

RACE AND TRANSPORTATION TREND ANALYSIS

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SUMMARY

Throughout American history, communities of color have been harmed by transportation while they also made important contributions to the creation and development of the transportation system. Minnesota continues to grow more diverse, but historic economic and social disparities persist throughout the state. As Minnesota looks to the future, transportation infrastructure and policy are one way to serve Black, Indigenous, and People of Color (BIPOC) more equitably.

Minnesota has racial disparities in transportation related to health outcomes, access, and wealth building. BIPOC in Minnesota are more likely to be exposed to air pollution from motor vehicles than white Minnesotans because Black and Indigenous Minnesotans are more likely to live near busy roads than other racial groups. This is due to racist policies that prevented homeownership or limited access to homeownership to specific communities, as well as urban renewal policies that prioritized the construction of highways that displaced black communities. Minnesota also has a significant racial gap in motor vehicle access, making it more difficult for BIPOC to access key destinations like jobs, schools, and medical appointments. Other disparities between BIPOC and white people include homeownership, income by education attainment, and long-term wealth factors like the number of retirement account holders. These disparities in wealth impact one's ability to benefit from rising real estate prices from a transportation project and accessing transportation options.

Transportation decision-making processes have historically left out the voices of BIPOC communities. Changing decision-making systems and engagement methods can help transportation be more inclusive and move away from a white-centric model. Additionally, re-framing from a deficit-based analysis of demographic comparisons between racial groups to a paradigm focused on a broader definition of prosperity will help move toward a more equitable system. Cultural identity, community wisdom, and social capital should be recognized and built upon to maximize the flourishing of all Minnesotans.

MnDOT strives towards transportation equity as a part of the Minnesota GO vision, which includes addressing transportation systems, services, and decision-making processes. Past transportation projects in Minnesota, such as the construction of I-94 through the Rondo community, have had ruinous effects on the community's social fabric. MnDOT continues to work with communities to understand the extent of past and proposed impacts, address current needs and make more equitable decisions moving forward. This paper discusses the current racial inequity in Minnesota and how it relates to Minnesota's transportation system.

DEFINING TRANSPORTATION EQUITY

MnDOT strives toward transportation equity as part of the Minnesota GO vision of a multimodal transportation system that maximizes the health of people, the environment, and our economy. MnDOT has developed a working definition for transportation equity as part of the 2022 update to the Statewide Multimodal Transportation Plan.

Transportation equity means the benefits and burdens of transportation systems, services, and spending are fair and just, which has not been the case historically. Transportation equity requires ensuring underserved communities, especially Black, Indigenous, and People of Color, share in the power of decision-making.

HISTORIC CASE STUDIES

Transportation can have significant short- and long-term impacts on people and communities. Historically, the benefits and burdens of transportation have not been distributed equitably among all people. Two examples from Saint Paul help to illustrate these impacts in Minnesota.

In the 1960s, the newly constructed I-94 began providing fast, convenient access to downtown Minneapolis and downtown Saint Paul for the mostly white households living in the suburbs. The City of Saint Paul and the Minnesota Highway Department (the predecessor to MnDOT) decided to build the freeway through the Rondo Neighborhood, the heart of Saint Paul's Black community, to achieve goals such as connecting destinations like the University of Minnesota and the state capitol and encouraging redevelopment in certain locations around the metro area. The construction of the freeway displaced one in eight Black Saint Paulites and destroyed many businesses and places of worship. 75% of homes lost belonged to Black families¹.

Over time, the noise, pollution, and other negative effects of the freeway have disproportionately impacted the remaining Rondo community. The loss of homeownership in the Rondo community was further exacerbated by redlining practices of denying loans or insurance to borrowers because of their race or where they wished to live.² These practices prevented homeownership and the passing of generational wealth. Many people displaced by the build-out of the freeway were unable to live in many areas of the region.

Inequitable transportation policies have occurred in more recent years as well. In 2007, the Metropolitan Council was planning for the METRO Green Line, a light rail transit project linking downtown Minneapolis to downtown Saint Paul. The planned route was going to pass through the region's largest contiguous Area of Concentrated Poverty, where 50% or more residents were BIPOC. The initial proposal provided fewer stations per mile in Saint Paul's racially diverse and low-income communities compared to downtown. This would have resulted in these communities receiving fewer transportation benefits. Through an organized campaign, neighbors challenged federal performance measure criteria to have three station locations added. This created transit access points for racially diverse and low-income communities along the corridor. Then-Secretary of Transportation Ray LaHood repealed the federal cost-effectiveness policy that had led to the initial proposal for the METRO Green Line.³

From these case studies, it is evident that changes to processes and programming are needed to address transportation's role in the racial disparities that exist in Minnesota. MnDOT continues to work with communities to understand the extent of past and proposed impacts, address current needs and make more equitable decisions moving forward. Though transportation policies have made racial inequities worse, policies can also be catalysts for change to improve the quality of life for all. The Metropolitan Council's Choice, Place and Opportunity report on racial disparity articulates the importance of public policy in advancing equity:

"Public policy can positively influence the geography of opportunity by expanding residential choices, transportation options, and the locations of economic opportunity. Key place-based policy areas that affect the

¹ Patricia Cavanaugh, Politics and Freeways: Building the Twin Cities Interstate System (Minneapolis: University of Minnesota, 2006), 16.

² "Map Monday: Twin Cities Redlining (HOLC) Map, 1934", accessed November 11, 2022, https://streets.mn/2016/10/24/map-monday-twin-cities-redlining-holc-map-1934/

³ "LaHood Eliminates Cost-Efficiency Rules", accessed November 11, 2022, https://www.cato.org/blog/lahood-eliminates-cost-efficiency-rules

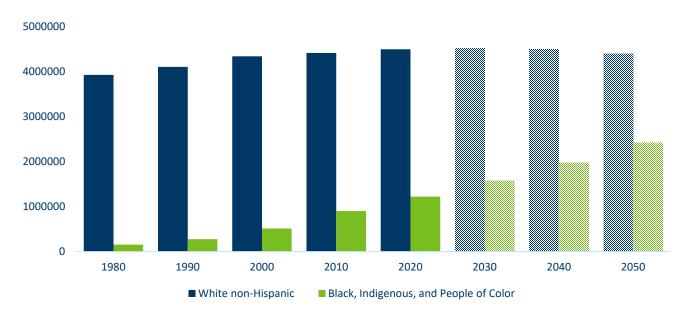
geography of opportunity include affordable housing policy, fair housing enforcement, transit service, and community development investments."⁴

DEMOGRAPHICS

POPULATION FIGURES AND PROJECTIONS

Minnesota's population is becoming more diverse. In 1980, only 154,000 BIPOC lived in Minnesota. By 2000, the population had tripled to 512,000, and there are now about 1.2 million BIPOC in Minnesota today (Figure 1).

Figure 1: Minnesota's historical and projected population by race and ethnicity (1980-2050)⁵



There is a higher percentage of BIPOC in younger age groups than in white, non-Hispanic groups (Figure 2). BIPOC have historically suffered worse social, economic, and environmental disparities when compared with white, non-Hispanic groups, leading to poor health outcomes. These disparities could become more exacerbated with older populations if additional measures are not taken to address systemic inequality, given the correlation between age and health issues. The seven-county metro area is the most diverse region in the state, with 27.3% BIPOC (see Figure 3).

⁵ "Long-Range Forecasts: How the Region's Population, Households, and Jobs Will Change by 2050," Metropolitan Council, accessed November 14, 2022, https://metrocouncil.org/Data-and-Maps/Research-and-Data/Thrive-2040-Forecasts.aspx.

Figure 2: Minnesota's population divided by age and race, 2020⁶

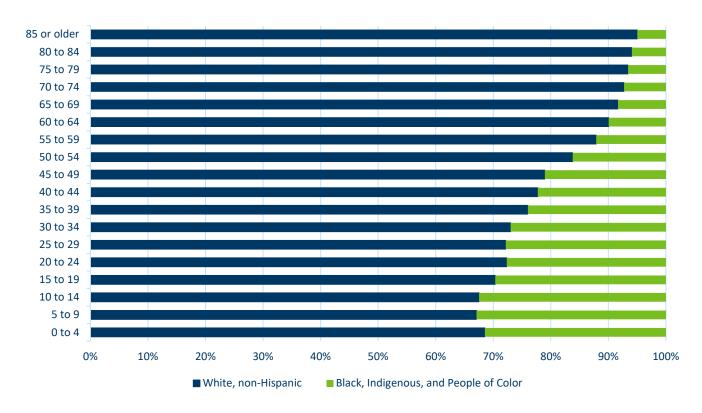
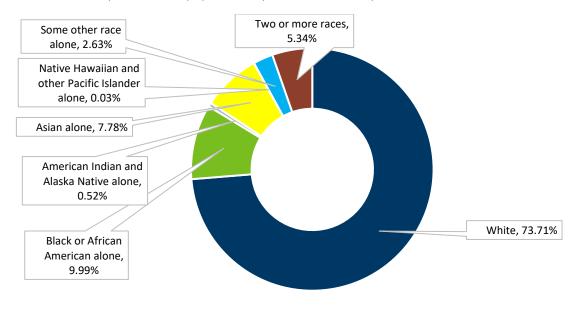


Figure 3. Seven-county metro area population by race and ethnicity⁷

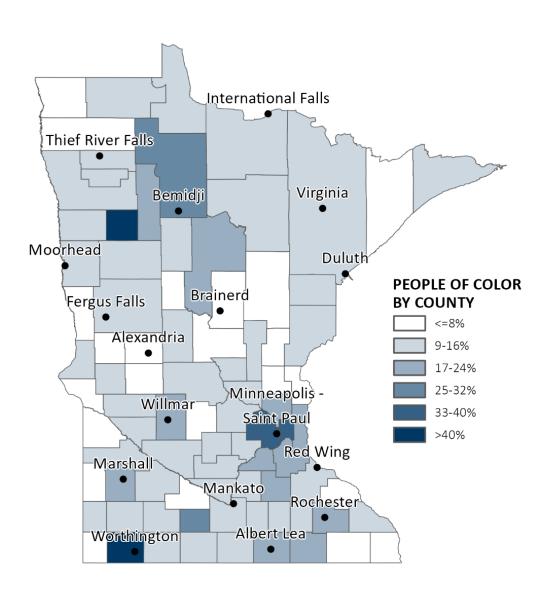


⁶ "Long-Range Forecasts: How the Region's Population, Households, and Jobs Will Change by 2050," Metropolitan Council, accessed November 14, 2022, https://metrocouncil.org/Data-and-Maps/Research-and-Data/Thrive-2040-Forecasts.aspx.

U.S. Census, American Community Survey, 2017-2021 5-year estimates; generated using https://data2.nhgis.org (accessed January 24, 2023

Figure 4 shows the geographic distribution of BIPOC throughout the state. In Greater Minnesota, the Indigenous population at the Red Lake Reservation exceeds 80% of the total population by census tract, and the Leech Lake Reservation exceeds 60%. Latinx populations in Greater Minnesota exceed 30% in some census tracts in Willmar, Worthington, and Mountain Lake. St. Cloud is the only community where the percentage of the Black population is over 20% in any given census tract outside of the seven-county metro area. Asian populations comprise 10 to 20% in any given census tract in Marshall, Mountain Lake, Rochester, Worthington, and Austin. Between 2018 and 2035, Minnesota is projected to increase in diversity. Areas that will experience the most change are the seven-county metro area, southern Minnesota, and north-central Minnesota.

Figure 4: Geographic distribution of Black, Indigenous and People of Color in Minnesota⁸



⁸ U.S. Census, American Community Survey, 2017-2021 5-year estimates; generated using https://data2.nhgis.org (accessed January 24, 2023).

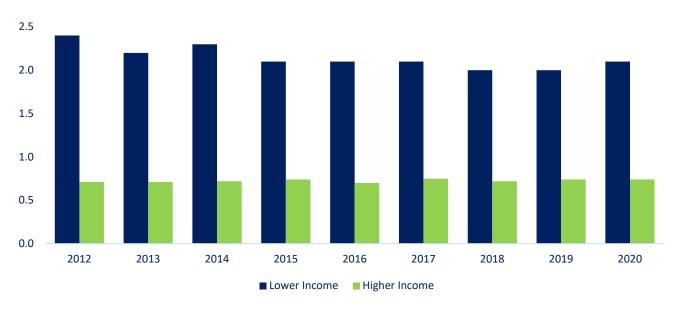
RACIAL DISPARITIES AND TRANSPORTATION

Racial disparities in Minnesota relate to the transportation system in at least three ways. First, the transportation system can impose harm on some groups more than others. For example, BIPOC are more likely to live near busy roads, and the resulting air pollution can cause higher rates of respiratory disease for those residents. Second, disparate outcomes, like access to motor vehicles, can limit a group's opportunities to use the transportation system. Third, a group with fewer resources (like wealth or leisure time) is less able to influence transportation planning decisions and, therefore, more likely to bear the burden of disproportionate impacts.

DISPARATE COSTS OF TRANSPORTATION SYSTEMS

BIPOC in Minnesota is more likely to be exposed to air pollution from motor vehicles than white Minnesotans. The Minnesota Pollution Control Agency estimates that communities of color and low-income communities suffer more from inequalities in reported emissions, compared to less diverse and high-income communities (Figure 5 and 6). The largest contributors to air pollution are the concentration of factories, businesses, gas stations, and on-road vehicles. BIPOC are more likely to live near busy roads than other racial groups due to historical redlining and other barriers to homeownership. While a beneficial trend for other reasons, vehicle electrification will not eliminate the racially disparate risks of traffic exposure. New research warns of the health risks of exposure to fine particulate matter emitted by brake pads and tires of motor vehicles, whether the vehicles are powered by fossil fuels or electricity. For more information, review the <u>Air Quality trend paper</u>.

Figure 5: Inequities in reported Emissions for Permitted Facilities (A Higher Proportional Burden of Total Emissions [NO_X, SO₂, VOC and PM_{2.5}])¹⁰

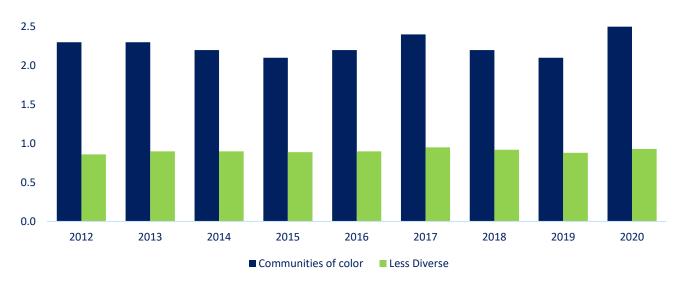


⁹ "Study Finds Total PM10 Emissions from EVs Equal to Those of Modern ICEVs; Role of Weight and Non-Exhaust PM," Green Car Congress, April 18, 2016, https://www.greencarcongress.com/2016/04/20160418-pm10.html.

https://www.pca.state.mn.us/sites/default/files/lrp-ear-1sy22.pdf

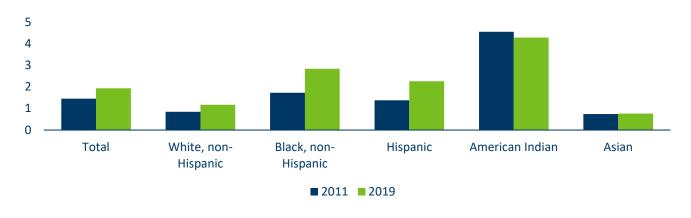
¹⁰ "2022 Pollution Report: A Summary of Minnesota's Air Emissions and Water Discharges", February 21, 2023,

Figure 6: Inequities in reported Emissions for Permitted Facilities (A Higher Proportional Burden of Total Emissions $[NO_X, SO_2, VOC \text{ and } PM_{2.5}])^{11}$



Nationally, BIPOC also have higher pedestrian death rates when compared with white, non-Hispanic people. ¹² The death rate increased across all groups between 2011 and 2019 but increased the most for Black people, from 1.7 to 2.8 deaths per 100,000, respectively. American Indian pedestrians are killed much more than other racial and ethnic groups, with 4.3 deaths per 100,000 people in 2019. Correlated factors include insufficient infrastructure for people walking and higher rates of people walking. Indigenous people make up 0.9% of the state's population. However, they were involved in 3.5% of fatal vehicle crashes between 2015 and 2019¹³ (See Figure 7 and the three safety trend papers for more information).

Figure 7: Adjusted pedestrian death rates per 100,000 by race and ethnicity in 2011 and 2019¹⁴



^{11&}quot;The air we breathe," MPCA, accessed November 11, 2022, https://www.pca.state.mn.us/sites/default/files/lraq-1sy19.pdf.

http://dx.doi.org/10.15585/mmwr.mm6939a7.DOI: http://dx.doi.org/10.15585/mmwr.mm6939a7external icon. A contraction of the con

¹² "QuickStats: Age-Adjusted Pedestrian Death Rates, by Race/Ethnicity - National Vital Statistics System, United States, 2009 and 2018," Centers for Disease Control and Prevention, October 1, 2020,

 $http://dx.doi.org/10.15585/mmwr.mm6939a7.DOI: http://dx.doi.org/10.15585/mmwr.mm6939a7external\ icon.$

¹³ NHTSA. Fatality Analysis Reporting System (FARS), 2015-2019 data table accessed through nhtsa.gov (February 20, 2021).

¹⁴ "QuickStats: Age-Adjusted Pedestrian Death Rates, by Race/Ethnicity - National Vital Statistics System, United States, 2009 and 2018," Centers for Disease Control and Prevention, October 1, 2020,

DISPARATE EFFECTS FROM TRANSPORTATION SYSTEMS

MOTOR VEHICLE ACCESS AND COMMUTING

Everyone benefits from Minnesota's highway system, but the direct and primary beneficiaries are people who drive motor vehicles, with primary impacts on those who live closest to highways. There is a significant racial gap in motor vehicle access in Minnesota. As shown in Figure 8, only 3% of white non-Hispanic in Minnesota live in a household without access to a motor vehicle. Conversely, 13.2% of Black Minnesotans lack access to motor vehicles. Almost 80% of white people live in a household with access to two or more cars or trucks, but less than 50% of Black people do. Access to a motor vehicle translates into flexibility and opportunities that are difficult to quantify.

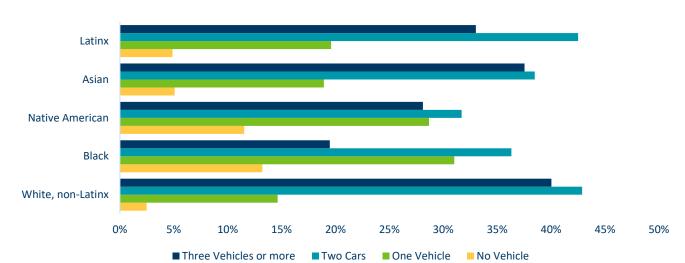


Figure 8. Percentage of car ownership by race and ethnicity¹⁵

The data above does not mean that BIPOC are more likely to work from home. Nationally, 30% of white workers can work from home, but only 20% of Black and 16% of Latinx workers can telework. ¹⁶ Workers without access to a motor vehicle rely on other forms of transportation to get to their jobs, whether taking transit, walking, bicycling, carpooling, or using rideshare services (see Table 1 below). A lack of reliable alternatives to driving can be a major barrier in finding and holding a job and potentially requiring additional time spent commuting. It can also mean more time spent on errands, attending school, and attending essential appointments. This is more pronounced in rural and suburban areas with limited transit service, poor walking and bicycling infrastructure, or a long distance between where someone lives and their place of employment.

¹⁵ U.S. Census, American Community Survey, 2020 5-year estimates; generated by MnDOT using data.census.gov (accessed November 21, 2022). 16 "Table 1. Workers Who Could Work at Home, Did Work at Home, and Were Paid for Work at Home, by Selected Characteristics, Averages for the Period 2017-2018," U.S. Bureau of Labor Statistics, September 24, 2019, https://www.bls.gov/news.release/flex2.t01.htm.

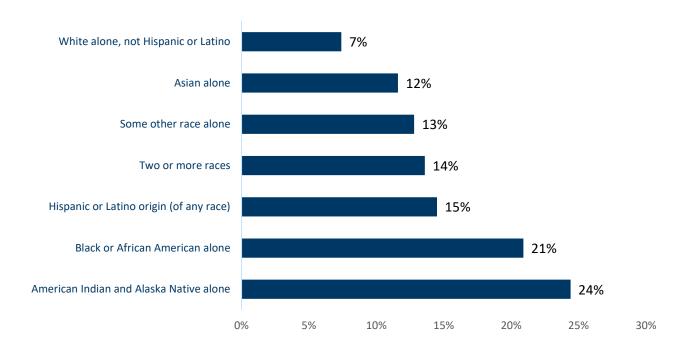
Table 1. The primary mode of commuting to work by race/ethnicity in Minnesota¹⁷

| COMMUTING | WHITE, NOT HISPANIC OR LATINX | AMERICAN INDIAN | HISPANIC OR LATINX | OTHER/ MULTIPLE | BLACK | ASIAN |
|--|-------------------------------------|--------------------|-----------------------|--------------------|-------|-------|
| Car, truck, or van - drove alone | 67.9% | 67.5% | 63.4% | 64.6% | 61.3% | 56.0% |
| Car, truck, or van - carpooled | 5.9% | 11.5% | 15.0% | 14.7% | 11.2% | 12.1% |
| Public transportation (excluding taxicab) | 0.8% | 6.3% | 3.4% | 3.9% | 6.0% | 3.1% |
| Walked | 2.4% | 3.7% | 3.3% | 2.5% | 2.8% | 2.1% |
| Taxicab, motorcycle, bicycle, or other means | 1.3% | 1.9% | 3.0% | 3.5% | 3.2% | 1.7% |
| Worked from home | 21.7% | 9.0% | 11.8% | 10.8% | 15.4% | 25.1% |

WEALTH

BIPOC experience more financial disparities than white, non-Hispanic people in terms of income, homeownership, and other wealth indicators, as discussed below. They have poverty rates nearly three times as high as white, non-Hispanic groups in Minnesota (see Figure 9). This discrepancy in income and wealth has compounding effects over time, with white, non-Hispanic communities having a greater ability to build wealth over time.

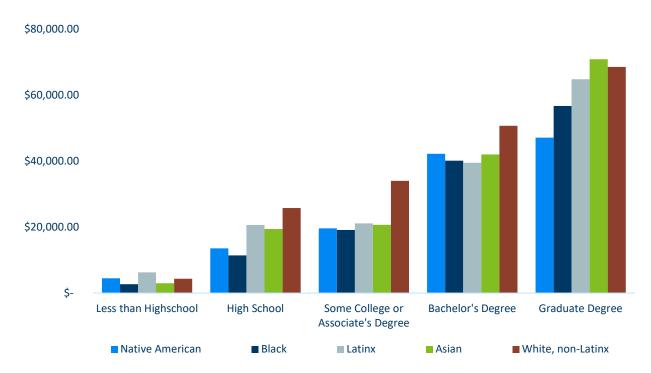
Figure 9: Poverty status in the past 12 months in Minnesota, 2021¹⁸



¹⁷ U.S. Census, American Community Survey, 2021 1-year estimates; generated by MnDOT using data.census.gov (accessed November 11, 2022).
¹⁸ U.S. Census Bureau; American Community Survey, 2021 American Community Survey 1-year estimates; generated by MnDOT using data.census.gov (accessed November 11, 2022).

Minnesota's transportation system supports economic growth by efficiently moving workers and goods. However, economic growth in Minnesota is not shared equally. White workers in Minnesota earn more money than workers of other races with similar levels of education. Figure 10 shows the median personal income for different racial groups, separated by educational attainment. The median income for a white worker with a high school education is about \$25,000, which is higher than that for a worker of any other racial group with the same level of education. The same is true for workers with some college education and those with a college degree. For workers with graduate degrees, Asian people have a slightly higher median income than white people: \$70,874, compared to \$68,545. People of Color in Minnesota have lower levels of educational attainment than White Minnesotans, but this does not fully explain income disparities. White Minnesotans with only a high school diploma earn more on average than Black, Indigenous or Latinx Minnesotans with the same level of education. The same is true for people with some college education, college graduates, and people with advanced degrees. This suggests that Minnesota's racial disparities in income cannot be explained by disparities in educational attainment, which also exist.





¹⁹U.S. Census, American Community Survey; generated using https://data2.nhgis.org (accessed November 11, 2022)

Transportation infrastructure can have both benefits and negative externalities, so it's important to address and minimize the potential negative impacts as a part of the planning and design process early in a project's development. Studies have shown that economic benefits from transportation infrastructure projects are capitalized into real estate prices. ^{20,21} This implies that infrastructure projects can cause home values to rise in areas that benefit from improved safety, transportation accessibility, or aesthetics. Rising property values means increased wealth in the form of home equity for homeowners, however it also brings higher property taxes for homeowners and higher rents for renters. This means transportation projects can impose more costs on renters, who are disproportionately BIPOC and low-income. Transportation improvements to major highway systems can also negatively impact the community cohesion of a place through the acquisition of property, noise impacts, and air pollution. This is not to say that transportation improvements near rental housing are harmful overall because, in some cases, a project's benefits to renters might outweigh the rent premium caused by the project. There may be individual savings in monthly transportation costs even in the case of increased rent due to new transportation infrastructure like a high-frequency bus line or a bikeway.

The racial gap in homeownership leads to disparate benefits from transportation improvements. Unfortunately, due to wealth disparity and racial inequity, BIPOC do not have the ability to own a home as much as the whites. Of white householders in Minnesota who are not Latinx, 77.5% own their homes. ²² All other racial groups have lower homeownership rates, with only 30.5% of Black householders owning their homes. ²³ The consequences of historic redlining of neighborhoods and other racist policy barriers to homeownership have resulted in continued low homeownership rates among Black people and geographic segregation even after these racial covenants were made illegal in the early 1950s. According to the United States Census Bureau, about 69% of blacks live in rental housing compared to 22% of whites. This disparity is also evident with other races (see Figure 11 below).

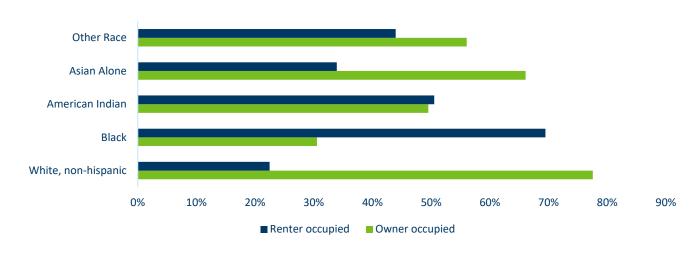


Figure 11: Housing Tenure among Races in Minnesota, 202024

²⁰ C.Y. Yiu and S. K. Wong, Yiu, C. Y., and S. K. Wong. "The Effects of Expected Transport Improvements on Housing Prices." *Urban Studies* 42, no. 1 (2005): 113-25. Accessed June 10, 2021. http://www.jstor.org/stable/43096216.

L. Miguel Martínez and José Manuel Viegas, "Effects of Transportation Accessibility on Residential Property Values: Hedonic Price Model in the Lisbon, Portugal, Metropolitan Area." *Transportation Research Record* 2115, no. 1 (January 2009): 127–37. https://doi.org/10.3141/2115-16.

²² U.S. Census Bureau; American Community Survey, 2021 American Community Survey 1-year estimates, B25003; generated by MnDOT using data.census.gov (accessed November 11, 2022).

²⁴ U.S. Census, American Community Survey; generated using https://data2.nhgis.org (accessed November 11, 2022)

As shown in Figure 12, there are also disparities in retirement account ownership, stock and mutual fund ownership, and equity in one's own home. These wealth-building disparities limit opportunities for people to choose where they live, commute, and exposure to transportation-related health risks.

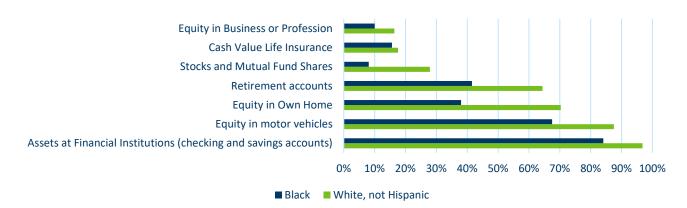


Figure 12: Wealth indicators between Black and white, non-Hispanic Americans²⁵

BARRIERS TO INFLUENCING TRANSPORTATION SYSTEM PLANNING

The transportation system would serve BIPOC better if they had equal power over decision-making. Certain characteristics of different racial groups present barriers to influencing traditional transportation planning processes. These barriers include lower levels of English fluency, lower income levels, higher rates of poverty, lower access to a computer at home, and lower levels of formal educational attainment. Historically, transportation decision-making, structured by government agencies, has relied on a white-centric community engagement model, offering opportunities to participate in formats less accessible or even inaccessible to other groups, often led by a majority white staff. For example, hosting an open house to discuss a highway project with materials and presentation in English requires attendees to show up in person to an event in the evening and be conversant in English. An evening time might be when someone is working, caring for children, or if they don't have access to a car, they may not be able to get transportation to the meeting.

Traditional ways of engaging have left many out of the process. MnDOT has begun incorporating more inclusive engagement techniques to seek input from voices traditionally left out of the process, whether through different formats, working with trusted community advocates, or hosting events that are culturally sensitive to the community's needs. Changing the decision-making structure allows for more participation by a broader set of voices and meets people where they are.

SHIFTING THE PARADIGM

This paper highlights many disparities between racial and ethnic groups in a way that focuses on a white-centric perspective of deficits to prosperity. For example, some groups lack higher education, wealth, homeownership, and clean air or water. Some topics, like physical health outcome disparities, are universally viewed as a deficit

²⁵ U.S. Census Bureau; 2020 Wealth, Asset Ownership, & Debt of Households Detailed Tables; generated by MnDOT using data.census.gov (accessed January 13, 2023).

that needs to be remedied. For example, the fact that children of some races have higher asthma rates than white children is egregious and should be addressed through equitable public policy. However useful the deficit-based analysis is, it misses the distinct assets of cultural groups that support community cohesion and community well-being.

Cultural identity, community wisdom, and social capital should be recognized and built upon to maximize the flourishing of all Minnesotans. One example of asset-based equity work is the Mni Ki Wakan indigenous water conference, which applies indigenous knowledge systems to restoring and protecting water. Another example is MnDOT's Community Conversations project focusing conversations with individuals who work and represent underserved communities about their unique experiences and struggles with transportation. MnDOT aimed to better understand how the transportation system, services, and decision-making processes help or hinder the lives of people in Minnesota's underserved and underrepresented communities through the Advancing Transportation Equity Initiative. Work completed as part of the initiative has ranged from equity-focused conversations with stakeholders in Greater Minnesota, policy and program equity reviews, research, and more.

It is worth mentioning that former MnDOT Commissioner Charlie Zelle apologized to the Rondo Neighborhood for the agency's role in constructing I-94. MnDOT has been undergoing a study process called Rethinking I-94 to reenvision the corridor's future to reconnect neighborhoods, revitalize communities and ensure residents have a meaningful voice in transportation decisions that affect their lives. Also, the 2022 Statewide Multimodal Transportation Plan (SMTP) process included several activities to embed transportation equity in the planning approach to address these and other lessons from the Advancing Transportation Equity Initiative.

RELATED TRENDS

- Air Quality
- Demographic Trends
- General Transportation Safety
- Health and Transportation
- Motorized Transportation Safety
- Non-Motorized Transportation Safety
- Transportation Behavior
- Urban and Rural Population Trends

Minnesota's vision for transportation is known as Minnesota GO. The multimodal transportation system aims to maximize the health of people, the environment, and our economy. A transportation vision for generations, Minnesota GO guides a comprehensive planning effort for all people using the transportation system and all modes of travel. Learn more at MinnesotaGO.org.

²⁶ "World Indigenous Peoples' Decade of Water," Mni Ki Wakan, September 3, 2020, https://mnikiwakan.org/.

²⁷ "Community Conversations Engagement Project," Planning & Programming: Advancing Transportation Equity Initiative (MnDOT), accessed June 10, 2021, https://www.dot.state.mn.us/planning/program/advancing-transportation-equity/community-conversations.html.

REVISION HISTORY

| DATE | SUMMARY OF REVISIONS |
|---------------|--|
| December 2015 | Original paper. |
| November 2021 | Updated to reflect new data and information. |
| November 2022 | Updated to reflect new data and information |