metro transit

Transit Network Redesign

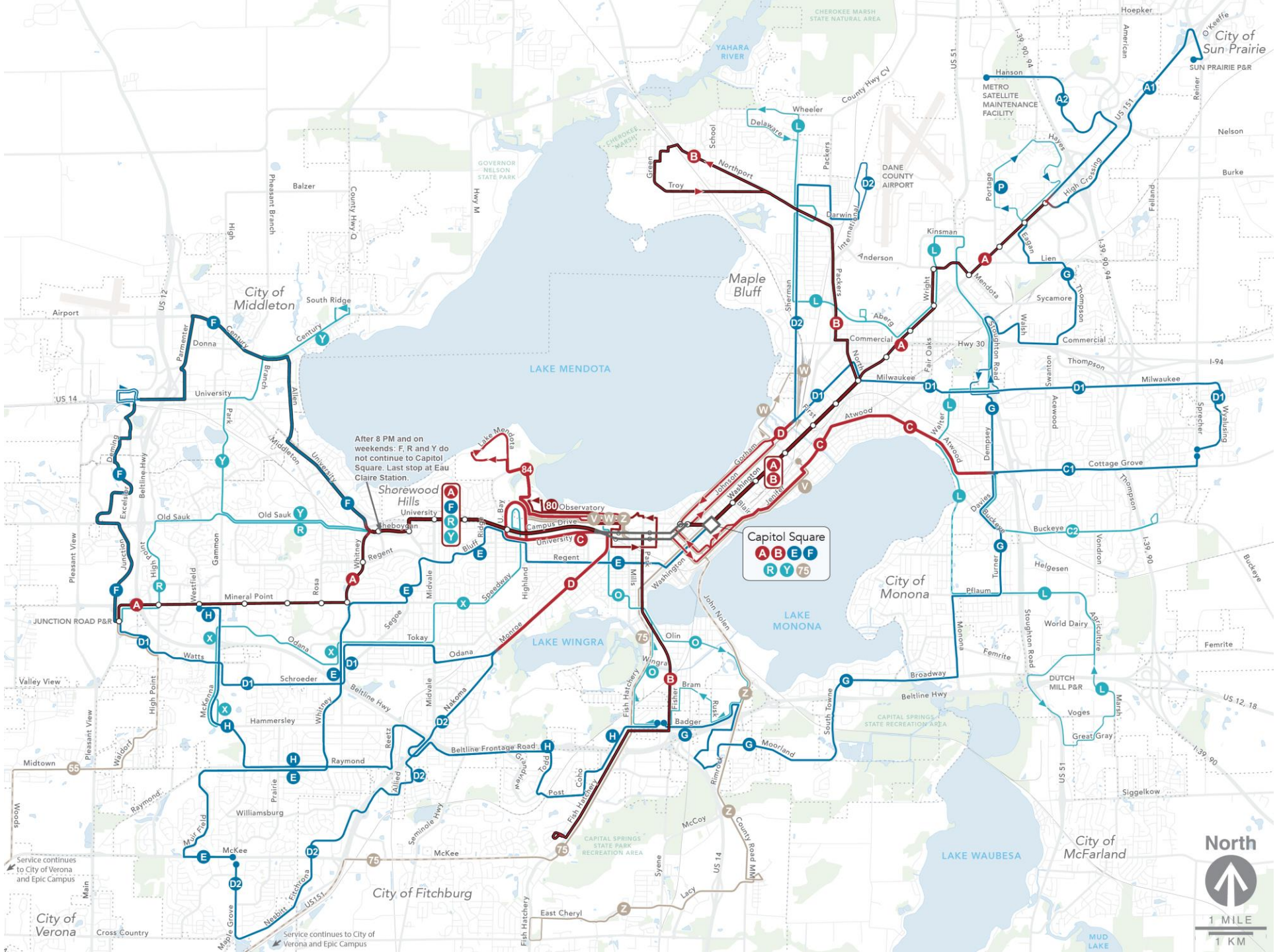
Public Hearing
Madison Transportation Commission
November 9, 2022

Planning Steps

- Phase 1 - Existing Conditions and Choices
- Phase 2 - Alternatives
- Phase 3 - Draft Plan
  - Plan adjusted based on community feedback
- Phase 4 - Final Plan
- **Implementation in June 2023**

Sept 2020 Mar 2021 Nov 2021 Feb 2022 June 2022

Adopted Plan



Interim Implementation Steps

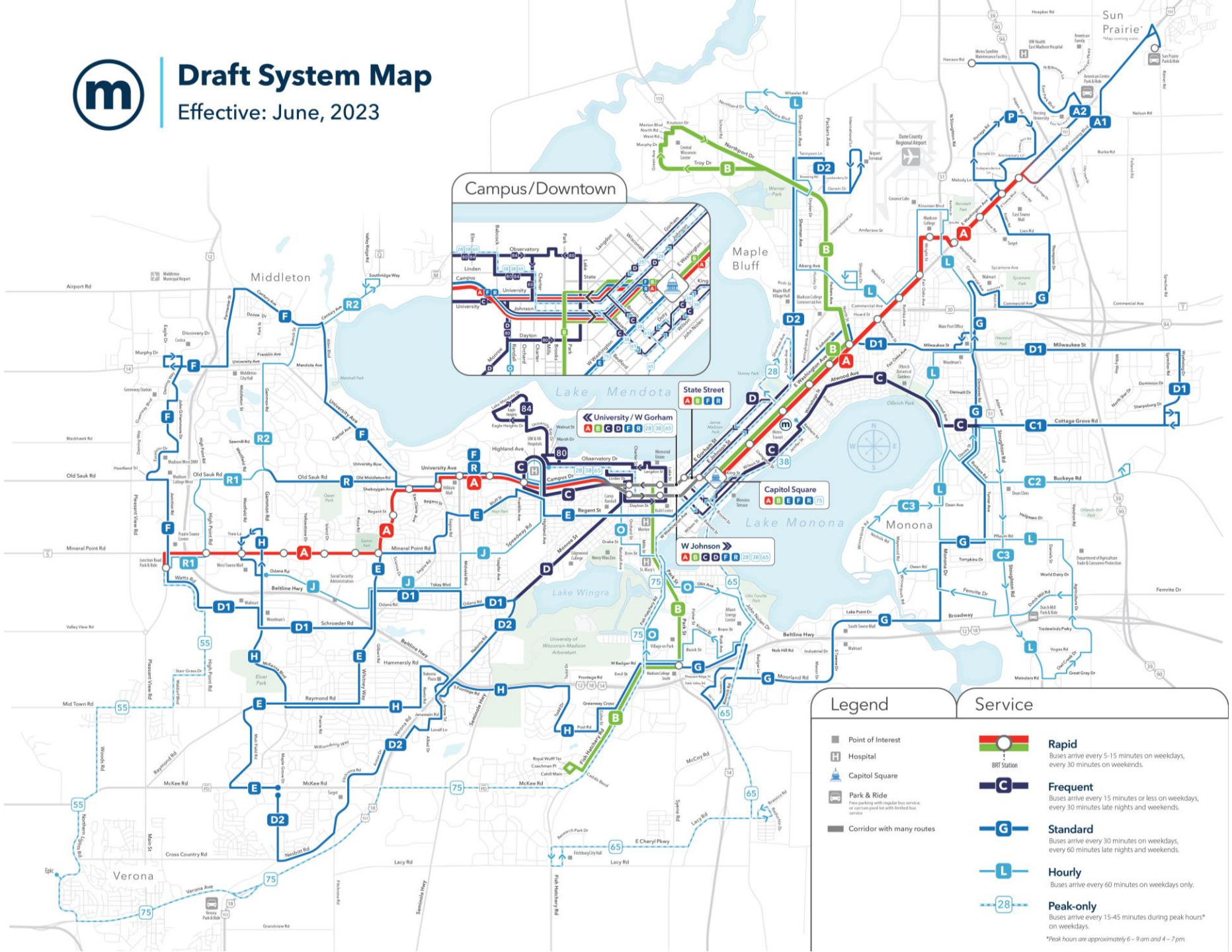
- Route names updated
- Draft system map
- Minor route changes
- Draft route start and end times
- Draft bus stop locations
- Title VI results

Route Name Changes

New Name	Old Name	Description
R1	R	Capitol Square, Old Sauk, Junction
R2	Y	Capitol Square, South Ridge (Middleton)
J	X	UW Hospital, Tokay, West Towne
65	Z	UW Campus, E Cheryl (Fitchburg)
28	W	UW Campus, Johnson / Gorham
38	V	UW Campus, Jenifer
S	---	New route in Sun Prairie
W	---	New route in Sun Prairie
C3	---	Potential new route in Monona

Draft System Map

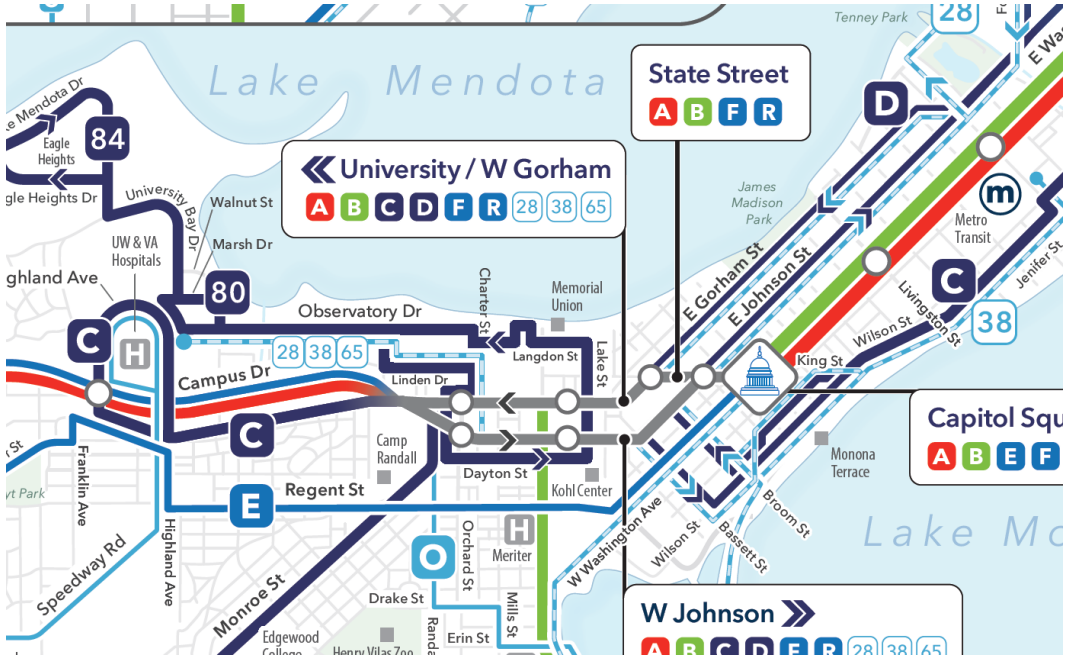
Effective: June, 2023



Draft System Map

- Shows service levels
  - More frequent routes having thicker, darker lines
  - Less frequent routes have thinner, lighter lines
- Highlights the future BRT lines
- Easier to read

Draft System Map



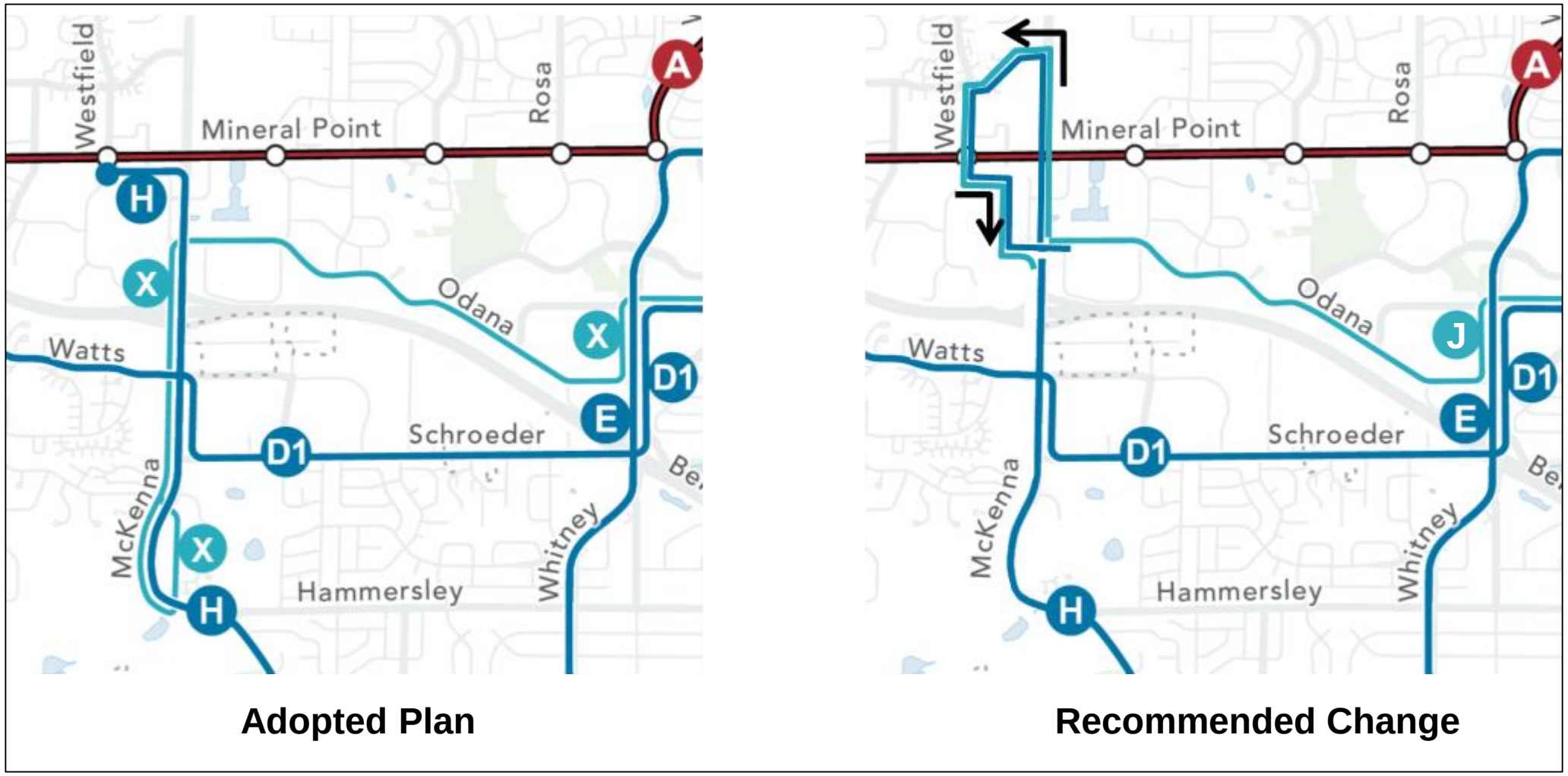
Draft Redesign Map

Current Map

Operational Route Adjustments

- Recommended based on ongoing planning work. Changes are consistent with the adopted plan.
- Changes impact:
  - Route J (formerly Route X)
  - Route P

Route J End Changed (Formerly Route X)



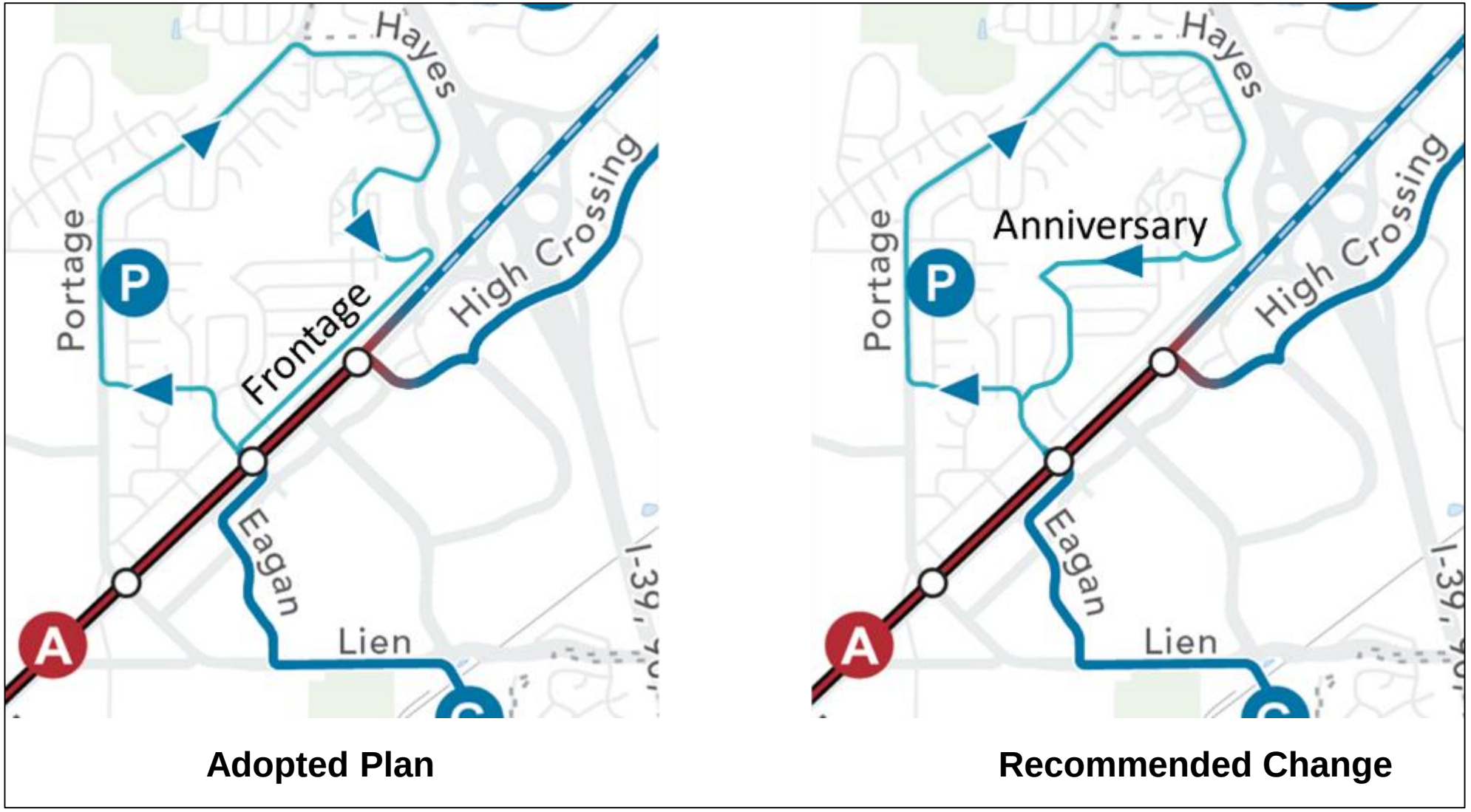
Route J End Changed

- Route J ends at West Towne
- Route J continues as Route H, no transfer

Notes:

- Maintains bus stop in West Towne Mall
- Adds coverage at no cost
- Slight delay for riders on McKenna, but all riders on Route H will have a guaranteed transfer

Route P Moved from Frontage to Anniversary



Adopted Plan

Recommended Change

Route P Moved from Frontage to Anniversary

- Shorter, faster, and more reliable
- New service on Anniversary
- Lost service on Frontage Road is served by Route A
- More consistent two-way service on Independence
- Better end of the line for a driver break

Route Start and End Times

DRAFT First and Last Full Trips and Frequency for Transportation Commission													
Base Route	First Trip Start				Last Trip Start				Frequency, in Minutes**				
	Weekdays		Weekends*		Weekdays		Weekends*		Weekday		Saturday		Sunday
	WB	EB	WB	EB	WB	EB	WB	EB	Peak	Base	Peak	Base	Base
A BRT (Main Line)	Trip start times are reflective of their respective branches								**15**	**30**	**15**	**30**	**30**
A1 BRT (Branch): Sun Prairie	6:00	5:15	6:00	5:15	10:30 PM	10:30 PM	9:30 PM	9:30 PM	30	60	30	60	60
A2 BRT (Branch): Hanson Rd	5:45	5:30	5:45	5:30	11:00 PM	11:00 PM	10:00 PM	10:00 PM	30	60	30	60	60
	NB	SB	NB	SB	NB	SB	NB	SB	Peak	Base	Peak	Base	Base
B: N. Madison-S. Madison BRT	5:15	5:00	5:15	5:00	11:00 PM	11:00 PM	10:00 PM	10:00 PM	15	30	15	30	30
	WB	EB	WB	EB	WB	EB	WB	EB	Peak	Base	Peak	Base	Base
C: Main Line	Trip start times are reflective of their respective branches								**15**	**30**	**30**	**30**	**30**
C1: Cottage Grove/UW Hospital	5:00	5:45	5:30	6:15	10:30 PM	11:00 PM	9:30 PM	10:00 PM	30	60	60	60	60
C2: Buckeye/UW Hospital	5:15	6:00	5:45	6:45	9:30 PM	10:00 PM	8:30 PM	9:00 PM	60	60	60	60	60
C3: Monona/UW Hospital	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	60	60	Pending	Pending	Pending
D: Main Line	Trip start times are reflective of their respective branches								**15**	**30**	**30**	**30**	**30**
D1: Watts/Milwaukee	5:15	5:15	5:45	5:45	10:30 PM	11:00 PM	9:30 PM	10:00 PM	30	60	60	60	60
D2: Airport/McKee	5:00	5:15	5:30	5:45	10:00 PM	10:30 PM	9:00 PM	9:30 PM	30	60	60	60	60
E: Mckee/Capitol Square	5:45	5:30	6:45	6:30	11:00 PM	11:00 PM	10:00 PM	10:00 PM	30	60	60	60	60
F: Middleton/Capitol Sq	6:00	5:00	6:45	6:00	11:00 PM	11:00 PM	10:00 PM	10:00 PM	30	30	30	30	30
G: East Towne/S. Madison	5:30	5:30	6:00	6:00	11:00 PM	11:00 PM	10:00 PM	10:00 PM	30	30	30	30	30
H: West Towne/S. Madison	5:30	5:30	6:00	6:00	11:00 PM	11:00 PM	10:00 PM	10:00 PM	30	30	30	30	30
J: West Towne/UW Hospital	6:00	6:00	6:00	6:00	10:00 PM	10:30 PM	9:00 PM	9:30 PM	30	60	60	60	60
L. N. Madison-Owl Creek	6:00	6:00	7:00	7:00	9:30 PM	9:30 PM	8:30 PM	8:30 PM	60	60	60	60	60
	NB	SB	NB	SB	NB	SB	NB	SB	Peak	Base	Peak	Base	Base
O: UW Campus/S. Madison	5:30	6:00	6:30	7:00	9:30 PM	9:30 PM	8:30 PM	8:30 PM	60	60	60	60	60
	WB	EB	WB	EB	WB	EB	WB	EB	Peak	Base	Peak	Base	Base
P: East Towne-Portage Loop	5:15	-	5:45	-	11:45 PM	-	10:45 PM	-	30	30	30	30	30
R: Main Line	Trip start times are reflective of their respective branches								**30**	**30**	**30**	**30**	**30**
R1: Junction P&R/Capitol Sq	6:45	5:45	7:15	6:45	11:00 PM	10:30 PM	10:00 PM	9:30 PM	60	60	60	60	60
R2: South Ridge/Capitol Sq	6:15	5:15	6:45	6:15	11:30 PM	10:30 PM	10:30 PM	9:30 PM	60	60	60	60	60
S: Sun Prairie Large Loop	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	60	60	60	60	60
W: Sun Prairie Short Loop	Pending	Pending	-	-	Pending	Pending	-	-	30	-	-	-	-

Start/end times may change by +/- 15 minutes as part of implementation period efficencies.

Route Start and End Times

Base Route	First Trip Start			
	Weekdays		Weekends*	
	WB	EB	WB	EB
A BRT (Main Line)	Trip start times are reflecti			
A1 BRT (Branch): Sun Prairie	6:00	5:15	6:00	5:15
A2 BRT (Branch): Hanson Rd	5:45	5:30	5:45	5:30
	NB	SB	NB	SB
B: N. Madison-S. Madison BRT	5:15	5:00	5:15	5:00
	WB	EB	WB	EB

Note:
Some partial trips may provide earlier service

On weekdays, the first COMPLETE westbound trip on Route A1, towards Junction Road, will leave the Sun Prairie Park and Ride at about 6:00 am

Route Start and End Times

Base Route	Last Trip Start			
	Weekdays		Weekends*	
	WB	EB	WB	EB
ive of their respective branches				
A BRT (Main Line)	10:30 PM	10:30 PM	9:30 PM	9:30 PM
A1 BRT (Branch): Sun Prairie	11:00 PM	11:00 PM	10:00 PM	10:00 PM
A2 BRT (Branch): Hanson Rd	NB	SB	NB	SB
B: N. Madison-S. Madison BRT	11:00 PM	11:00 PM	10:00 PM	10:00 PM
	WB	EB	WB	EB

Note:
Some partial trips may provide later service

On weekdays, the last COMPLETE westbound trip on Route A1, towards Junction Road, will leave the Sun Prairie Park and Ride at abouot 10:30 am

Route Start and End Times

Base Route	Frequency, in Minutes**				
	Weekday		Saturday		Sunday
	Peak	Base	Peak	Base	Base
A BRT (Main Line)	15	30	15	30	30
A1 BRT (Branch): Sun Prairie	30	60	30	60	60
A2 BRT (Branch): Hanson Rd	30	60	30	60	60
	Peak	Base	Peak	Base	Base
B: N. Madison-S. Madison BRT	15	30	15	30	30

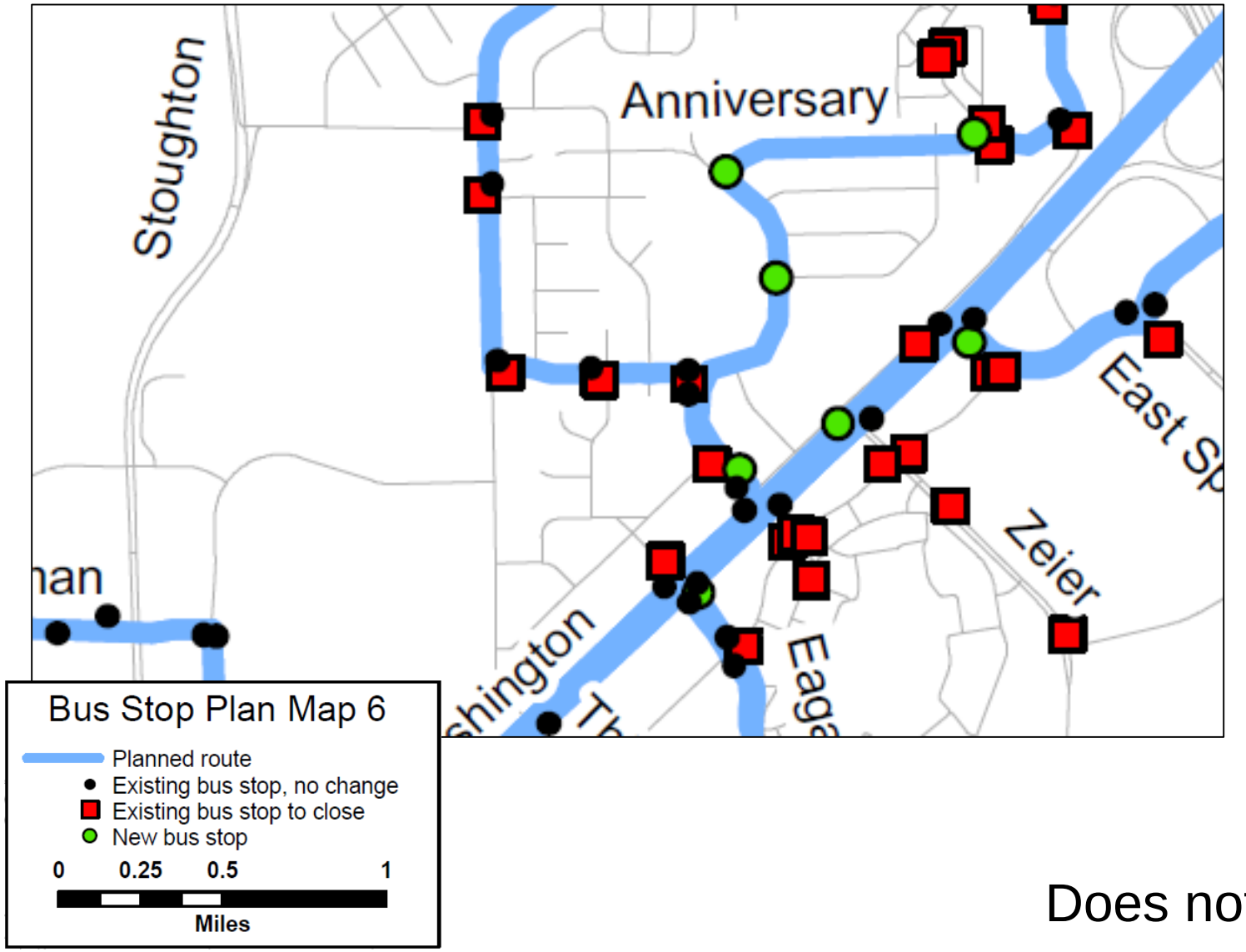
“Peak” frequency means the time between buses during the morning and afternoon rush hour, not including added service to accommodate demand

“Base” frequency means the time between buses, generally in the evening

Draft Bus Stop Locations

- On streets with existing Metro routes, current stops will generally be used.
- On streets with new service, stop spacing guidelines of about ¼ mile between stops will be used.
  - New bus stops will be strategically placed near high quality street crossings and popular destinations

Draft Bus Stop Locations



Estimated:
153 new bus stops
867 closed bus stops
1,217 unaffected bus stops

Does not include Sun Prairie or Monona

Title VI Results

- Full equity analysis and summary available on our website
- www.Mymetrobus.com/Redesign

JARRETT WALKER + ASSOCIATES | Let's think about transit

Title VI Results

- Title VI of the Civil Rights Act of 1964 prohibits Metro Transit from discriminating on the basis of race, color, and national origin

- Required “Service Equity Analysis” for major service changes

- Consistent with City goals and practices

Title VI Results

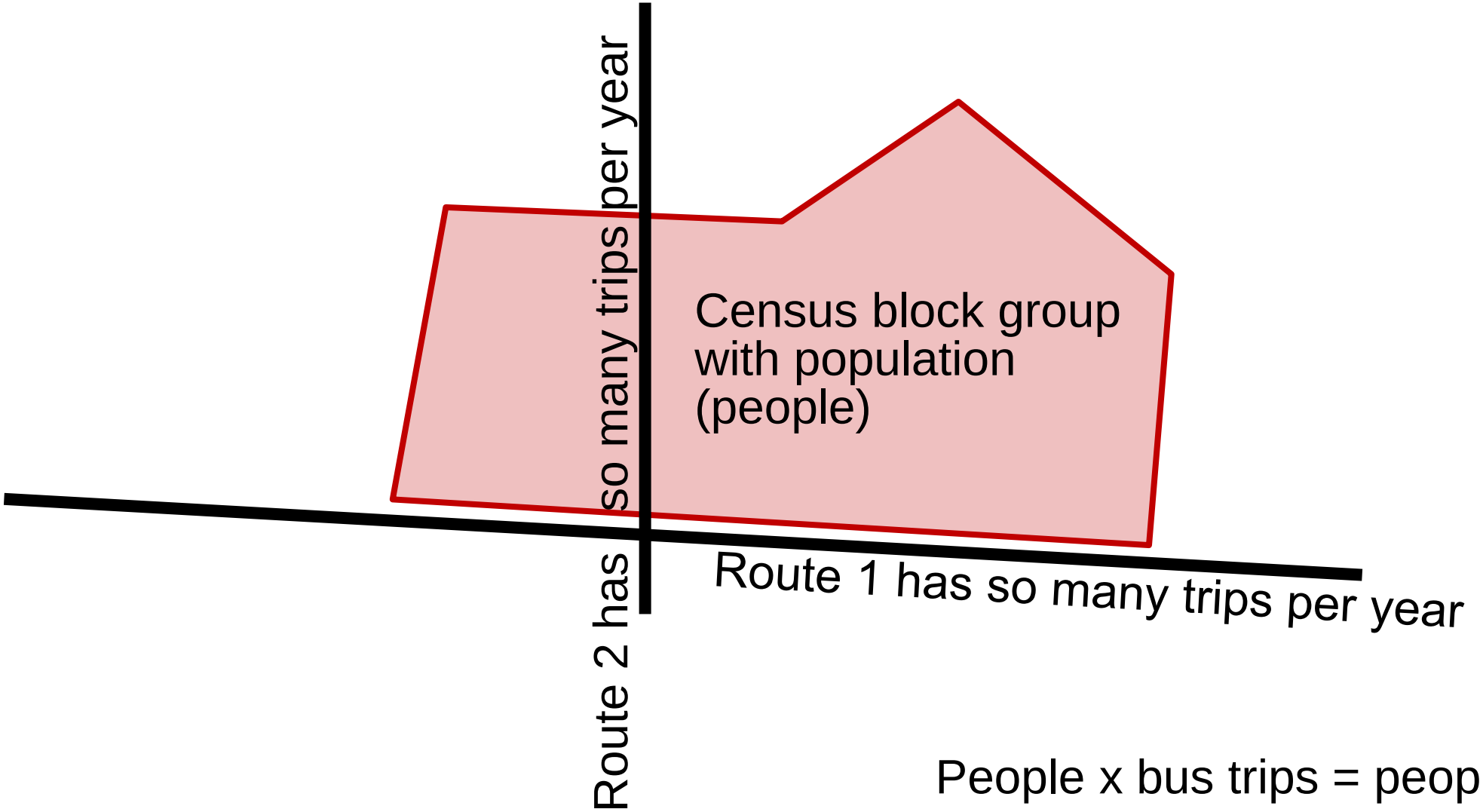
Key analysis checks:

- BIPOC residents benefit from the changes as much as White residents.
- Low-income neighborhoods benefit as much as other neighborhoods.
- Any service cuts do not harm one group any more than others.
  - No disparate impacts or disproportionate burdens

Title VI Results

- Service Equity Analysis looks at people in general.
- It categorizes all people as “low-income”, “non-low-income”, “minority”, and “non-minority”. These are federal guidelines.
- These broad conclusions are true for people as a whole. They are not necessarily true for individuals.

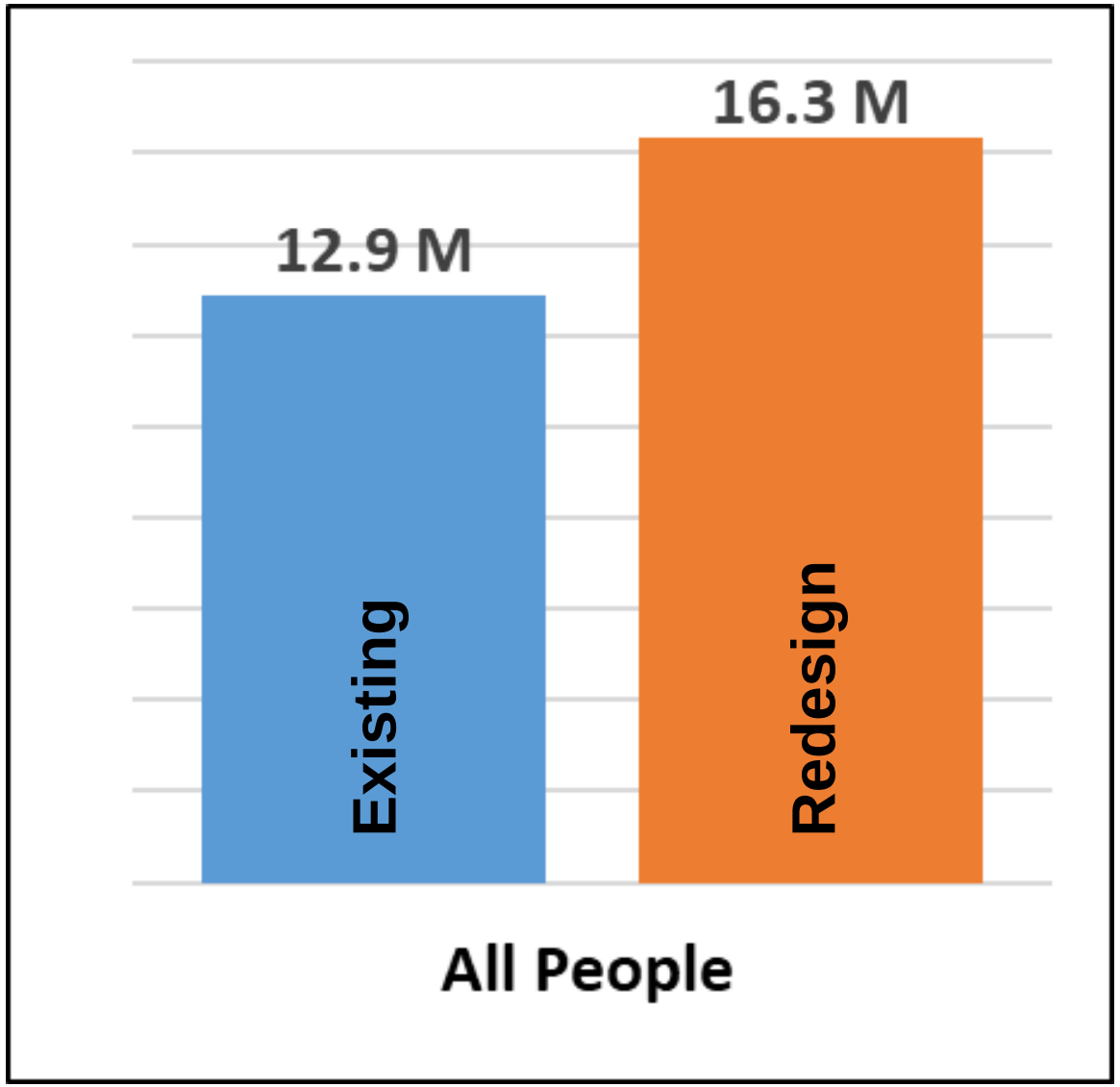
Measure 1 – Service Quantity



People x bus trips = people-trips

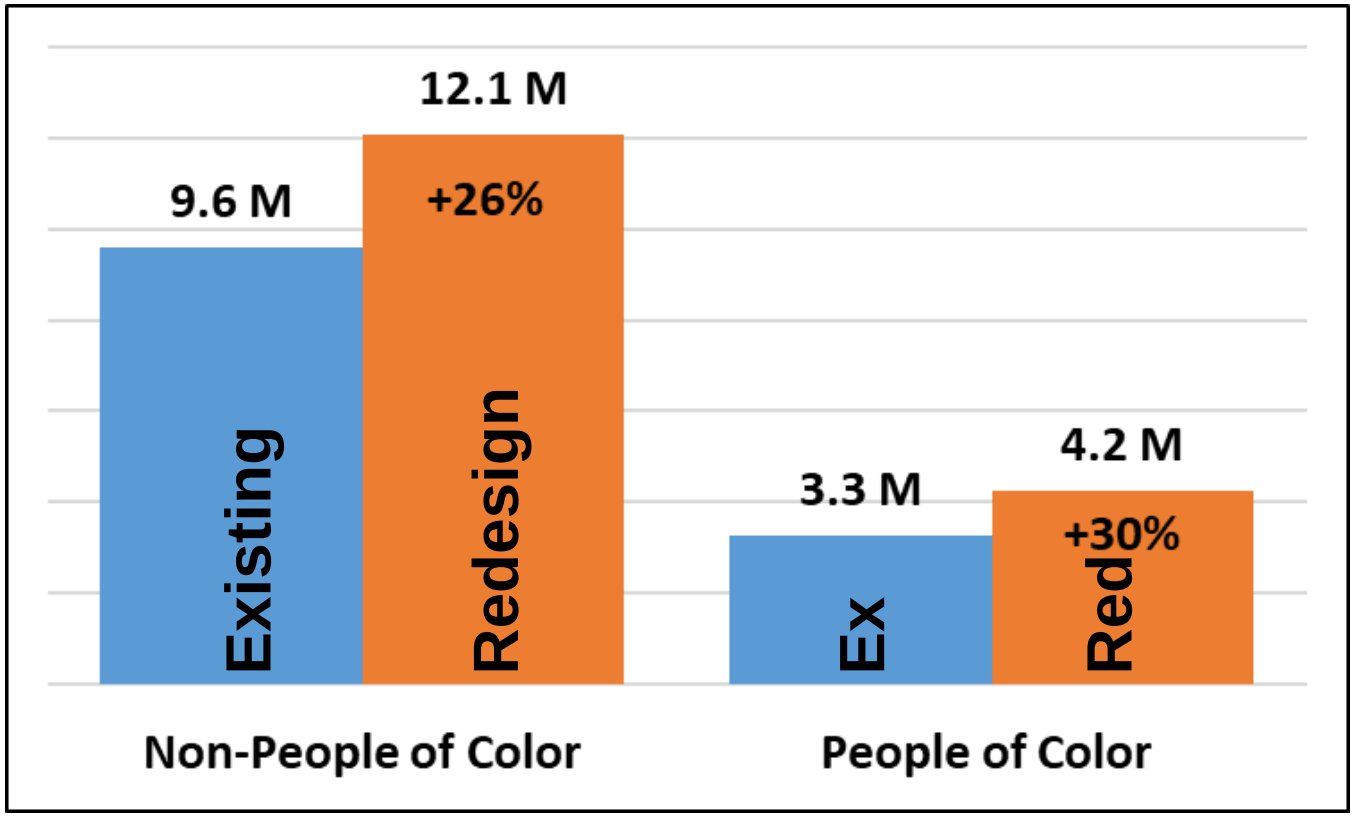
Service Quantity

- The Transit Network Redesign network provides 27% more service than the existing network.



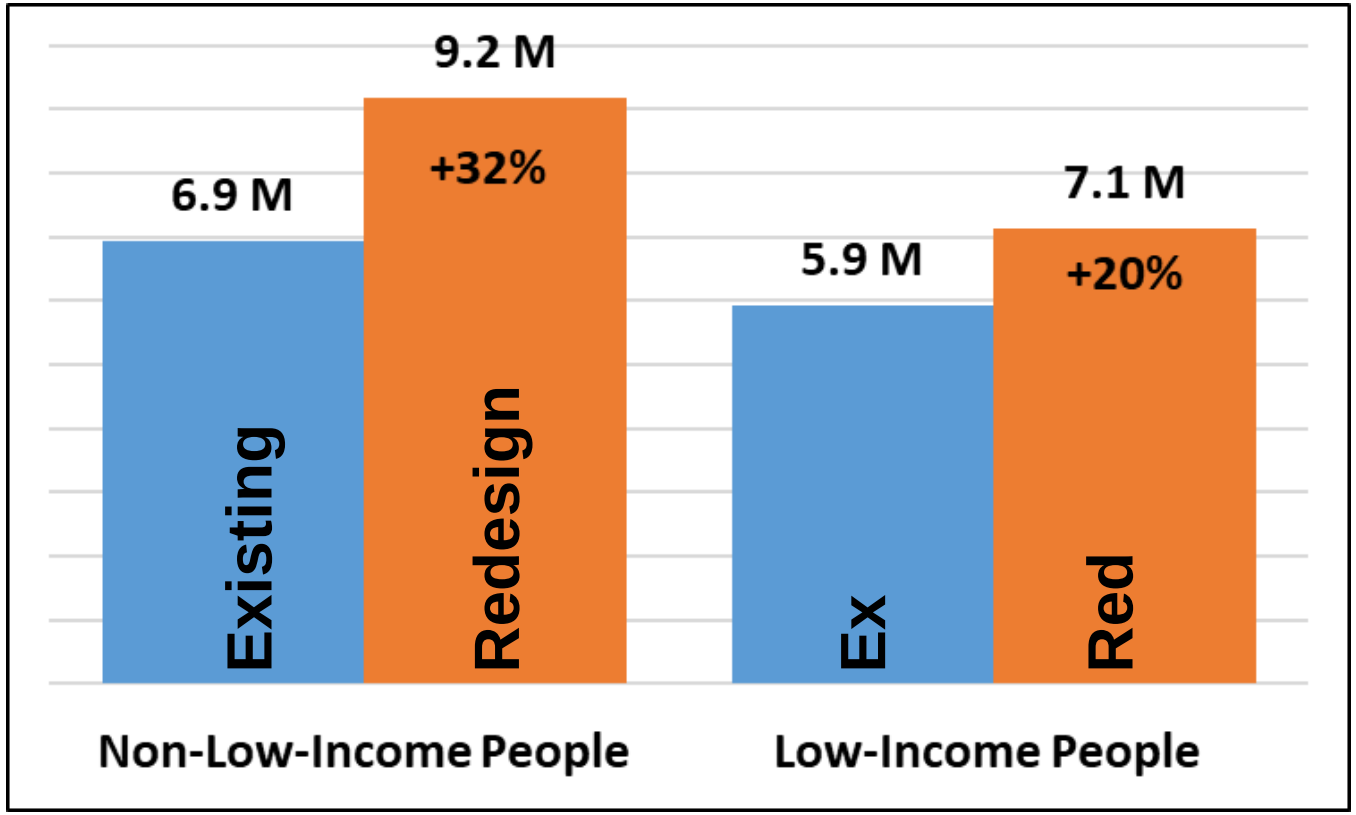
Service Quantity – BIPOC

- While both BIPOC and white residents see more service with the Transit Network Redesign, BIPOC residents benefit as much or more.



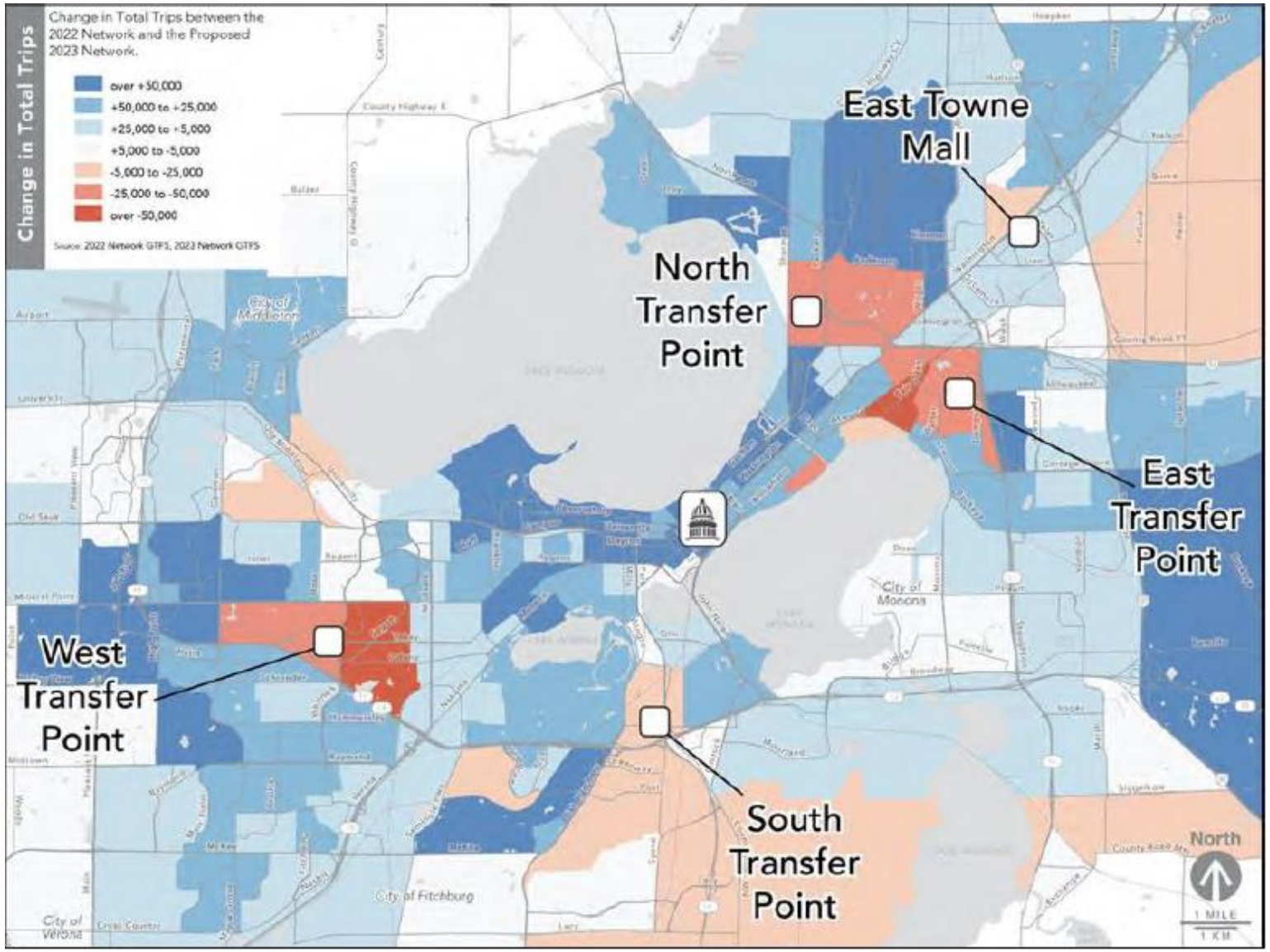
Service Quantity – Low-Income People

- While both low-income and non-low-income residents see more service with the Transit Network Redesign, low-income residents do not benefit as much.



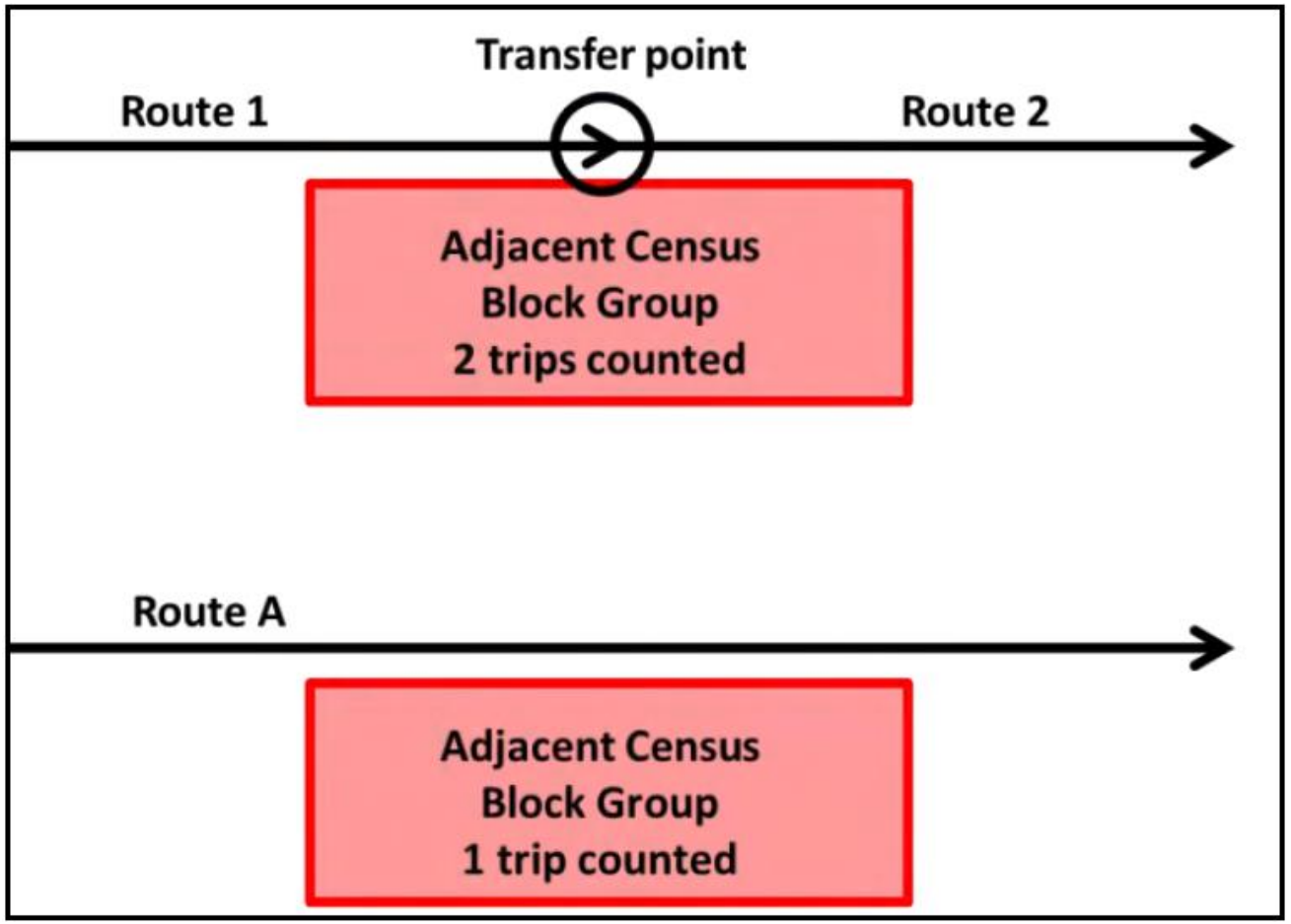
Service Quantity – Low-Income People

- Most people who see a reduction in service quantity live near the transfer points



Service Quantity – Low-Income People

- Service in the existing network is being double counted because routes start and end near transfer points
- This double counting is not present in the Transit Network Redesign network



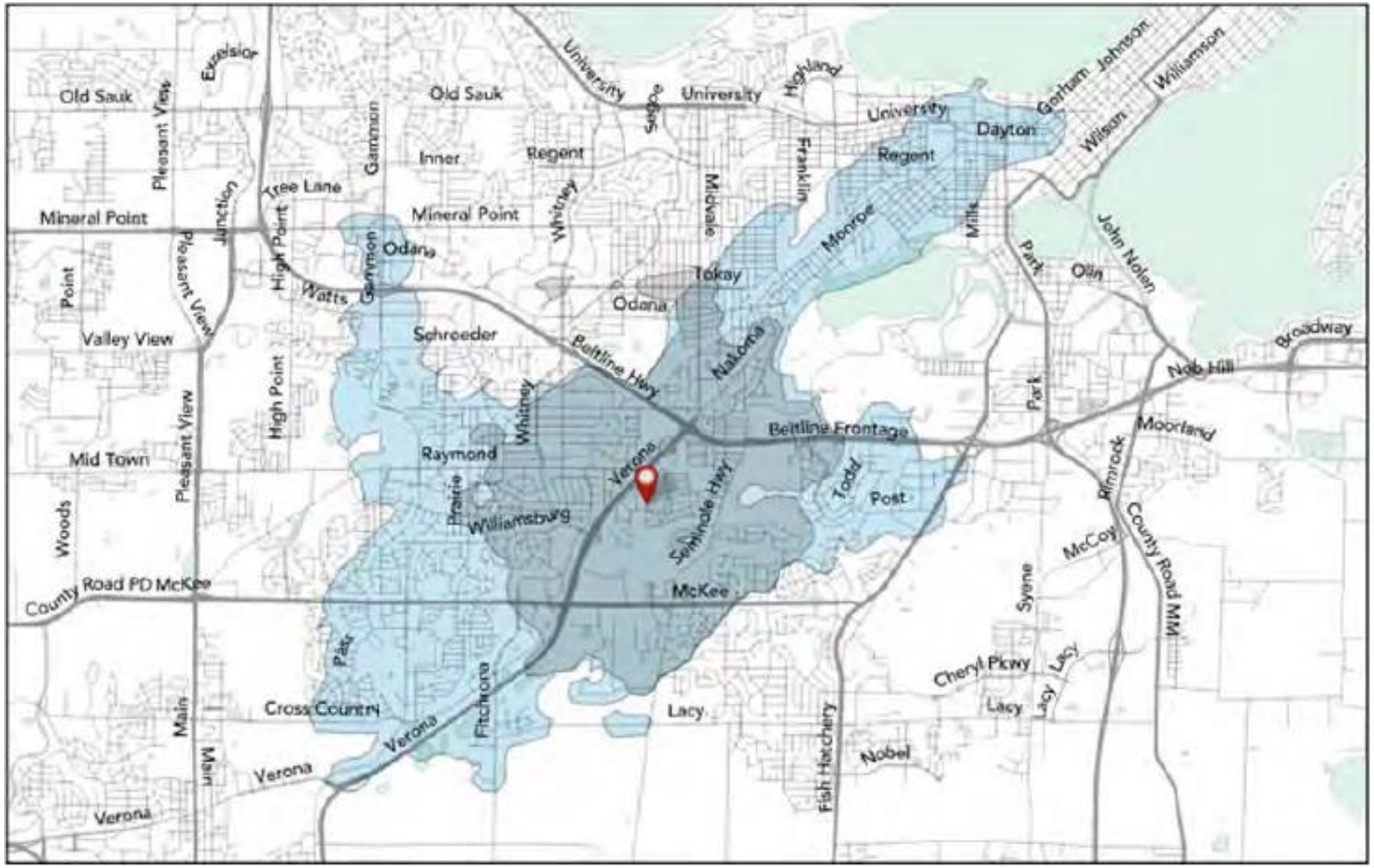
Service Quantity – Low-Income People

Conclusion:

- Additional service in the current network near the transfer points is not as useful as it looks:
  - Only useful if you happen to live within walking distance of them
  - Added travel time due to routes waiting there not accounted for
  - Trips are double counted because routes start and end there

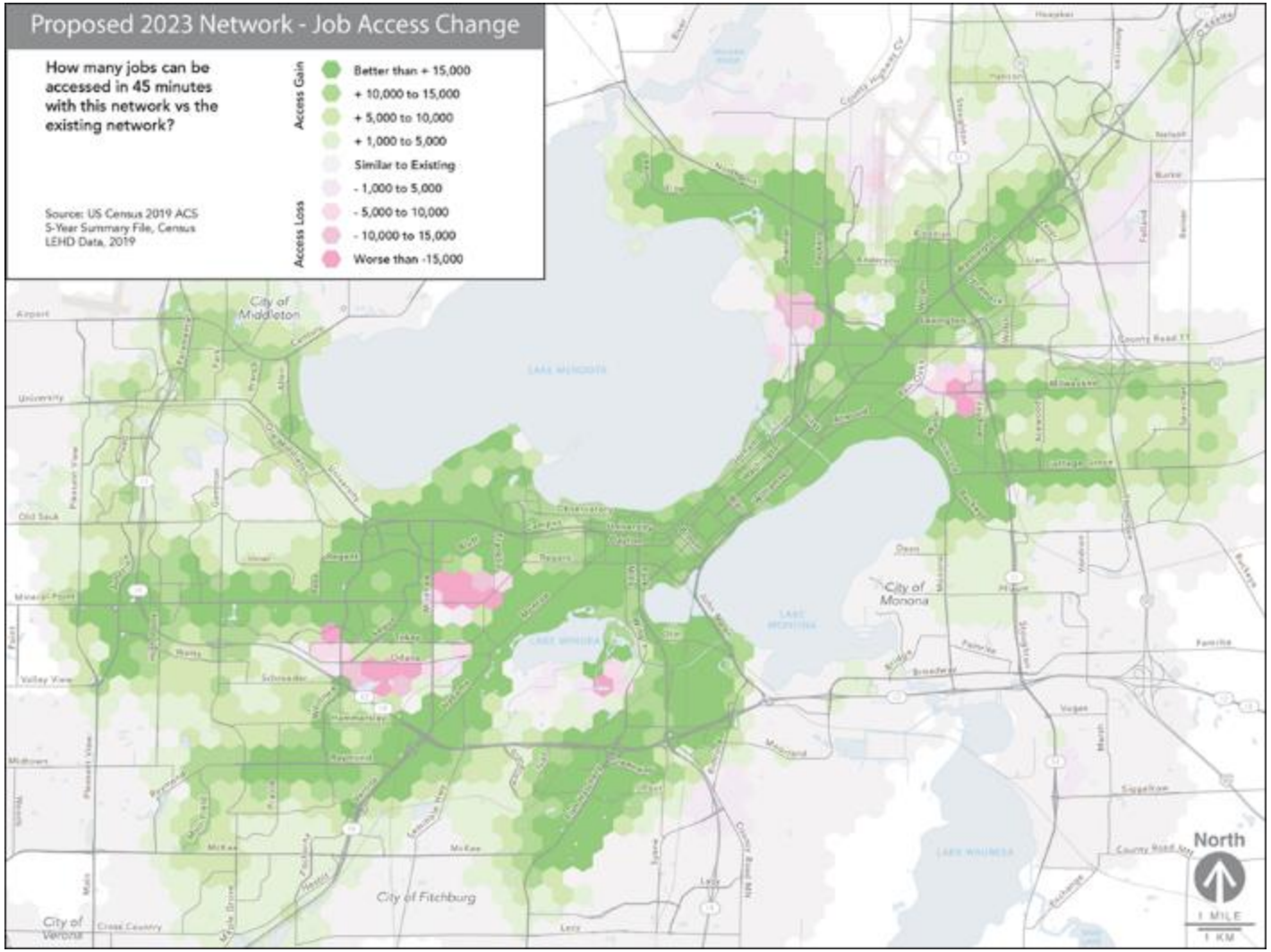
- Low-income residents benefit from the Redesign, however it is not clear if they benefit more, less, or about the same as non-low-income people.

Measure 2 – Transit Access



How many destination can a person reach in 45 minutes by transit

Measure 2 – Transit Access



Jobs is a data source that we have, that is a stand-in for destinations

Transit Access – Low-Income People

		Median Access to Jobs within 45 minutes, door-to-door, using transit			
	Approx. Population	Existing Network	Network Redesign	Change	
All Residents	352,000	10,400	20,200	+9,800	+94%
Non-Low Income	270,000	8,400	15,700	+7,300	+87%
Low-Income	71,000	34,900	67,200	+32,200	+92%

- While both low-income people and non-low-income people see improved transit access with the Transit Network Redesign, low-income people benefit more.

Transit Access – BIPOC

		Median access to Jobs within 45 minutes, door-to-door, using transit			
	Approx. Population	Existing Network	Network Redesign	Change	
All Residents	352,000	10,400	20,200	+9,800	+94%
Non-Minority White non-Hispanic	261,000	10,100	19,200	+9,100	+90%
Minority All people of color	91,000	11,000	23,600	+12,600	+115%

- While both BIPOC residents and white residents see improved transit access with the Transit Network Redesign, BIPOC residents benefit significantly more.

Supplemental Analysis

- Additional analysis was done beyond what is required for a Title VI Service Equity Analysis.

Access by Race

	Approx. Population	Median access to Jobs within 45 minutes, door-to-door, using transit			
		Existing Network	Network Redesign	Change	
White non-Hispanic	261,000	10,100	19,200	+9,100	+90%
Asian non-Hispanic	27,000	16,200	31,000	+14,800	+91%
Hispanic	27,000	10,000	22,000	+12,000	+120%
Black non-Hispanic	24,000	9,800	19,200	+9,400	+96%
Two or More Races non-Hispanic	10,000	8,500	18,200	+9,700	+114%
Native American/Alaska Native * non-Hispanic	1,500 *	9,800	18,300	+8,500	+87%
Other * non-Hispanic	< 1,000 *	7,500	14,700	+7,200	+96%
Native Hawaiian/Pacific Islander * non-Hispanic	< 200 *	4,100	4,900	+800	+20%
* Populations are considered too small for a reliable analysis.					

Transit Access – People with Low English Proficiency

		Access to Jobs within 45 minutes, door-to-door, using transit			
	Approx. Population	Existing Network	Network Redesign	Change	
All Residents	352,000	10,400	20,200	+9,800	+94%
Limited English Proficiency	14,000	11,200	20,400	+9,200	+87%

- People with low English proficiency may experience a smaller benefit than the average resident. However, there is a high margin of error, and the difference is small.

Transit Access – Older Adults

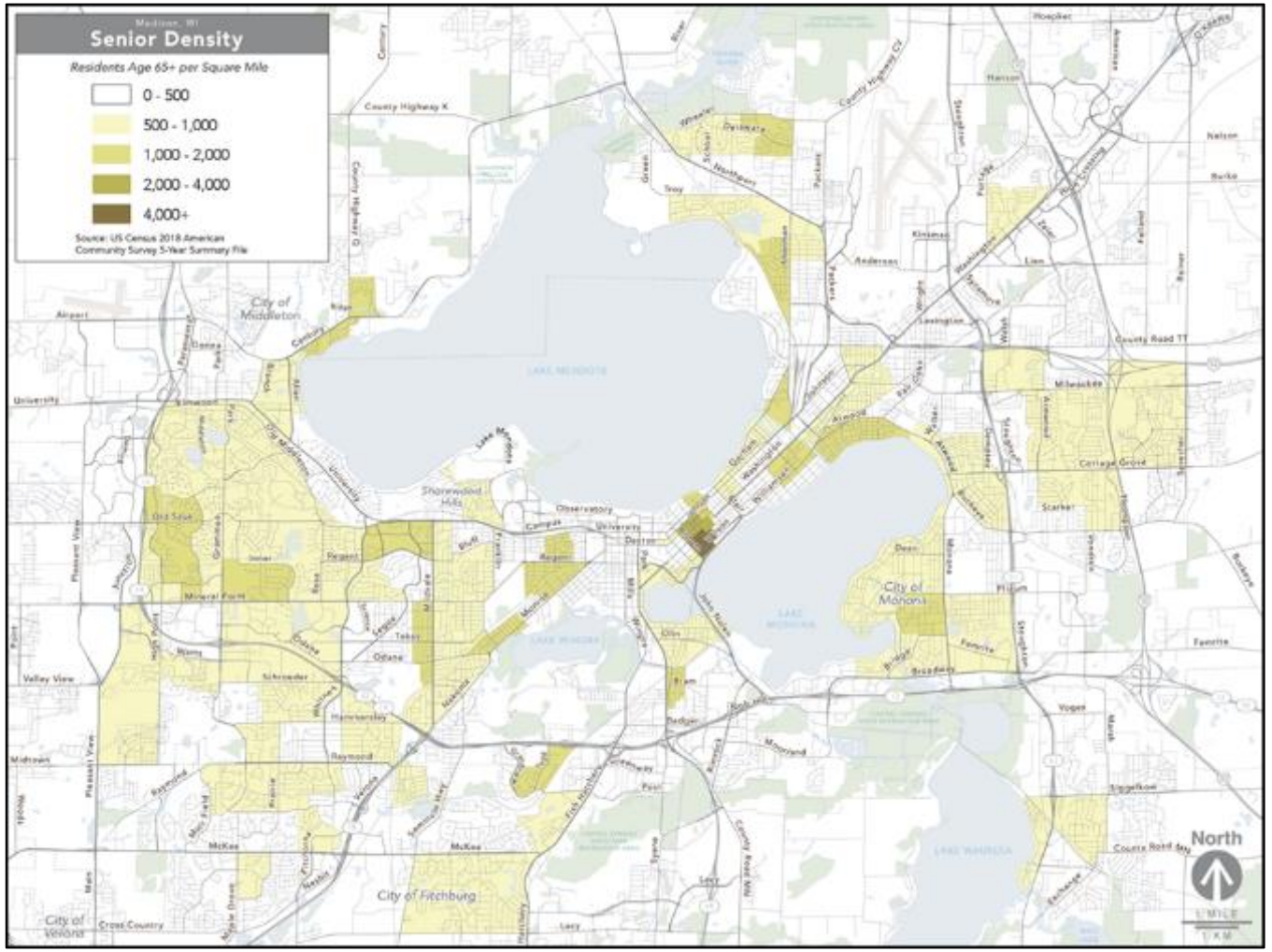
		Access to Jobs within 45 minutes, door-to-door, using transit			
	Approx. Population	Existing Network	Redesigned Network	Change	
All Residents	352,000	10,400	20,200	+9,800	+94%
Seniors (65+)	43,000	8,100	14,700	+6,600	+81%

- Older adults may experience a smaller benefit than the average resident.

Transit Access – Older Adults

- Older adults are more likely to live in low-density single-family homes.

- Improving service to older adults would be possible, but at odds with improving service to low-income people and BIPOC residents.



Transit Access – People with Disabilities

		Access to Jobs within 45 minutes, door-to-door, using transit			
	Approx. Population	Existing Network	Network Redesign	Change	
All Residents measured at the Block Group Level	352,000	10,400	20,200	+9,800	+94%
People with Disabilities measured at the Census Tract level	29,000	9,000	16,800	+7,800	+87%

- People with disabilities may experience a smaller benefit than the average resident. However, there is a high margin of error, and the difference is small.

Transit Access – People with Disabilities

- Census data on where people with disabilities live is much less accurate than data on other residents.
- Data also does not show exactly where people with disabilities live, type of disabilities, or how someone's disability affects how they are able to reach a bus stop or use the bus
- No paratransit area is lost with the Transit Network Redesign, some areas will gain new access to paratransit service.

Qualitative Analysis

- Other factors that can be considered to interpret the analysis, or describe other ways people will be benefited or impacted.

- Describes steps to mitigate any possible impacts.

Qualitative Analysis

- Shifting service from peak periods to all day
  - Makes it easier for people to travel off-peak, especially to destinations that are not downtown.

- More consistent and usable routes
  - The current and past transit networks were very confusing. Making the service easier to understand and use means that new riders will find it more useful.

Qualitative Analysis

- The amendment process
  - Metro used an amendment process to the plan to make changes transparent and directly address shortcomings in the draft plan. Example amendments introduced Routes L and O to directly address the needs of the community.

- Shifting to more direct routes with more frequent service
  - The overall outcome of the plan addresses long-standing complaints about the system. It simply takes too long to travel by Metro.

A Survey of People with Disabilities

- Metro conducted a survey of people with disabilities. A summary of their responses are below.

  - Concerns about walking farther, crossing the streets, and in winter
  - Concerns about the affordability and availability of paratransit
  - Desire for more benches, shelters, and other amenities
  - Having bus stops as close to their homes and destinations as possible
  - Usability for blind people and people with neurological disorders

  - Specific concerns that have been directly addressed by the amendment process in the final plan

Title VI – Conclusion

- Metro Transit staff recommends enacting the Transit Network Redesign plan with the adjustments described.

metro transit

Transit Network Redesign

Public Hearing
Madison Transportation Commission
www.MyMetroBus.com/Redesign
MetroRedesign@cityofmadison.com