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OVERVIEW

This memo explains the framework for the Red Wing Comprehensive Road Safety Action Plan (CSAP) equity analysis. This memo defines equity, describes the methods used for the equity analysis, lays out historical context, identifies equity focus areas, and sets the foundation to incorporate equity as an overlay to the recommendations of the Action Plan. This memo also presents the results of the equity analysis, which includes demographic maps and statistical analysis. Finally, this memo shares conclusions and recommendations to help guide and create a comprehensive transportation safety system for Red Wing that is equitable and attainable.

DEFINITION AND PRINCIPLES

Equity can be defined in different ways depending on the context but generally is described as the fair distribution of costs and benefits of an action. *Transportation* equity can be defined this way:

- Ensures everyone has transportation access and options that allow them to participate fully in society
- Compensates for inequities between groups in society
- Provides greater benefit to those with greater need
- Recognizes current and past inequities
- Considers the local demand for resources
- Equally distributes cost and benefit between those with equal ability and need

IMPORTANCE OF AN EQUITABLE TRANSPORTATION SAFETY SYSTEM

A true comprehensive transportation system addresses safety disparities and establishes equitable systems. Removing barriers for people, particularly for those who do not drive due to ability, income, age, or a combination of these factors, eliminates gaps and makes a safer, more comfortable network for everyone. People should feel safe and empowered to travel using any mode to access employment, school, grocery shopping, and other activities to fully participate in society.

Owning a vehicle and traveling by car can be burdensome for many people. Walking, bicycling, and using transit (such as riding the bus), all play a vital role in the transportation system because these modes ensure people have mobility, independence, and access to opportunities without using a personal vehicle. Connected and accessible multimodal infrastructure offers better access to daily physical activity and an improved quality of life for everyone.

EQUITY ANALYSIS APPROACH

An equity analysis can determine how people with sociodemographic vulnerabilities experience transportation differently. It can also identify communities that have disproportionate safety and access. This equity analysis will be used to examine how communities are impacted, provide insights on how future transportation investments can remove disparities, and identify how we can monitor, reduce, and, ideally, eliminate disparities. This analysis will follow the approach in Figure 1. The following sections of this memo will walk through each component of the approach and present findings.

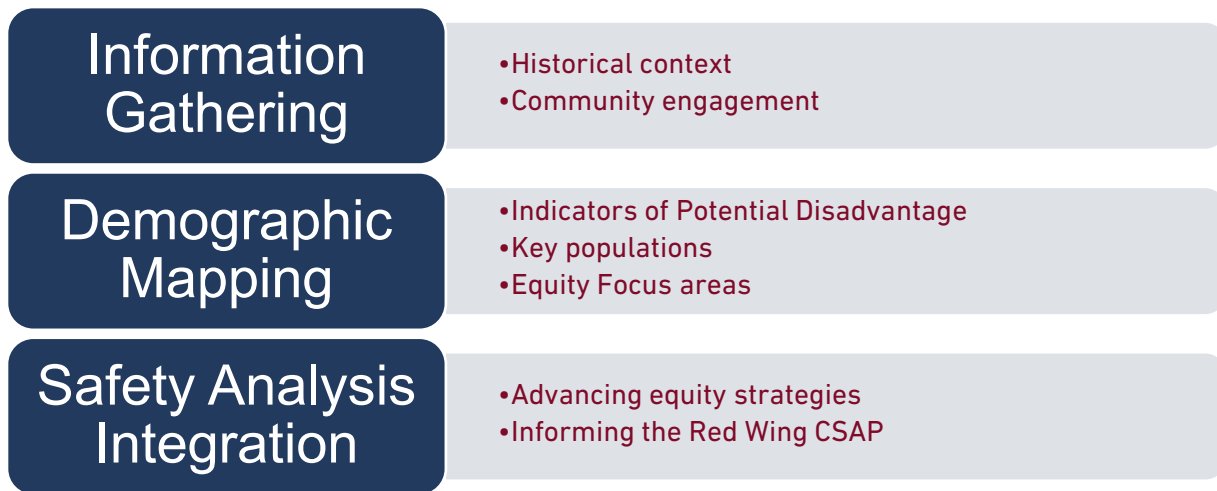


Figure 1: Equity Analysis Approach

INFORMATION GATHERING

HISTORICAL CONTEXT: TRANSPORTATION-RELATED POLICIES AND PRACTICES

Transportation is a key element of people’s daily lives. Nearly everyone regularly uses the transportation system to access jobs, education, food, services, and activities. Transportation systems are complex and comprehensive, often overlapping with other systems such as housing, land use, law enforcement, and climate efforts, and local governments have a responsibility to implement planning practices and policies that respond to the needs of all people. By understanding where institutional issues exist, the City of Red Wing can strategically invest, plan, and implement equitable projects, programs, and policies to create a more inclusive transportation system.

INFRASTRUCTURE

Red Wing has worked for years and leveraged state and federal dollars to provide more multimodal transportation options to residents. This is good progress. Without this focus, it’s easy to spend too much time and energy on automobile-oriented investments based on how quickly vehicles can travel from point A to point B, and this type of system leaves many residents without transportation options.

Below is a brief summary of how infrastructure has sometimes led to disparities in transportation access.

HIGHWAYS, BRIDGES, AND DAMS

Highways: Highways have often displaced neighborhoods nationwide, and Red Wing is no exception. When Highway 61 was built in town, it split neighborhoods, forced some residents out of their homes, and changed how people got to and from work. The most impacted areas were the east segment of town (east of Bluff Street) and the West End neighborhood.

Bridges: Bridges provide connections to businesses and services, and residents without access to bridges can often be cut off from essential routes and resources.¹ For decades in the Prairie Island Indian Community, there was only one way in and out of the reservation, and that route had a railroad running through it, forcing traffic to stop multiple times a day. In 2024, an overpass is being built over the railroad so the roads can be clear. This project finally removes this location from the top of the list of most dangerous rail crossings in the state and will likely save lives.

Dams: Dams have a uniquely problematic and less discussed role in transportation, particularly Indigenous communities. Relationships to water and healthy aquatic systems are vital to Indigenous cultures, and restricting and reconfiguring waterways were one of many approaches used to intentionally and unintentionally limit resources, degrade ecosystems, and disrupt the livelihood of our Indigenous neighbors. The construction of dams and the subsequent submerging of surrounding areas led to mass displacement of tribal communities.²

In the Red Wing area, the U.S. Army Corps of Engineers intentionally flooded portions of the 120-acre Prairie Island Indian Community soon after the reservation's recognition in 1936. The flooding via Lock and Dam #3 even happened without Congress's authorization.³ The water covered family burial sites and other sacred land, and Prairie Island was left to manage the physical and emotional effects without compensation of any kind. The Prairie Island community still feels the impacts today and will for generations to come. Cities and towns need to remain aware of past harms and be accountable for future land and water management so all residents can be acknowledged, safe, and connected.

¹ Srivastava, Deepali. (2020). Want to Bridge the Inequality Divide: Build Bridges Where Low-Income People Live, Study Says. Next City.

² Rendell, Heather & Curley, Andrew. (2023). Dams and Tribal Land Loss in the United States. IOP Science.

³ (2024). Our History. Prairie Island Indian Community.

TRANSIT

Fast, convenient, and easy public transportation increases access to healthcare, healthy food⁴, jobs, and education. Conversely, when people depend on inadequate or irregular public transportation, they are more likely to forego traveling to important destinations such as health services.⁵

Public transportation services in the City of Red Wing include rail and bus. Two daily train routes now travel through Red Wing: the Amtrack Empire Builder and Amtrack Borealis. The second train, the Borealis, was added in 2024 after years of planning. This route is expected to be a more reliable option for those traveling to St. Paul and to locations between Red Wing and Chicago. The price is relatively affordable and has been a positive asset to the community, but this is not a daily transit option for those living and working in Red Wing.

The Hiawathaland Transit Bus provides the main form of transit in Red Wing, and it is managed by Three Rivers Transportation. Based on numbers from the 2023 Red Wing Report Card, with data from 2018-2022, 3% of local households have no vehicle. That number may be relatively small, but to those residents, the bus service is crucial. It transports people to their doctor, grocery store, childcare provider, and other important locations. Bus ridership in Red Wing dropped almost in half after the COVID-19 pandemic, from just over 100,000 rides in 2019 to about 51,000 rides in 2020. That number is rising, though, and reached 56,684 rides in 2023.

Hiawathaland bus services in Red Wing costs \$2.00 for a one-way ticket. Demand Response (Dial-a-Ride) and route deviation are available. Bus routes and times are occasionally adjusted based on the ability to staff drivers, which means sometimes inconsistent options are a reality in Red Wing. Red Wing and Hiawathaland continue to collaborate because consistent bus service in Red Wing is crucial in providing accessible transportation options for everyone.

ACTIVE TRANSPORTATION

Active transportation investments provide safer experiences for those who walk, bike, or take the bus. This is especially important for those who use these modes for transportation, not for recreation only. Over the last few years, Red Wing has invested significantly in improving pedestrian infrastructure, though more can be done. Between 2019 and 2022, 292 accessible curb ramps were installed, which make it easier to walk or use a wheelchair in town. During that same time, City staff fixed sidewalks at 158 properties, based on a program the City implemented in 2017. At that time, maps from the City's Pedestrian Plan and Policy Report showed many of the

⁴ Litman, Todd. (2022). *Evaluating Public Transit Benefits and Costs*. Victoria Transport Policy Institute.

⁵ Farhang, Lili and R. Bhatia. (2005). *Transportation for Health, Race Poverty, & the Environment*.

broken sidewalks were in lower-income neighborhoods. To correct this unintentional situation, the City implemented a new program to inspect and rank one-third of city sidewalks each year and fix them systematically, not based on complaints. In 2022, 4% of the City's sidewalks ranked as "poor quality." The City continues to inspect each year and fix the most problematic sidewalks.

Connectivity is important in Red Wing because the city is long and narrow geographically, landlocked by the Mississippi River, streams, and bluffs. Over the last 15 years, Red Wing has worked to connect areas whenever it is financially feasible, and the City has been successful in leveraging grants for this purpose. In 2022, for instance, the City, with funding from multiple local and state sources, built a new bike-pedestrian bridge over the railroad to connect the West End District with Bay Point Park and the Cannon Valley Trail system. Red Wing also included a bike trail on its new Eisenhower Bridge of Valor crossing the Mississippi River, and it is working to complete the Riverfront Trail system across the city along the river.

These connectivity improvements are for pedestrians and bicyclists alike, but some of the trail system is used mostly for recreation, not transportation. Paved trails are well-traveled, but bike lanes along busy roads to critical destinations are infrequent, and some streets that connect to key retail areas do not have sidewalks. Expanding the network and improving access will greatly improve the way people get to places for daily needs, services, employment, and activities.

TRAFFIC CRASHES AND FATALITIES

Crashes in Red Wing that involve pedestrians happen more often in the downtown area, which is an area where a greater percentage of people walk and where a greater percentage of those walkers are young, elderly or experience mobility issues. Including downtown as a focus area for improvements will benefit everyone in Red Wing, including those who are most vulnerable.

HOUSING AND LAND USE

The neighborhood where a person lives often determines the availability of safe, accessible, and reliable transportation options, and without transportation, a person's ability to reach their daily destinations is limited, including to critical places like grocery stores and childcare. Red Wing is working to increase housing through four of its Strategic Plan goals: (a) Understand the Issues and Amount of Need for Housing; (b) Remove barriers to new housing; (c) Create more opportunities for new housing across all affordability levels with public/private/community partners; and (d) Improve and maintain existing housing.

In Red Wing, 57% of tenants and 22% of homeowners are cost-burdened (being cost-burdened means a household is paying 30% or more on housing costs). While costs continue to rise, housing options are limited for residents at every stage of life. During these times, Red Wing must remain committed to keeping and increasing transportation accessibility whenever and wherever new housing is created.

HAZARDOUS LAND USES

In the Red Wing area, residents of the Prairie Island Indian Community feel the effects of land use every day. In 1973, the Prairie Island Nuclear Generating Plant was built, and twin nuclear reactors began operating within 700 yards of the Bdewakantunwan Dakota community. Those reactors are still in operation today, directly on the PIIC reservation and upriver from the city of Red Wing.

LAW ENFORCEMENT

Enforcement is a key component of achieving transportation safety and compliance, so enforcing legal policies and practices is important for road safety and other transportation initiatives. Enforcement can take many forms, and in addition to one-on-one enforcement, other approaches are available, such as increasing the use of digital speed display signs to reinforce speed limits and encourage good driving behavior.

CLIMATE RESILIENCE

Climate and transportation are tied in many ways. As extreme weather events increase, the need for infrastructure replacement, repairs, and maintenance increases. In Red Wing, floods have become more problematic. Record-breaking flood levels on the Mississippi River have forced repeated closures on some of Red Wing's roadways, trails, and parks and increased the time and money needed for maintenance.

Excess heat can also be an issue, and some neighborhoods may be less likely to have tree canopy coverage. Installing more green infrastructure, bus shelters, and street trees will make transportation safer and more pleasant for everyone. The Red Wing community appears to support activities like this. In the 2023 Red Wing Community Survey, 87% of residents said local government should continue incorporating climate change and its effects into planning, projects, and policies, and 96% said they think it is important for local government to become more sustainable overall. (Sustainability, in the survey and the 2040 Plan, is defined as the ability to meet current needs without compromising the ability of future generations to meet their needs.)

COMMUNITY ENGAGEMENT

Conducting engagement invites people to reflect on their experiences and consider how they would improve moving about their community. Being intentional about reaching out to many groups of people, using hands-on activities, and creating comfortable environments will ensure that all community members have the opportunity to influence future transportation in Red Wing. Red Wing's Comprehensive Road Safety Action Plan engagement process used multiple ways to reach people,

including focus groups, community events, online and paper surveys, conversations, and communication through a wide variety of methods and venues. It's recommended that Red Wing continue its community engagement to ensure many voices are heard in planning, implementing, and evaluating transportation projects.

DEMOGRAPHIC MAPPING

Using U.S. Census and American Community Survey (ACS) data, we can create demographic maps to help identify local demographic patterns and use these maps in planning to ensure that resources are provided equitably across the city. In this plan, we will compare locations across Red Wing that have larger populations of residents who are likely to face transportation disadvantages with safety risks throughout the region. This allows us to examine outcomes that certain populations may experience. The maps can also reveal disparities in safety and other areas so the City can monitor its investments and make sure they're being distributed equitably. City staff will want to revisit and revise these demographic maps over time to ensure accuracy for future planning.

KEY POPULATIONS

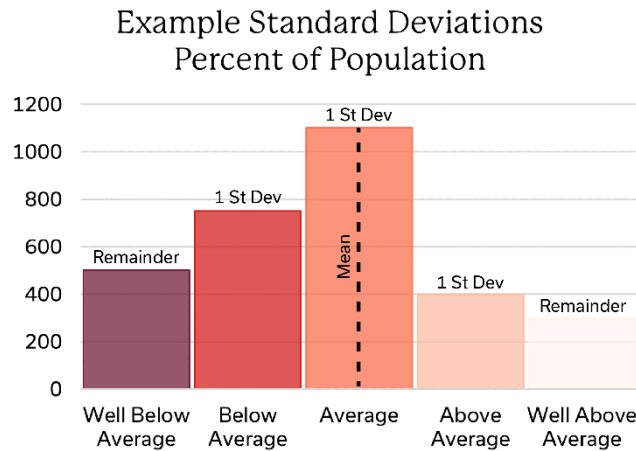
This equity analysis has identified 10 key populations as Environmental Justice (EJ) populations that face transportation and socioeconomic disparities. These populations were identified using the Indicators of Potential Disadvantage (IPD) method developed by the Delaware Valley Regional Planning Commission. To examine inequity for Red Wing's safety action plan, we used the IPD methodology with minor adjustments to account for four additional key populations – people without a high school diploma, people who are unemployed, youth under 18 years old, and cost-burdened households.

The key populations for Red Wing's Comprehensive Road Safety Action Plan equity analysis are:

- Households in poverty
- Cost-burdened households
- Unemployed population
- Limited English Proficiency (LEP)
- People of Color, including Hispanic or Latinx people
- Older adults 65+ years of age
- Youth under 18 years of age
- Carless households
- Households with disabilities
- People without a high school diploma

INDICATORS OF POTENTIAL DISADVANTAGE

The IPD methodology uses regional American Community Survey data at the census block group level to delineate areas where key populations are more prevalent. Each block group's population percentage is calculated from the standard deviations relative to each indicator's regional average. The calculations range from "well below average" to "well above average." An example of this is shown in Figure 2.



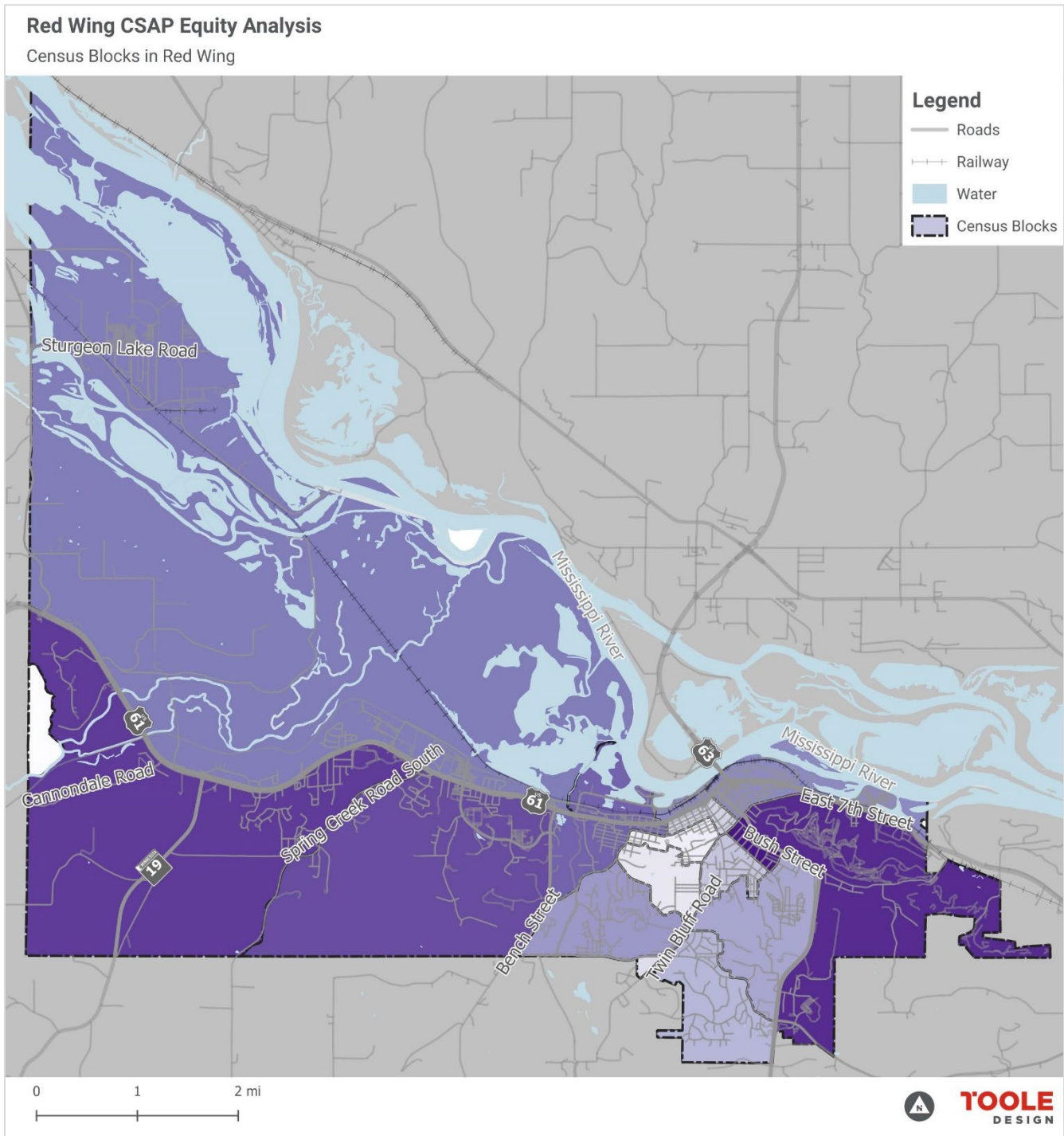
**Figure 2: Example of an IPD Classification Breakdown
(Red Wing Comprehensive Road Safety Action Plan - Equity Analysis)**

The Red Wing CSAP made three minor adjustments to the IPD methodology:

1. Four additional key populations were incorporated into the analysis methodology: people without a high school diploma, unemployed people, youth under 18 years of age, and cost-burdened households.
2. The 2022 American Community Survey (ACS) 5-year estimate data was used to determine averages for each IPD. This is the most recent data available at the time this plan was written.
3. To determine the overall IPD score, total scores for all indicators were weighted, and standard deviation was applied for the 10 key population scores.
4. To reduce confusion for readers, IPD classifications were changed to the following:
 - a. Well Above Average = **Highest Potential Disadvantage**
 - b. Above Average = **High Potential Disadvantage**
 - c. Average = **Average Potential Disadvantage**
 - d. Below Average = **Low Potential Disadvantage**
 - e. Well Below Average = **Lowest Potential Disadvantage**

For the purposes of the Red Wing CSAP, the overall IPD score was used to identify Equity Focus Areas to guide plan engagement, recommendations, and implementation.

Map 1: Red Wing Census Block Groups



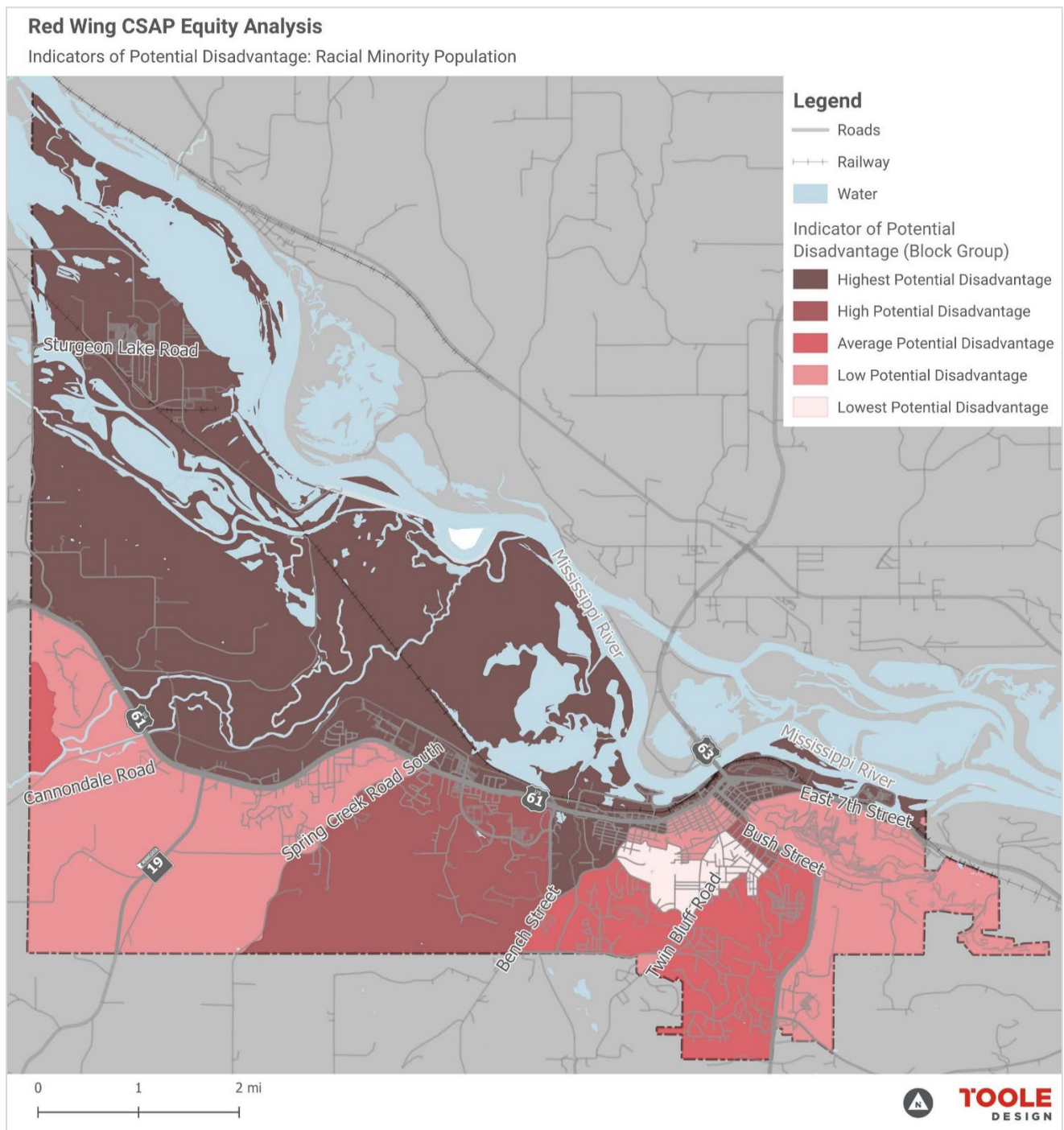
*** Note: Map colors are intended to differentiate census block groups only and do not represent analysis data.**

FOCUS AREAS AND GEOGRAPHIC PRIORITIES

RACE

The IPD analysis for racial minorities assesses where there are prevalent populations of Black, Native American, Alaska Native, Asian, Native Hawaiian, Pacific Islander, Hispanic or Latino, and multiracial residents.

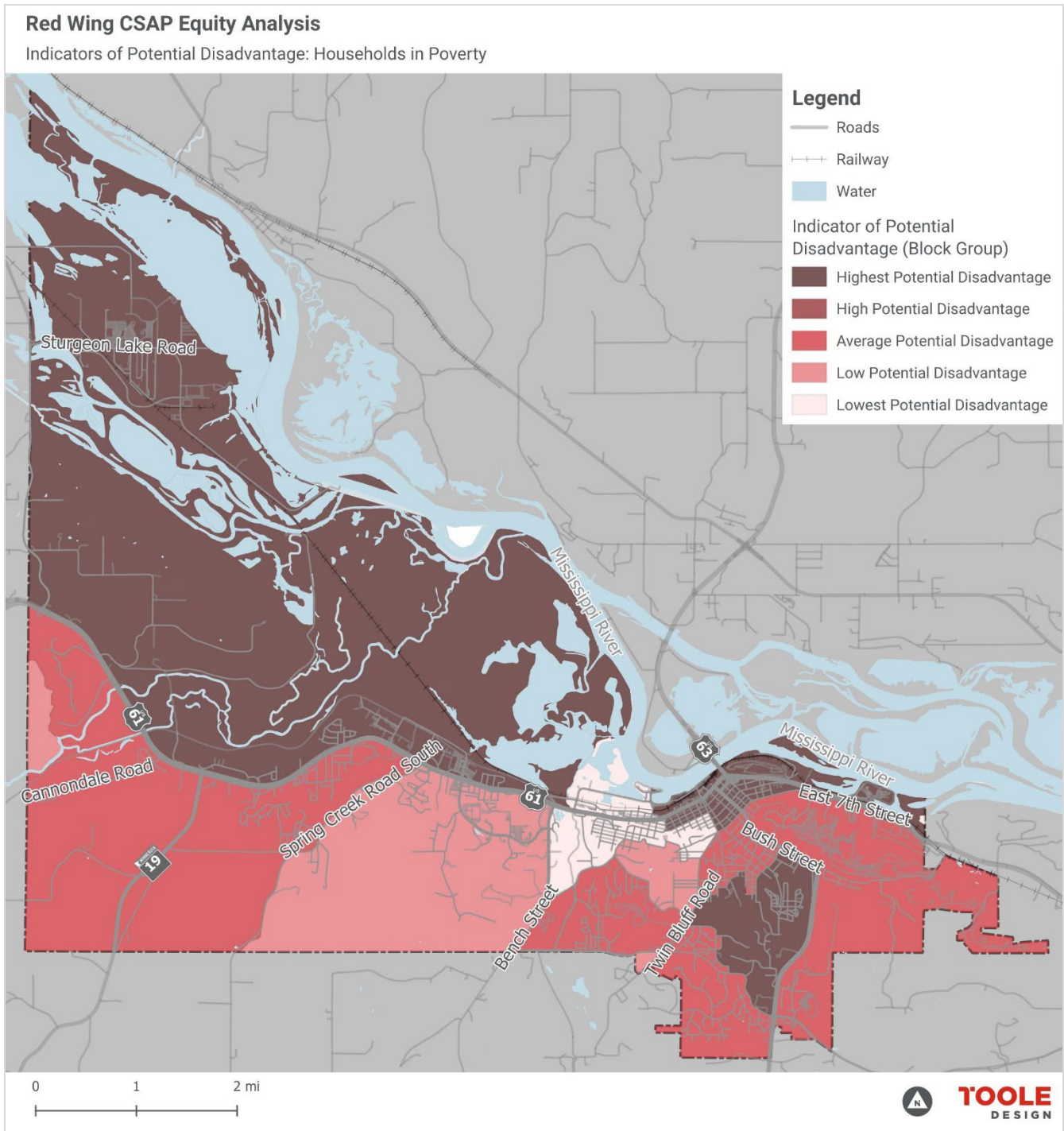
Map 2: Red Wing CSAP Indicators of Potential Disadvantage - Racial Minority Population



HOUSEHOLDS IN POVERTY

Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are most at risk of living at or below the poverty line.

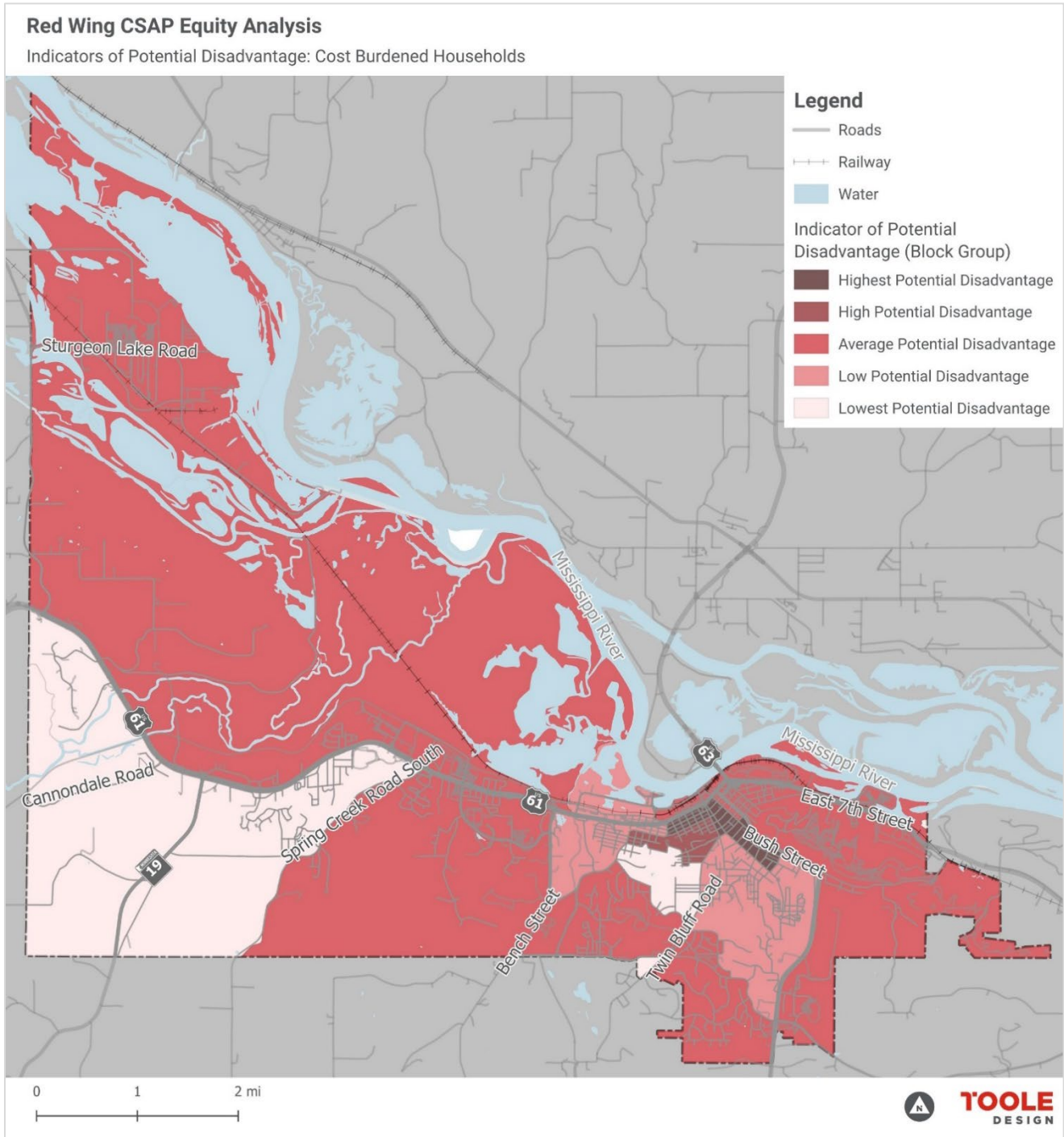
Map 3: Red Wing CSAP Indicators of Potential Disadvantage - Households in Poverty



COST BURDENED HOUSEHOLDS

Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are most at risk of being cost-burdened households. These are households that spend 30% or more of their income on housing costs.

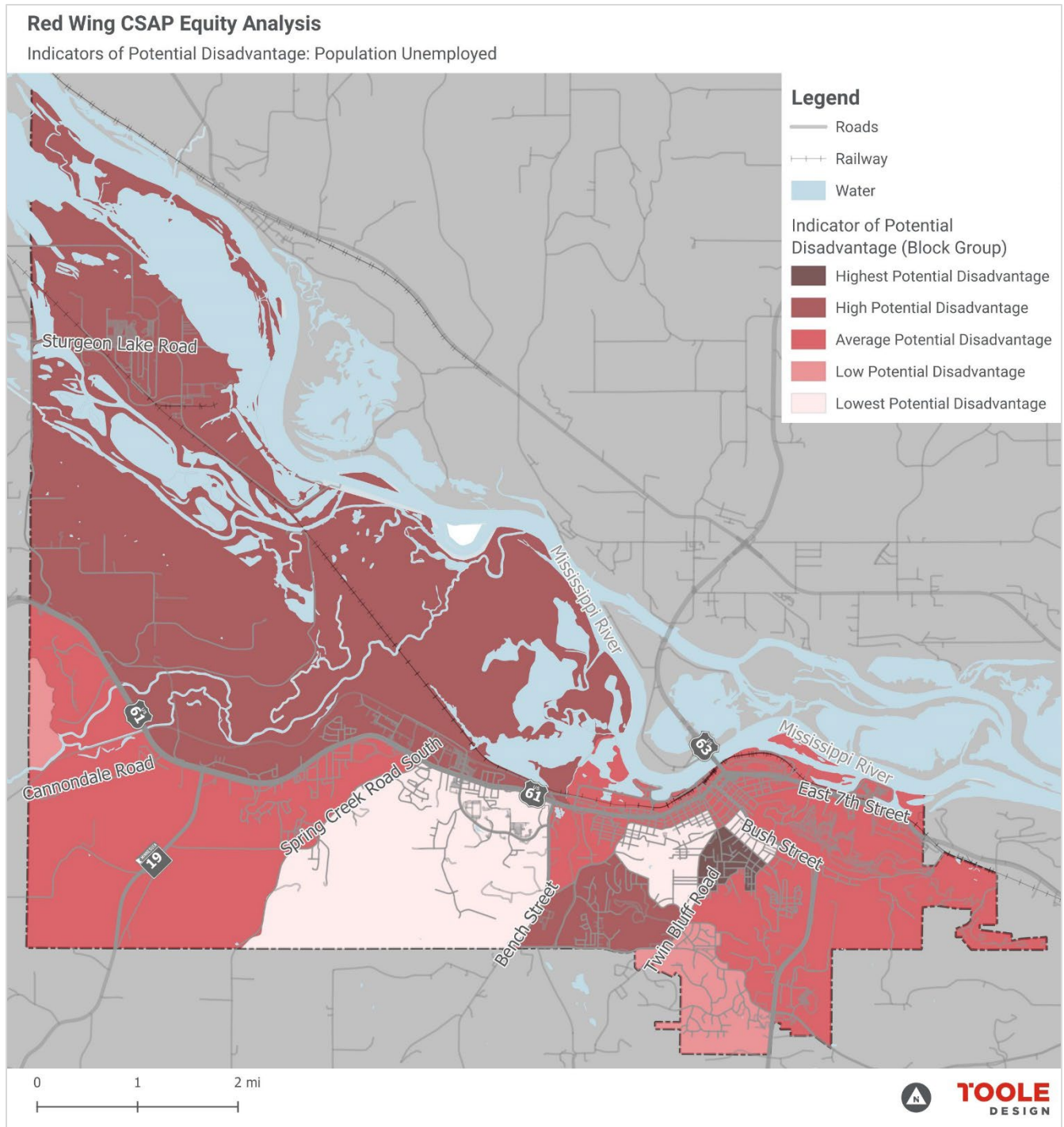
Map 4: Red Wing CSAP Indicators of Potential Disadvantage – Cost-Burdened Households



UNEMPLOYED POPULATIONS

Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are most at risk of being unemployed.

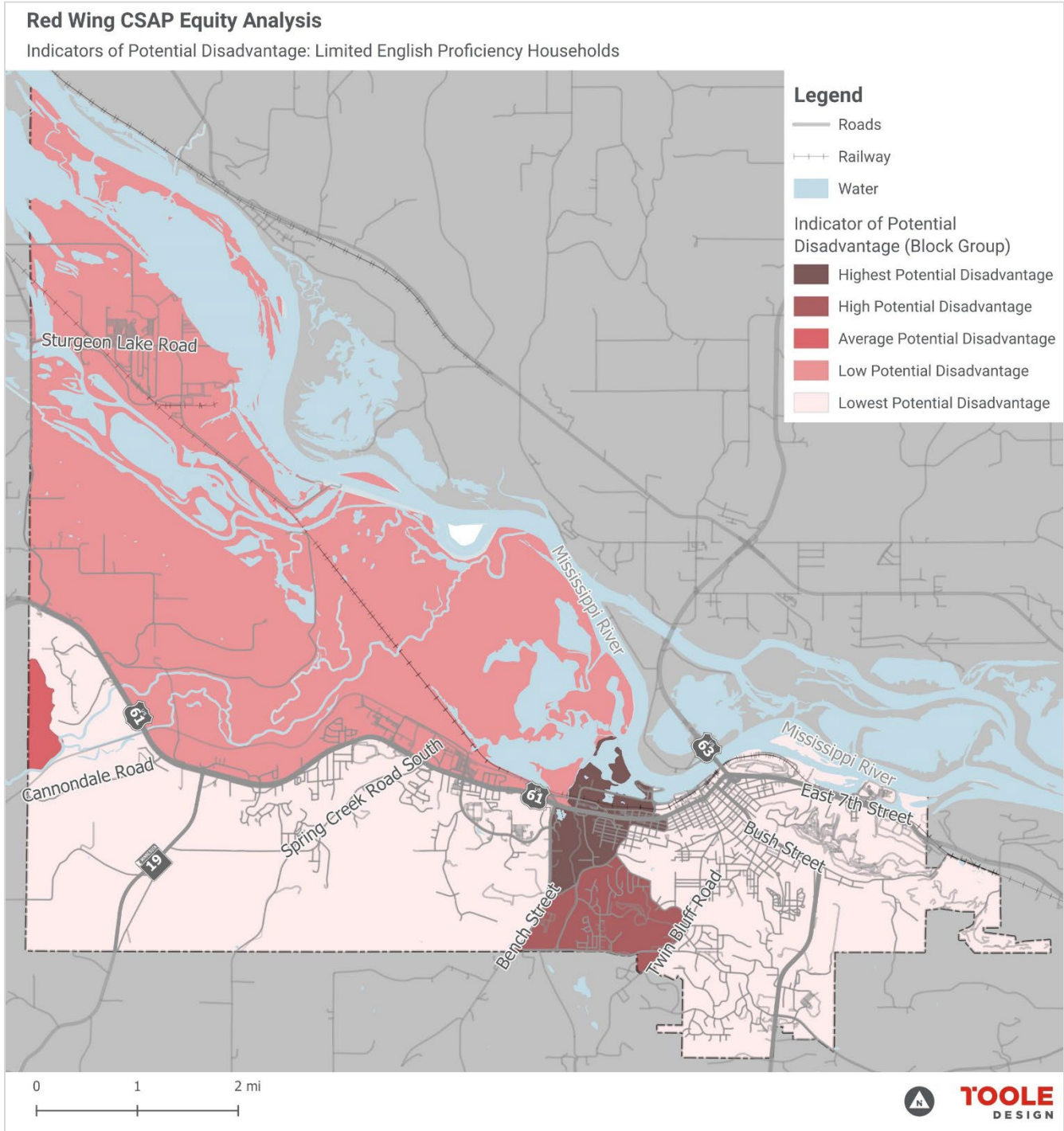
Map 5: Red Wing CSAP Indicators of Potential Disadvantage - Population Unemployed



LIMITED ENGLISH PROFICIENCY

Households located in the areas labeled "Highest Potential Disadvantage" or "High Potential Disadvantage" are most likely to speak a language other than English at home.

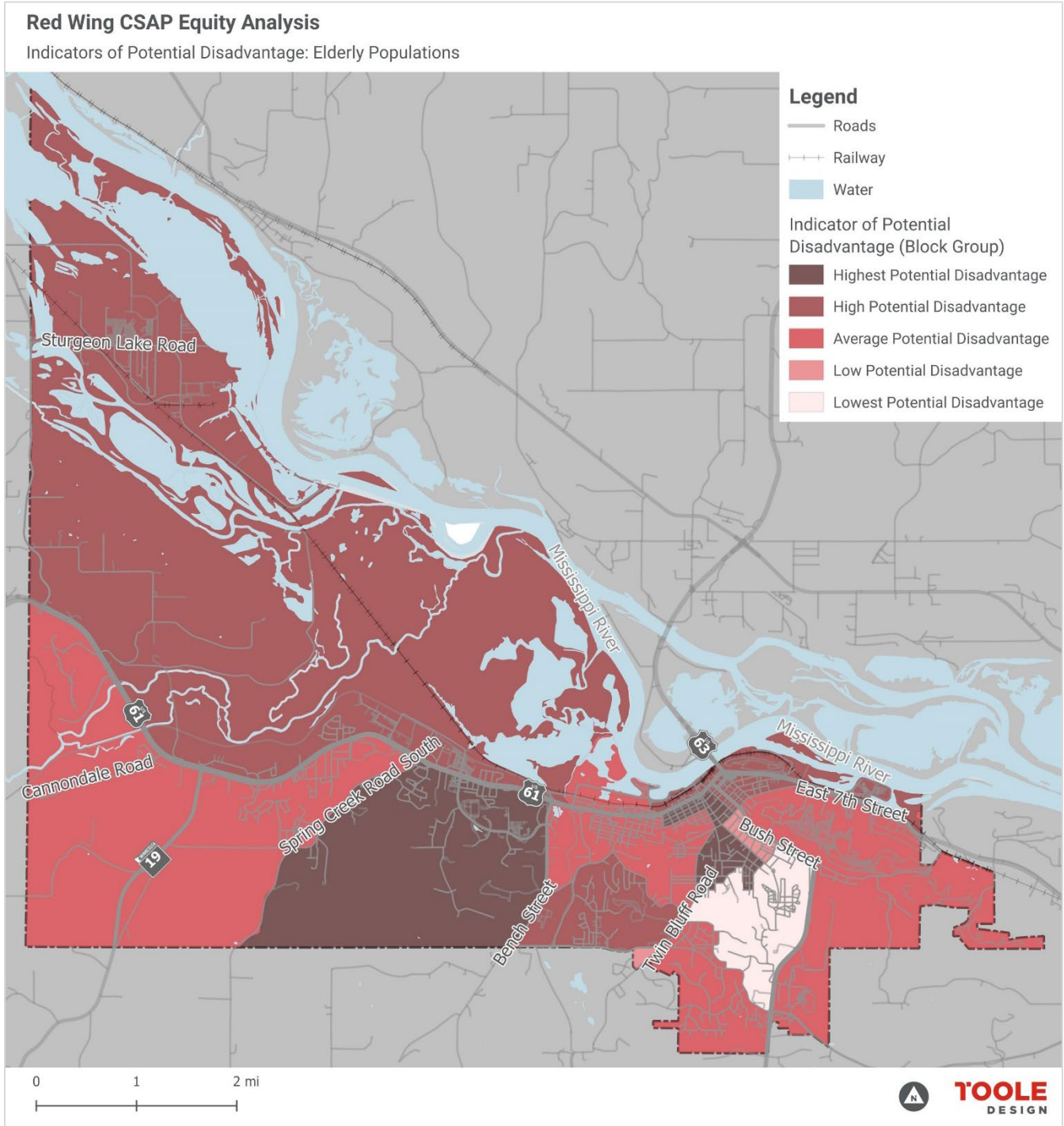
Map 6: Red Wing CSAP Indicators of Potential Disadvantage - Limited English Proficiency Households



OLDER ADULTS

Households located in the areas labeled "Highest Potential Disadvantage" or "High Potential Disadvantage" are more likely to be elderly.

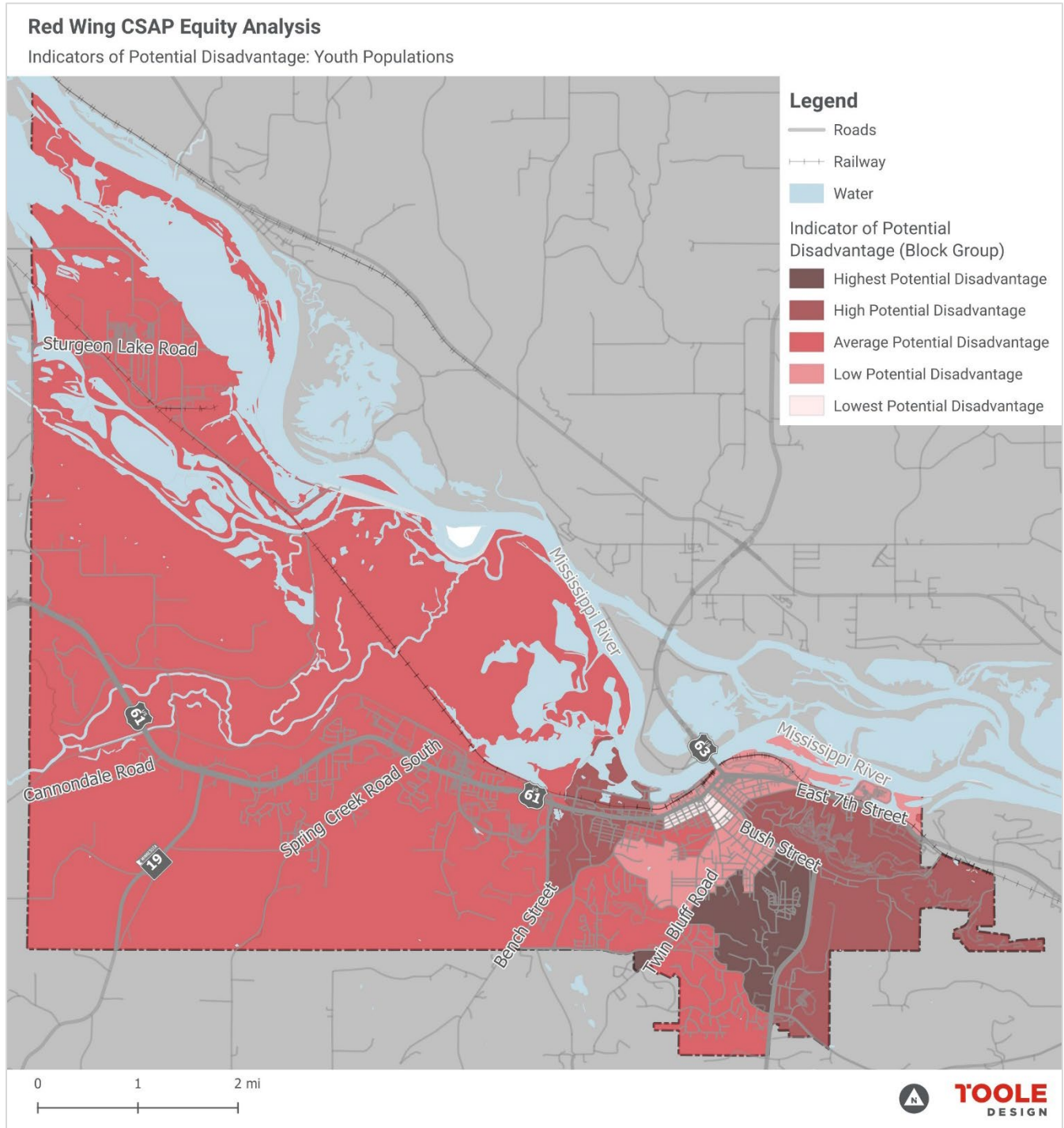
Map 7: Red Wing CSAP Indicators of Potential Disadvantage - Older Adults



YOUTH POPULATION

Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are more likely to include children and teens.

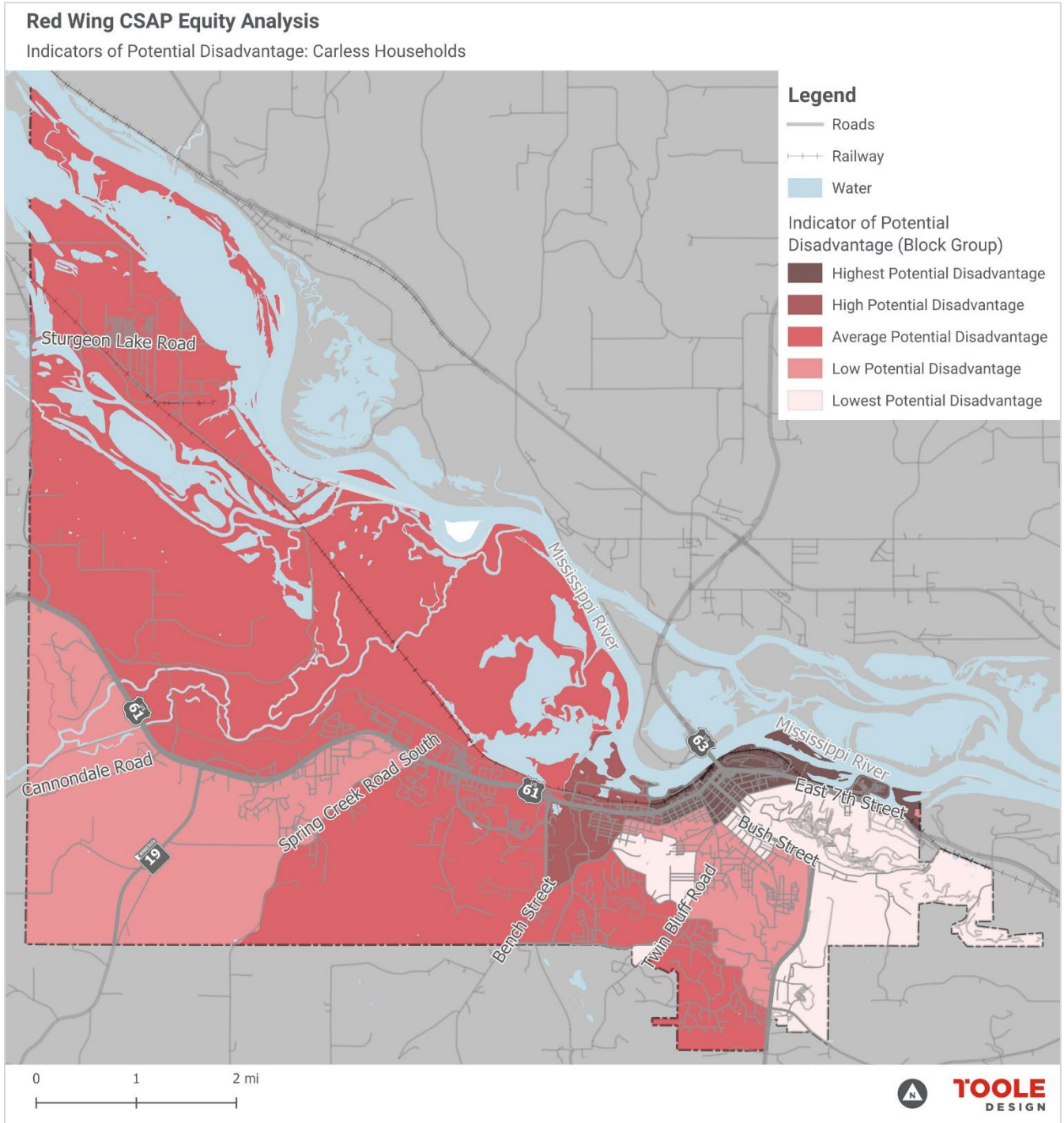
Map 8: Red Wing CSAP Indicators of Potential Disadvantage - Youth Population



CARLESS HOUSEHOLDS

Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are more likely to not own a car.

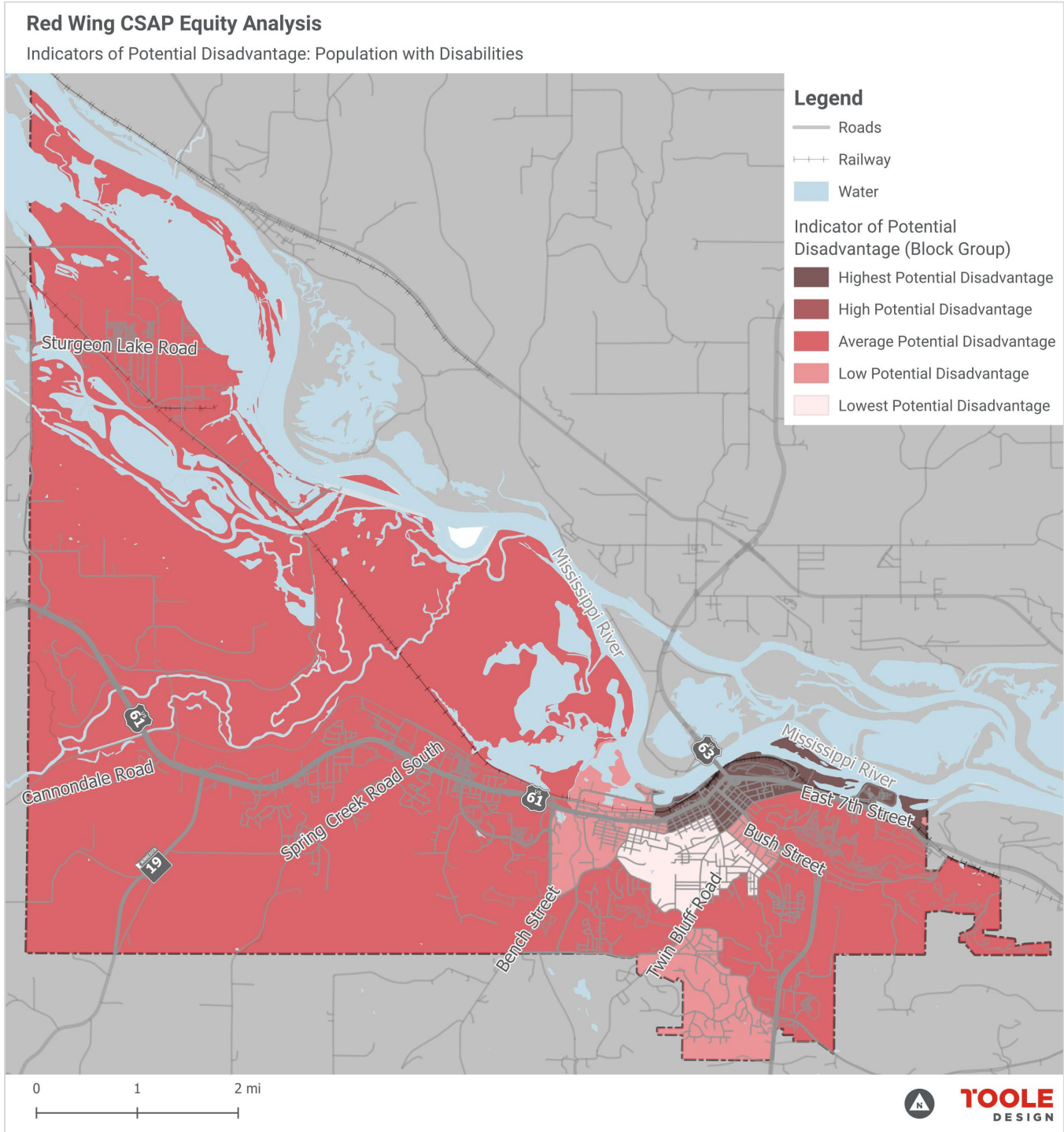
Map 9: Red Wing CSAP Indicators of Potential Disadvantage - Carless Households



POPULATION WITH DISABILITIES

Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are more likely to include a person with a disability.

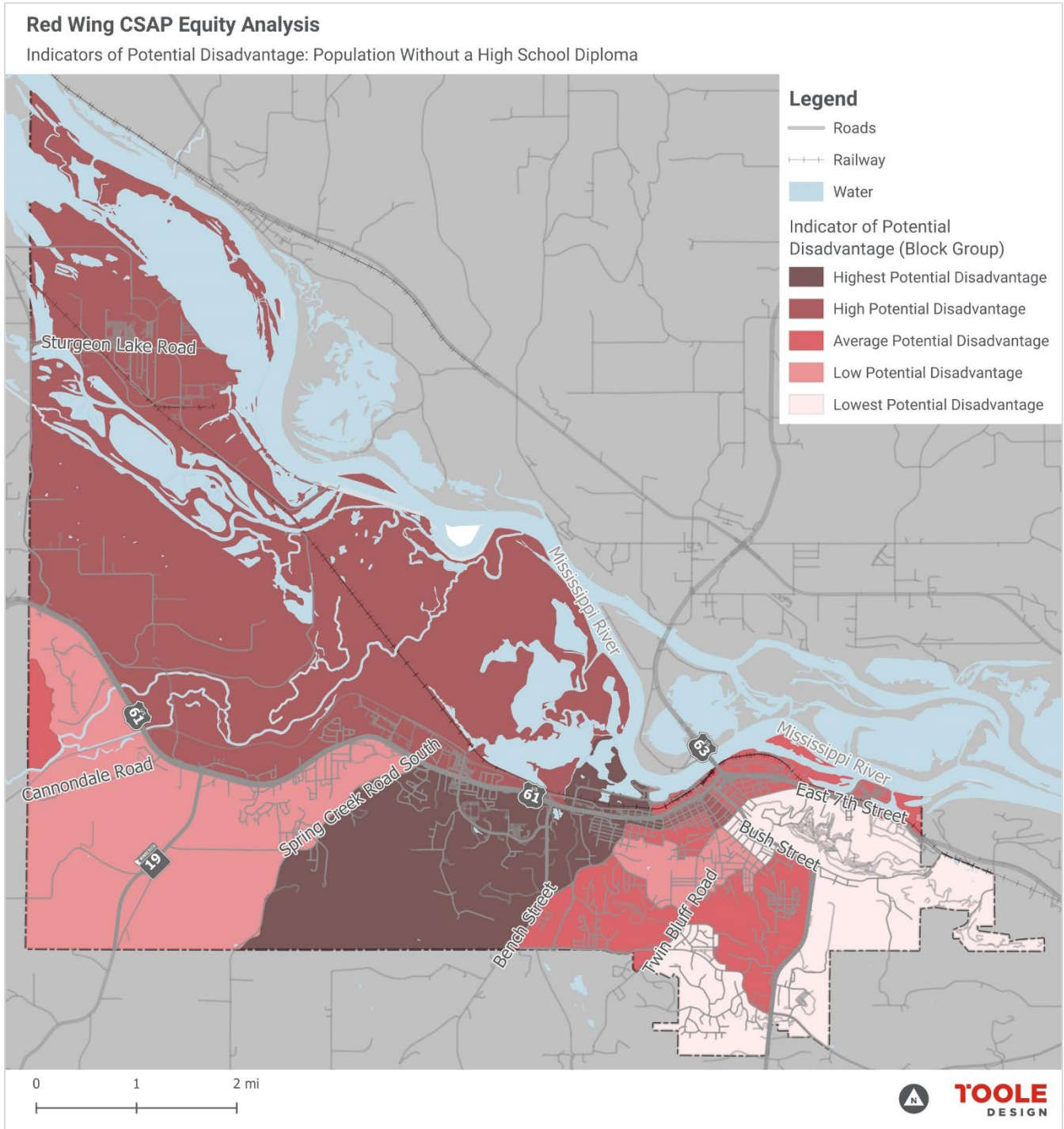
Map 10: Red Wing CSAP Indicators of Potential Disadvantage - Households with Disabilities



POPULATION WITHOUT A HIGH SCHOOL DIPLOMA

Households located in the areas labeled "Highest Potential Disadvantage" or "High Potential Disadvantage" are more likely to have an adult without a high school diploma or equivalent degree.

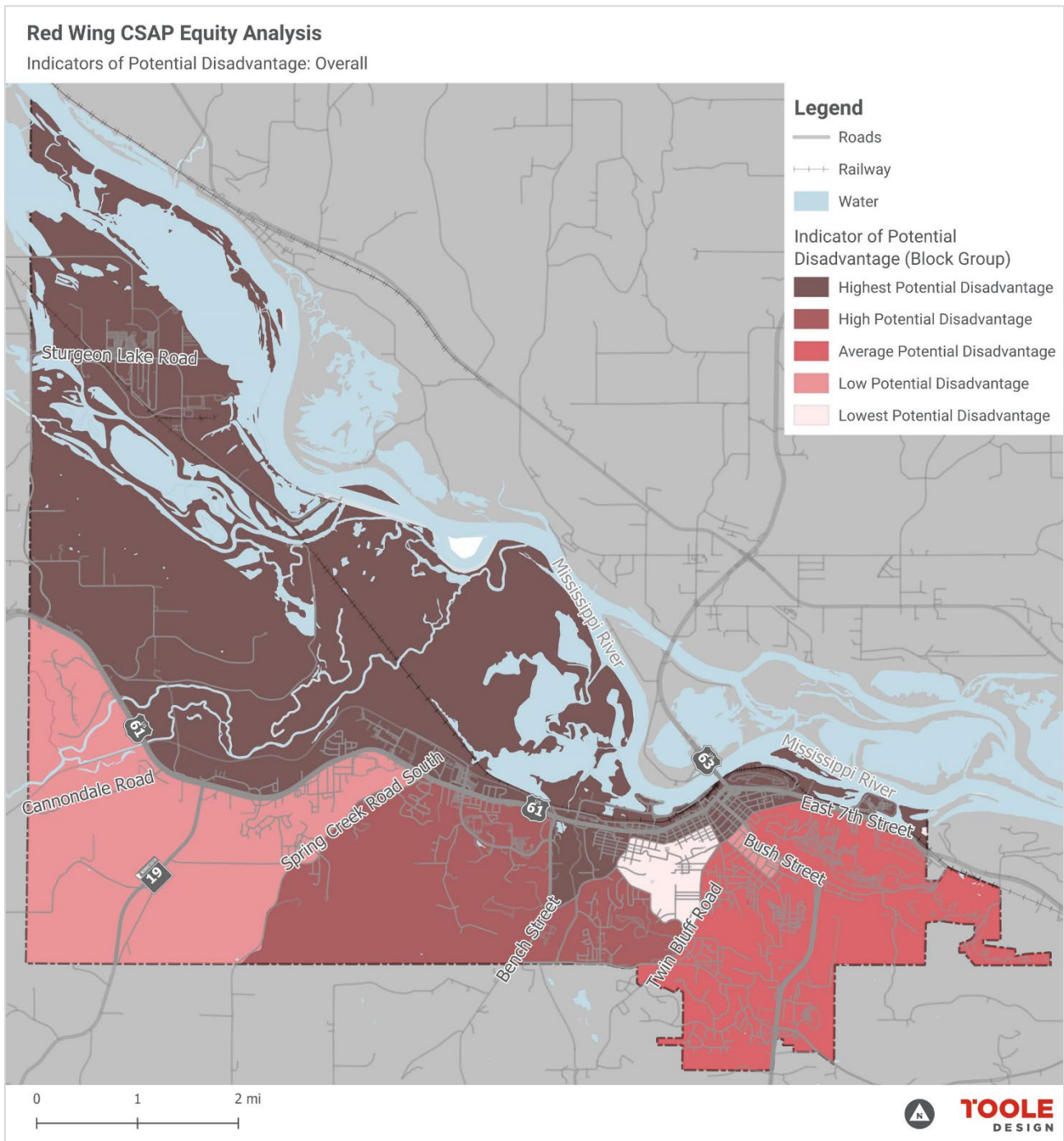
Map 11: Red Wing CSAP Indicators of Potential Disadvantage - Population Without a High School Diploma



EQUITY FOCUS AREAS FOR SAFETY ACTION PLAN

To determine the priority Equity Focus Areas for the Red Wing CSAP, 10 IPD scores were weighted and census block groups were categorized into the same structure as the previous maps. Households located in the areas labeled “Highest Potential Disadvantage” or “High Potential Disadvantage” are concentrations of IPD and should, therefore, be prioritized during community engagement, analysis, recommendations development, and implementation.

Map 12: Red Wing CSAP Indicators of Potential Disadvantage – Equity Focus Areas



SAFETY ANALYSIS INTEGRATION

STRATEGIES TO ADVANCE EQUITY

The equity analysis is a component of the Action Plan that aims to influence decision-making. This section describes the strategies that should impact the planning and implementation of transportation safety projects in Red Wing.

CONTINUED ASSESSMENT

The equity analysis reveals populations and areas that should remain important when deciding how to address planning issues, such as transportation safety. Consistently assessing these areas will be important.

QUALITATIVE AND QUANTITATIVE DATA

This plan's safety analysis provides part of the puzzle in the form of qualitative data. However, to identify transportation disparities, quantitative data is necessary, too. The best data and details to help understand people's lived experiences comes from community engagement. Continuing this practice in Red Wing is critical to understanding the community's transportation needs. Storytelling and other practices can help deepen understanding of how people are experiencing transportation in town.

EXPANDING ANALYSIS

Red Wing can use the equity analysis in this plan to assess potential outcomes like accessibility and provide insights when prioritizing projects. This lays the foundation for a more systemic framework when making decisions for this and future planning projects.

ADVANCING EQUITY THROUGH THE COMPREHENSIVE ROAD SAFETY ACTION PLAN

Table 1 outlines how each of these strategies will be used throughout the plan's community engagement, analysis, recommendation development, and implementation phases.

Table 1: Advancing Equity in the Red Wing Comprehensive Road Safety Action Plan

Equity Strategy	Engagement	Analysis	Recommendations and Implementation
Continued Assessment	Use mapping results to ensure that focus areas are being reached through engagement efforts.	Use the equity analysis as an overlay to the safety analysis.	Findings will inform recommendations for how the City can assess how areas of the community are being impacted.
Qualitative and Quantitative Data	Integrate engagement feedback into the equity analysis for a comprehensive understanding of transportation safety issues.	Use quantitative data like mapping to help understand transportation gaps. Rely on qualitative data to understand gaps that the safety analysis data cannot explain.	Qualitative and quantitative data will be used to develop recommendations and prioritizations.
Expanding Analysis	Use the equity analysis as a tool to develop targeted engagement and modify engagement strategies as needed.	The equity analysis should inform how the greater safety analysis is being used throughout the project.	Provide recommendations on how to strengthen data collection and engagement efforts.