

RAMSEY COUNTY-WIDE

Pedestrian & Bicycle Plan

State of Walking & Biking Environment

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State of Walking and Biking

The following report serves as a reference to the current conditions related to walking and biking in Ramsey County. Population, land use, safety and infrastructure work together to influence everyday choices related to transportation. While many things influence our travel choices, some factors can be adjusted through public policy, engineering and community engagement to better support safe and comfortable walking and bicycling.

Planning Context

State, county, and local planning and policy documents support the Ramsey Countywide Pedestrian and Bicycle Plan. Some documents provide a policy basis for the plan, while others provide specific design and safety objectives that support the plan goals and objectives. The targeted plan review focused on policy support, performance evaluation and benchmarking to understand and track progress toward community goals. The following plans are included in the review. Find links to these documents at <https://www.ramseycounty.us/your-government/projects-initiatives/bicycle-pedestrian-plan/bicycle-and-pedestrian-plan-resources>.

LOCAL MUNICIPAL PLANS

City of Maplewood Living Streets Policy
Lauderdale Parks and Open Space Plan
Maplewood Parks, Trails and Open Space Plan
North St. Paul Living Streets Plan
Roseville Pathway Master Plan
St Paul Bicycle Plan
St Paul Safe Routes to School Policy Plan
St Paul Street Design Manual
St Paul Great River Passage Master Plan
White Bear Lake Parks Trails and Open Space Plan

CORRIDOR PLANS AND REPORTS

I-694 Crossing Study
Mississippi National River and Recreation Area
Alternative Transportation Implementation Plan
Snelling Avenue Multi-Modal Transportation Plan

HEALTH IMPACT ASSESSMENTS

Arden Hills Healthy City Planning Workshop
Gateway Corridor Health Impact Assessment
Making Strides: Last Mile to the Green Line

TRANSIT PLANS

Gateway Corridor Alternatives Analysis Study
Riverview Corridor Pre-Project Development Study
Rush Line Transit Study

RAMSEY COUNTY PLANS AND REPORTS

Ramsey County Parks and Recreation System Plan*
Ramsey County Pedestrian and Bicycle Fatality and Serious Injury Study

REGIONAL PLANS

2040 Regional Parks Policy Plan
Bicycle and Pedestrian Connections to Transit Infrastructure Study
Lake Links Regional Trail Plan
Metropolitan Council Regional Bicycle System Study
Metropolitan Council Choice, Place and Opportunity: An Equity Assessment of the Twin Cities Region
Metropolitan Council 2040 Transportation Policy Plan

STATEWIDE PLANS AND REPORTS

I-35E MnPASS
Minnesota Towards Zero Deaths Initiative
MnDOT Complete Streets Plan, Policy, and Tech Memo
MnDOT Ramsey County Pedestrian Crash Study
MnDOT Statewide Bicycle System Plan
MnDOT Statewide Bicycle Planning Study
MnDOT Statewide Pedestrian System Plan — Minnesota Walks
Statewide Multimodal Transportation Plan Bicycle and Pedestrian Connections to Transit Infrastructure Study

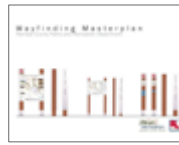
*Reports marked with an asterisk were under development during the creation of the Ramsey Communities Pedestrian and Bicycle Plan. Where possible and appropriate, the project team referred to available draft project materials in these cases.

Subset of Planning Documents Informing the Ramsey Communities' Pedestrian and Bicycle Plan

Ramsey County Plans



Ramsey County
Parks and Recreation
System Plan
2006



Ramsey County
Ramsey County Wayfinding
Master Plan
2011

Local Community Plans

- ★ **Local Community Comprehensive Plans** with trails, pedestrian, or bicycle elements.

Corridor Plans



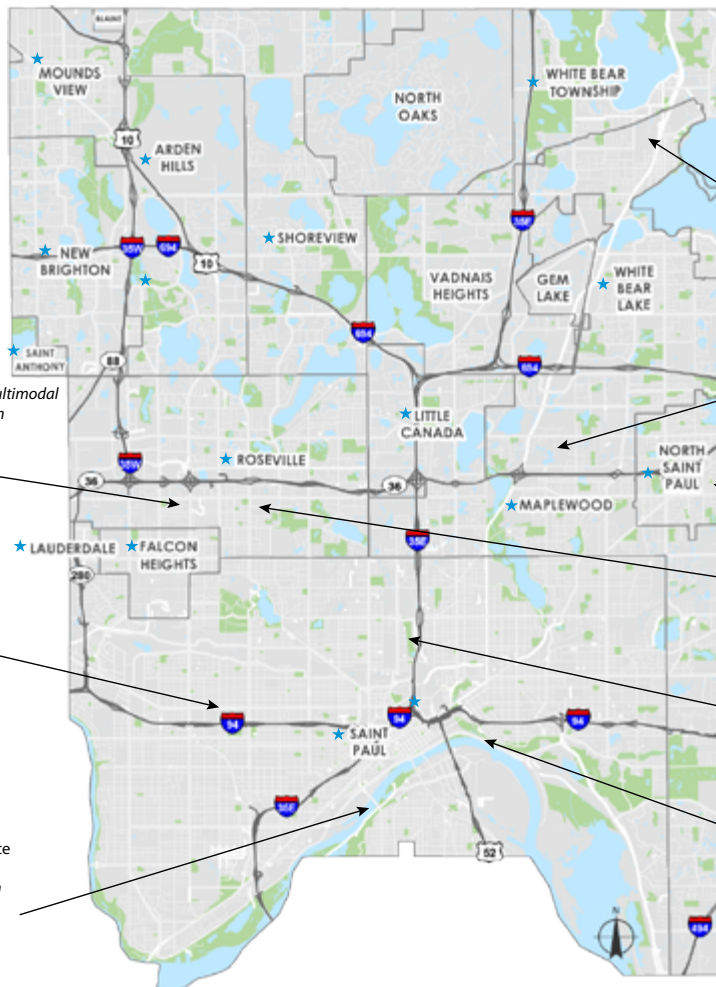
MnDOT
Snelling Avenue Multimodal
Transportation Plan
2013



District Council
Collaborative
Last Mile to the
Green Line
2014



National Park Service
Mississippi National River and Recreation
Area Alternative
Transportation Plan
2013



State and Regional Plans



Met Council
Twin Cities Regional Bicycle
System Study
2014



Met Council
2040 Regional Parks
Policy Plan
2015



Metropolitan Transit
Bicycle and Pedestrian
Connections to Transit
Infrastructure Study
2009



MnDOT
Statewide Multimodal-
Transportation Plan
2012



MnDOT
Complete Streets Technical
Memorandum: Complete Streets
Guidance and Procedures
2014

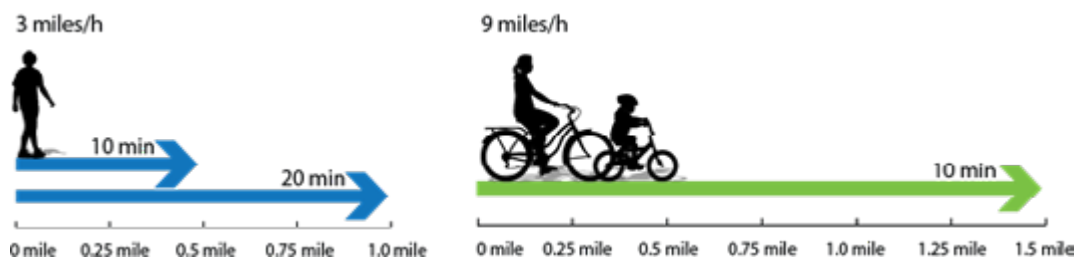
Our Unique Opportunities

The communities of Ramsey County have a hidden, untapped potential for establishing themselves as premier walking and biking communities. The population and employment density, geographic size, and tight-knit community centers, connected with St Paul as a strong regional destination offer a recipe for lifestyles compatible with active transportation. With a length of approximately 16 miles and width of 12 miles, most activity centers are accessible to residents from all parts of the County.

The Hidden Potential

Walking and biking can be easy everyday means of traveling around the community. The average walking speed is three miles per hour, which lets people travel to the store, park or community destination a mile away in under 20 minutes.

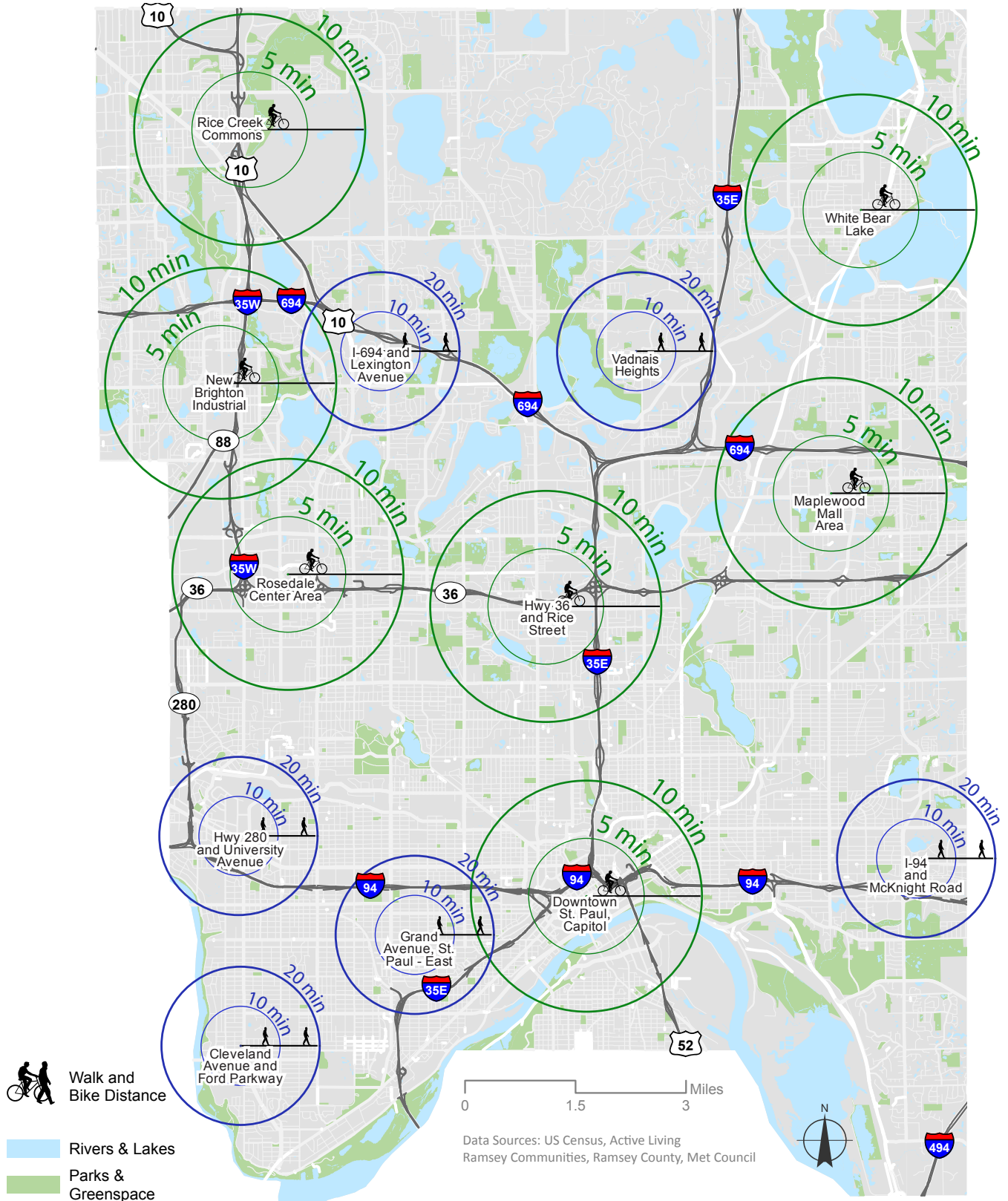
Bicyclists can extend that range and go farther and faster, while still benefiting from increased activity. Most people, regardless of age, can ride at nine miles per hour. In 20 minutes, bicyclists can travel three miles. That is almost one third of the way across Ramsey County.



The map on the following page illustrates walking and bicycling distances from various activity centers in Ramsey County. Each activity center has parks, greenspace, and waterways within a 20 minute walk or ride. Even areas that seem spread out are accessible to a significant portion of the surrounding neighborhoods.

Distances between these activity centers is often less than 3 miles, which translates into a leisurely 20 minute bicycle ride. Based on national averages, over 40% of trips are 3 miles or less.¹ Today, these short trips are often done in a single occupancy vehicle, but offer a huge potential for future active transportation trips.

Map 2A-1: Potential for Walking and Biking in Ramsey County



The Challenges

Achieving the vision will not be easy. It will require coordination across jurisdictional boundaries and transformative change in the way agencies approach the creation of sidewalks, bike lanes and streets.

For many reasons, from safety, to health, to the natural environment, it is important to enhance everyone's ability to walk and bike.

Fatality & Injury from Vehicle Collision

The rates of injury and death to people walking and riding bikes in Ramsey County are notably higher than other parts of Minnesota.²

In Ramsey County,

40%

of all crash fatalities are pedestrians

3%

of all crash fatalities are bicyclists

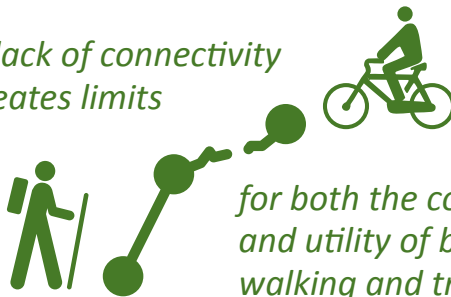
4x

the state average

1.5x

the state average

A lack of connectivity creates limits



for both the comfort and utility of biking, walking and transit facilities.

Disconnected Bike & Pedestrian System

A lack of coordination in the planning process has resulted in a system that lacks connection and cohesion. Features of the built and natural environment, such as railroad tracks, interstates, lakes and rivers can further limit access across the county.

Disparities & Gaps Related to Income, Education & Health

A diverse transportation system can reduce disparities by improving opportunities for access to education, employment, and critical services, such as health care, across Ramsey County.

Top Barriers to Receiving Health Care in Minnesota:

- 1** *Lack of Transportation*
- 2** *Lack of Health Insurance*
- 3** *Lack of Access to Mental Health Services*



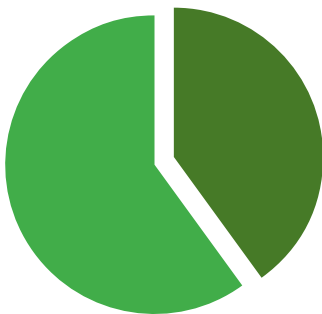
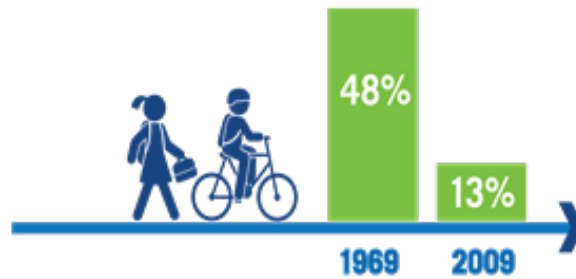
17%
of people in Ramsey County live in poverty, compared to 11.5% in Minnesota overall.³

Poverty

In Ramsey County, there are concentrations of poverty where residents want and need better connections to jobs, schools, libraries and recreational activities. Improved bicycle and pedestrian access can help residents enhance their lives.

Youth and Learning

Children who use active modes to get to school are more attentive and able concentrate in class, have advanced mental alertness and gain additional minutes of physical activity each day.



44%
of people in St. Paul identify as people of color, compared to 33% in Ramsey County.⁴

Diversity

Ramsey County's diverse population reflects the County's dynamic urban nature. However, the diversity also indicates the need to respond to different social and cultural needs. These communities typically include communities of color, immigrants and low income households who have less access to transportation systems. They may also include people from countries where walking and cycling are more common forms of transportation.

Transportation costs

Transportation costs affect all people, particularly those with the fewest options. It is also important to consider the time costs associated with different modes and how the increased transportation time impacts daily life. Additionally, there are 23,666 households in the county with no access to a vehicle.⁵

According to AAA, it costs

\$8,698



annually to own and operate a vehicle.

Ramsey County earned an

“F”

grade for air quality in a recent American Lung Association report.⁶



Environmental Concerns

Ramsey County air quality is the worst in the entire metro area, and has been declining since 2009. Pollution has particularly negative consequences for Environmental Justice populations in the region, who already bear a disproportionate burden.

Atlas of Existing Conditions

The following section is a collection of datasets, facts and influential factors related to walking and biking. It is meant to serve as a resource for all Ramsey County communities. These conditions can influence an active lifestyle, and through examination may reveal opportunities to enhance, grow and shift the direction of Ramsey County communities toward a vibrant, walkable and bikeable future.

Using this Document

On the pages that follow, each content topic is presented in map or graphic form, paired with a description of what the dataset shows and what value it brings to the exploration of walking and biking in Ramsey County.

Population and Land Use Characteristics

A successful walking and biking plan recognizes that the people of Ramsey County are the most important aspect of the decision to walk and bike. Where people live, work and play can determine whether walking and biking are feasible transportation options.

Key Points of Interest that produce higher levels of travel demand include schools, healthcare facilities, recreation facilities, arts/museums, shopping and employment centers.⁷ Walking and biking networks should connect to and between these destinations.

Over 95% of Ramsey County residents agree that opportunities for physical activity such as trails, contribute to the quality of life in Ramsey County.⁸

The 2009 National Household Travel Survey tells us that a large percentage of people walk to destinations, but only if they are close. When distances are under one mile, walking becomes an easier transportation option.



Land Use

Ramsey County is the most densely populated county in Minnesota (3,464 people per sq. mile) and one of the most densely populated in the United States. It is also has the highest number of jobs per square mile (2,102) in Minnesota. This creates a great potential for transportation by walking and bicycling. However, much of the county's land is separated into areas with dedicated uses, with little mix of zoning and land uses.

Map Highlights

The Land Use Designation Map displays the varied land uses across Ramsey County. This map shows land uses in eight categories; industrial and undeveloped, institutional, parks and open spaces, major highway, water, residential, office/commercial and mixed use. The most prominent land uses across Ramsey County are residential, parks and open spaces, and water. Along major highways, land uses include office and commercial, mixed use and industrial. In downtown Saint Paul, the most prominent land uses include mixed use, office/commercial and institutional.

The Foundation for Connecting Ramsey Communities

A singular land use, such as a residential only area, creates a place where residents are dependent on motor vehicles for every trip and errand. Separating types of land uses creates greater distances between housing, workplaces, retail, businesses and other destinations.

What Are The Impacts Of Zoning On Walking And Bicycling?

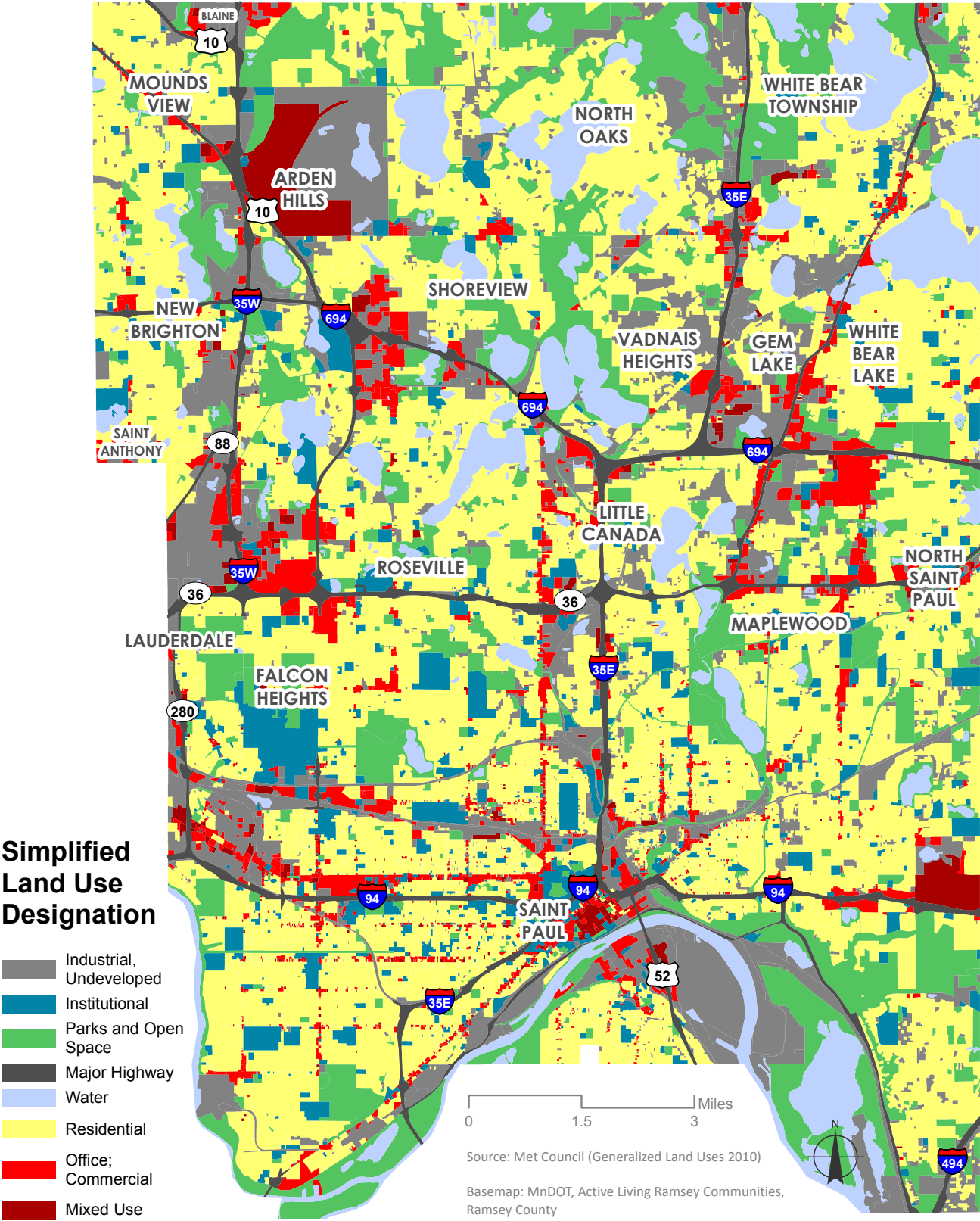
Having a zoning code that allows for a mix of land uses creates destinations for walking and biking. Absence of nearby destinations of interest is a major barrier to walking and bicycling for people of all ages. Mixed land uses promotes the use of active transportation for daily activities and errands.

A diversity of activities and destinations not only encourages biking and walking for daily trips, but also gets residents outside and encourages social interaction. This type of active community is especially attractive to young populations; 50% of Millennials prefer living within an easy walk of other places, and 51% prefer living in attached housing, such as a townhouse or condo, where they can walk to shops and have a shorter commute.⁹ Millennials are moving to places that create these kinds of environments.

Implications for the Future Vision

Integrating different land uses throughout Ramsey County has many positive impacts on communities throughout the county, including reduced distance and travel time between residential areas and destinations, more compact development and less sprawl and more convenient and comfortable bicycling and pedestrian environments.

Map 2A-2: Ramsey County Land Uses



Residential Population Density

Ramsey County is the most densely populated county (5.4 people per acre) in the state and one of the most densely populated in the country.¹⁰ Areas with high levels of residential density will see travel across all hours of the day, with concentrated peaks during the morning and evening commute hours.

Map Highlights

The Residential Population Density Map displays the number of people per acre living in Ramsey County. The areas with the highest population density are the inner neighborhoods of Saint Paul that ring downtown. These neighborhoods reach densities of 20-40 people per acre. Suburban communities reach up to ten residents per acre, and the outer suburban residential areas are under five people per acre. Downtown Saint Paul itself has low residential density similar to outer suburban areas, due to a high concentration of single-use employment buildings and a lack of residential units.

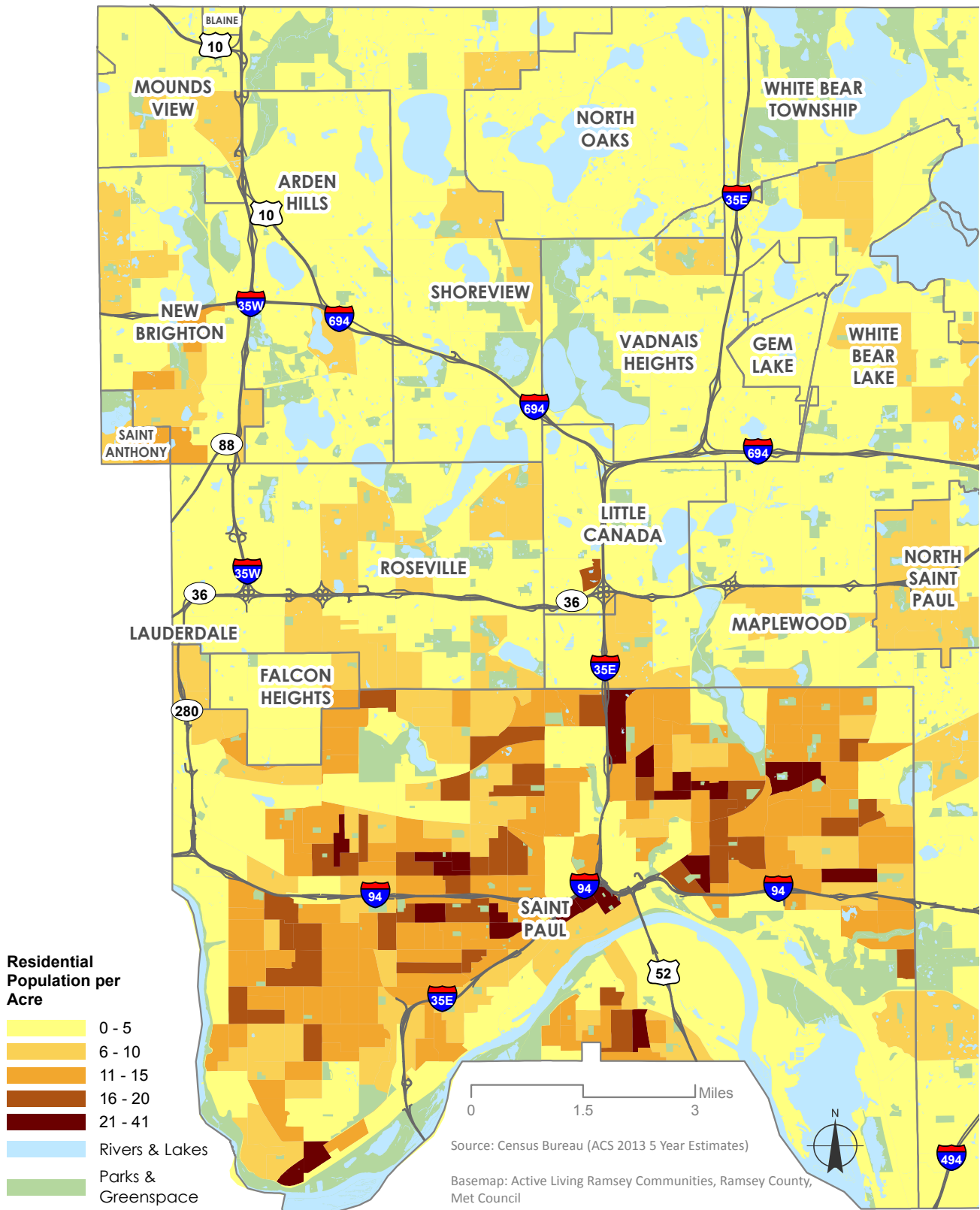
The Foundation for Connecting Ramsey Communities

Higher population densities typically have a greater mix of land uses, shorter distances between destinations and better connectivity, making these areas more attractive places to bike and walk. The Connected Ramsey Communities network should join these dense areas of activity and integrate well with local walking and biking networks to maximize the level of use and usefulness to Ramsey County residents.

Implications for the Future Vision

While the County's overall population density is high, it varies between urban areas with higher densities and lower density suburban areas. These pockets of higher densities offer great potential for transportation by walking and bicycling. Rates of walking and bicycling increase in areas with higher density.¹¹ The concentrated areas of high residential density support current and future infrastructure demand for pedestrians and bicyclists, while the very low density areas will need to focus their investments carefully to increase levels of walking and biking for transportation.

Map 2A-3: Ramsey County Residential Population Density



Employment Density

Employment density can reach much higher concentrations than residential density, bringing many workers into one area during the workday. These areas will see high levels of mid-day travel demand. Employment areas with mixes of retail, commercial and employment have the potential for short trips on foot or by bike.

Map Highlights

The Employment Density Map shows the number of jobs per acre across Ramsey County. Downtown Saint Paul stands out clearly with the highest employment density in the county. Other commercial centers in suburban communities also stand out from the neighboring single-use residential areas. Downtown Census tracts with office buildings hold over 100 jobs per acre. Concentrated employment areas such as the 3M Campus reach up to 25 jobs per acre. Suburban commercial centers such as Roseville or Maplewood Malls have five to ten jobs per acre.

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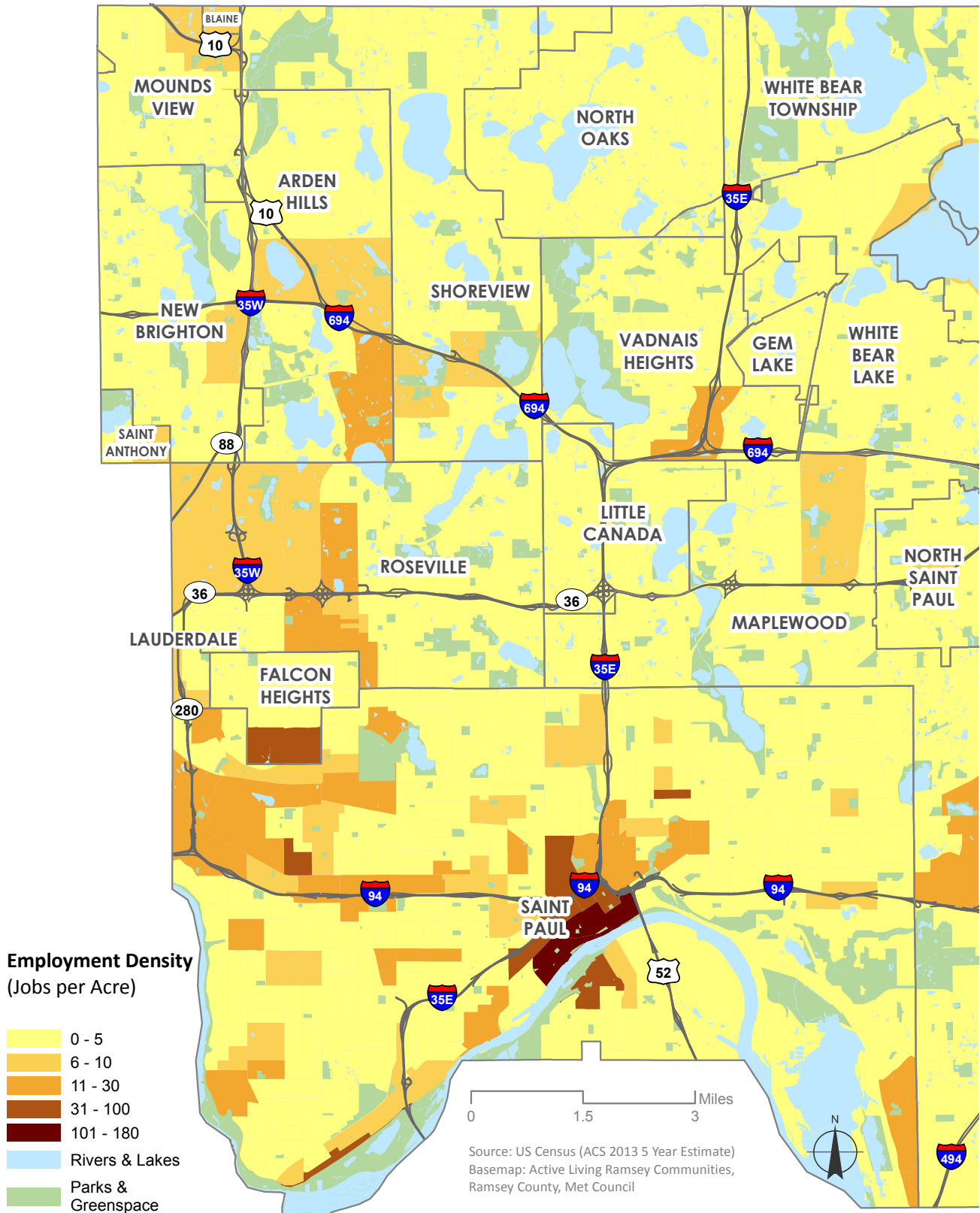
Like residential population density, high employment densities typically have a greater mix of land uses, shorter distances between destinations and better connectivity, making these areas more attractive places to bike and walk. There are only a few highly concentrated employment areas in Ramsey County. These are important destinations for the Connected Ramsey Communities network to provide access to so that commuting by bicycle can become a viable option.

Implications for the Future Vision

Because of longer distances, bicycling may be the preferred mode of active transportation to reach high employment density areas.

Within these high density employment areas, walking is likely to be the most important mode. Walking between destinations during the day can be supported through infrastructure such as sidewalks and paths, and amenities such as benches and tree canopies. In the larger high density employment areas bicycling can be supported by bike share systems such as Nice Ride.

Map 2A-4: Ramsey County Employment Density



Key Destinations and Activity Centers

Activity centers provide a density of commercial, retail and other key destinations throughout Ramsey County. Even in less dense, less active areas, schools, colleges and universities are located in communities throughout Ramsey County.

Map Highlights

The Key Destination and Activity Centers Map displays the varied destinations and activities across Ramsey County. This map shows destinations and activities in six categories; malls and shopping, academic institutions, major activity centers, rivers and lakes, and parks and greenspaces. The map shows downtown Saint Paul as a major activity center with multiple malls and shopping destinations such as Carriage Town Square, Hill Plaza and Galtier Plaza. Activities centers are identified between Roseville and Falcon Heights, and near White Bear Lake. Academic institutions, which includes schools, colleges and universities, are the next prominent feature on the map and are spread throughout Ramsey County, with the University of Minnesota campus in Falcon Heights and Bethel University being the most prominent.

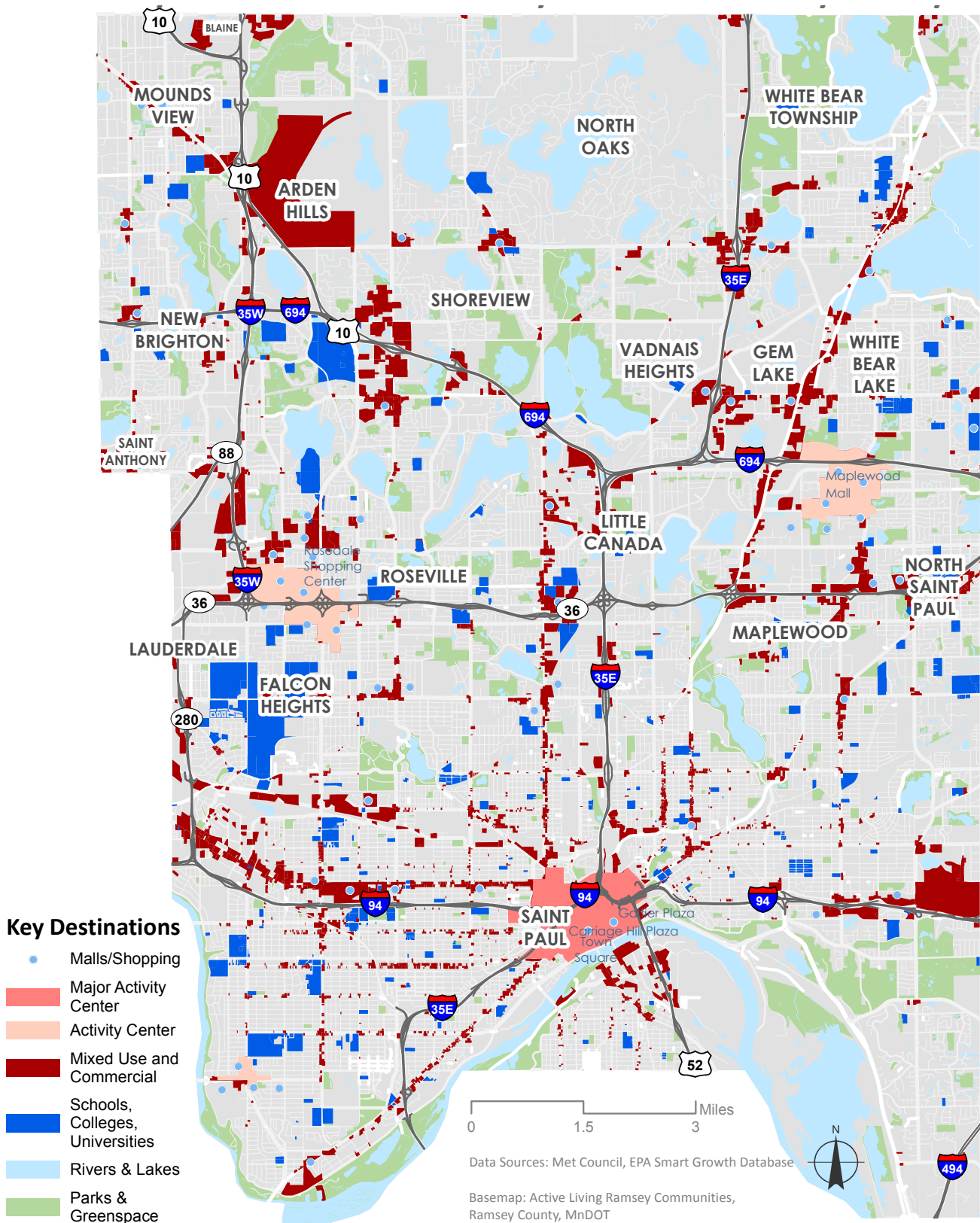
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Walkable activity centers that are compact and easy to navigate on foot or by bike create a more interesting and safe environment for all people. The large number of colleges and universities in Ramsey County is an asset for biking and walking. Colleges and universities have high rates of bicycling, walking and transit use. The culture of active commuting on campuses, combined with the high population density, makes them enjoyable and safe places to bike and walk.

Implications for the Future Vision

Activity centers, core commercial areas and concentrations of educational institutions are the critical destination centers of the Connected Ramsey Communities Network.

Map 2A-5: Key Destinations and Activity Centers in Ramsey County



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Walking And Biking Activity And Facilities

Safe, comfortable facilities are needed to promote active transportation. If the physical infrastructure is missing, incomplete or uncomfortable, the trip is unlikely to be made on foot or by bike.

A complete network of walking and biking routes that connects people from where they live to where they work, shop and play is the cornerstone of a walking and biking community. These facilities should be constructed to a high standard and be provided in response to the adjacent roadway context. Streets with increased levels of traffic should have a more separated walking and biking facility to maintain user comfort.

A study of the Twin Cities reported that the sidewalk length, streetlights, traffic calming and other measures of connected street patterns correlate to increases in walking in walking.¹²

Chart 2-1: How Far do People Usually Walk?

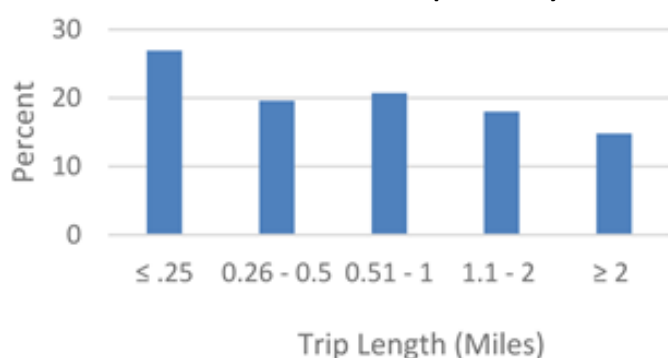


Chart 2-2: How Far do People Usually Bike?

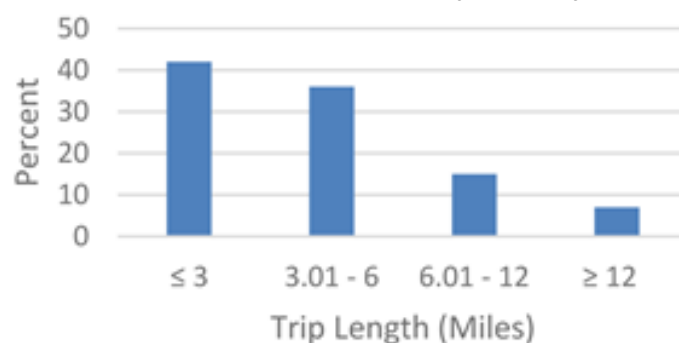


Table 2-1: Walking Mode Share in Ramsey County Communities (Largest to Smallest)

| City | Average Walk Mode Share (%) |
|---------------------|-----------------------------|
| Lauderdale | 10.06 |
| Falcon Heights | 7.37 |
| Saint Paul | 4.31 |
| Roseville | 3.24 |
| Spring Lake Park | 2.90 |
| Arden Hills | 2.60 |
| New Brighton | 2.04 |
| North Saint Paul | 1.67 |
| Mounds View | 1.64 |
| Vadnais Heights | 1.57 |
| Maplewood | 1.35 |
| Blaine | 1.25 |
| Little Canada | 1.24 |
| Saint Anthony | 1.22 |
| White Bear Township | 1.10 |
| Gem Lake | 1.07 |
| White Bear Lake | 1.07 |
| Shoreview | 0.98 |
| North Oaks | 0.67 |

Table 2-2: Cycling Mode Share in Ramsey County Communities (Largest to Smallest)

| City | Average Bike Mode Share (%) |
|-----------------------|-----------------------------|
| Lauderdale | 4.62 |
| Falcon Heights | 3.81 |
| Roseville | 1.93 |
| Saint Paul | 1.31 |
| Spring Lake Park | 1.30 |
| Mounds View | 1.23 |
| New Brighton | 0.64 |
| Saint Anthony Village | 0.62 |
| White Bear Lake | 0.47 |
| Little Canada | 0.40 |
| Arden Hills | 0.38 |
| Gem Lake | 0.37 |
| White Bear Township | 0.35 |
| North Saint Paul | 0.34 |
| Maplewood | 0.33 |
| Vadnais Heights | 0.31 |
| Shoreview | 0.31 |
| Blaine | 0.25 |
| North Oaks | 0.13 |

Census Bureau. ACS 2013 5 Year Estimate

Walking for Transportation

Walking is a valuable form of transportation to work in some parts of Ramsey County. Commute to work by walking is as high as 36% in the downtown core of Saint Paul and reaches around 20% near the University of Minnesota. In the majority of Ramsey County, walking to work is under five percent of trips.

Map Highlights

The Percent Commuters Who Walk to Work Map displays the percentage of people who walk to work per census tract across Ramsey County. Ten to 36% of commuters walk in downtown Saint Paul, neighborhoods west of downtown Saint Paul, and in some neighborhoods in Falcon Heights and Arden Hills. One to ten percent of commuters walk in the neighborhoods that surround downtown Saint Paul and in section of Roseville.

The Foundation for Connecting Ramsey Communities

Because walking is most suitable for short trips, it will not become a common method of transportation between different Ramsey communities. However, no matter what mode is taken, everyone is a pedestrian upon reaching the destination. Providing for a walkable environment with walking-compatible densities can let residents, visitors and workers walk during their time in Ramsey County.

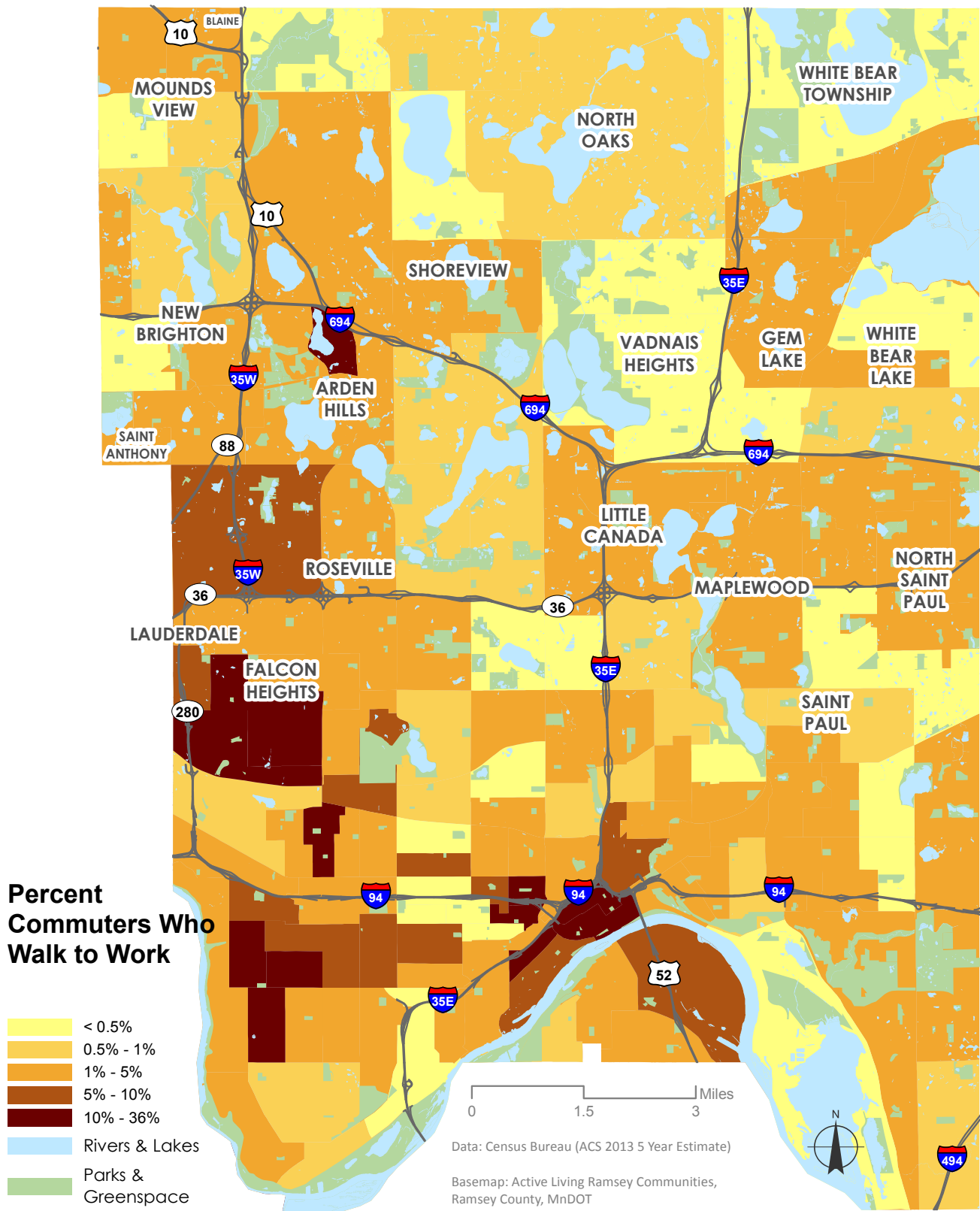
Implications for the Future Vision

For short trips within communities, walking has the potential to become a primary mode of transportation.

Schools have the potential to become central focus points for walking. With targeted Safe Routes to School (SRTS) programs, walking mode shares may be able to increase to 1960s levels, when over 40% of children walked or biked to school.

Walkable commercial centers like the historic Downtown White Bear Lake are immensely walkable places, even though the majority of visitors arrive by car. Building more walkable commercial centers, with a grid of small-scaled streets, human-scale buildings and unobtrusive parking can help create a walkable fabric for communities to build upon.

Map 2A-6: Percent Commuters Who Walk to Work in Ramsey County



Bicycling for Transportation

Bicycling is a growing form of transportation. In 1990, no areas within Ramsey County had a bicycle commute mode share greater than five percent. Today, pockets of activity that great are scattered across the County in parts of Saint Paul, Falcon Heights and Roseville.

Map Highlights

The Percent Commuters Who Bike to Work Map displays the percentage of people who bike to work per Census tract across Ramsey County. Commuting by bike to work is highest west of downtown Saint Paul and in Falcon Heights at one to eight percent. Neighborhoods in Mounds View also show relatively high percentage of bike commuters at one to five percent.

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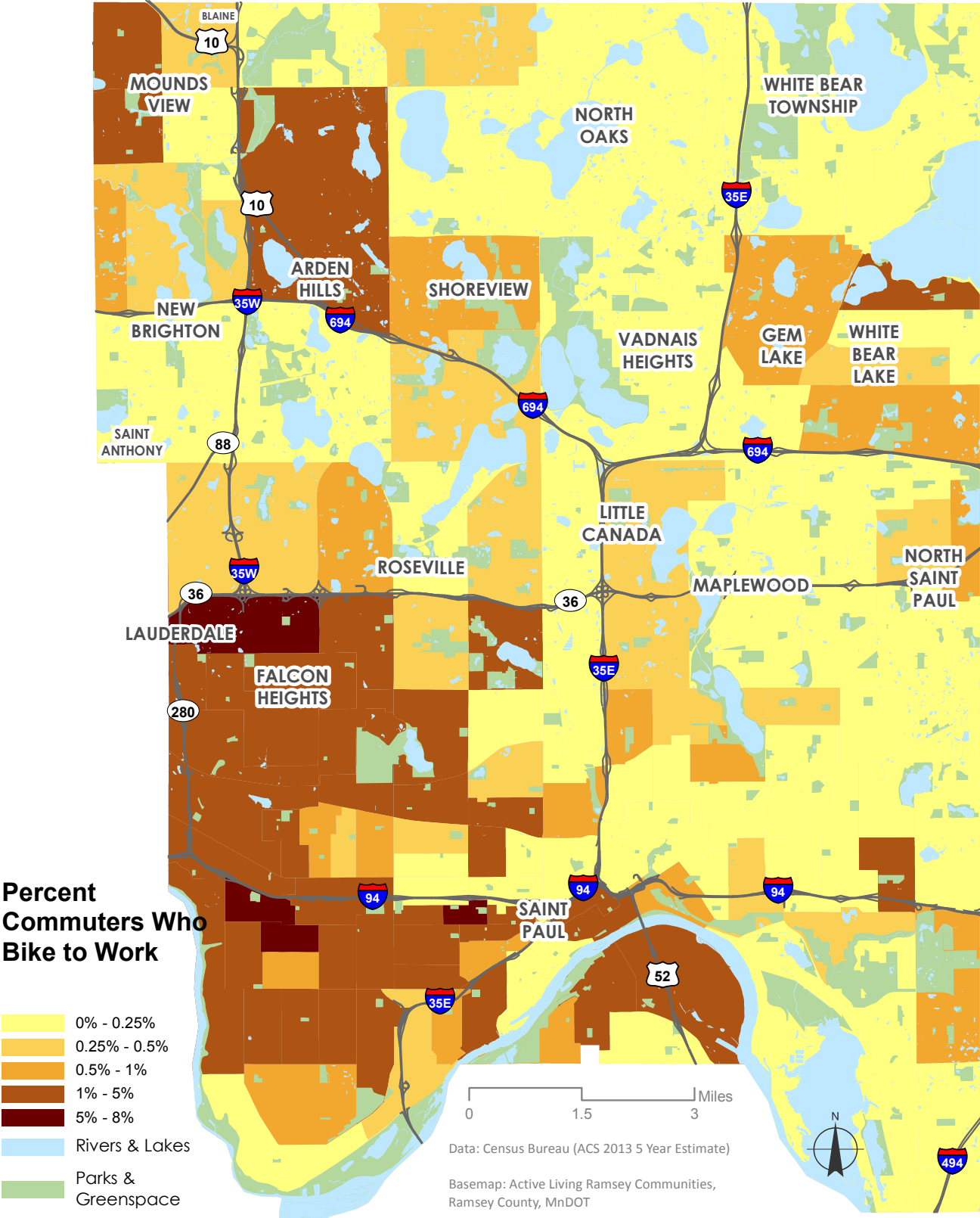
Building a strong bicycling network between communities can transform how people get around Ramsey County. Connecting current moderate ridership areas can boost their activity level even higher, and build a strong constituency for a connected bike network across the county.

Implications for the Future Vision

The Ramsey County bicycling network today only accommodates one to five percent of today's population, as evidenced by the commute mode share data reported by the Census Bureau. A fully built county wide network of all ages and abilities routes should expect to see a commute mode share five times that amount. (Central neighborhoods in Portland, Oregon see modes shares of 20-15% commute by bicycle).

Establishing a target commute mode share for the County and its communities can be a good way to target and track progress toward goals. Establishing this target will involve detailed discussion with communities and transportation departments to come to a shared understanding of the level of investment and trade offs necessary to achieve increased mode shares.

Map 2A-7: Percent Commuters Who Bike to Work in Ramsey County



Transit Use For Transportation

Parts of Falcon Heights achieve 30% commute by transit mode share. Falcon Heights is uniquely positioned to take advantage of transit for commuting due to its location near the University of Minnesota and between the two downtowns. It also has pedestrian access in some areas. The relatively high use of transit, walking and bicycling indicate that they may be relatively competitive with driving.

Other close-in communities, such as southern Maplewood, have up to five percent transit mode share. In communities further from Saint Paul, transit commute mode share drops to less than 2.5%.

Map Highlights

The Percent Commuters Who Take Transit to Work Map displays the percentage of commuters who take public transit to get to work per Census tract across Ramsey County. Transit use is highest in the neighborhoods that ring downtown Saint Paul, particularly to the west of downtown. In the neighborhoods west of downtown, 5-30% of commuters use transit to get to work.

The Foundation for Connecting Ramsey Communities

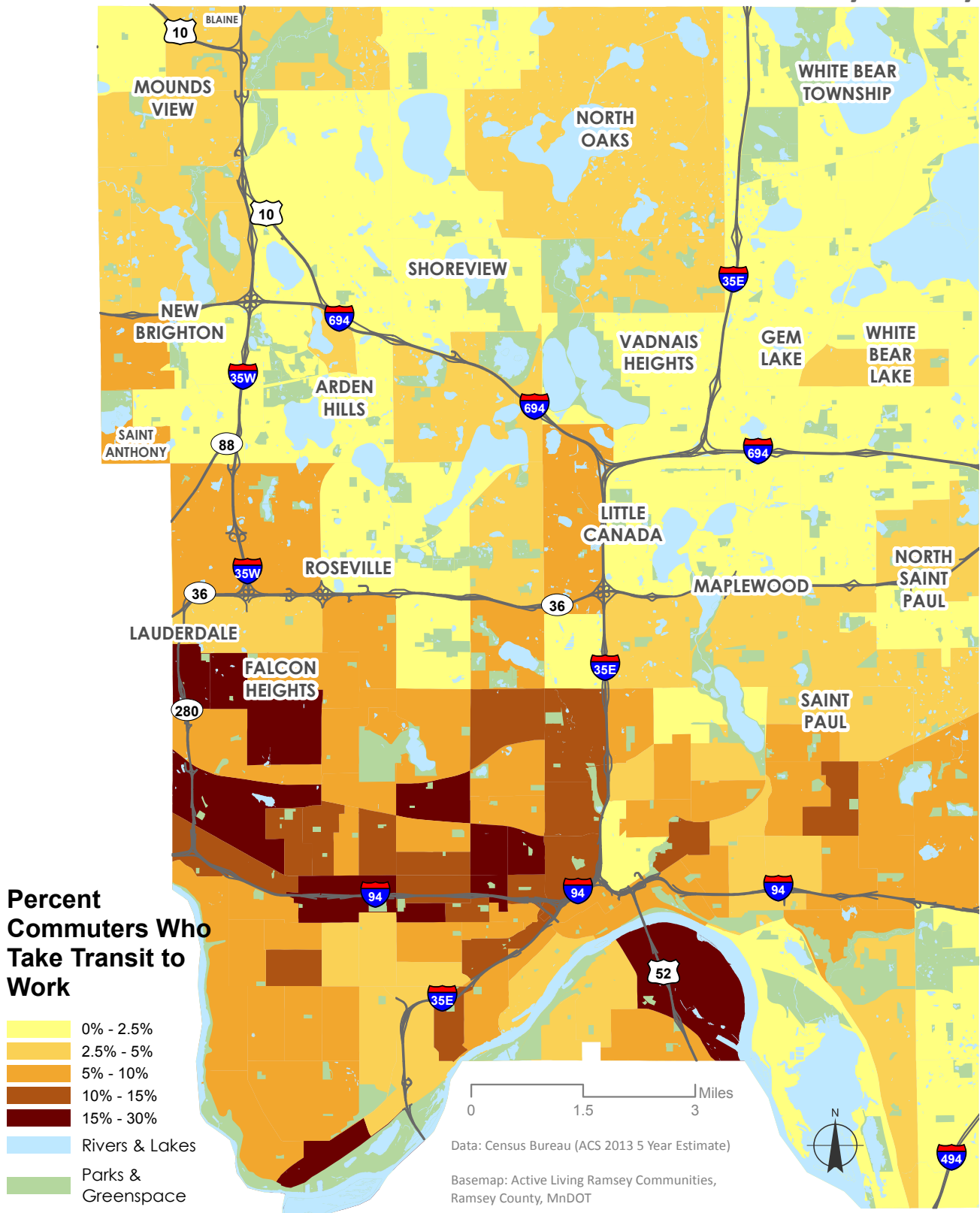
All transit trips are also pedestrian trips between the transit stop and the destination. Transit service allows pedestrians to travel longer distances than they could on foot.

Implications for the Future Vision

Supporting walking investments around the transit network can leverage their complementary nature and increase both walking and transit use simultaneously.

Lower density areas, where few people are within walking distance to transit stops, may instead focus on bicycling as a method to support and connect to transit.

Map 2A-8: Percent Commuters Who Take Transit to Work in Ramsey County



Pedestrian Network

Understanding where sidewalks and trails currently exist and where there are gaps in coverage is an important first step in creating a more connected Ramsey County. Existing facilities are shown in solid lines, and proposed routes identified in other planning efforts show the pedestrian network's planned expansion.

Map Highlights

Ramsey County's pedestrian network consists of sidewalks and trails. Trails cover the county, connecting natural areas, bordering lakes and rivers, and running along busy arterial streets. Notable areas with significant sidewalk coverage include Saint Paul, downtown White Bear Lake, and parts of North Saint Paul and Falcon Heights. Across the county, sidewalks are often provided along major commercial streets.

Planned sidewalks and trails are illustrated on the Existing and Planned Pedestrian Network Map, identifying where local or regional planning efforts hope to implement future infrastructure.

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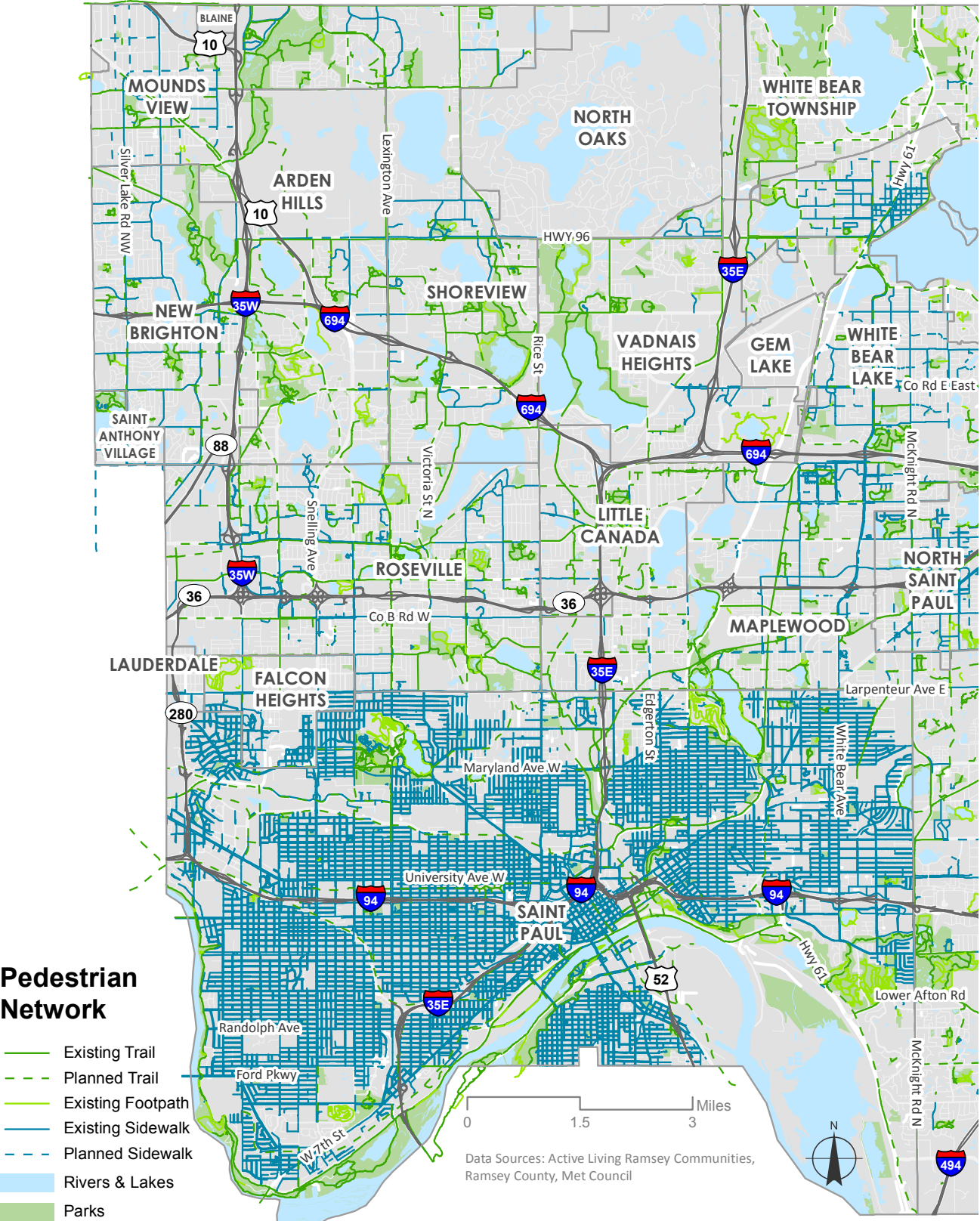
By analyzing the existing sidewalk and trail network, it is clear to see where the gaps are located, as well as the progress the communities in Ramsey County have made toward creating a cohesive network. A sidewalk and trails map can show the disparities that exist throughout the county and where additional investment may be needed.

Implications for the Future Vision

Walking networks support county-wide travel by providing a way to get around on foot within a city or destination area. Some communities, such as Saint Paul, offer a mature sidewalk network within their city, while others, such as Roseville, limit sidewalks to only a few primary corridors.

White Bear Lake offers a model for smaller communities within Ramsey County, an integrated network of sidewalks in the downtown, supporting walking and short trips within a highly walkable defined area.

Map 2A-9: Ramsey County Existing and Planned Pedestrian Network



Bicycle Network

The bicycle network in Ramsey County is comprised of various bicycle infrastructure types related to the degree of separation from moving traffic. Most of the county is covered by existing or planned routes, although the level of comfort of many routes may not be adequate for users of all ages and abilities.

Map Highlights

The Existing and Planned Bicycle Network map shows existing and planned bicycle facilities in communities across Ramsey County. Existing facilities are shown in solid lines, and proposed routes identified in other planning documents are shown in dashed lines.

Saint Paul has the most mature planned and existing bicycle network, with a combination of facility types forming a grid across Saint Paul. Saint Paul has more bike lanes than any other city in Ramsey County, and is the only community with existing bicycle boulevards.

Outside of Saint Paul, striped shoulders are the most common form of bicycle facility. Most of these shoulders are part of the existing network, providing connectivity for some types bicyclists today. Some of the corridors, such as parts of Snelling Ave and County Rd B, have dual designations as an existing shoulder facility and a future planned trail.

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If completed, the proposed bicycle network would blanket Ramsey County. No part of Ramsey County is completely abandoned by current bicycle network plans, and a connected Ramsey County network can be built upon these past planning efforts.

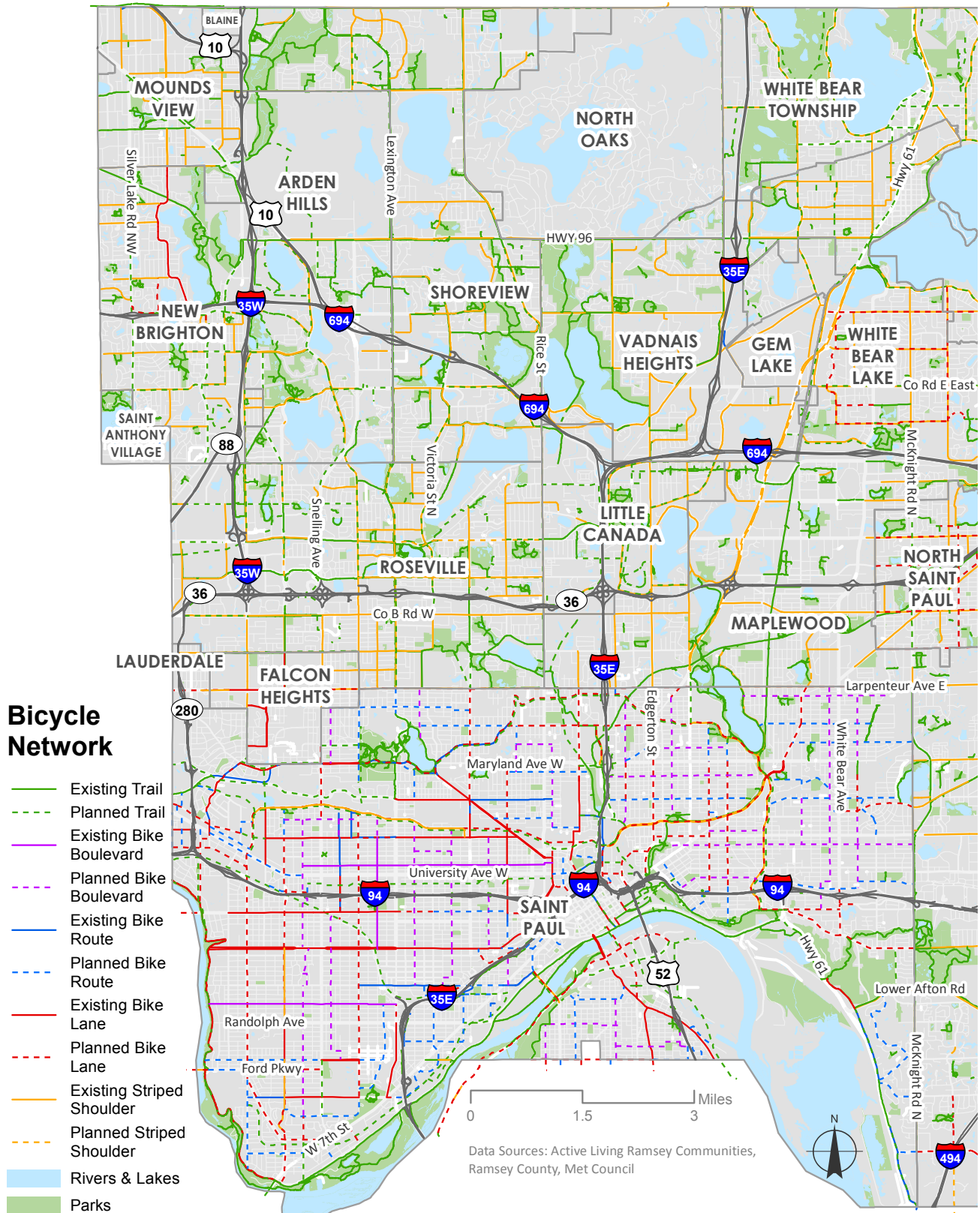
Bicycle Infrastructure Types

Trails (also called shared use paths) are pedestrian and bicycle facilities separated from traffic by a curb or landscaping. Bike lanes are narrow lanes designated exclusively for bicycle travel, separated from vehicle travel lanes by striping, pavement stencils and signs. Bicycle-friendly treatments are used on bike lanes at intersections to maintain comfort and priority for bicyclists. Shoulders are similar to bike lanes, but are often found in rural areas. Shoulders are not designed specifically for bicyclists and may be used for parking, broken down vehicles, or right turn lanes at intersections. Bike routes are shared roadway streets bicyclists and motor vehicles mix within the same roadway space. This may include a wide outside travel lane where bicyclists and motor vehicles travel side-by-side, or a narrow lane where motor vehicles must use the adjacent lane to pass. Bicycle boulevards are a special class of shared roadways designed for a broad spectrum of bicyclists. They are low-volume local streets where motorists and bicyclists share the same travel lane.

Implications for the Future Vision

While current coverage of bicycle facilities in general is functional to reach Ramsey County residents, the design of particular facility types may not be. Some parts of Ramsey County rely on paved shoulders to connect the bicycle network. While these facilities do function as a type of facility for bicyclists, they are generally not adequate for people of all ages and abilities.

Map 2A-10: Ramsey County Existing and Planned Bicycle Network



Public Transit Stops

Every public transit rider is a pedestrian at some point during their journey. As such, it is important to create walkable communities with convenient access to public transportation.

Map Highlights

The Transit Stops and Centers Map displays public transit stops and transit centers located throughout Ramsey County. There are a total of eleven transit centers, five of which are located in downtown Saint Paul. Transit stops are most dense in Saint Paul. Transit stops are shown to the north of Saint Paul into Shoreview, New Brighton, and White Bear Lake, but the network of transit stops is not as dense as in the city.

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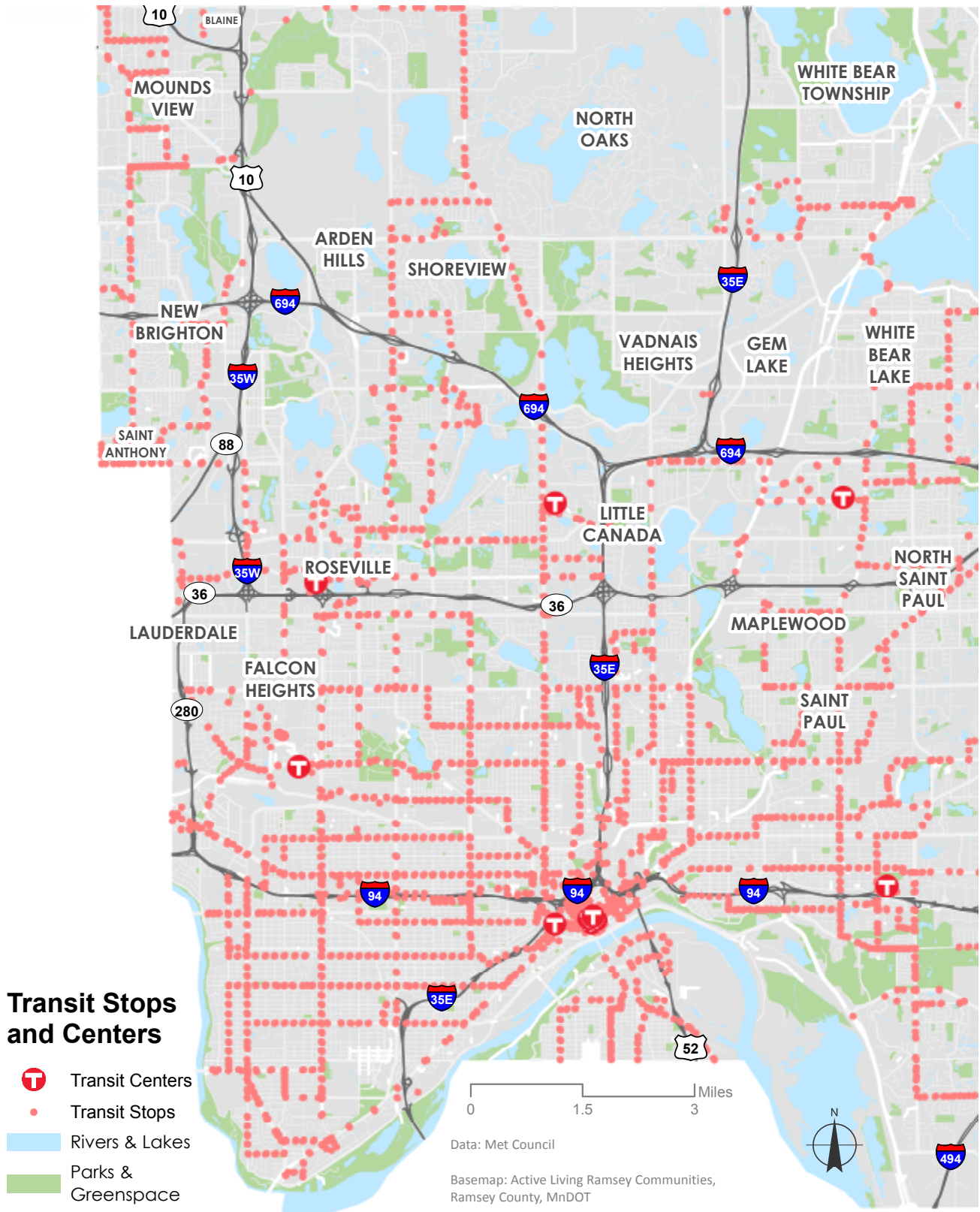
A well connected bicycle and pedestrian network helps to solve the “first and last mile” problem of public transit, where users have difficulty getting from their starting and ending point to transit stops. Addressing gaps in the bicycle and pedestrian infrastructure, in addition to potential barriers to biking and walking, are important to creating a more complete network.

Implications for the Future Vision

Low density and suburban land use patterns often create communities where transit users have difficulty accessing transit stops. Encouraging higher density development will create a larger population to support the transit investments.

While the majority of the region’s residents are able to access one of these stops within a roughly five minute walk (0.25 mile), residents may encounter difficulty accessing transit, due to missing or poorly maintained biking and walking infrastructure, even though it is located a short distance away.

Map 2A-11: Transit Stops and Centers in Ramsey County



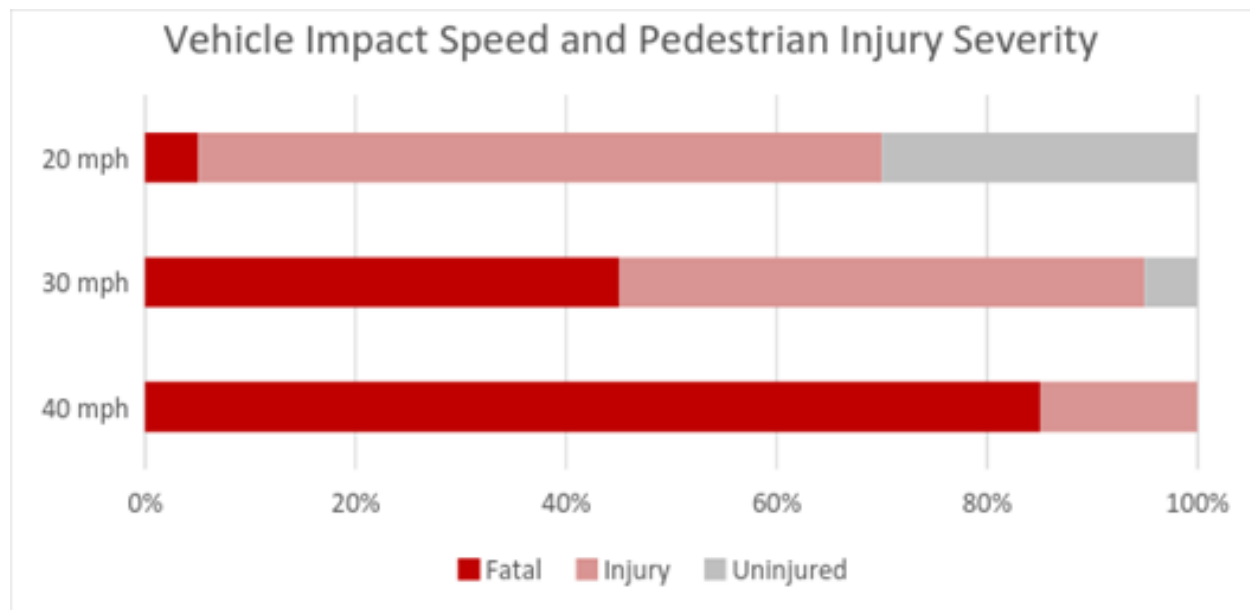
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Traffic Safety

One of the top reasons people cite for not walking and biking more is concern about safety. The threat of collision is real, and years of collision data show us that some places are safer than others.

Ramsey County is not meeting the Healthy People 2020 goal for motor vehicle injuries among adults ages 20-30 years old.¹³ Among the many factors to consider in addressing this issue, especially concerning pedestrian and bicyclist crashes, is vehicle speed. Lowering speed limits, changes to roadway design and increasing enforcement slows drivers and keeps people safer.

A person struck by a car traveling at 40 miles per hour has an 85% chance of dying. At 30 miles per hour, they have a 45% chance of dying and at 20 mph, they have only a 5% chance of dying.¹⁴



Collisions Involving Pedestrians

Understanding where vehicle and pedestrian collisions have occurred throughout Ramsey County provides insight into potentially unsafe conditions.

Map Highlights

The pedestrian involved collisions map displays the locations of collisions and fatalities across Ramsey County. The result shows clear corridors where pedestrian-involved collisions appear to be a frequent occurrence. These tend to be streets with high volumes of car traffic and higher levels of pedestrian activity, such as:

- Downtown Saint Paul
- University Avenue W
- Snelling Avenue
- Summit Avenue
- Minnehaha Avenue E
- White Bear Avenue
- US 61 through White Bear Lake

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A well connected pedestrian network must also be a safe pedestrian network. Analyzing the location, frequency and severity of pedestrian collisions is a first step in creating a safer environment for all road users. When deciding where infrastructure investments are to be made, locations with a high rates of collisions should be prioritized.

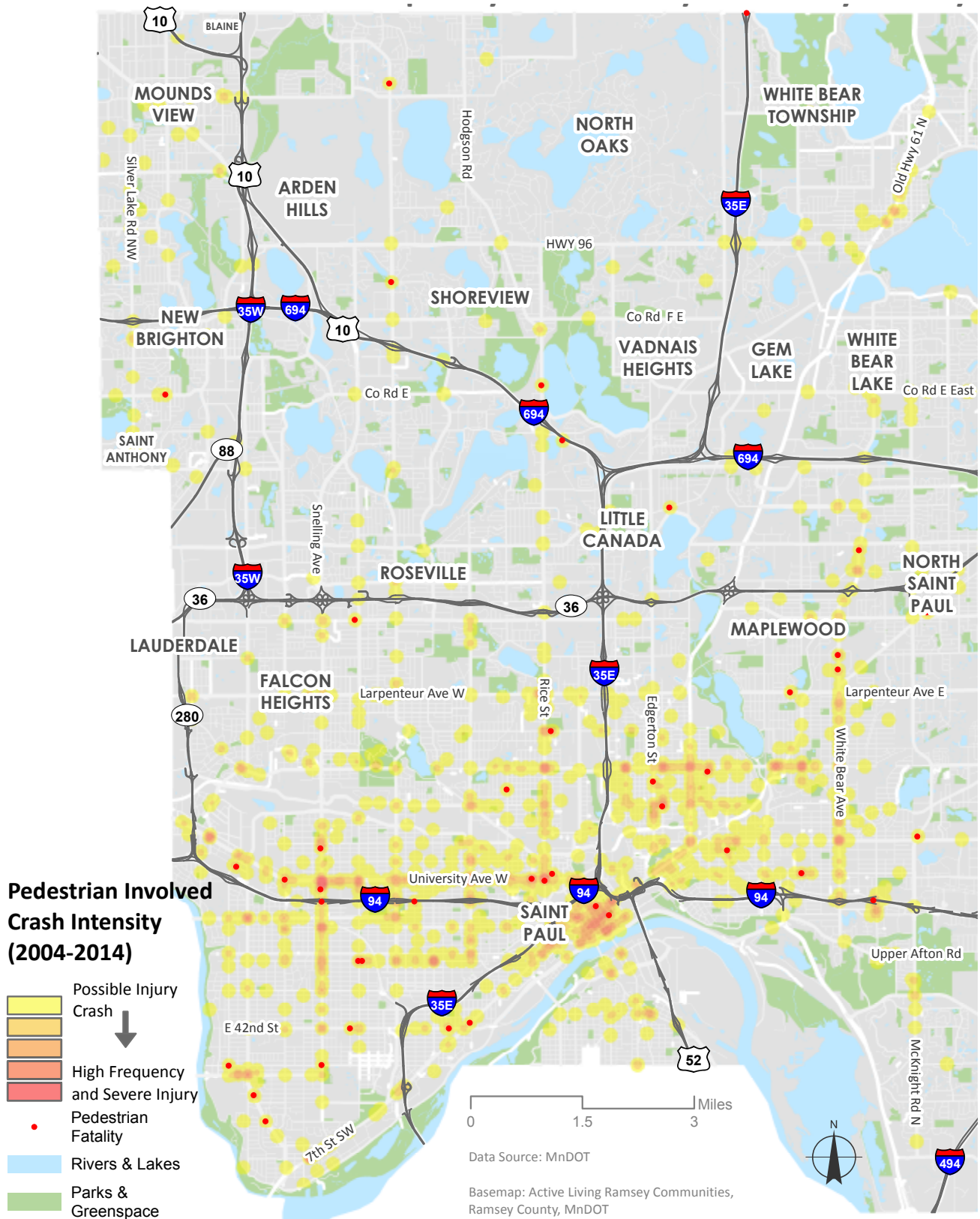
The locations of pedestrian fatalities are identified on the map. These locations indicate a potential problem area, although specific analysis of the crash details is necessary to understand the circumstances surrounding the particular incident.

Implications for the Future Vision

Safety concerns are one of the leading reasons people decide not to walk or bike. This analysis indicates that in some parts of Ramsey County the safety risk is real. Corridors with high levels of crash activity act as barriers to increased walking and local jurisdictions should explore investments to improve pedestrian conditions in these areas.

In some cases, such as University Avenue or Snelling Avenue, the high-crash corridor is a commercial corridor. These areas see high levels of pedestrian activity and the traffic environment should be improved to reflect a pedestrian-priority. This may include lower design speeds, enhanced marked crossings and improved signal timing at intersections.

Map 2A-12: Pedestrian Crash Frequency and Severity in Ramsey County



Collisions Involving Bicycles

Understanding where vehicle and bicycle collisions have occurred throughout Ramsey County provides insight into unsafe conditions that need to be addressed.

Map Summary

The bicycle involved collisions map displays the locations of collisions and fatalities across Ramsey County. The result shows clear corridors where bicycle-involved collisions appear to be a frequent occurrence. These tend to be streets with high volumes of cars and higher levels of bicycle activity, such as:

- University Avenue W
- Snelling Avenue
- Rice Street
- Summit Avenue

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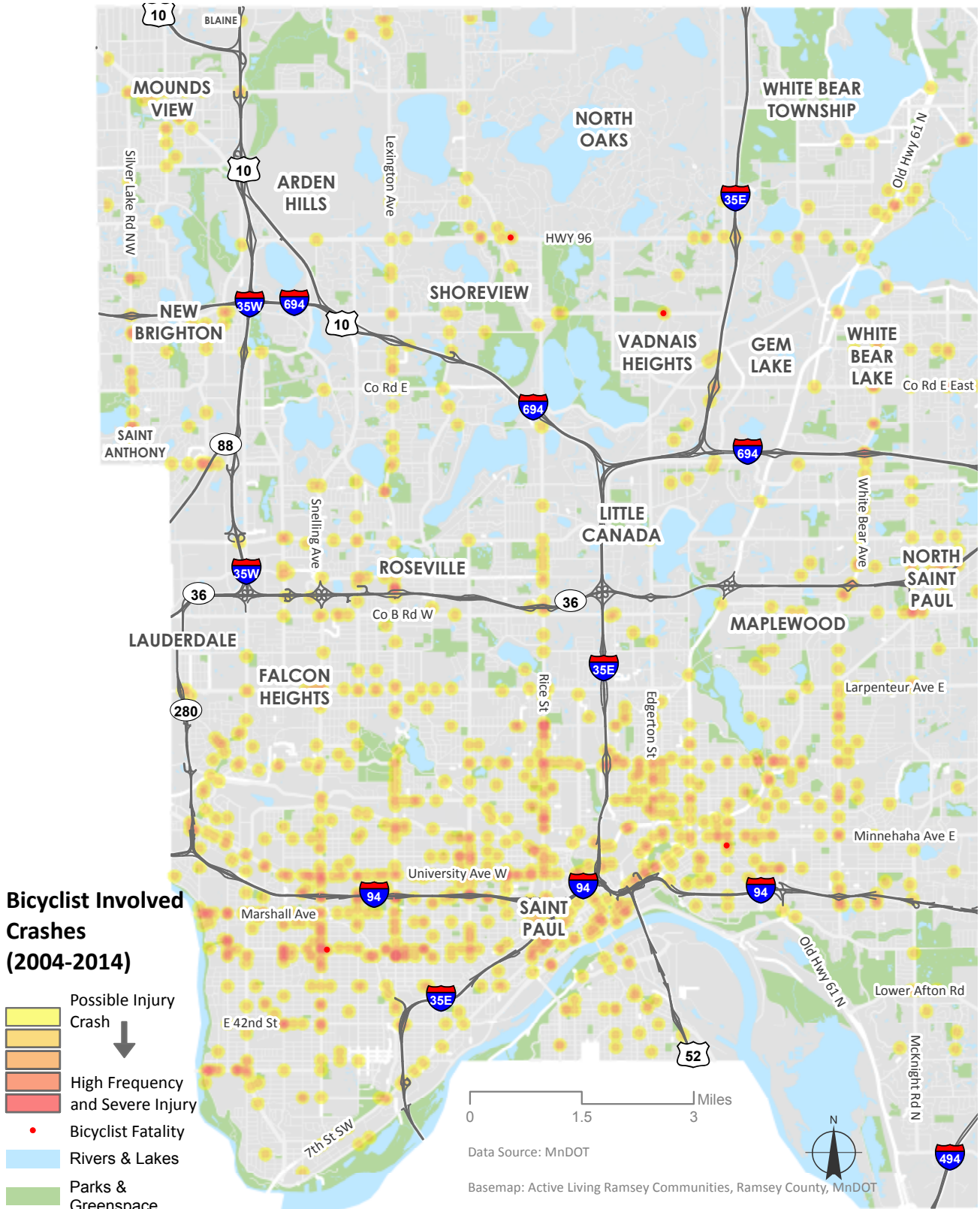
The Connected Ramsey Communities network has an opportunity to overcome the barriers of high-crash corridors. The network alignments can act as a bridge across these high crash areas, or if they run along them, can transform the safety of an entire corridor.

Even if a high-crash corridor is not a part of the county-wide network, local communities will see benefits from removing risks and improving safety for the most vulnerable users of these roads.

Note: For the pedestrian and bicyclist crash analysis, both collision frequency (number of collisions) and severity of injury have been combined. Crashes with injuries, serious injuries or fatalities are weighted more heavily, resulting in a composite safety ranking.

The composite provides an at-a-glance view of the traffic safety conditions on Ramsey County Streets.

Map 2A-13: Bicycle Crash Frequency and Severity in Ramsey County



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Health

Active transportation is an easy way for people to integrate health into their daily lives. Jogging and walking are fun activities that promote health. Regular physical activity, such as walking, jogging and bicycling reduces the risk of many chronic diseases, including cardiovascular disease, diabetes and some cancers.¹⁵

Surveys indicate that childhood obesity is ranked fourth among top public health concerns in Ramsey County.¹⁶ According to 2007 Youth Risk Behavior Survey data from the four Steps to a HealthierMN communities, 45 percent of St. Paul high school students meet federal recommendations for physical activity per week. As a further area of concern, far fewer high school girls meet the requirements than high school boys.¹⁷

Walking and biking can be part of a solution to inactivity. Living near recreation facilities such as trails and parks leads to higher levels of physical activity.¹⁸

Incorporating active living into daily life

Daily physical activity is important for all people, particularly children and adolescents. Establishing healthy habits at a young age is important for life-long healthy living. County-wide, less than half of all 6th, 9th, and 12th graders report engaging in 30 minutes of moderate physical activity five or more days a week.¹⁹



Creating Opportunities for Activity

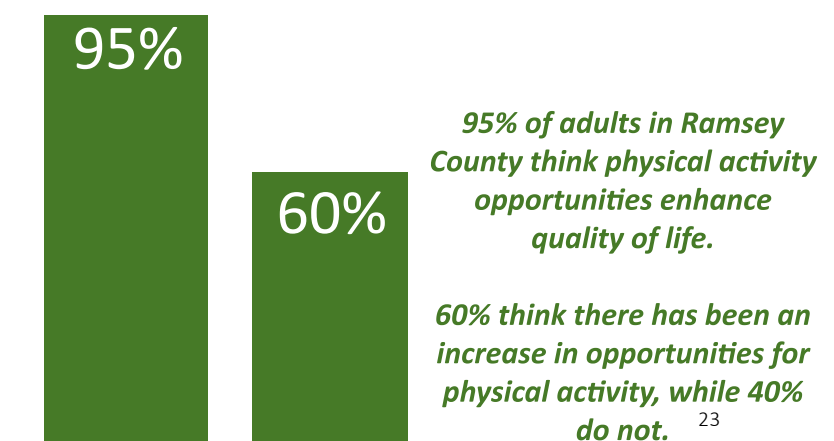
In a 2005 survey of Ramsey County residents, the following key barriers to biking, walking and physical activity were identified: poor street lighting, fear of crime, lack of sidewalks and heavy traffic.²² A safe and connected active transportation system creates more opportunities for physical activity by addressing these barriers.

50% OF ADULTS IN MINNESOTA



Physical Activity & Quality of Life

Physical activity has a positive impact on overall health, including physical, mental and emotional well-being.



Recreational Running Activity

In order to improve the active transportation networks throughout Ramsey County, it is important to understand the routes people are currently utilizing for both recreation and transportation trips.

Map Highlights of Recreational Running Activity in Ramsey County

This map displays the usage of streets and trails for recreational running. Popular streets and trails are highlighted in colors ranging from light blue to bright red. Light blue indicates moderate use while bright red indicates high use. High use corridors in Saint Paul are located along the Mississippi River and Summit Avenue. High running activity occurs throughout Ramsey County primarily along or near lakes, parks and natural areas.

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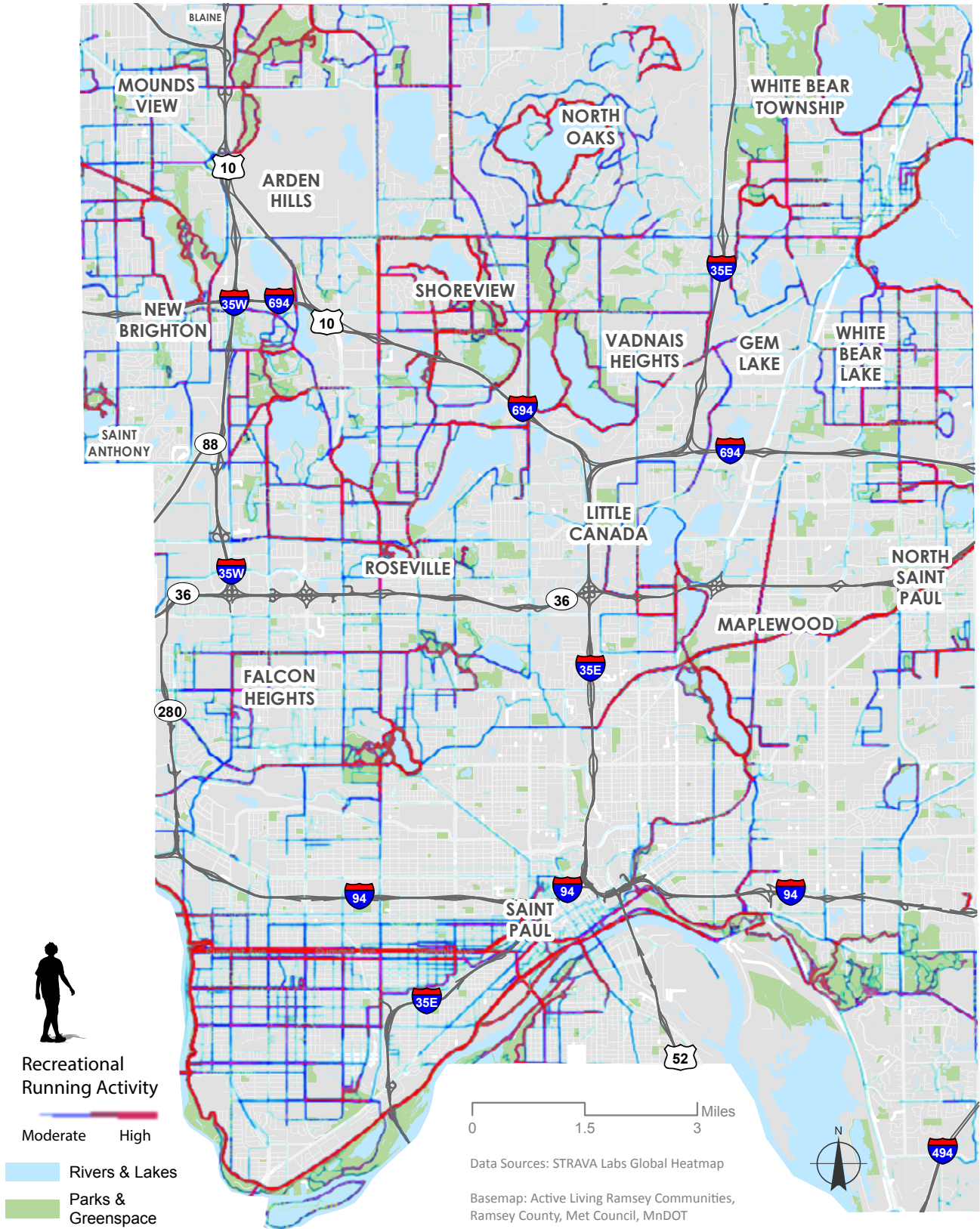
Analyzing the running routes that people are currently using shows where people are running, both in urban and less urbanized areas of the county. This provides insight into how people are using the network, as many of these trails are short segments or small loops. A system of disconnected segments and loops may be acceptable for recreational trips, but would not be useful as an active transportation network.

Data from the STRAVA activity tracking software used to create this map relies on self reported datasets and requires users to own a smart phone and as such, is subject to sample bias.

Implications for the Future Vision

Recreation is a visible element of the lives of Ramsey County residents. The mature system of recreational routes offers many community members an option for outdoor recreation and fitness, although people may need to drive to reach the trailheads and parks with these amenities. One strategy for building support for future investment in walking and biking is to promote the benefits of non-motorized access to the existing amenities of the parks and regional trail systems.

Map 2A-14: Recreational Running Activity in Ramsey County



Recreational Bicycling Activity

In order to improve the active transportation networks throughout Ramsey County, it is important to understand the routes people are currently utilizing for both recreation and transportation trips.

Map Highlights of Recreational Bicycling Activity in Ramsey County

This map displays the usage of streets and trails for recreational bicycling. Popular streets and trails are highlighted from in colors ranging light blue to bright red. Light blue indicates moderate use while bright red indicates high use. High use corridors are shown in Saint Paul along the Mississippi River, in downtown and along Summit Avenue. In north Ramsey County, high use corridors are found near lakes and natural areas, and along Shoreview Avenue from Arden Hills to White Bear Lake. Overall, several corridors are moderately used throughout the county for recreational bicycling.

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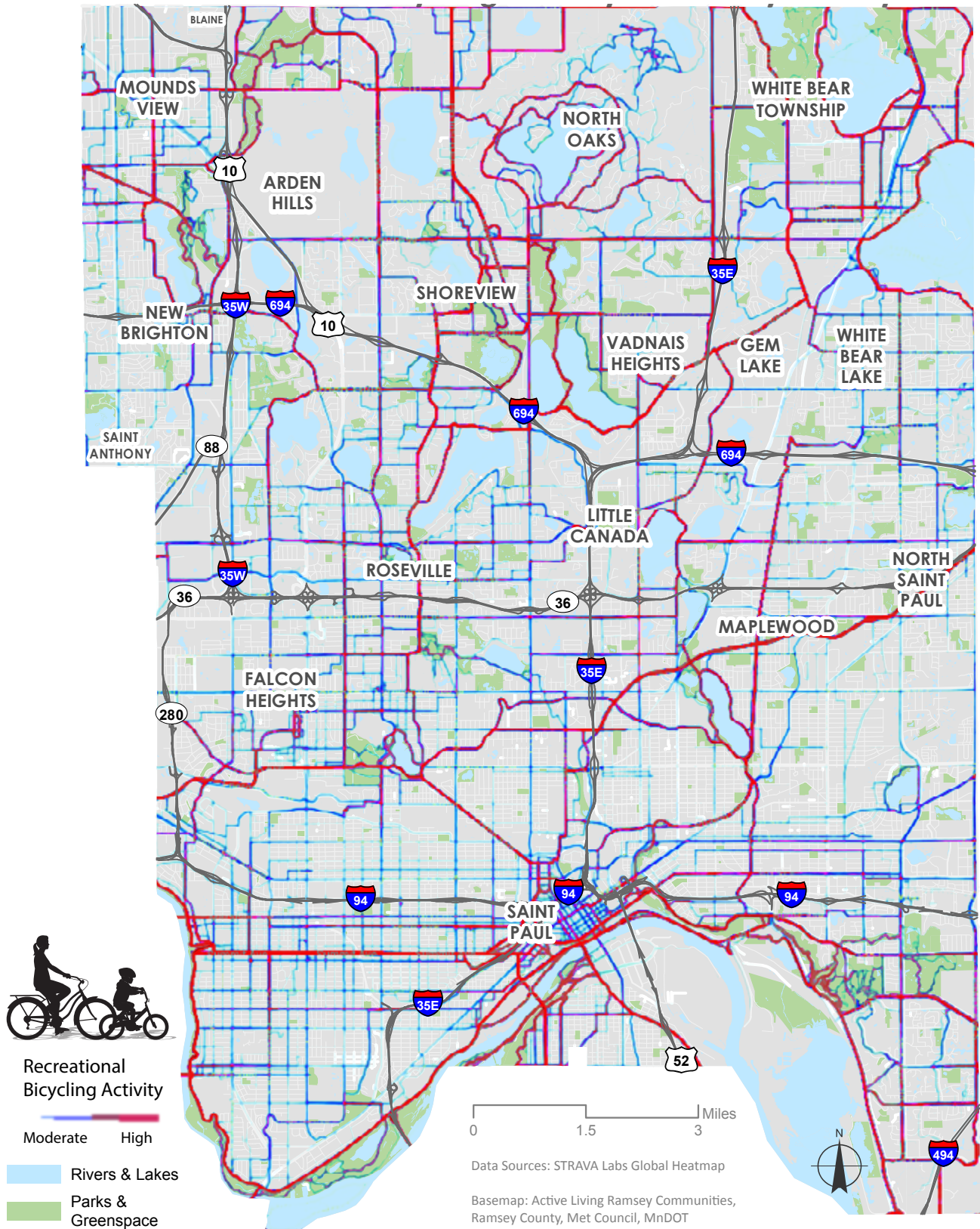
Data from the STRAVA activity tracking software²⁴ offers a glimpse at the most popular locations for running/walking for recreation. Bold red lines indicate high volume routes, and blue lines indicate popular secondary routes.

Data from the STRAVA activity tracking software used to create this map relies on self reported datasets and requires users to own a smart phone and as such, is subject to sample bias.

Implications for the Future Vision

Recreation is a visible element of the lives of Ramsey County residents. The mature system of recreational routes offers many community members an option for outdoor recreation and fitness, although today they may need to drive to reach the trailheads and parks with these amenities. One strategy for building support for future investment in walking and biking is to promote the benefits of non-motorized access to the existing amenities of the parks and regional trail systems.

Map 2A-15: Recreational Bicycling Activity in Ramsey County



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Equity

Good transportation is vital for access to activities and essential services that are needed to fully participate in our society. In automobile dependent communities, those who do not have the ability to drive or do not have access to vehicles can be at a great economic and social disadvantage. Many experts note that approximately 40% of all-age populations do not drive for various reasons.

Communities without adequate quality and quantity of transportation, including facilities for bicycling and walking, place residents at a distinct disadvantage when trying to access jobs, school, medical services or other daily needs.

MnDOT has identified the following populations as possible priorities for pedestrian-level improvements throughout Minnesota:²⁵

- Small Rural Core Communities
- American Indian populations
- Low-Income Urban Populations
- Older Adults
- Persons with Disabilities
- Children and Youth

High Impact Populations

The aggregate data for equity populations shows areas where bicycling and walking infrastructure investment would have the most impact on people with the least transportation options. Considering the planning process through an equity lens will create a different outcome than a more traditional approach, as it strives to serve those who have historically been left out of the planning process and under-served by investments.

Percent of Population at or Below Poverty Level in Ramsey County

The Population at or Below Poverty Map displays the percentage of people in poverty per Census tract across Ramsey County. The poverty level is a measure of income issued annually by the U.S. Department of Health and Human Services. The percentage of population at or below the poverty level in Ramsey County is highest in the inner neighborhoods of Saint Paul that ring the downtown. In these neighborhoods, 20-65% of the residents are living at or below the poverty level. Suburban communities show a lower percentage of poverty at 20% or less.

Bicycling and walking are no cost or low cost transportation options that ought to be provided for all people in Ramsey County. Ramsey County has the largest contiguous area of concentrated poverty in the metro area and a large share of people in poverty are workers: 8% worked full-time and 40% worked at least part-time. Many of the poor are young, with 26% of kids under age 5 years living in poverty. The largest proportions of low-income people as a percentage of the population are clustered in Saint Paul and other portions of the County's southern area. The percentage of people living in poverty in these areas exceeds 30% of the population. Suburban census tracts located in Maplewood, Roseville, Falcon Heights, New Brighton and other municipalities also have high concentrations of people living below the Federally-established poverty line.

Percent of Population over 65 Years Old in Ramsey County

This map displays the percentage of people over the age of 65 per Census tract across Ramsey County. The percentage of population over 65 years old is highest in the northern parts of Ramsey County, with Roseville, North Oaks and a portion of Arden Hills having 20-35% the population over age 65. Saint Paul shows a lower concentration of people over the age of 65. Neighborhoods around downtown Saint Paul show that 0-15% of the population is 65 years of age or older. However, there is one exception in Saint Paul; directly south of downtown across the Mississippi River there is one neighborhood where 16-20% of the population is over the age of 65.

As people age, they are more likely to use more medications and develop physical cognitive disabilities. According to the AAA, "Seniors are outliving their ability to drive safely by an average of 7 to 10 years." Ramsey County has the highest percentage of residents who are 65 and older (12.4%) among counties in the metro area. With a few notable exceptions, people older than 65 years old live outside of the region's downtown core of Saint Paul.

Percent of Population with a Disability in Ramsey County

The Population with a Disability Map displays the percentage of people with a disability per Census tract across Ramsey County. Across most of Ramsey County, 6-15% of the population lives with a disability. There are high concentrations of populations with a disability located within six Census tracts in Saint Paul.

Each of these Census tracts has a population of 21-30% with a disability, which is higher than the national average of 19%.²⁶ These populations are located along or near Interstates 94 and 35E.

An equitable transportation system is one that addresses the needs of all residents, regardless of ability. Pedestrian facilities significantly affect the way that individuals with disabilities navigate the built environment. In a sample of disabled adults, 60% reported that lack of sidewalks influenced their daily activity.²⁷

Youth Aged population in Ramsey County

The Youth Aged Population Map displays the percentage of people 15 years of age or younger per Census tract across Ramsey County. North Oaks, Arden Hills, Gem Lake and Roseville have the lowest percentage of youth at 15% or less. The highest percentage of youth can be found in Saint Paul. Several neighborhoods in Saint Paul have 25-35% of the population being people aged 15 years old or younger. These areas of concentrated youth are found in the inner neighborhoods of Saint Paul that ring downtown.

Children perceive traffic and traffic safety different than adults do, making them particularly susceptible to traffic related injuries and death. Designing a pedestrian and bicycle network with children in mind may result in a safer environment for users of all ages. Youth and children age 15 and under live in the area surrounding Saint Paul's downtown. The Census tracts with higher proportions of young people have low numbers of elderly residents.

Native American Population Share in Ramsey County

The Native American Population Map displays the percentage of people that identify as Native American per Census Tract across Ramsey County. The percentage of the population that identifies as Native American is most prominent in Saint Paul. This population is located in the inner neighborhoods that ring downtown. Three to five percent of the populations in these neighborhoods identify as Native American and one neighborhood shows that five to six percent of the population identifies as Native American. The next prominent city to show a significant population of Native Americans is White Bear Lake with some neighborhoods at two to five percent Native American.

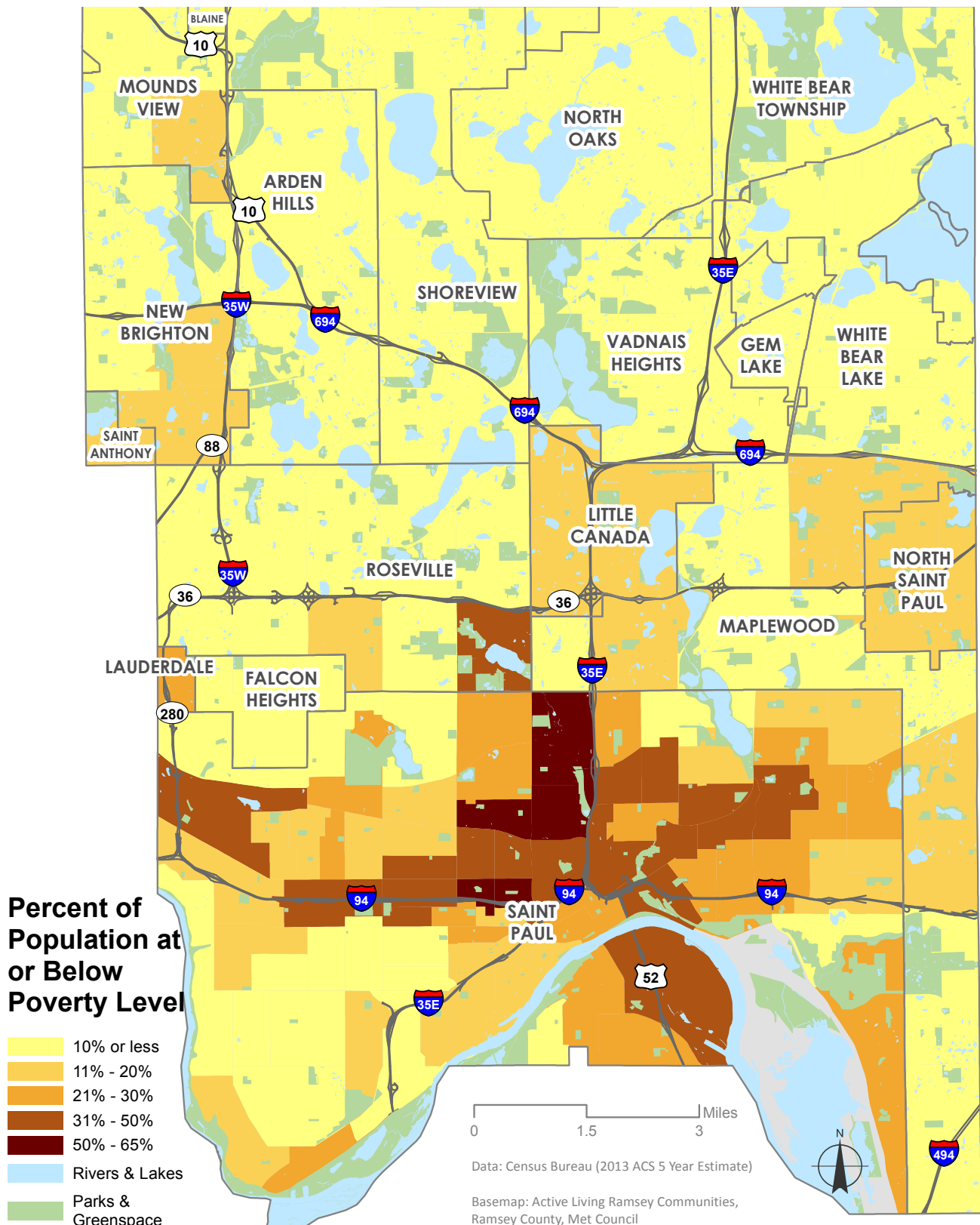
Non-White Population Share in Ramsey County

The Non-White Population Map displays the percentage of people that identify as non-white per Census tract across Ramsey County. The percentage of the population that identifies as non-white is highest in Saint Paul. Downtown Saint Paul shows a 26-40% non-white population, while neighborhoods located to the northwest and northeast of downtown show the highest concentrations of non-white population, with 26-64 percent non-white. North Saint Paul shows the second highest concentration of non-white populations clustered towards the northeast at 41-50%. Parts of Little Canada, Roseville, Arden Hills, New Brighton and Mounds View have neighborhoods with 11-40% non-white population.

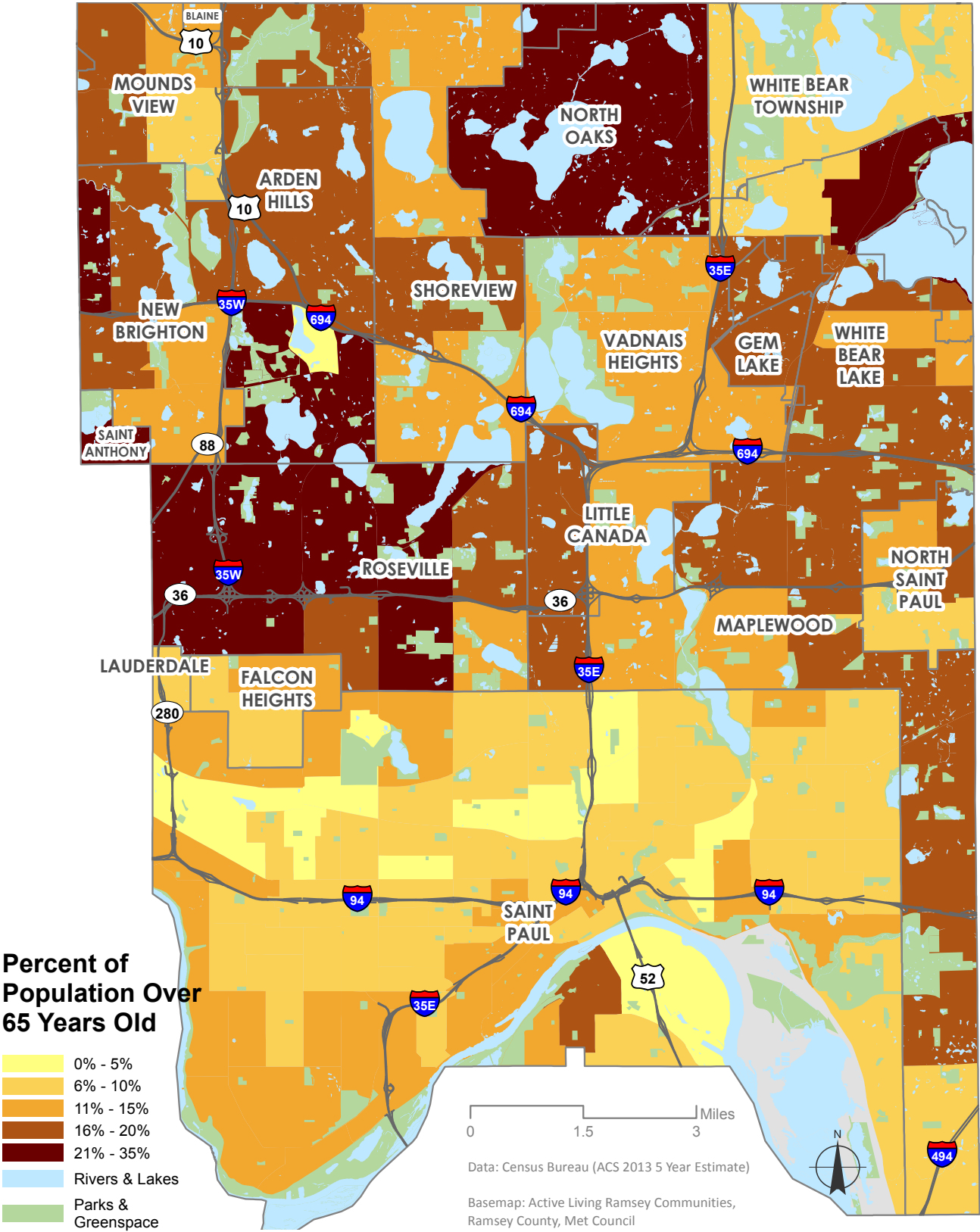
Composite Ranking of High Impact Population Concentrations in Ramsey County

This map displays a composite of tracts with concentrations of high impact equity populations. These include populations with disabilities, low-income populations, youth and elderly populations and non-white populations. When these populations are combined, they show the percentage of high impact populations per acre across Ramsey County. High impact populations are concentrated within the neighborhoods that surround downtown Saint Paul.

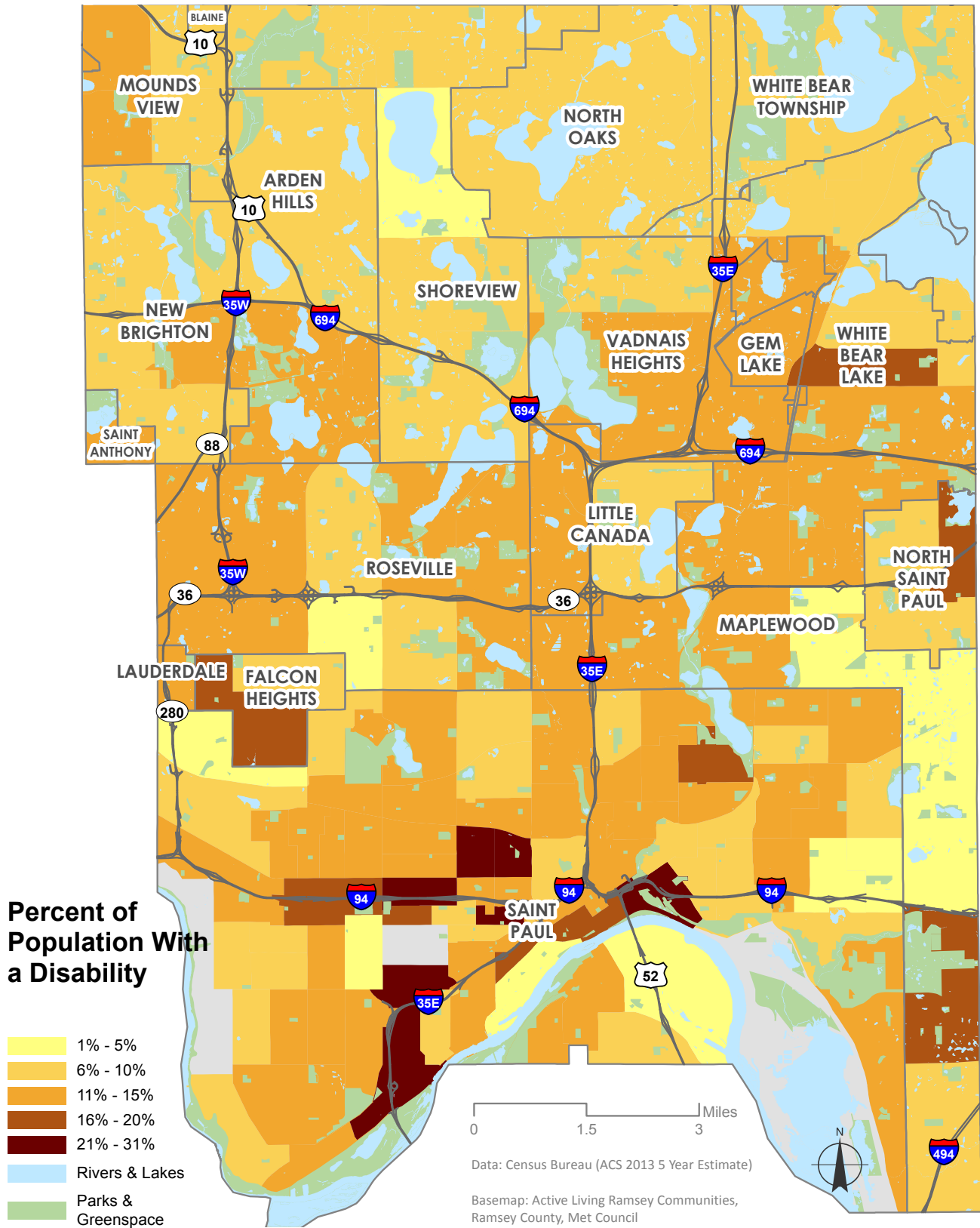
Map 2A-16: Percent of Population at or Below Poverty Level in Ramsey County



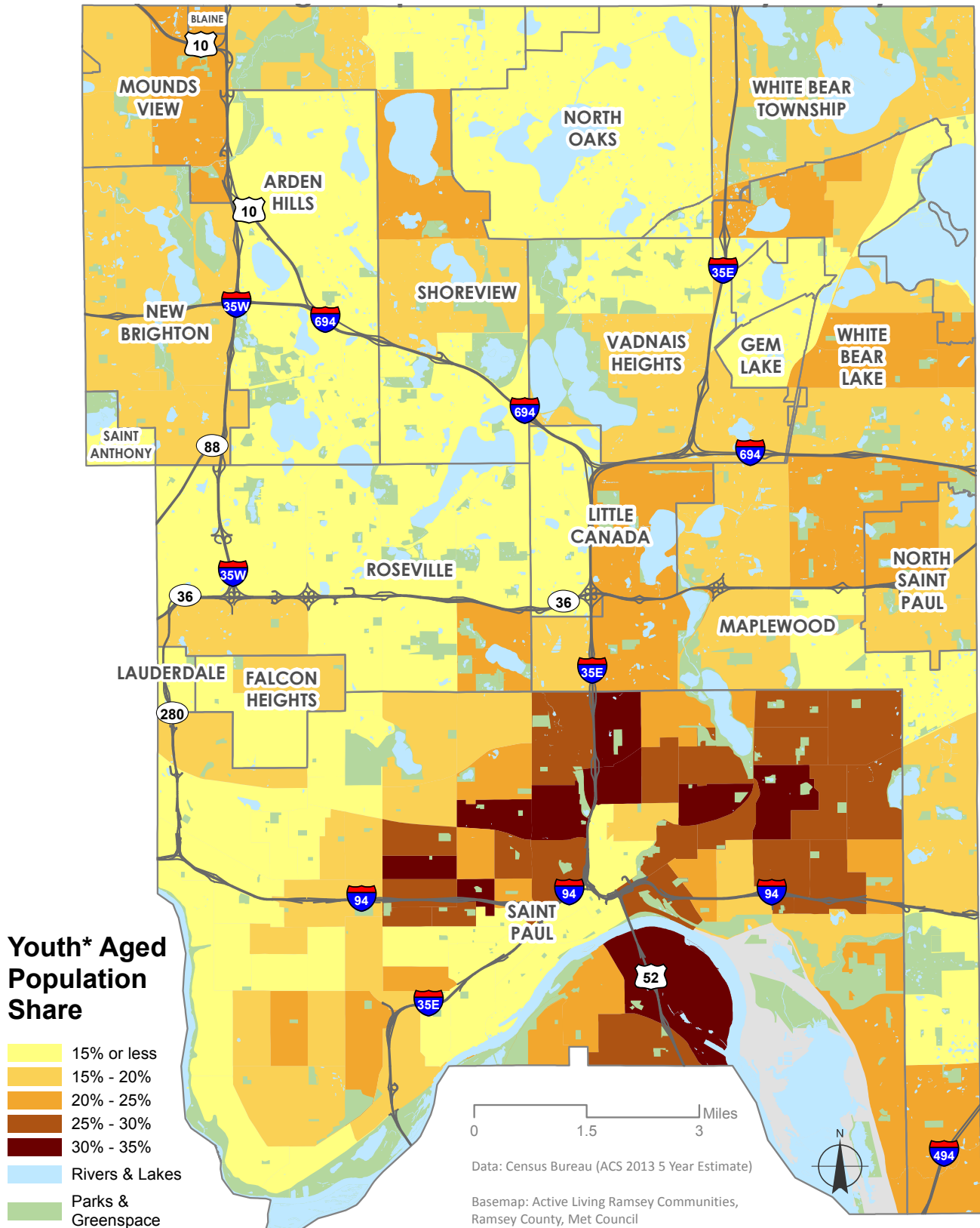
Map 2A-17: Percent of Population Over 65 Years Old in Ramsey County



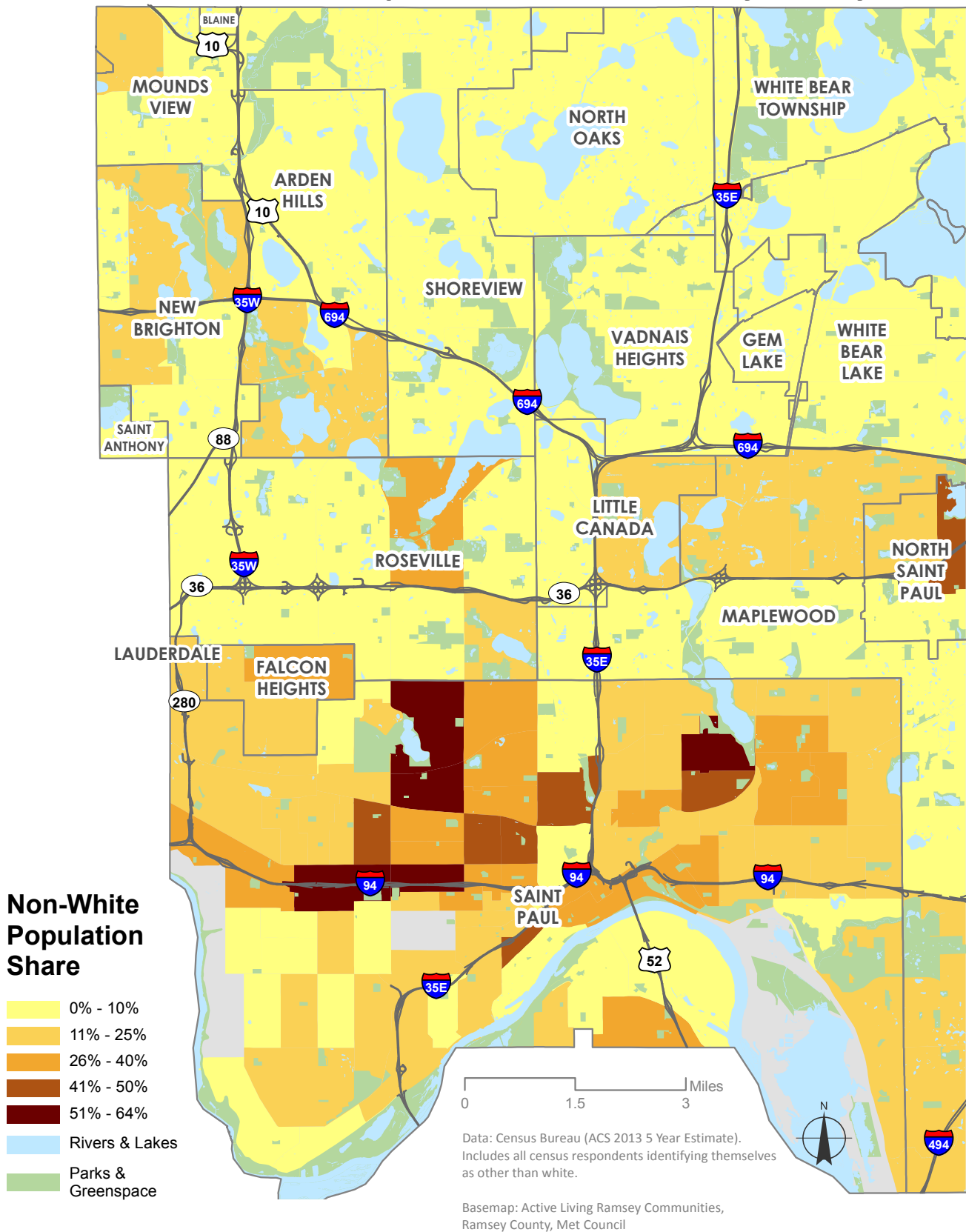
Map 2A-18: Percent of Population With a Disability in Ramsey County



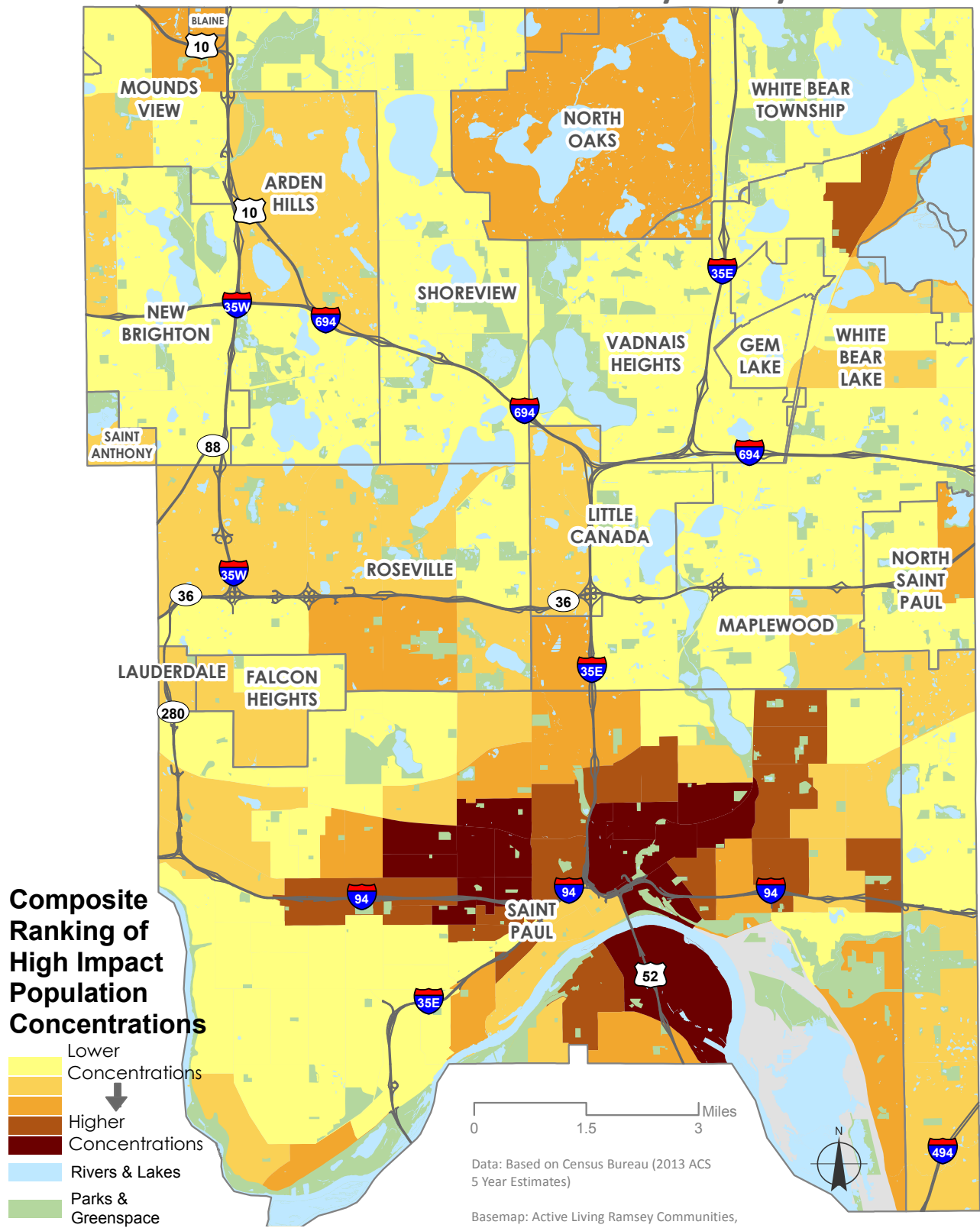
Map 2A-19: Youth Aged Population Share in Ramsey County



Map 2A-20: Non-White Population Share in Ramsey County



Map 2A-21: Composite Ranking of High Impact Population Concentrations in Ramsey County



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Economic Prosperity

A community that supports prosperity for all of its residents and businesses must have a thriving network of resources that build a web of opportunity. Transportation and health are key parts of the web.

Walking and biking infrastructure can pay back dividends in the form of increasing access to jobs and education, improving health, increasing attractiveness and real estate development, adding value to home prices and attracting talented workers to local communities and companies.

Bicycling trails and routes for commuting can bring economic development benefits that are felt by individuals and entire communities. More trails can translate into more recreation and economic development. By encouraging employees to commute by bike, the Minnesota company QBP saved \$170,000 in health care costs over three years and \$301,136 in employee productivity every year.²⁸

Active Living as an Income Generator

Walking and biking facilities have the ability to become destinations and draw visitors, who in turn spend money at local businesses. Studies have found that trails are used “as an important recruiting tool by local businesses, chambers of commerce, and public agencies. In addition, the trails attract people with special skills or talents, and encourage new and expanding businesses.”²⁹

Adding Value

Ramsey County and Hennepin County residents already know the value of trail amenities, and the local real estate market is responding accordingly, with homes adjacent to trails increasing in value faster than those further from trail amenities.

Economic Benefits of Bike Share

Bike share users, like those who use their personal bikes or who walk to work, spend less money on commuting per year, freeing up budget for entertainment, household purchases and more. Increasing the ease of walking and biking in equity focus areas means these benefits can easily reach those in most need of such economic support.



In Minneapolis-St. Paul, for every
400
METERS
closer a home is to an off-street bike facility, it's value increases by



Cyclists spend an extra
\$150,000
at restaurants near Nice Ride bike share stations in Minneapolis every
year.³¹



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