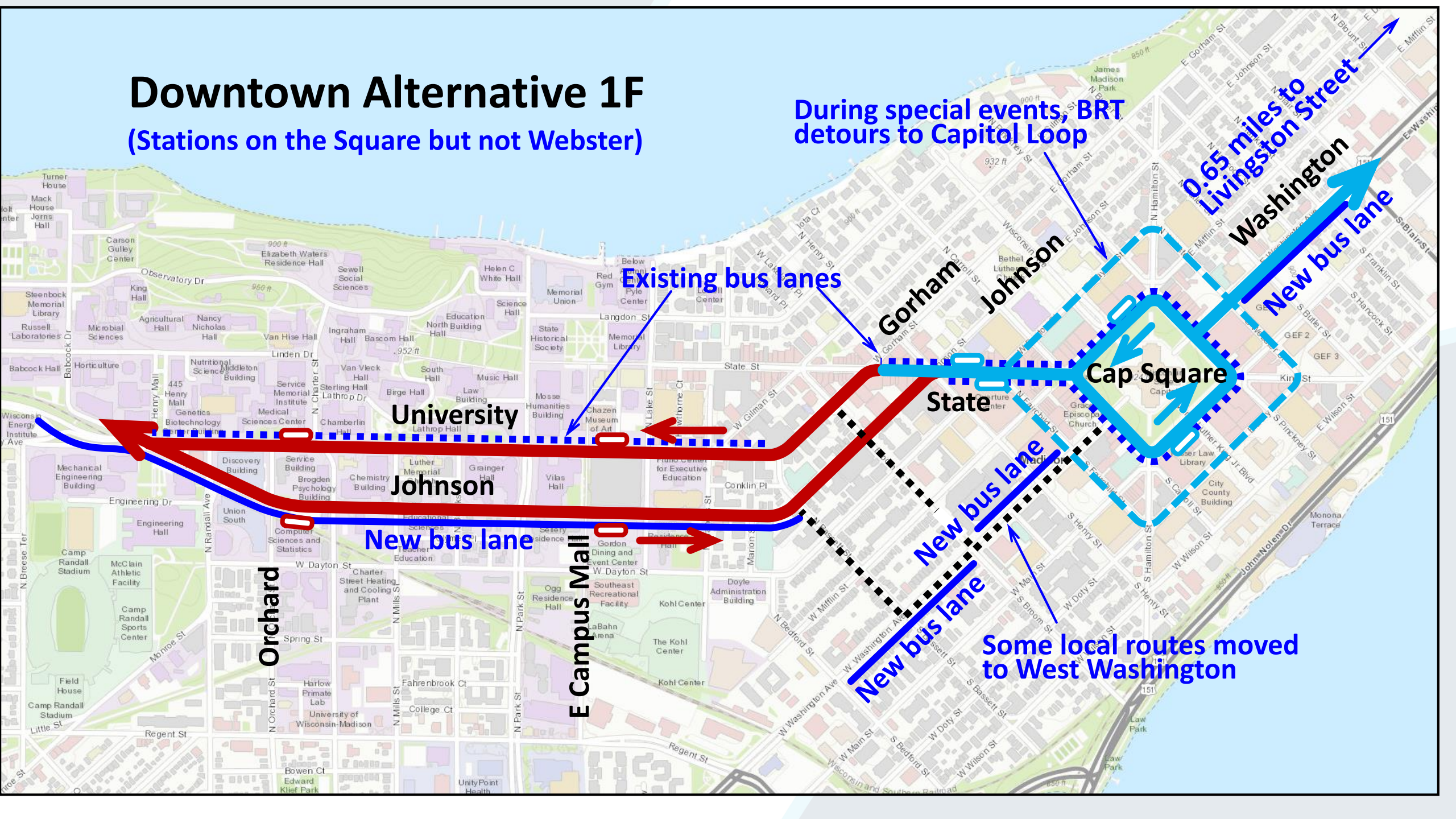
Orchard

E Campus Mall

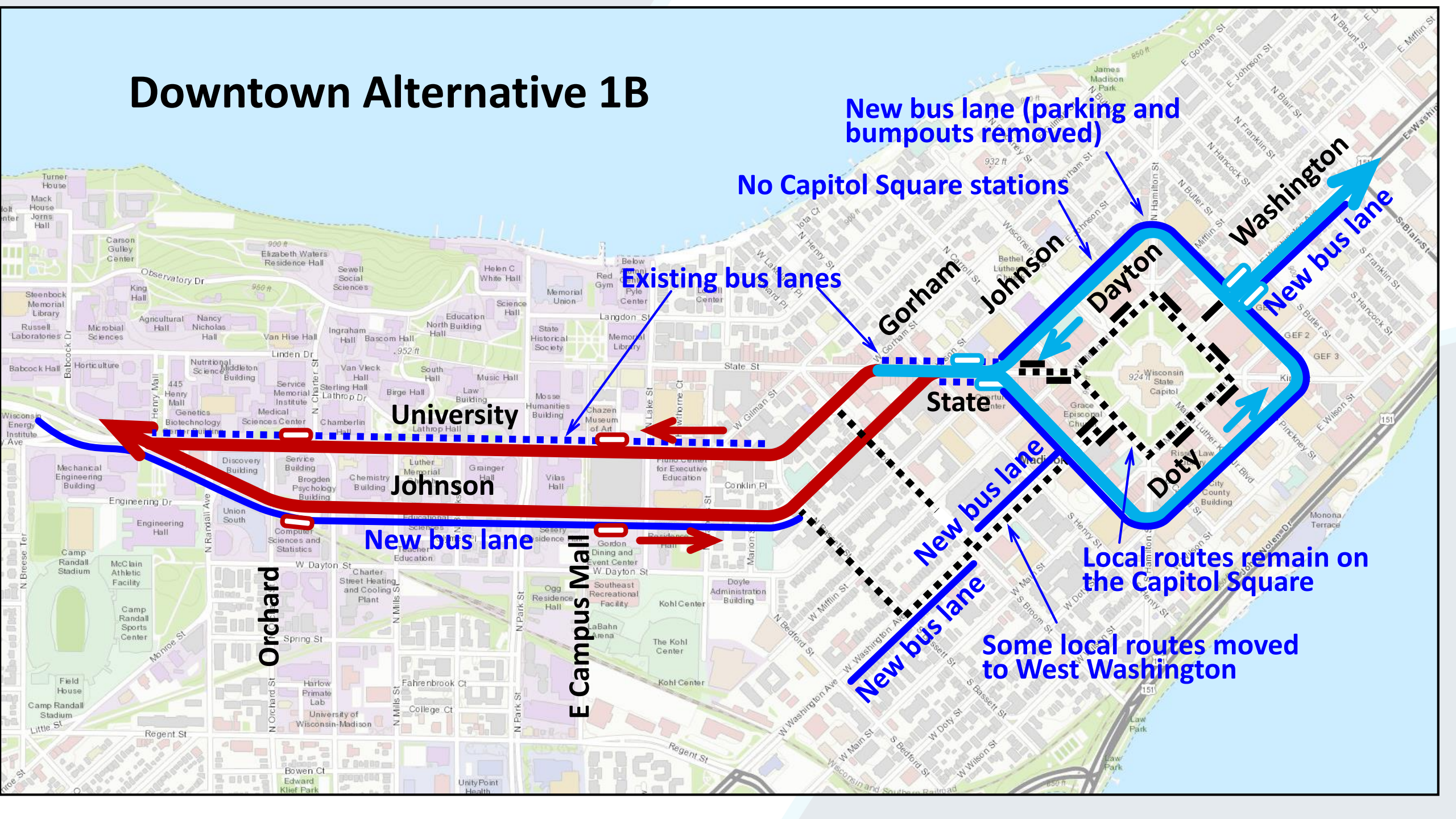
New bus lane

New bus lane

Some local routes moved
to West Washington



Downtown Alternative 1B



New bus lane (parking and bumpouts removed)

No Capitol Square stations

Existing bus lanes

Gorham

Johnson

Dayton

Washington

New bus lane

University

State

Johnson

Doty

New bus lane

New bus lane

New bus lane

Local routes remain on the Capitol Square

Orchard

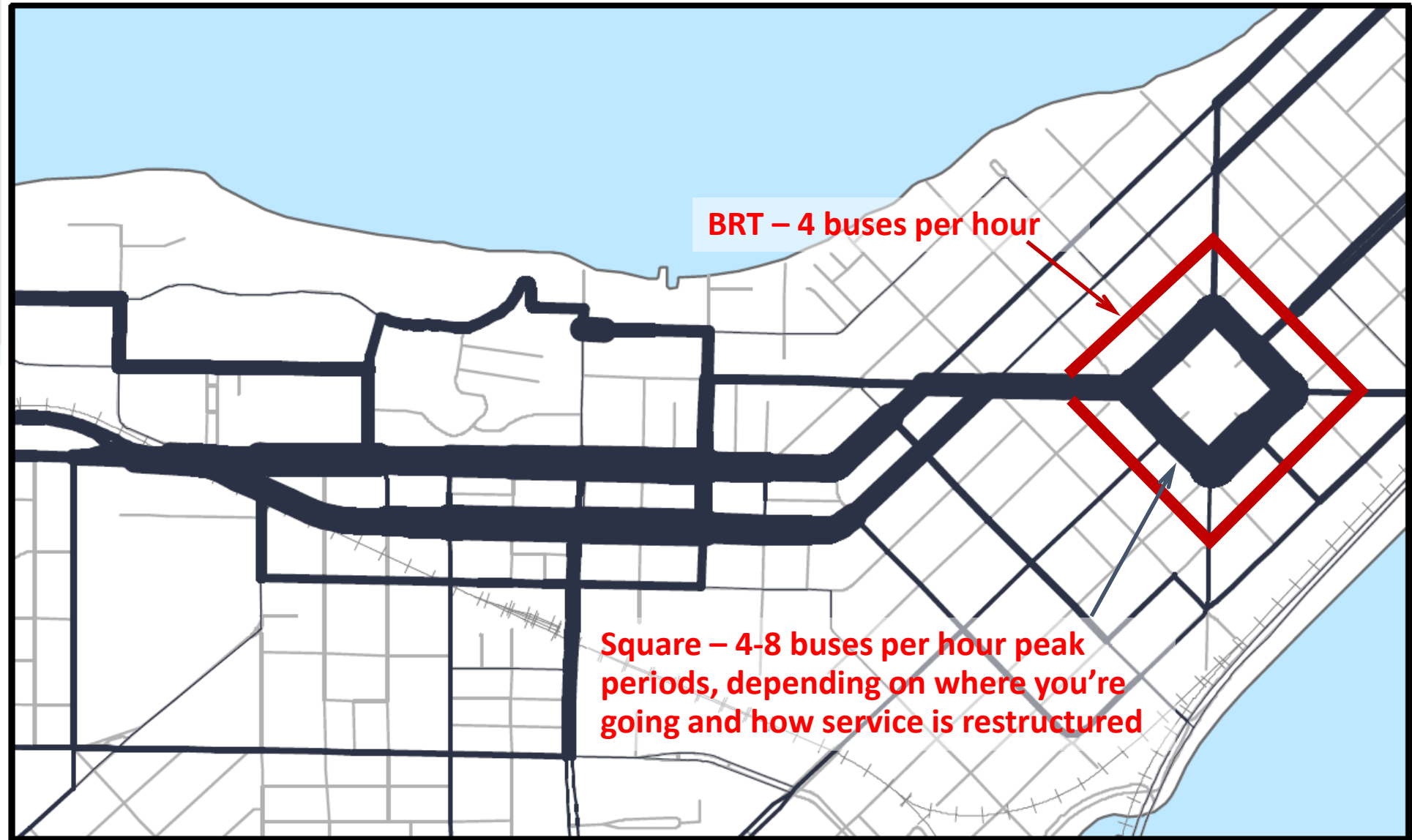
E Campus Mall

Some local routes moved to West Washington

I realize this is wordy but I'm assuming some people will be reading from home and that's just how I have to do it

Frequency

With Alt 1A, the majority of local routes would stay on the square. Rather than having all service in one place, riders would have to choose the square of the loop. Many would choose local service on the square because service levels are higher.

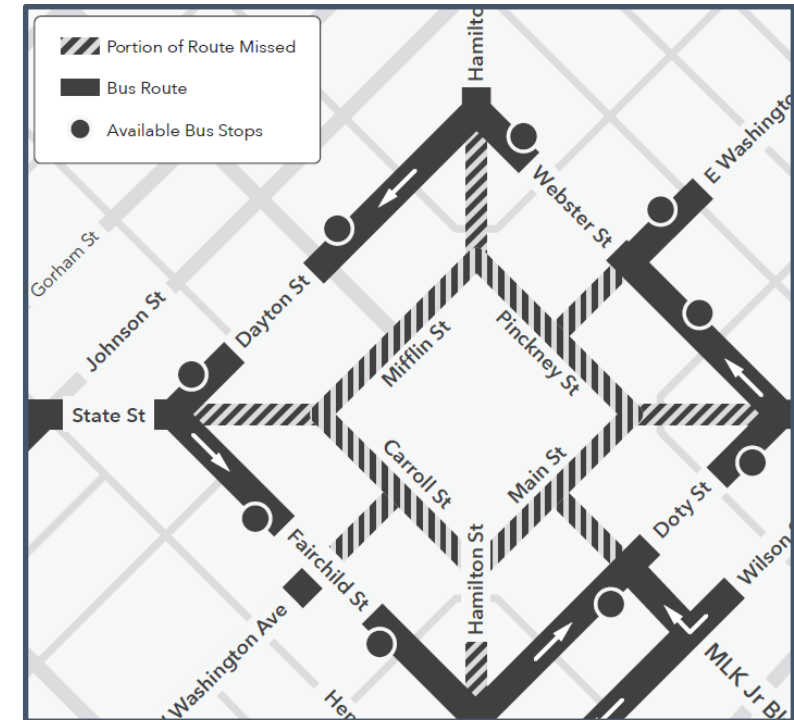


Pedestrian Impacts

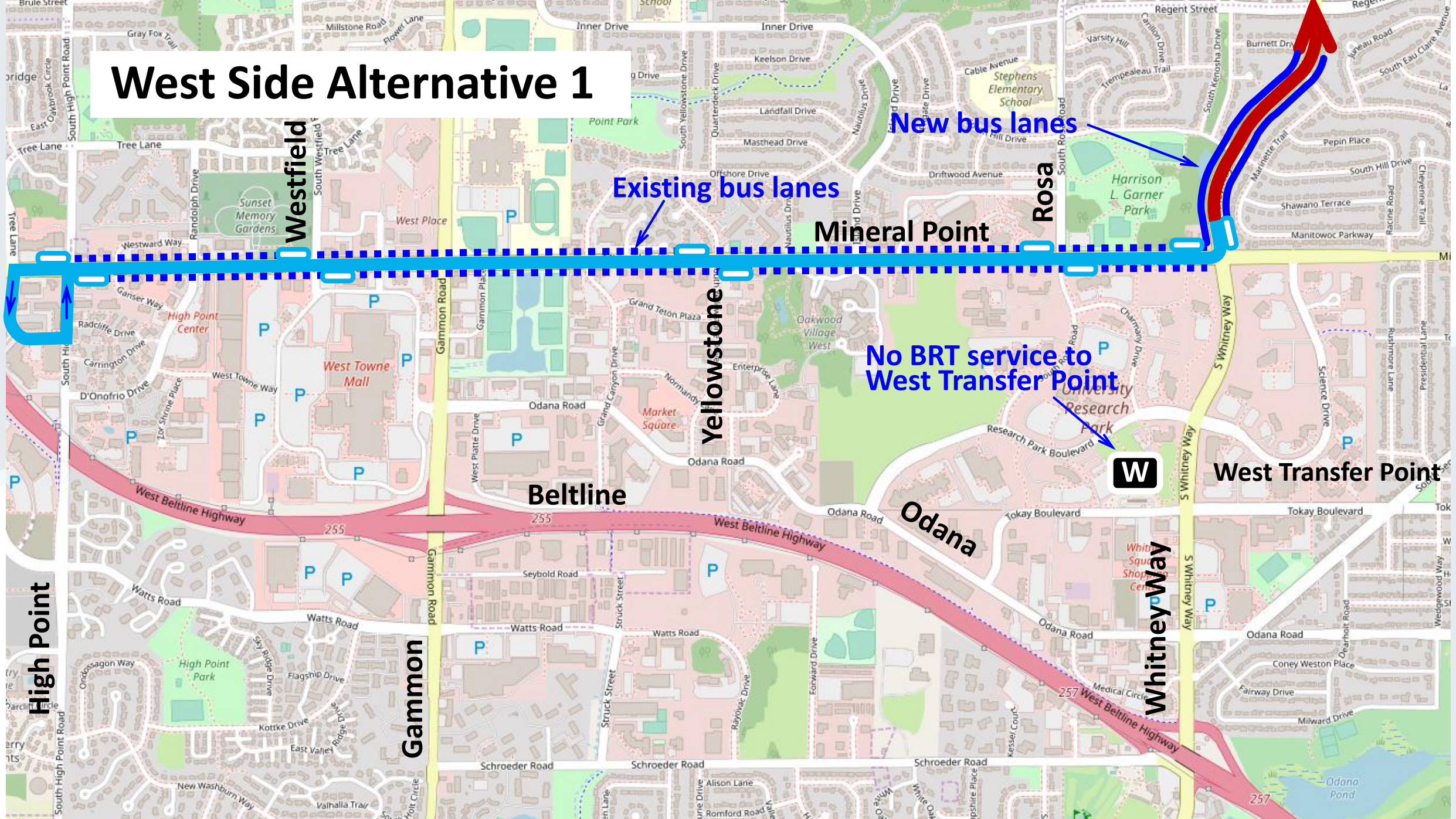
Route	Impact
Capitol Square	None – bus volumes are similar or lower, no infrastructure changes
Capitol Loop	None – no infrastructure changes and no significant changes in vehicle volumes
Wilson-Fairchild	Crossing Fairchild may be more difficult with two-way traffic and loss of bump outs

Detours – How we do it today

- **Standardized detours as much as possible**
 - Capitol Loop detour, State Street detour (via Wisconsin)
 - 6-8 major detours are unique
- **Information on the street**
 - Flyers at closed bus stops and on the bus
 - Capitol Loop stops have blue hoods removed revealing generic bus stop signs
- **Online information**
 - Metro web site
 - Text and email alerts
 - Real time data for apps indicate stops closed but not much more
- **Amenities**
 - Main Loop stops have benches but no shelter or real time signs



West Side Alternative 1



Existing bus lanes

New bus lanes

Mineral Point

No BRT service to West Transfer Point

W

West Transfer Point

Westfield

Yellowstone

Beltline

Odana

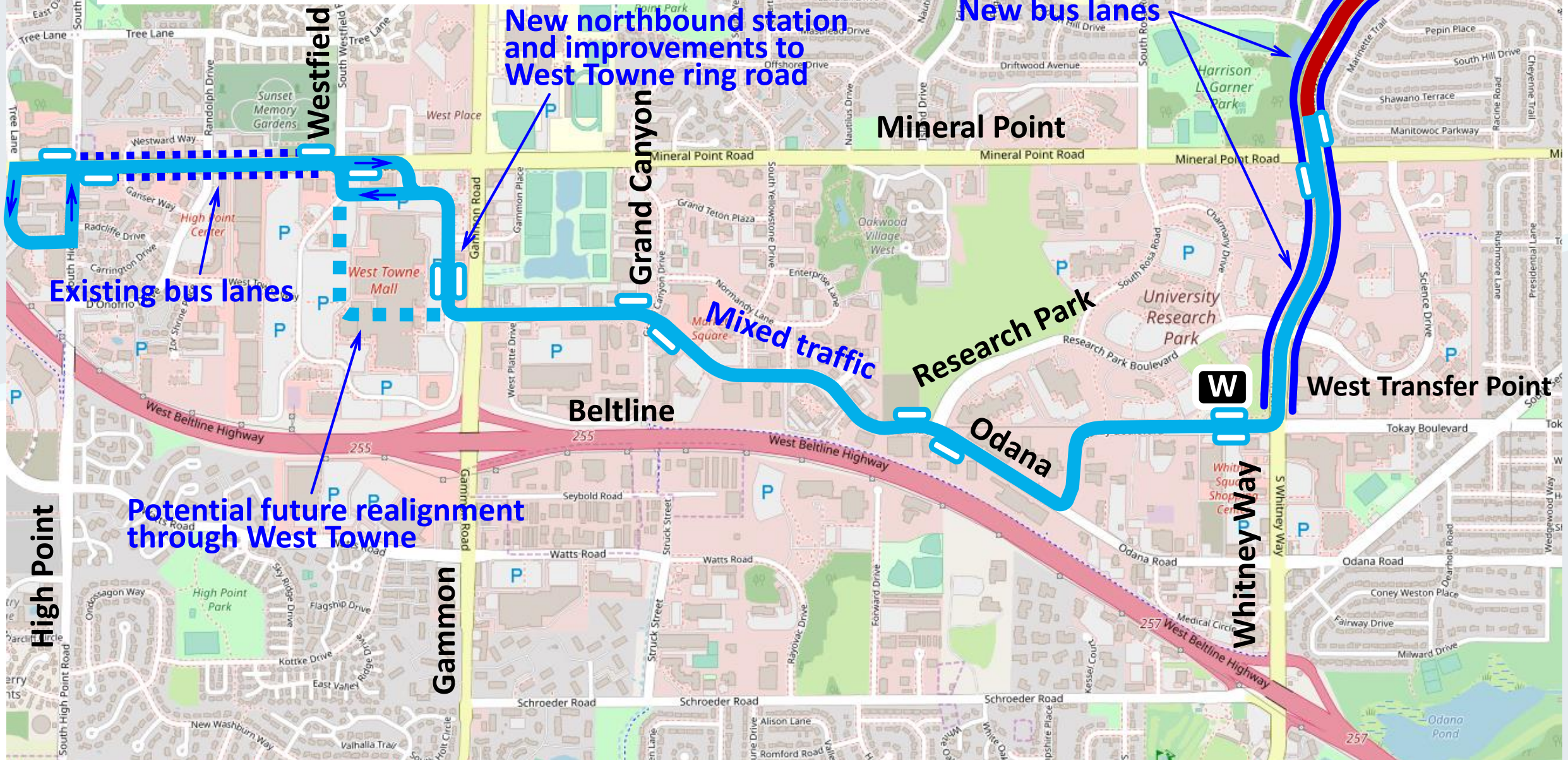
Whitney Way

High Point

Gammon

Rosa

West Side Alternative 2



Existing bus lanes

New northbound station and improvements to West Towne ring road

New bus lanes

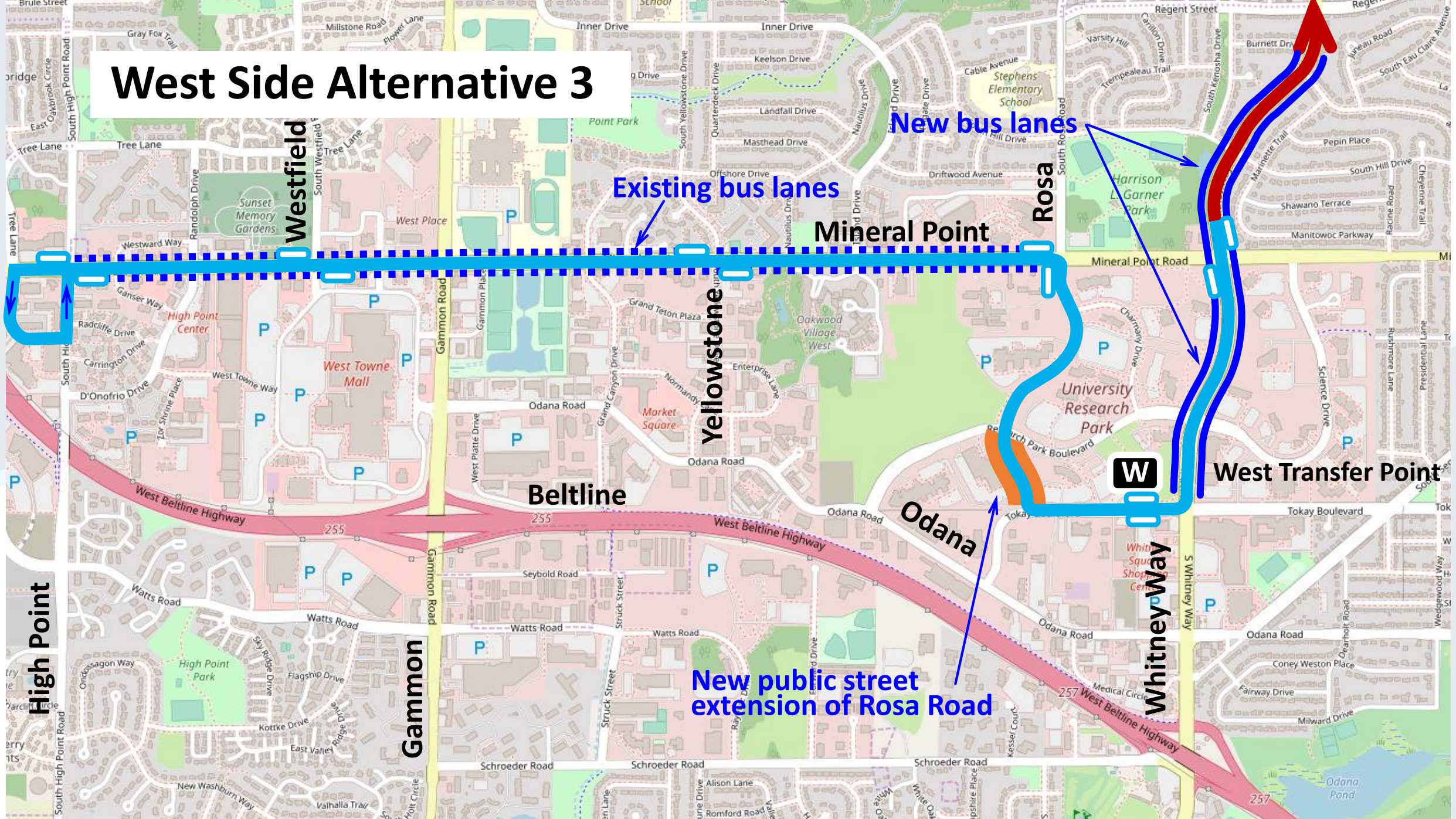
Mixed traffic

Potential future realignment through West Towne

W

West Transfer Point

West Side Alternative 3



Existing bus lanes

New bus lanes

New public street extension of Rosa Road

W

West Side Alternative 4

New bus lanes

Mineral Point

BRT line ends at West Transfer Point
Future expansion to the west and/or south

Beltline

Odana

West Transfer Point

High Point

Gammon

Whitney Way

