



Appendix C:

Environmental Justice Analysis

ENVIRONMENTAL JUSTICE ANALYSIS

Introduction

As part of the MPO's continuing efforts to comply with Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1) and address equity and environmental justice, analyses were conducted throughout the planning process to evaluate the impacts of the Regional Transportation Plan (RTP) 2050 Update on minority populations, low-income households, and households without access to an automobile. Efforts were also made to ensure that minority and low-income populations were provided with dedicated opportunities to participate in the planning process.

Title VI states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." To amplify the Title VI law, President Clinton issued Executive Order 12898 in 1994, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The purpose of the order is to make the achievement of environmental justice part of each Federal agency's mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of government programs, policies, and investments, such as transportation facilities, on minority and low-income populations. The goal is to ensure that the benefits and burdens of government actions and investments are fairly distributed, and that minority and low-income populations are not disproportionately affected in an adverse way. In 1997, the U.S. Department of Transportation (USDOT) issued an order to summarize and expand upon the requirements of Executive Order 12898 on Environmental Justice. The Order generally describes the process for incorporating environmental justice principles into all DOT existing programs, policies, and activities.

Title VI, Executive Order 12898, the USDOT order, and other USDOT guidance do not contain specific requirements for evaluating the impacts of transportation plans and programs on environmental justice populations. For this RTP, a qualitative analysis has been conducted of the impacts of proposed transportation projects on areas with high concentrations of these populations. The MPO will continue to develop analysis tools to better quantitatively assess the benefits and impacts of recommended transportation projects on EJ populations as part of future planning efforts.



Environmental Justice Population and Areas of Concentration within the Madison Metropolitan Planning Area

The 2020 minority population within the Greater Madison MPO Planning Area (see Map 1-1 on page 1-5 of Chapter 1) was about 121,300, or 24% of the total population of 505,954. This is an increase of 48,900 people, nearly 68% of the 2010 minority population of 72,400. Between 2000 and 2010, the minority population grew 58%. African Americans accounted for 5.9% of the 2020 planning area population and Asians accounted for 6.7%. The 2020 Hispanic or Latino population was nearly 39,700, 7.8% of the planning area population, up 46% from 27,200 in 2010.

Figure C-a shows the number and percentage of minority and Hispanic populations in the cities and villages within the planning area in 2020 and the change from 2010. The larger cities (Madison, Fitchburg, Middleton, and Sun Prairie) and the Village of Shorewood Hills have the highest percentages of minority populations, but almost all most cities and villages have a minority population of 10% or more. The Hispanic population is more concentrated in the cities of Madison, Fitchburg, Middleton, and Sun Prairie, with other communities in the planning area having a 3-5% Hispanic population.

Maps C-a and C-b highlight areas within communities where there is a concentration of minority and Hispanic populations. Areas with high

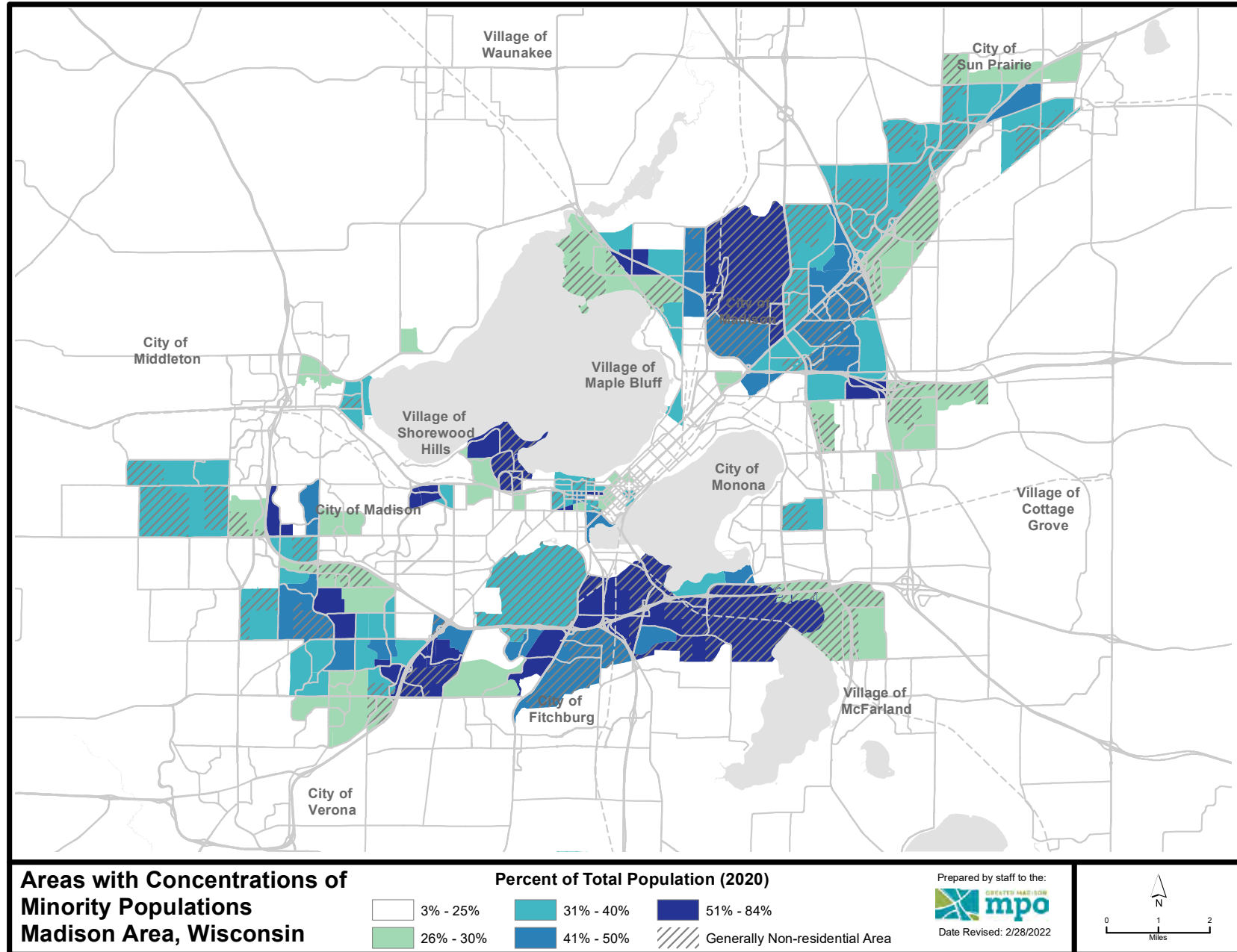
concentrations (over 40%) of minority populations include the South side (Fish Hatchery Road, Badger Road, Southdale area in Town of Madison), Southwest side (Allied Drive, Park Ridge/Prairie Hills neighborhoods), Wexford Ridge and North

High Point area, Sheboygan Avenue, Northport Drive, Truax and areas around the Dane County Regional Airport, and Eagle Heights and other residential areas on or near the UW campus. Areas with high concentrations of Hispanic populations

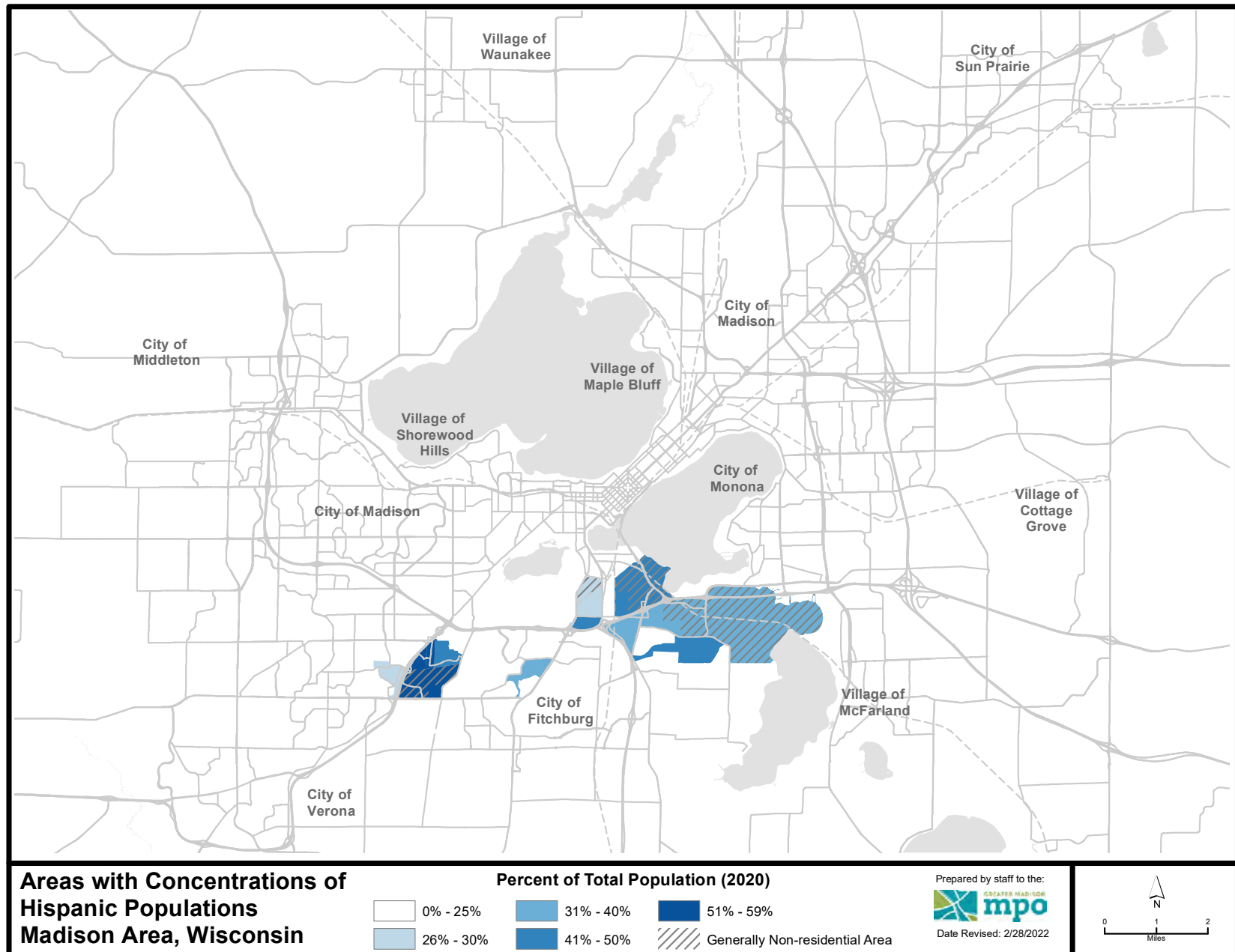
Minority Population by Municipality

Municipality	2020				2010-2020 Change	
	Minority Population		Hispanic Population		Minority Population	Hispanic Population
	Number	Percent	Number	Percent	Percent Difference	Percent Difference
Madison, City	78,213	29.0%	23,408	8.7%	7.9%	1.8%
Cottage Grove, Village	940	12.9%	326	4.5%	5.0%	1.5%
Cross Plains, Village	346	8.4%	143	3.5%	5.5%	1.9%
DeForest, Village	1,420	13.1%	516	4.8%	6.4%	1.1%
Fitchburg, City	10,260	34.7%	4,935	16.7%	6.8%	-0.5%
Maple Bluff, Village	101	7.4%	41	3.0%	3.3%	1.6%
McFarland, Village	928	10.3%	279	3.1%	4.8%	0.8%
Middleton, City	4,547	20.8%	1,488	6.8%	7.9%	1.2%
Monona, City	987	11.4%	421	4.9%	4.0%	1.8%
Oregon, Village	1,112	9.9%	443	4.0%	5.3%	1.8%
Shorewood Hills, Village	514	23.7%	111	5.1%	14.9%	1.3%
Stoughton, City	1,349	10.2%	496	3.8%	5.4%	1.9%
Sun Prairie, City	9,041	25.1%	2,192	6.1%	10.6%	1.8%
Verona, City	1,915	13.6%	729	5.2%	6.9%	2.8%
Waunakee, Village	1,673	11.2%	595	4.0%	7.1%	1.8%
Windsor, Village	1,017	11.6%	358	4.1%	5.9%	2.1%
Total	114,363	24.7%	36,481	7.9%	7.0%	1.3%
Sources: Census 2000, SF1_DP1; Census 2010, QT-PL; Census 2020						

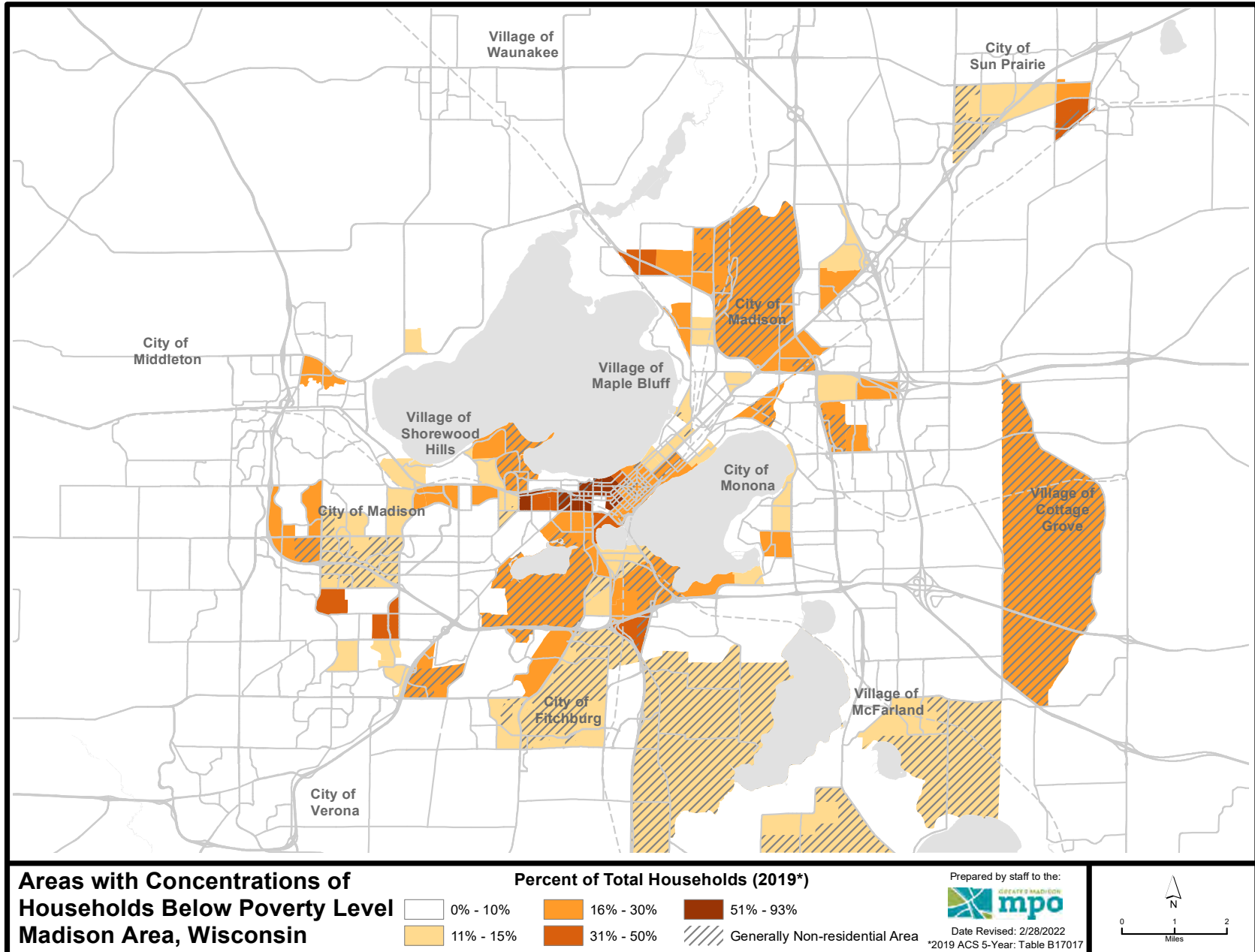
Figure C-a Minority Population by Municipality



Map C-a Concentrations of Minority Populations



Map C-b Concentrations of Hispanic Populations



Map C-c Concentrations of Households Below Poverty Level

are more limited, and all found in the south side area described above, and in the Chalet Gardens and Allied-Belmar areas in the southwest.

Figure C-b shows the autoless households and households below the federal poverty level in cities and villages within the planning area and

the Town of Madison in 2015-2019. There were an estimated total of nearly 16,000 households in these communities - about 8.5% - that were without an automobile according to 2015-2019 Census American Community Survey (ACS) data. About 79% of these households resided in the City

of Madison. There were an estimated total of over 21,000 households, 11.5% of the total population, that were below the poverty level. About 77% of these households were in the City of Madison.

Map C-c highlights areas, primarily within Madison, with concentrations of households below the federal poverty level. The largest concentrations are in the downtown area, though many of these are students who have parental financial support or are otherwise upwardly mobile, and not expected to experience generational poverty. Other areas include the south side, Allied Drive, southwest, north side, scattered neighborhoods along E. Washington Ave and Milwaukee St, downtown Sun Prairie, along Century Blvd in Middleton, and portions of the Village of Cottage Grove.

Autoless Households and Households Below Poverty Level - Select Metropolitan Area Communities

Municipality	Total Households	Autoless Households		Households Below Poverty Level*	
		Number	Percent	Number	Percent
Fitchburg, City	12,449	585	4.7%	1,084	8.7%
Madison, City	110,294	12,524	11.4%	16,464	14.9%
Middleton, City	8,899	369	4.1%	483	5.4%
Monona, City	3,896	289	7.4%	287	7.4%
Stoughton, City	5,242	274	5.2%	535	10.2%
Sun Prairie, City	13,479	653	4.8%	750	5.6%
Verona, City	5,122	124	2.4%	168	3.3%
Cottage Grove, Village	2,408	78	3.2%	87	3.6%
Cross Plains, Village	1,653	0	0.0%	61	3.7%
DeForest, Village	3,833	89	2.3%	293	7.6%
McFarland, Village	3,409	16	0.5%	194	5.7%
Maple Bluff, Village	585	10	1.7%	7	1.2%
Oregon, Village	3,991	72	1.8%	230	5.8%
Shorewood Hills, Village	950	23	2.4%	71	7.5%
Waunakee, Village	5,006	283	5.7%	208	4.2%
Windsor, Village	2,710	209	7.7%	30	1.1%
Madison, Town	3,085	252	8.2%	558	18.1%
Total	187,011	15,850	8.5%	21,510	11.5%
Sources: 2015-2019 ACS, Table B25044; 2015-2019 ACS, Table B17017; 2015-2019 ACS, Table B17017					
*Households below 100% of the federal poverty level.					

Figure C-b Autoless Households and Households Below Poverty Level - Select Metropolitan Area Communities

Means of Transportation and Travel Time to Work for Environmental Justice Populations

Figures C-c to C-e show the means of transportation to work by race, ethnicity and income in relation to poverty level in the Madison Urban Area, based on estimates from 2015-2019 ACS data. The data show that minority, Hispanic, and low-income persons use alternatives to driving alone at a much higher rate than non-Hispanic, white persons. Around 73% of white, non-Hispanic persons drove alone to work compared to 64% of minority, 70% of Hispanic, and 48% of low-income persons (i.e., workers with income below 150% of the federal poverty level). For minorities and

Means of Transportation to Work by Race, Madison Urban Area (2010), 2015–2019*

Mode of Transportation	White		African American		Asian		Other Race or 2+ Races	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Drive Alone	153,483	73.2%	7,932	62.1%	10,577	61.9%	7,491	68.6%
Carpooled	13,519	6.4%	1,618	12.7%	1,856	10.9%	1,065	9.8%
Public Transportation	10,473	5.0%	1,656	13.0%	2,303	13.5%	1,033	9.5%
Walked	12,513	6.0%	951	7.4%	1,539	9.0%	680	6.2%
Bicycle, Taxicab, Motorcycle, or Other	8,984	4.3%	344	2.7%	498	2.9%	380	3.5%
Worked at Home	10,681	5.1%	280	2.2%	304	1.8%	273	2.5%
Total	209,653	-	12,781	-	17,077	-	10,922	-
Source: 2015–2019 ACS, B08105A–G								
*For workers 16 years and over.								

Figure C–c Means of Transportation to Work by Race, Madison Urban Area (2010), 2015–2019

Hispanic persons, the most common alternative transportation modes were carpooling (11% and 11% respectively) and transit (12% and 7%). For low-income workers, the most common alternative mode was walking (20%) with transit and carpooling both around 13% and 8%, respectively.

The Metro Transit on-board survey conducted in 2015 showed that minorities make longer transit trips and transfer more often. This is largely due to their residence and destination locations outside the downtown/UW campus area where most service is oriented. More recent data is unavailable, but according to 2000 Census data minority and Hispanic persons had somewhat longer overall travel times to work (regardless of mode) than white, non-Hispanic persons. Around 19.5% of minority persons and 18% of Hispanic persons had travel times of 30 minutes or greater compared

Means of Transportation to Work by Ethnicity, Madison Urban Area, 2015–2019*

Mode of Transportation	White, Non Hispanic		Hispanic or Latino	
	Number	Percent	Number	Percent
Drive Alone	146,492	73.4%	10,552	70.1%
Carpooled	12,480	6.3%	1,667	11.1%
Public Transportation	9,811	4.9%	1,040	6.9%
Walked	11,725	5.9%	970	6.4%
Bicycle, Taxicab, Motorcycle, or Other	8,580	4.3%	491	3.3%
Worked at Home	10,466	5.2%	340	2.3%
Total	199,554	-	15,060	-
Source: 2015–2019 ACS, B08105H & I				
*For workers 16 years and over.				

Figure C–d Means of Transportation to Work by Ethnicity, Madison Urban Area, 2015–2019

Means of Transportation to Work by Poverty Status, Madison Urban Area, 2015–2019*

Mode of Transportation	Below 100% Poverty Level		Below 150% Poverty Level		At or Above 150% Poverty Level	
	Number	Percent	Number	Percent	Number	Percent
Drive Alone	9,288	41.3%	16,351	48.1%	162,699	76.2%
Carpooled	1,646	7.3%	2,845	8.4%	15,088	7.1%
Public Transportation	3,126	13.9%	4,508	13.3%	10,705	5.0%
Walked	5,706	25.4%	6,712	19.7%	7,388	3.5%
Bicycle, Taxicab, Motorcycle, or Other	2,035	9.1%	2,683	7.9%	7,358	3.4%
Worked at Home	683	3.0%	888	2.6%	10,381	4.9%
Total	22,484	-	33,987	-	213,619	-
Source: 2015–2019 ACS, B08122						
*For workers 16 years and over for whom poverty status is determined.						

Figure C–e Means of Transportation to Work by Poverty Status, Madison Urban Area, 2015–2019*

to 16% of white, non-Hispanic persons. Around 55% of minorities had travel times of less than 20 minutes compared to 57% of white, non-Hispanic persons. The higher overall travel times for minorities can be partially attributed to their greater use of car/vanpools and transit. Average travel times for those modes are longer than for those driving alone, as one would expect.

Roadway and Bicycle/ Pedestrian Project Analysis

A qualitative transportation project analysis was conducted comparing the location of planned projects in relation to areas with concentrations of environmental justice (EJ) populations. Maps C-d, C-e, and C-f overlay the recommended major roadway and high-capacity transit (BRT) projects and studies (C-d), roadway preservation and TSM/

safety projects (C-e), and programmed and planned bicycle facility projects (C-f) on MPO-identified Environmental Justice Areas.

ROADWAY PROJECTS & STUDIES

Roadway capacity expansion projects improve auto mobility for persons passing through or traveling to areas in the general vicinity of the roadway, but can have negative impacts (e.g. traffic noise, air pollution) on persons residing adjacent to or in close proximity to the roadway. Roadway preservation, TSM (e.g., intersection improvement), or safety projects are generally considered to have a positive impact on the adjacent properties, particularly when they include pedestrian/bicycle facilities and streetscape improvements. Some negative impacts may occur during construction of the project (e.g., noise, dust, etc.), however the potential benefits of the project

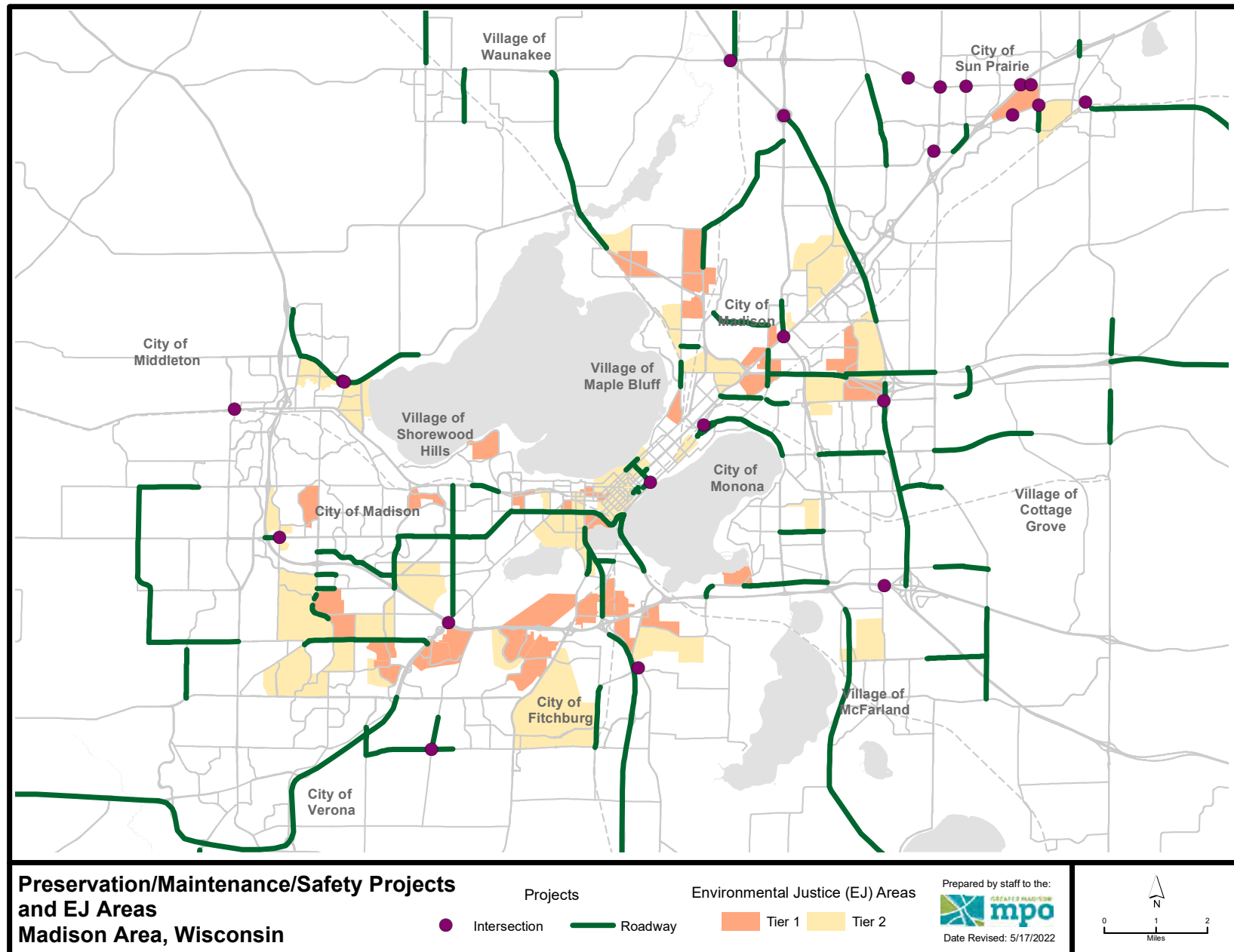
(e.g., improved safety and traffic flow, smoother pavement, improved pedestrian and bicycle facilities, streetscape amenities) are assumed to outweigh the negative impacts. Bicycle facilities also have a positive impact on the adjacent neighborhood area by improving non-motorized accessibility.

As shown in Map C-d, the current major corridor studies on the Beltline, Stoughton Road, and Interstate all pass by or through MPO-identified EJ areas, as does the Flex Lane Freeway Capacity Expansion project on the Beltline. Detailed analysis of the benefits (e.g., added street crossing, bicycle facilities) and impacts on EJ Areas of recommended improvements that come out of these studies will be conducted as part of those studies. The Flex Lane project is intended to reduce congestion and improve travel time reliability through the corridor, reducing idling and the frequency of rear-end collisions. This should have the benefit of improving air quality to some extent for adjacent neighborhoods.

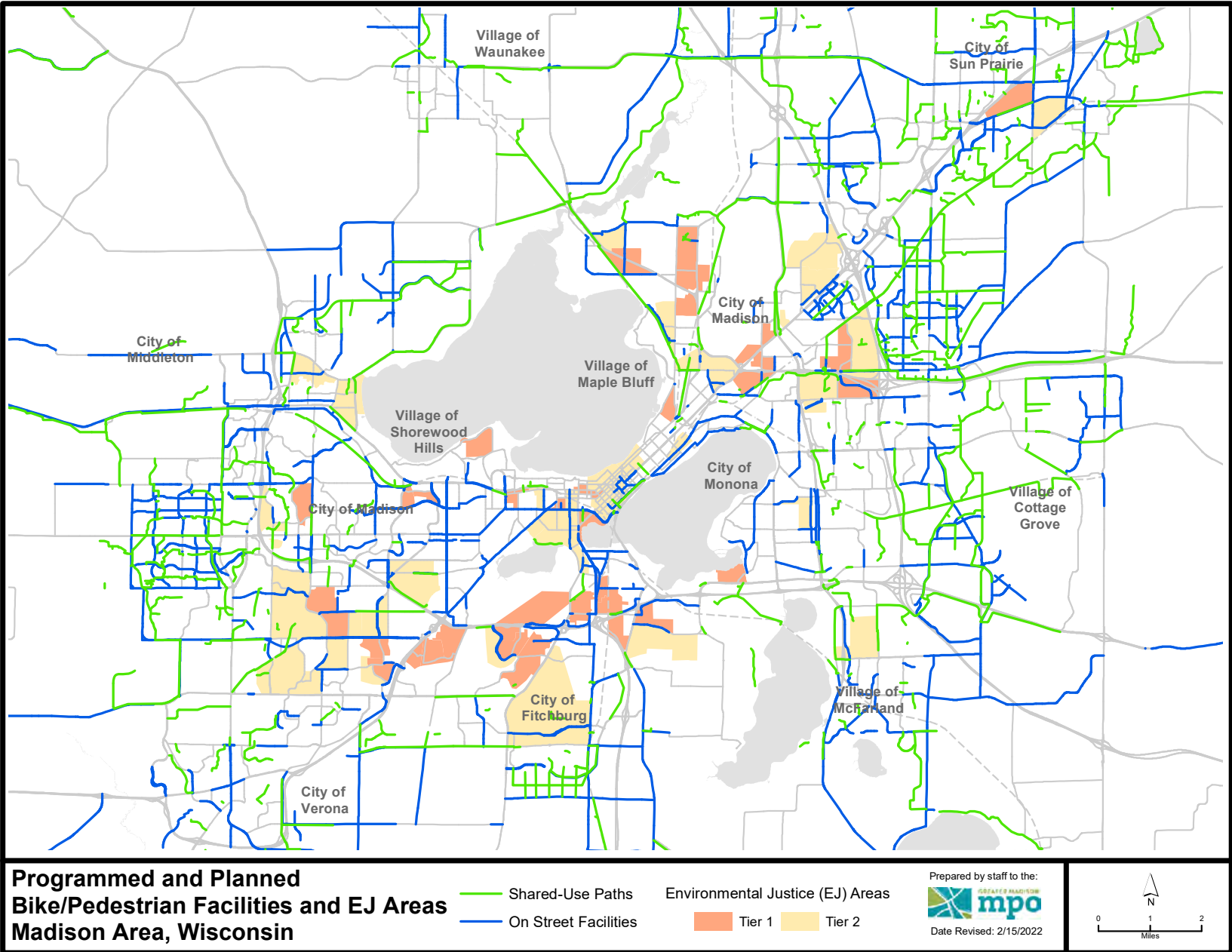
The only programmed freeway conversion, USH 12/18 (I-39/90 to CTH AB), is not near any EJ areas, but the programmed interchange with CTH AB will improve crossing and turning movement safety for the only access to the Ho-Chunk Casino. The associated bicycle/pedestrian facility improvements will improve bicyclist access to the casino.

The three programmed local arterial capacity expansion projects (CTH M North, Pleasant View Rd., short segment of Fish Hatchery Rd.) are on periphery away from EJ areas. The recommended local arterial capacity projects are





Map C-e Preservation/Maintenance/Safety Projects and EJ Areas



Map C-f Programmed and Planned Bike/Pedestrian Facilities and EJ Areas

primarily intended to serve developing areas and accommodate regional traffic (e.g., CTH K) and are located on the periphery of the Madison area away from EJ areas.

The plan recommends a capacity reduction on two local arterial roadways (Atwood Ave., Gammon Rd.) and future study of a potential capacity reduction on five other arterial roadways in order to calm traffic, improve multimodal facilities, and improve pedestrian and bicyclist safety. These projects would positively impact the neighborhoods through which they pass. Four of five recommended roadways for study of potential capacity reduction pass through or are adjacent to EJ areas. All of these are on existing bus routes and three are on planned BRT routes.

Map C-e shows the location of programmed and planned roadway preservation, TSM, and safety projects in relation to areas with concentrations of EJ populations. Planned preservation projects are primarily roadways that are anticipated to need reconstruction due to their age and pavement condition or to convert them to urban standards to serve planned development. There are a significant number of anticipated reconstruction projects and other projects located in or near EJ areas that will benefit them. These include the following:

- N. Blair St. (Johnson St. to E. Washington Ave.)
- Bird St. (W. Main to Linnerud Dr.) in Sun Prairie
- E. Wilson St./Williamson St. (Franklin St. to Blount St.)
- S. Park St. (US 151) (W. Washington Ave. to Badger Rd.)

- N. Fish Hatchery Rd. (S. Park St. to Wingra Dr.)
- North Shore Dr./Proudfit St. (John Nolen Dr. to W. Washington Ave.)
- Regent St. (Highland Ave. to Park St.)
- Midvale Blvd. (University Ave. to Beltline Hwy.)
- Raymond Rd. (USH 18 to High Point Rd.)
- Milwaukee St. (E. Washington Ave. to Schenk St.)
- Fair Oaks Ave. (E. Washington Ave. to WSOR)
- Commercial Ave. (CTH T) (Fair Oaks Ave. to Sprecher Rd./Reiner Rd.)

Most of these projects will incorporate significant pedestrian/bicycle and streetscape improvements, and some will also include safety improvements. While construction will have negative impacts on adjacent areas due to noise, dust, and inconvenience, these impacts are temporary and to some degree inevitable.

As shown in Figure C-f, Whites and Other races drive alone at the highest rates in the Madison Urban Area, at 73% for both groups. 67% of those of two or more races drive alone, and 62% of Black or African American and Asians drive alone. 14% of those of Other races carpool, as do 13% of Black or African Americans. 11% of Asians, 7% of two or more races, and 6% of Whites carpool.¹

The MPO worked with three community organizations to hold focus group with historically

¹ Small sample sizes and resulting large margins of error for the American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander racial groups make the ACS estimates for these groups highly unreliable, so they are not included in this data. 2019 ACS 5-year data.

disadvantaged populations who are less likely to participate in traditional public engagement activities. 85% of participants indicated that they use a personal vehicle for transportation on a frequent basis, and 10% indicated that they carpool frequently. Many participants indicated that they share a vehicle with one or more family members and/or neighbors, or that they provide rides to others on an informal basis for a small fee, such as Latino Academy students sharing rides to classes and their costs. It does not appear that this behavior was considered “carpooling” in the survey completed by participants, as only two Latino Academy participants indicated that they carpool, but the discussion included four participants mentioning ride-sharing in one form or another.

Comments regarding driving a private auto fall into three categories: cost, necessity, and the inability of undocumented individuals to obtain a driver’s license. Representative comments include:

- “I use my own car out of necessity. In my case it is expensive to use my car because I need to pay for gas, repairs, and monthly car payments. For me having a car is a huge expense.”
- “Having a car for regular use means that I have to sacrifice a lot of things in the rest of my life. The money we spend to have that car so that we can have flexibility means that we don’t have money to spend on other things so we have to sacrifice a lot. For example we can’t go on trips, spend money on meals, or do fun extra activities because I’m spending so much for the car.”

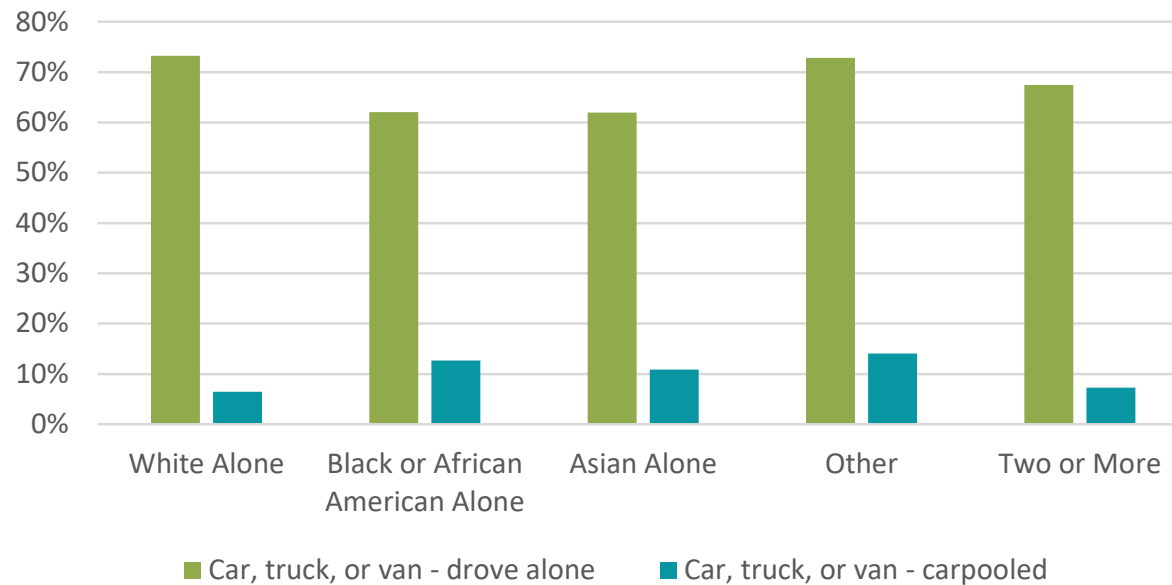
Mode of Transportation to Work by Race: Drove Alone or Carpooled (Madison Urban Area)

Figure C-f Mode of Transportation to Work by Race: Drove Alone or Carpooled (Madison Urban Area)

- “I would like to be able to use public transportation since for me using the car is very expensive since I have to pay for gas, insurance, repairs. This has gotten harder because of the pandemic that sometimes you do not have the funds to be able to pay for all the car-related expenses. But since I live in a small town where there is no public transportation it is very expensive.”
- “One of the things we are forgetting in regards to transportation is that many of us cannot drive because we do not have a valid driver’s license and the state is not willing to give us a driver’s license for us to be able to

legally drive. We pay taxes, we support this economy but yet we do not have access to a driver’s license.”

The MPO offered an interactive map commenting tool online on the plan website from August 23 to October 3, 2021. A total of 487 comments were received regarding the roadway network; 24% of these comments were pinned to the map in or directly adjacent to EJ areas.

As shown in Figure C-g, comments regarding roadway design accounted for nearly half of all roadway comments, while no other categories had more than 13% of roadway comments associated with them. Although less than one

quarter of roadway comments were pinned or adjacent to EJ areas, 100% of non-railroad noise-related comments were pinned to or adjacent to EJ areas, and 44% of all speed-related comments were pinned to or adjacent to EJ areas. Comments requesting capacity expansion/lane addition projects on the Beltline and the I-39/90/94 corridors would result in disproportionate noise and air quality impacts to adjacent EJ areas.

BICYCLE/PEDESTRIAN PROJECTS

Bicycle and pedestrian facilities benefit areas in which they are located or which they are nearby, by improving non-motorized accessibility and strengthening the social fabric of the neighborhoods. Many minority and low-income neighborhoods are served directly or indirectly with high-quality regional shared-use paths and on-street bicycle facilities. However, the neighborhoods often lack a connected local street network, and in many cases are isolated from others and the rest of the community due to barriers like the Beltline Highway and high volume arterials like Northport Dr. and E. Washington Ave.

Map C-f shows the programmed and planned on-street facility needs and recommended off-street bicycle/pedestrian facility projects in relation to the MPO’s Environmental Justice (EJ) Areas.

Neighborhoods along the Madison-Fitchburg border are currently served by the Southwest Path and new Cannonball Path, both along former rail corridors with Beltline highway crossings separated from traffic. These neighborhoods will be even better served with the following planned facilities: extension of the Cannonball path to

Roadway Comments for EJ Areas

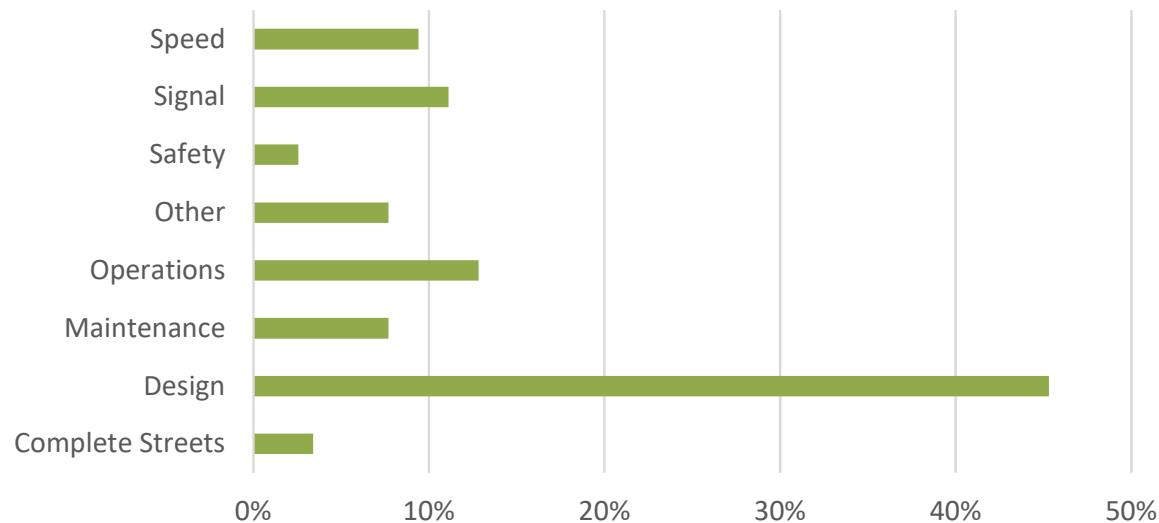


Figure C-g Roadway Comments for EJ Areas

the Wingra path; improved bicycle facilities along South Park Street; Beltline highway street crossing at Perry Street; shared-use path along the Beltline highway connecting the Southwest path with west Madison and the West Towne Path; and new and/or improved on-street bicycle facilities on Midvale Boulevard and Whitney Way.

Low-income and minority neighborhoods in northeast Madison are served by a network of primarily on-street facilities – bike lanes on portions of Milwaukee Street, Thompson Drive, and East Washington Avenue. However, a low-stress network consisting of low-speed, low-traffic streets and shared-use paths is lacking. The planned Goodman Path in the rail corridor paralleling E. Washington Ave/USH 151 and shared-use path along STH 30 and I-94 will improve

bicycle travel for these neighborhoods. New and improved crossings of I-39/90/94 will improve safety and allow access between existing and developing neighborhoods.

North Madison neighborhoods have historically had limited access to bicycle facilities. Bike lanes on Sherman Avenue, Northport Drive, and other smaller improvements have improved access in the last few years, but are not low-stress facilities. The long-planned “Sherman Flyer” shared-use path along the rail corridor will dramatically improve access to portions of north Madison, but areas north of Northport Drive will continue to depend on the bike lanes on North Sherman Ave. to connect to the larger low traffic stress network.

New connections across the Beltline will benefit EJ areas on both the north and south of this major barrier, improving access to jobs, services, and other destinations. New facilities, both on- and off-street, will provide access to the larger non-motorized network for EJ areas in southwest, west, and south Madison, as well as the cities of Fitchburg, Middleton, and Sun Prairie. Throughout the planning area, all EJ areas would benefit from proposed bicycle facilities, with most areas gaining new low-stress routes within, through, or directly connecting to them.

Map 3-u on page 3-32 shows pedestrian barriers and intersection density throughout the MPO Planning Area. Most EJ areas have medium- to high-intersection densities, indicating a well-connected street network that offers multiple routes through the area. Where EJ areas overlap areas with low- to no-intersection density, it is often where the EJ area includes a large expanse of open space where intersections would not be expected (e.g. a golf course, parks, or other undeveloped property). Pedestrian barriers, however, are frequently adjacent to EJ areas and restrict access to and from these areas. Most of the planned/needed crossings of the Beltline would improve network connectivity for residents of EJ areas; four of the eight planned/needed crossings of I-39/90 would do so; and five of the nine planned/needed crossings of USH 51 and STH 30 would benefit EJ areas.

In southwest Madison, Hammersley Road is a notable gap in the pedestrian network between the Southwest Path and Brookwood Road/Rae Lane. A multi-use path is planned on the north side of the street in conjunction with a programmed

Mode of Transportation to Work by Race: Taxicab, Motorcycle, Bicycle, or Other Means (Madison Urban Area)

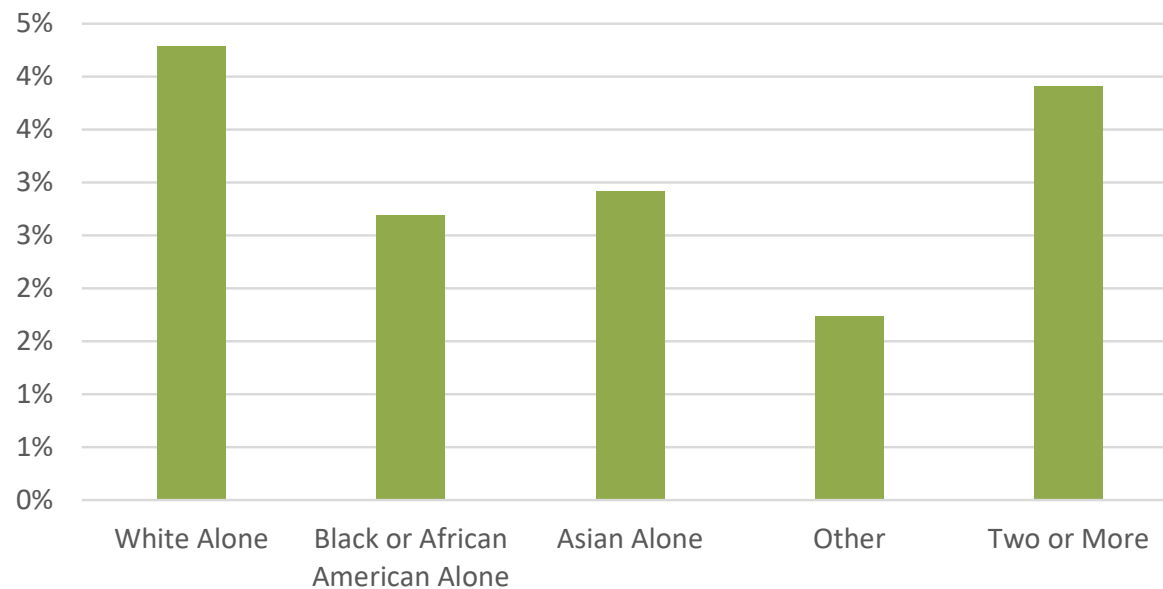


Figure C-h Mode of Transportation to Work by Race: Taxicab, Motorcycle, Bicycle, or Other Means (Madison Urban Area)

resurfacing project. Other examples of missing regional sidewalk connections in low-income and minority neighborhoods are Gammon Rd. near Old Sauk Rd., Atlas Ave., Wright St., Commercial Ave., Packers Ave., and Troy Dr. west of the railroad crossing. Additionally, missing sidewalks in any commercial areas are important from an equity standpoint because low-income people are likely to work or shop there. Most large retail areas have sidewalks, although many are auto-oriented and difficult to reach from residential neighborhoods. See the MPO's 2021 *Pedestrian/Bicycle Facilities, Policies, and Streets Standards* report for more

maps and discussion of sidewalk networks in EJ areas.²

The Census American Community Survey (ACS) groups bicycles with motorcycles, taxis, and "other means" for journey-to-work data, which obscures the extent to which different racial or ethnic groups bicycle to work. Although overall variation in bicycle commuting is small, there are differences between the prevalence of this mode share for different racial groups. In the Madison Urban Area, 4% of Whites and those of two or more

² https://www.greatermadisonmpo.org/planning/documents/PedestrianFacilityRequirementsandPoliciesandStreetStandards_FINAL_5_25_21.pdf

racers report using this group of modes, followed by 3% of Black or African American and Asian respondents, and 2% of Other race respondents (Figure C-h).³

The MPO worked with three community organizations to hold focus groups with historically disadvantaged populations who are less likely to participate in traditional public engagement activities. Around 27% of participants indicated that they ride a bicycle frequently for transportation, a much higher mode share than that estimated by the ACS. Many focus group participants who bicycle reported that they are not comfortable biking in the street, and that additional separated paths and a complete sidewalk network would encourage them to bicycle more.

Additional barriers reported by participants include limited capacity to carry groceries or other cargo, the feasibility of travelling with children, snow removal, and not having the right equipment to cycle safely and comfortably at night and in inclement weather (e.g. lights, studded tires, winter biking clothing).

The MPO offered an Interactive Map Commenting Tool as part of the public engagement for this RTP update. A total of 480 bicycle-related comments were submitted, 32% of which were "pinned" to or adjacent to identified EJ areas. 61% of EJ-area bicycle comments regarded needing new or

³ Small sample sizes and resulting large margins of error for the American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander racial groups make the ACS estimates for these groups highly unreliable, so they are not included in this data. 2019 ACS 5-year data.

improved facilities and an additional 16% regarded street crossings (Figure C-i).

Less than one third of bicycle comments were pinned or adjacent to EJ areas; however, a disproportionately high percent of the Road Design (50%), Crossing (46%), and Other (46%)⁴ comments related to bicycles were pinned or adjacent to EJ areas.

While the level of traffic stress (LTS) faced by bicyclists depends on the specific locations of their homes, workplaces, and other destinations, LTS on regional bicycle routes in Tier 1 and Tier 2 EJ areas is lower (better) than in other parts of the MPO area, as shown in Map C-g. Two-thirds of the regional bike routes in EJ areas are low stress, compared to just over half of the regional routes in other parts of the MPO area.

Similarly, a much smaller portion of regional routes in EJ areas are high-stress than in other parts of the MPO area. This pattern may be due in part to the fact that EJ areas tend to be located in higher-density and more central areas, where regional bike routes are more likely to be composed of low-speed local roads and off-street paths, and less likely to include large higher-speed roads.

In the Madison Urban Area, 9% of Asians report walking to work, as do 8% of those of two or more races, 7% of Black or African Americans, and 6% of

Bicycle Comments for EJ Areas

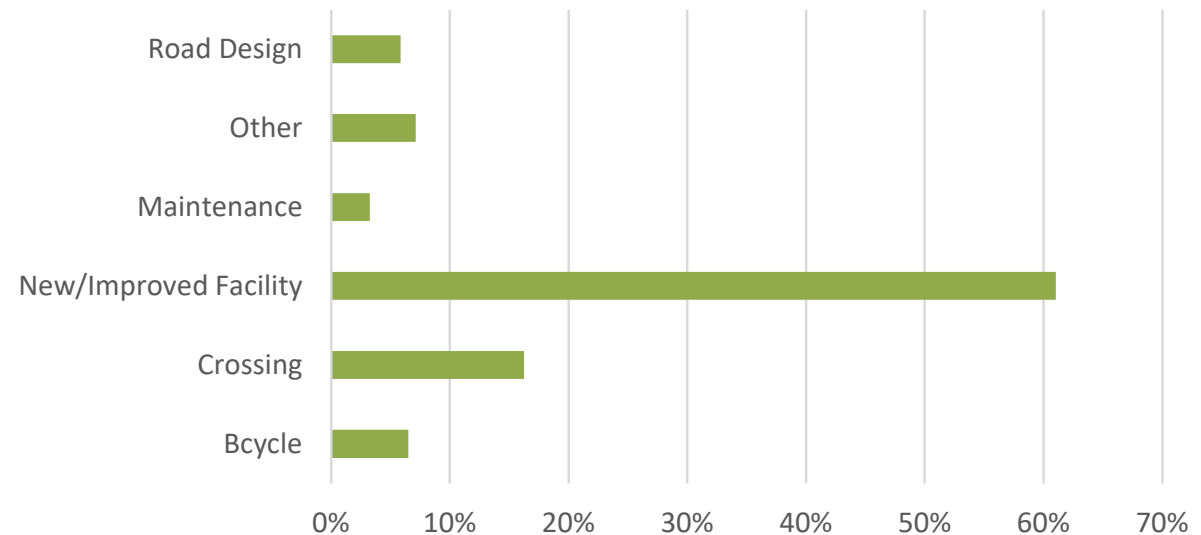


Figure C-i Bicycle Comments for EJ Areas

Whites (the smallest walking mode share of any race other than Other (3%)) (Figure C-j).⁵

The MPO worked with three community organizations to hold focus groups with historically disadvantaged populations who are less likely to participate in traditional public engagement activities. Around 24% of participants indicated that they frequently walk for transportation. Participants in all three focus groups stated that a lack of sidewalks makes walking difficult, especially in the winter and for those with disabilities. Some

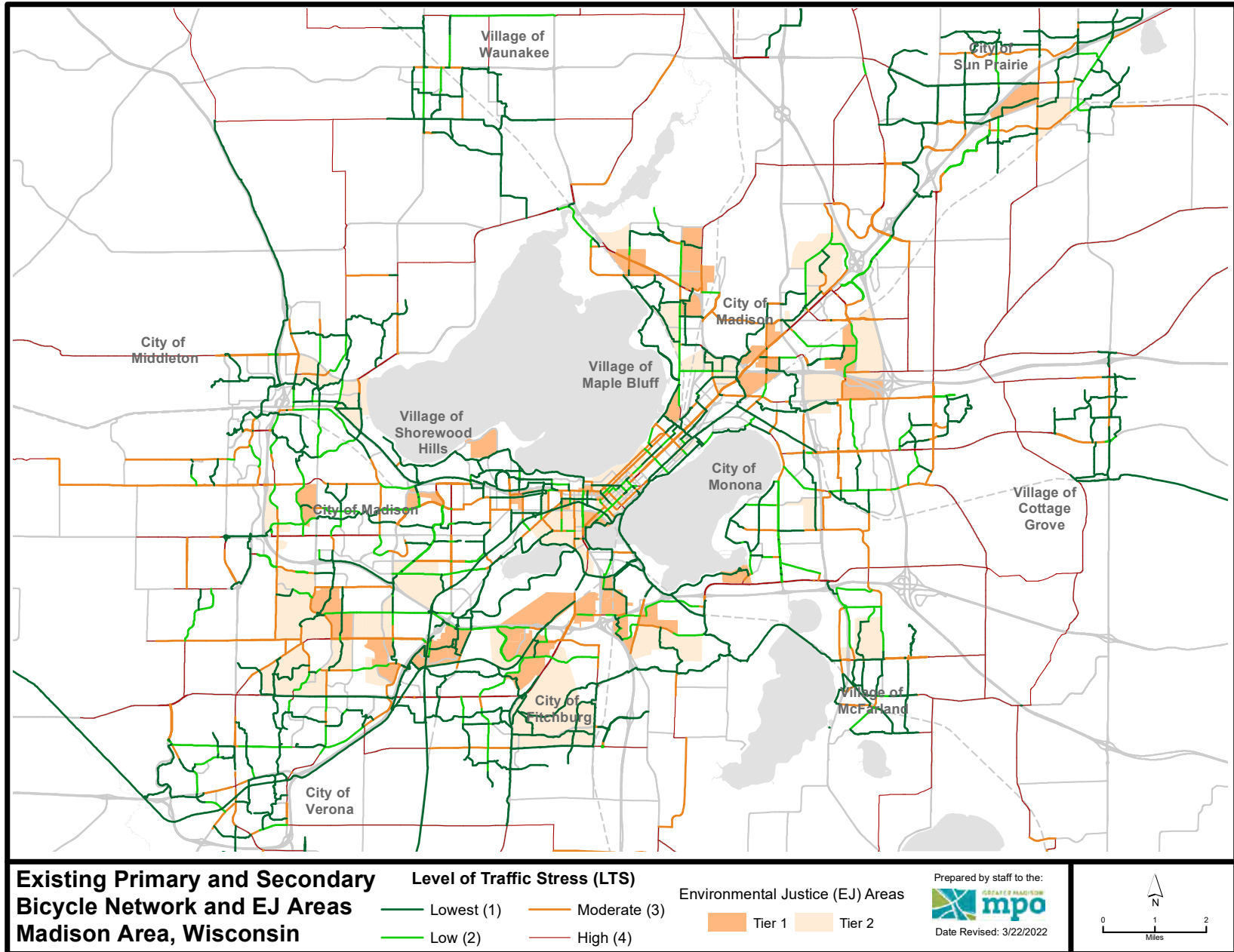
participants in all groups indicated that they live where they do because it is close enough to destinations and family to be able to walk.

A total of 183 pedestrian-related comments were received through the interactive map commenting tool; of these, 37% were “pinned” to or adjacent to identified EJ areas. As shown in Figure C-k, 60% of these comments regarded roadway crossings and 25% regarded missing connections in the pedestrian network.

While 37% of pedestrian comments were pinned or adjacent to EJ areas, 45% of the Crossing

⁴ Other comments include need for enforcement (33%) and positive feedback on existing facilities (25%).

⁵ Small sample sizes and large margins of error for the American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander racial groups make the ACS estimates for these groups highly unreliable, so they are not included in this data. 2019 ACS 5-year data.



Map C-g Existing Primary and Secondary Bicycle Network and EJ Areas

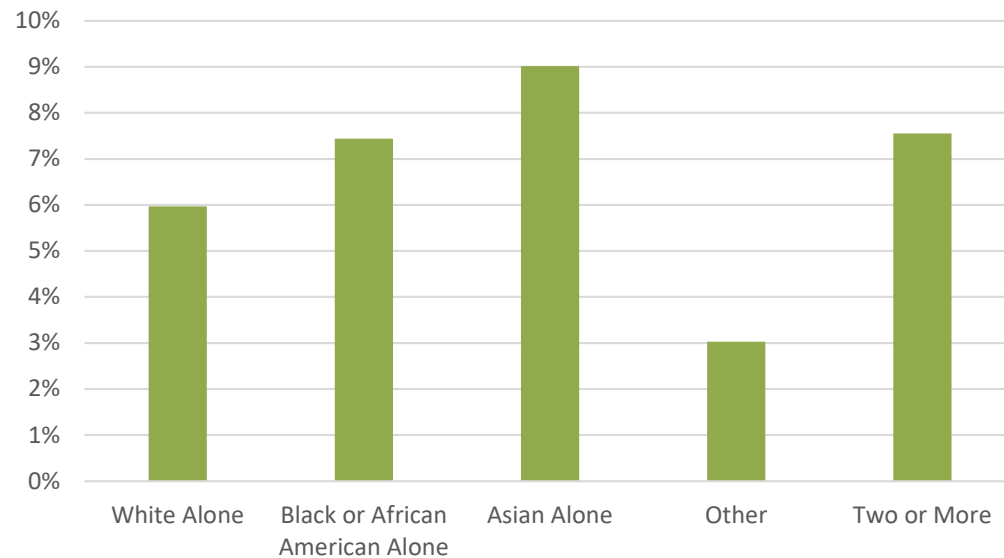
Mode of Transportation to Work by Race: Walk (Madison Urban Area)

Figure C-j Mode of Transportation to Work by Race: Walk (Madison Urban Area)

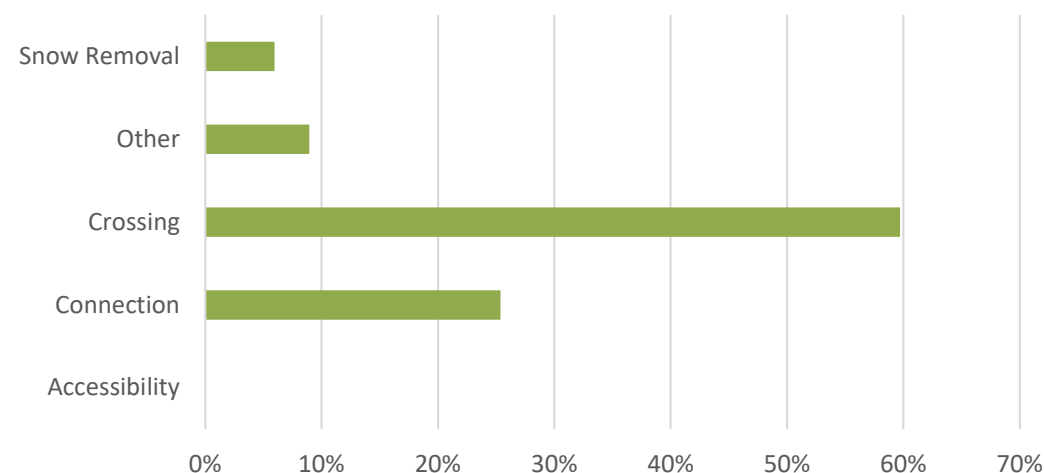
Pedestrian Comments for EJ Areas

Figure C-k Pedestrian Comments for EJ Areas

comments and 43% of the Other⁶ comments related to pedestrians were pinned to EJ areas. 100% of snow removal comments were pinned or adjacent to EJ areas.

Public Transit Analysis**CURRENT TRANSIT SERVICE**

The Metro Transit all-day service area encompasses almost all of the areas with concentrations of EJ population groups. The one exception is in Sun Prairie, which is served by the city's shared-ride taxi system, but only has access to transit service to/from the Madison area during peak periods.

The main challenges for bus riders in the Madison-area EJ areas are relatively long travel times and sometimes low frequency and limited service. This stems in large part from the fact that many of the EJ areas are located in the periphery of Madison, and that trips are most commonly destined for other peripheral areas. This travel pattern is not well-served by Metro's wheel-and-spoke network design, which forces out-of-direction travel and one or more transfers to travel relatively short distances around the periphery. Onboard transit surveys and Streetlight Data consistently show that within the current transit system, low-income and minority riders often make long trips, particularly outside of the morning and afternoon peak commute periods, and require transfers, to reach their destinations.

⁶ Notably, half of the "other" pedestrian comments for EJ areas suggest complete redesign and reconstruction of Regent St. near the UW-Madison campus. Other comments in this category included questions about existing facilities and comments that Century Ave. in Middleton is unpleasant to walk along in poor weather.

Isochrone maps can be used to approximate how far a person can travel using public transit (or other modes) in a given amount of time. This analysis is useful because it shows a person's freedom of travel – in other words, whether they are isolated within their neighborhood or whether they have reasonable access to jobs, retail, services, and other opportunities that Madison and area communities have to offer. Maps C-10 and C-11 are access maps produced for the Metro Network Redesign to illustrate the change in access for low-income and minority populations which would be accomplished, compared to the 2019 network, if the Draft Network were implemented.⁷ Map C-12 shows the location and access to low-cost grocery stores with the Draft Network. The Network Redesign also considered other populations of concern, including seniors, youth, the location of designated affordable housing, and the locations of specific housing types such as emergency shelters, transitional housing, senior living facilities, and licensed supportive services.⁸

As part of its Title VI compliance monitoring, Metro Transit updated its Title VI Program document

in 2020.⁹ A fixed-route service standards and policies analysis was conducted to ensure that the level of service and location of routes, age/quality of vehicles assigned to routes, and stop and other facilities are being provided in a non-discriminatory manner. The analysis compared the level of service for areas or routes used by minority concentrations to adopted service standards and the quality of service for these areas compared to non-minority areas/routes. The analysis concluded that service and facility quality for areas/routes with concentrations of minority and limited English proficient populations compared very favorably with non-minority areas and there were no disparate impacts on the basis of race, ethnicity, income, or limited English proficiency.

PLANNED REGIONAL TRANSIT NETWORK AND SERVICE

The planned bus rapid transit (BRT) system will eventually span the majority of the service area, with direct service to north Madison, south Madison, west Madison, Middleton, Sun Prairie, and north Fitchburg EJ areas, as well as low-income and minority populations along East Washington Avenue. Further, most neighborhoods will benefit from the BRT system because they will be able to use local routes to connect to the system, reducing their travel times, particularly for cross-town trips.

The planned transit network was based on the "Ridership Alternative" in the Metro Transit Network Redesign; due to the timing of this RTP

update and the Network Redesign, the planned transit network in the RTP was not adjusted to account for all of the changes in the Network Redesign Draft Plan. However, major changes such as moving the BRT north corridor from Sherman Ave. to Packers Ave. were integrated into the planned future network. The Ridership Alternative and BRT, upon which the planned future transit network is based, work together to reduce out-of-direction travel and forced transfers for trips that residents of EJ areas are already making, according to analysis of StreetLight data.

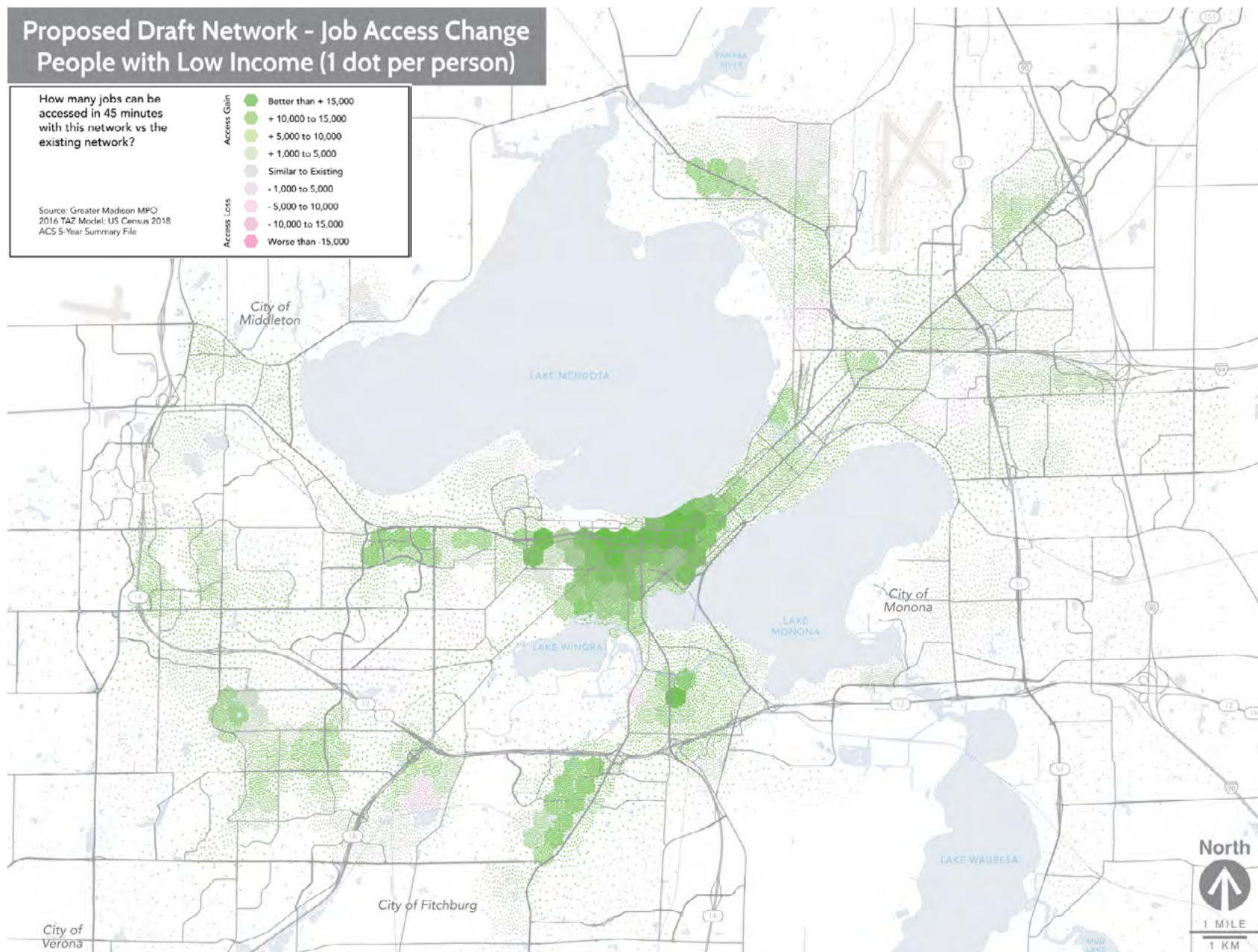
Although concentrations of various populations may shift or develop in new areas during the planning horizon, the environmental justice analyses conducted on the Ridership Alternative and on the Draft Network Design Plan indicate that the majority of low-income households and people of color will experience dramatic improvements to transit access from the Network Redesign. The percentage of people of color who live near frequent transit service (15 min. or better headways) would increase from 15% with the existing network to 40% with the draft plan. The percentage of people of color who live near transit service with 30 minute or better headways would increase from 59% to 72% under the draft plan. Although the number of people of color who live in areas without access to *any* transit service would increase from 19% to 23% under the draft plan, this impact is proportional across all racial groups in the Metro service area.

Similarly to its impact on people of color, the draft Network Redesign plan would improve access to frequent transit service and half-hour service for people with low incomes, 32% of whom currently

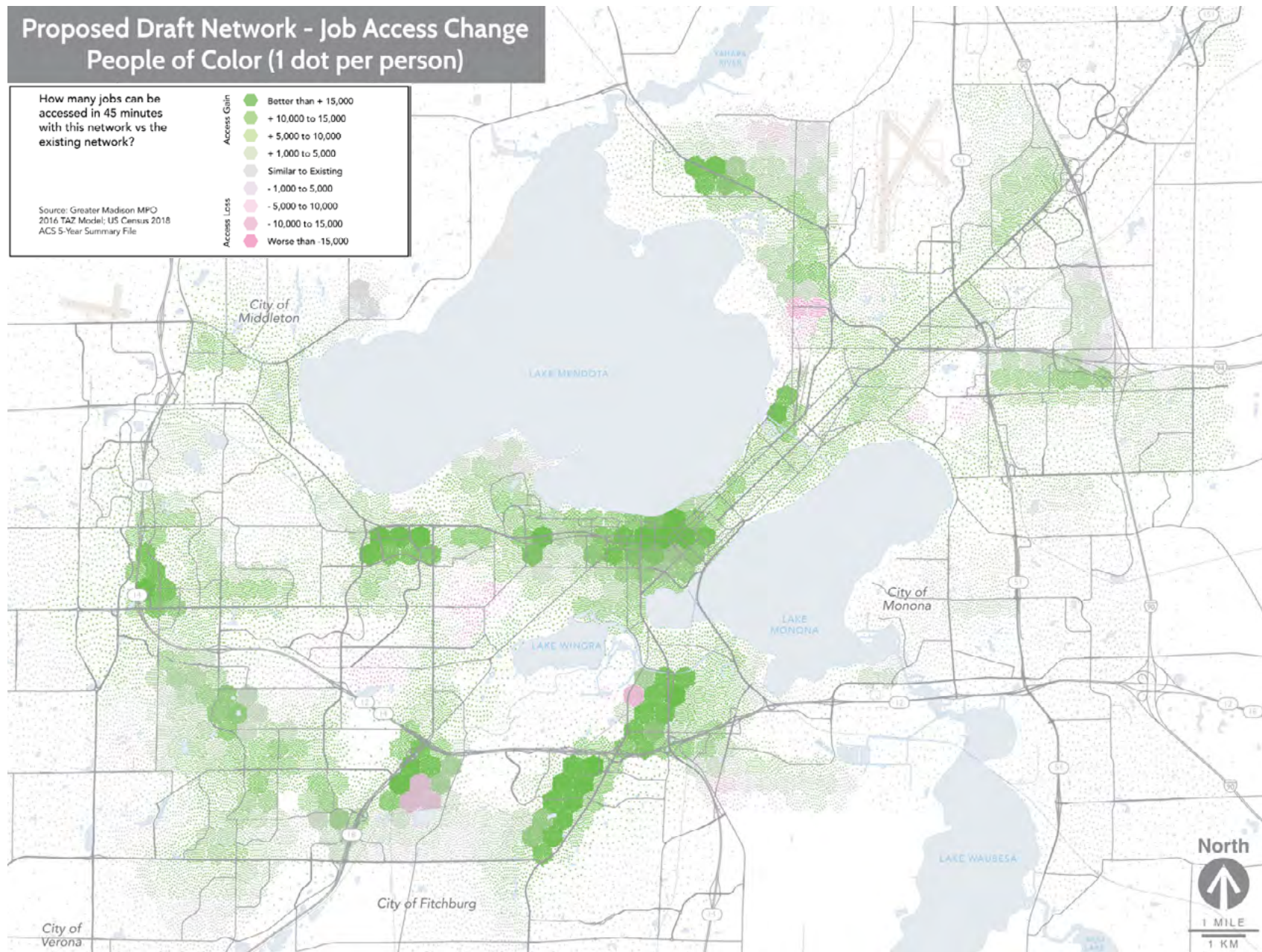
⁷ Only the full service area maps produced for this project are included in this RTP. Visit <https://madison.legistar.com/View.ashx?M=F&ID=10441390&GUID=ECA1CC37-55E7-48B3-9B26-37D4A6ADF11C> to view isochrone maps for particular trip start locations.

⁸ See <https://www.cityofmadison.com/metro/documents/network-redesign/draftplan/affordablehousing-maps-red.pdf>

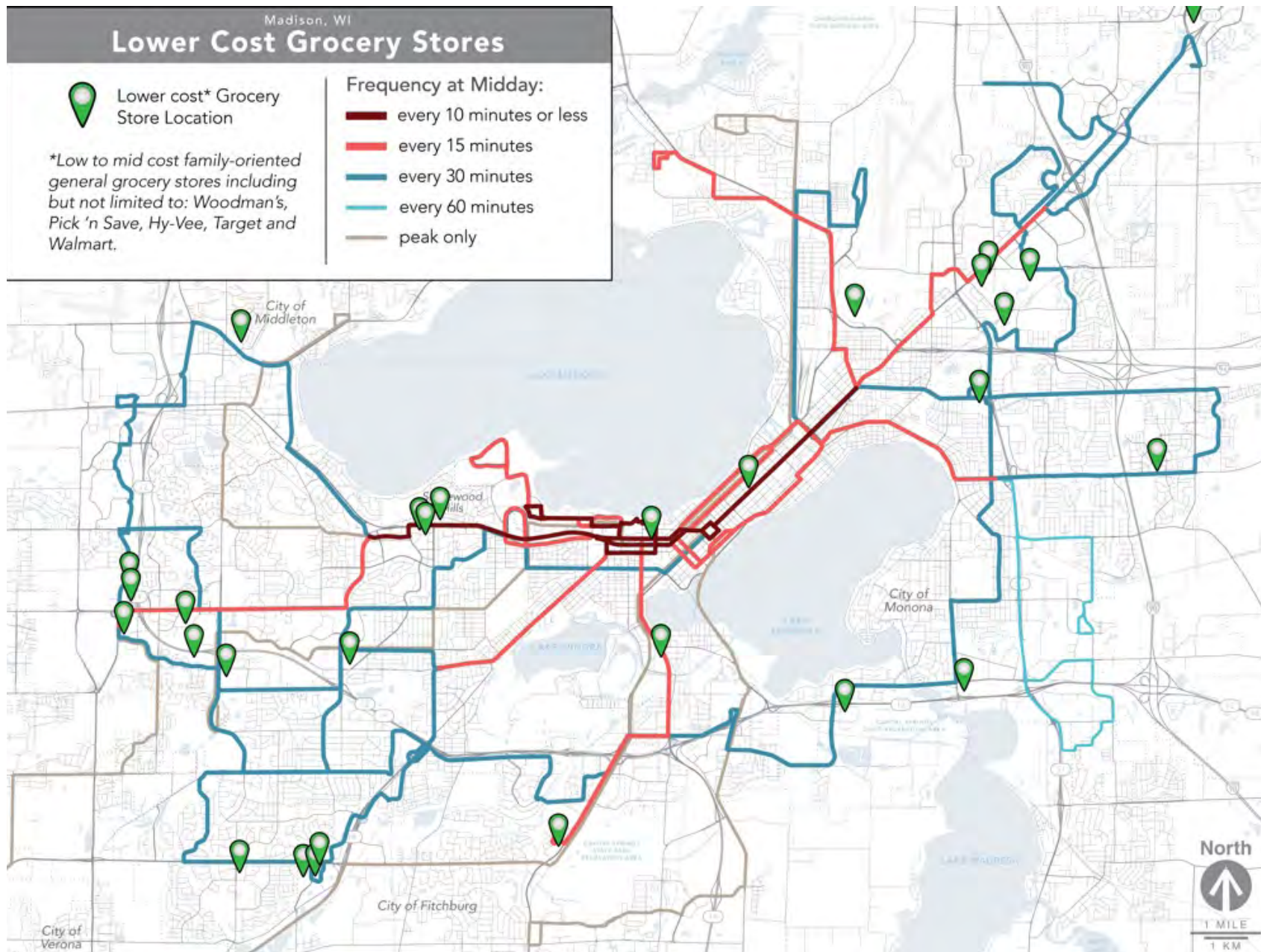
⁹ See [Metro Transit Title VI Program](#), prepared by the Madison Metro Transit System (October 2020). As of February 2022, the FTA had not yet approved this plan update.



Map C-h Proposed Draft Network - Job Access Change: People with Low Income



Map C-i Proposed Draft Network – Job Access Change: People of Color



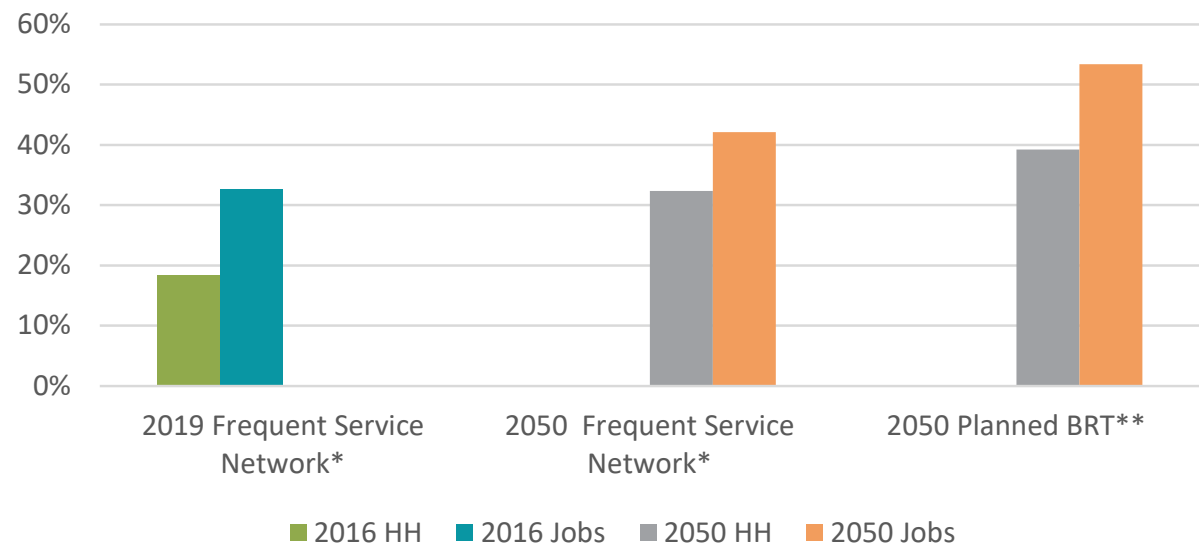
Map C-j Proposed Draft Network Frequency and Lower Cost Grocery Stores

have access to the frequent transit network and 65% of whom would live near frequent transit service under the draft plan. As with people of color and the population at large, there would be a small increase in the number of low-income people without access to *any* transit service at all, from 9% to 13%.

As shown in Map 4-g on page 4-29, the planned frequent service network expands beyond downtown Madison and central neighborhoods. These improvements in service frequency will serve low-income and zero-car households throughout Madison, in Middleton, and in portions of north in Fitchburg. Figure C-I shows the percentage of households (HH) and jobs accessible by the Frequent Service Network in 2019; the planned 2050 Frequent Service Network; and the planned 2050 BRT system. The 2050 transit network envisioned in this plan will provide over 62,000 more households with access to frequent service than had such access in 2019, and over 82,000 additional jobs will be served by high-frequency transit in 2050 than were in 2019.

New all-day service in peripheral neighborhoods will mostly serve as-of-yet undeveloped and developing neighborhoods; however, some benefits of the planned 2050 transit network will be felt by existing low-income and minority neighborhoods. Frequent service on Milwaukee Street, a new BRT route to the commercial center at the intersection of McKee and Fitchrona Roads, the extension of north-south BRT to serve the Fitchburg government center, and upgrading the Middleton local BRT extension to full BRT will improve system accessibility for many Tier 1 and 2 EJ areas. All-day local service in Sun Prairie,

Percent of MPO Planning Area Served by Transit



*Within 1/4 mile of frequent transit service (4 or more buses/hour or 15-minute headways mid-day)

**Within 1/2 mile of BRT, including local extensions (mid-day)

Figure C-I Percent of MPO Planning Area Served by Transit

with connections to BRT at the Sun Prairie Park and Ride, will serve minority and low-income population concentrations in the City of Sun Prairie. All-day service to peripheral neighborhoods and communities such as the City of Verona and Village of Cottage Grove will allow lower income households that are more transit dependent to be able to live in these areas, some of which will be more affordable than many closer-in neighborhoods. All MPO EJ areas will be served by all-day transit, although a few on the periphery (e.g. Wheeler Rd in north Madison, Owl Creek in southeast Madison, and Lacy Road in Fitchburg)

will only have hourly service during the mid-day and evening periods.

It is estimated that the percentage of households in MPO EJ areas within ¼ mile of frequent transit service (no more than 15 minutes between buses through the morning, mid-day, and afternoon periods) will increase from about 40% in 2019 to over 60% in 2050.¹⁰

¹⁰ The 2019 Frequent Transit Network is within ¼ mile of 40% of EJ Tier 1 households and 43% of EJ Tier 2 households; the 2050 Frequent Transit Network is within ¼ mile of 61% of EJ Tier 1 households and 65% of EJ Tier 2 households.

Regional express service between Madison and its suburban neighbors will primarily serve individuals with mid-level incomes who work conventional work hours in central Madison. The service will also potentially serve lower income workers and people who live in Madison and commute to employment areas in the suburbs, but the service hours may not be useful for employees working 2nd or 3rd shifts.

Overall, the public transit recommendations will not only expand the coverage of public transit, but will reduce travel times for people using the bus. However, as noted in the financial analysis in Chapter 5, additional funding – mostly likely through a new dedicated funding source such as an RTA with ability to levy a sales tax – will be required to implement many of the new service recommendations, including the later two phases of the planned BRT system.

In the Madison Urban Area, 13% of Asians and Black or African Americans ride transit to work, followed by 11% of those of two or more races; 6% of Other races; and 5% of Whites (Figure C-m).¹¹

The MPO worked with three community organizations to hold focus groups with historically disadvantaged populations who are less likely to participate in traditional public engagement activities. 15% of all participants indicated that they use transit regularly, a higher mode share than that estimated by the ACS for any racial or ethnic group.

¹¹ Small sample sizes and resulting large margins of error for the American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander racial groups make the ACS estimates for these groups highly unreliable, so they are not included in this data. 2019 ACS 5-year data.

Mode of Transportation to Work by Race: Transit (Madison Urban Area)

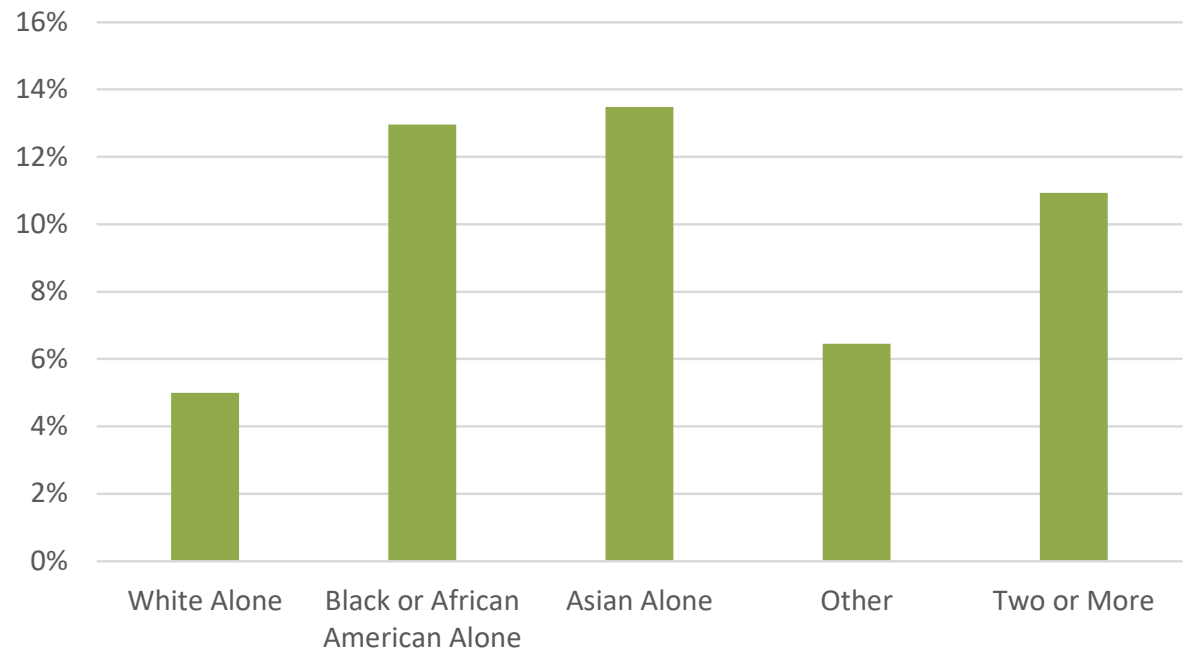


Figure C-m Mode of Transportation to Work by Race: Transit (Madison Urban Area)

Participants in the Sun Prairie Neighborhood Navigators focus group are only served by the peak-only express route #23. Although none of the Sun Prairie participants use this service due to its limited service hours and service area, they all indicated that they would use regular local bus service within Sun Prairie, should it become available. All of the Bayview Foundation focus group participants indicated that they ride the bus, but that their use of transit is restricted by lack of service to important destinations or communities outside Madison. Only one participant in the Latino Academy focus group rides the bus frequently.

Latino Academy participants reported five main barriers to using transit: Living in a community without transit service; insufficient service frequency for transit to be a viable mode choice; insufficient service span; cost; and, lack of knowledge about how to use the transit system. Representative participant statements include:

- “Just like some other people I live in a small town and there is no public transportation so I need to rely on using my own car even though I do not like to drive much but I have to do it to go to work, pick up my children, etc. It would be great if there was public

transportation in our small town. It would be more convenient.”

- “The bus does not pass by as frequently as I would like. There is a lack of frequency with the bus.”
- “Public transportation is not much available at night and during the weekends. Our community does not work from 9 am to 5 pm. Our community works from 4 am to 1 pm, 1 pm to 8 pm, 8 pm to 3 am and there is no public transportation to meet those different schedules.”
- “Public transportation in this city only serves the needs of office workers who work from 9 am to 5 pm. In Madison some downtown office workers get a “free” bus fare ticket they can use, unfortunately those “free” bus fare tickets are not provided to workers who clean the offices during the evenings or early mornings. Those “free” bus fare tickets are not provided to restaurant workers. People who clean offices or work at restaurants receive very low wages and yet are not supported with bus fare tickets.”
- “I use my own car but I would like to learn how to use public transportation. My job is as a nail technician and I go to various locations in town, especially I would like to learn how to use the bus for when I do not have a car (if car breaks down), what I will do or how would I travel to do my work since I do not know how to use public transportation.”

Half of Latino Academy participants indicated that they would use transit if it served their neighborhood or community frequently. Several participants indicated that they previously used transit, but started using personal vehicles because

of excessively long travel times by transit. One participant reported that a one-way journey by transit used to take them three hours, and another stated that it used to take them up to five hours.

Bayview participants also cited long travel times by bus, as well as forced transfers in out-of-direction locations (South Transfer Point), as barriers to using transit. Additionally, Bayview participants indicated that the threshold for a low-income bus pass is too low and that there should be another reduced-price option for people with limited incomes who are not below the 150% of poverty threshold.

Latino Academy participants also mentioned the inequity of many office workers receiving bus passes from their employers while the cleaners of those offices do not - as well as the fact that many

of these service workers would not be able to ride the bus anyway due to lack of transit service at the times they are commuting.

The MPO offered an Interactive Map Commenting Tool as part of the public engagement for this RTP update. A total of 125 transit-related comments were received, 18% of which were “pinned” to or adjacent to identified EJ areas. As shown in Figure C-n, 48% of these regarded a particular route or stop, and 26% regarded inter-city bus or rail service.

Based on the Ridership/Coverage tradeoff investigated in the Metro Transit Network Redesign, 13% of EJ-area transit comments support transit service modifications that would improve ridership, while no EJ-area comments supported

Transit Comments for EJ Areas

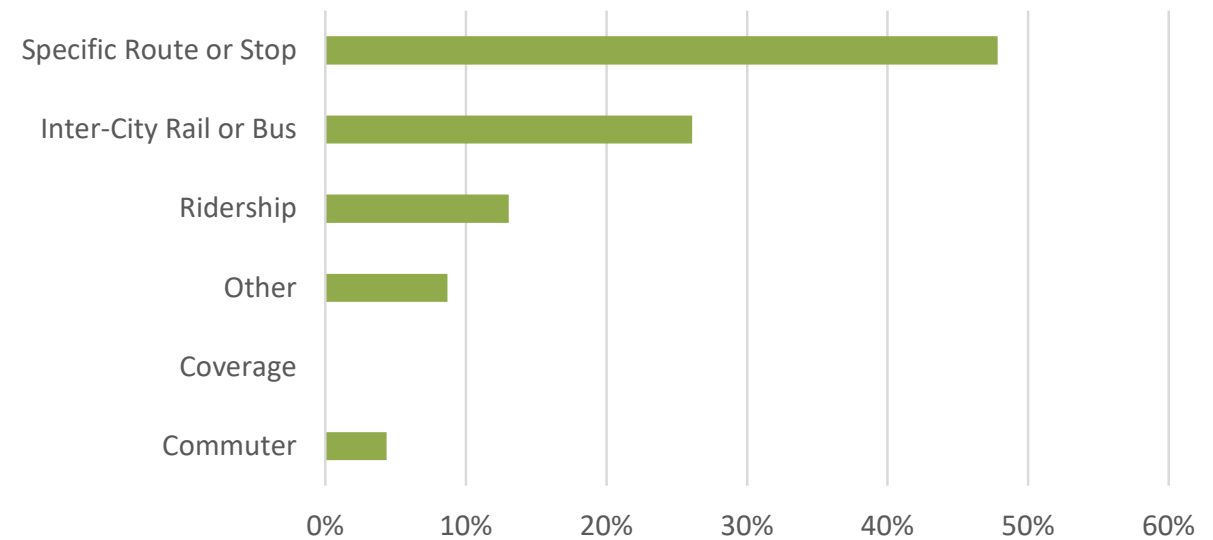


Figure C-n Transit Comments for EJ Areas

service modifications that would improve coverage – although 4% supported provision of commuter/peak-period service.

Although only 18% of transit-related comments were pinned to or adjacent to EJ areas, 50% of the comments interpreted to support a network that is useful to many people (with high service frequencies in specific corridors or other features such as consolidated stops and more direct routes), were pinned to EJ areas. 31% of all comments regarding a specific route or stop were pinned to an EJ area.

TRANSPORTATION DEMAND MANAGEMENT AND PARKING

Transportation Demand Management (TDM) by its nature supports equity by increasing access to more affordable and accessible types of transportation, and reducing the demand and need to own a personal vehicle. The Emergency Ride Home (ERH) programs offered by employers and Dane County (see TDM section in Chapter 3) provide an important safety net for non-SOV commuters, especially those who are low-income. TDM programs such as the MPO's RoundTrip program have traditionally focused on changing commuter behavior by working with employers, but are now integrating more equity-driven strategies such as focusing the delivery of programming and incentives to low-income and minority populations.

Parking requirements imposed on land uses are an example of institutional policies with unintended and far-reaching negative impacts on equity. These parking requirements result in the cost of parking

(land, paving, lighting, snow plowing, property taxes, etc.), being spread across all potential users through the costs of goods, services, and rents – regardless of the actual parking demand generated by that use. As such, the incremental cost of the parking is passed on to consumers regardless of whether they walked, biked, took transit, or drove a private vehicle to the destination. By requiring non-drivers to subsidize the availability of “free” parking, this regressive policy impacts lower-income, transit-dependent populations inequitably compared to wealthier car-owning populations.¹²

Additionally, parking (generally provided in surface lots), spreads land uses apart and encourages sprawling development patterns. This decreases accessibility for non-drivers, decreases the efficiency of transit, and increases overall transportation costs – all of which is particularly harmful to low-income populations.

Conclusion

One of the seven RTP goals is to improve equity for users of the transportation system. Accomplishing this goal requires providing convenient, affordable transportation options, and ensuring that the benefits of transportation investments are fairly distributed, while the burdens do not disproportionately impact minority and low-income populations. This EJ analysis demonstrates that the projects included in the RTP support this goal. Implementation of the RTP recommendations will provide more convenient and safe transportation

options for all people, including minority and low-income individuals. In addition, there are numerous planned roadway preservation, transit, and bicycle/pedestrian facilities and services that will directly benefit neighborhoods with a concentration of EJ population groups. The needs of these neighborhoods have been considered in developing the RTP recommendations. The MPO is also exploring potential Performance Measures with reliably available data sources that will assist in measuring progress towards improving transportation access for EJ populations over time.

It should be noted that the EJ analysis conducted for the RTP is just a small part of ongoing efforts by the MPO, WisDOT, and local units of government to comply with and exceed the requirements of Title VI, and to address environmental justice. More in-depth EJ analyses are being or will be conducted as part of ongoing and planned corridor studies (e.g., Stoughton Road/USH 51, and the Beltline). The MPO includes environmental justice as one of the criteria in selecting projects for funding with program funds the MPO controls.¹³ The MPO also conducts an EJ analysis of the five-year Transportation Improvement Program (TIP) each year as part of the annual update. Additionally, implementing agencies conduct EJ analyses as individual projects move forward through the environmental analysis and design stages.

¹³ Including STBG – Urban and Transportation Alternatives program funds. The project selection criteria for the Section 5310 Program, Enhanced Mobility of Seniors & Individuals with Disabilities, do not include environmental justice metrics as this program is already targeted to specific mobility-impaired populations (seniors and those with disabilities) by law.

¹² https://nacto.org/wp-content/uploads/2015/07/2014_Litman_Evaluating-Transportation-Equity.pdf