December 2014

Cloquet, Minnesota Comprehensive Plan

Transportation Section Update

Health Impact Assessment

Prepared by:

Arrowhead Regional Development Commission

Regional Planning Division

City of Cloquet Comprehensive Plan

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DECEMBER 2014

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The City of Cloquet

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Executive Summary

Cloquet Transportation Section Update HIA

Between October 2013 and November 2014, the City of Cloquet (12,124 population) in northeast Minnesota within Carlton County conducted an update of its Comprehensive Plan's Transportation Section. The Comprehensive Plan sets the long-term vision, goals and policy strategies for the City.

The HIA process was conducted concurrently with the plan section update process as a means for the community to have an opportunity to discuss health (alongside traditional topics) and study its link to transportation during the process. The health data collected during the HIA was meant to provide decision-makers with information and recommendations for inclusion in the Section Update.

A Health Impact Assessment (HIA) is a research, public engagement, and decision-making tool used to forecast how health and equity will change if a policy, plan, or project is put in place, and to make recommendations to ensure good health or mitigate poor health predications. Throughout a HIA process, focused stakeholder engagement is conducted to inform and involve populations potentially impacted by the proposed policy, plan, or project. The HIA process includes six main steps: 1) Screening: Determines the need and value of an HIA; 2) Scoping: Determines which health impacts to evaluate, the methods for analysis, and a work plan for completing the assessment; 3) Assessment: Provides: a) profile of existing health conditions; b) evaluation of health impacts; 4) Recommendations: Provides strategies (or changes) to proposals to promote positive health effects and minimize identified adverse health impacts; 5) Reporting: Includes development of the HIA report and communication of findings and recommendations to decision makers, affected communities and other organizations and groups with a request for feedback; 6) Monitoring and Evaluation: Tracks impacts of the decision on health determinants, as well as on decision-making processes and the decision.

The Transportation Section Update process was scheduled for ten months and overseen by an Update Advisory Committee (UAC) made up of officials and stakeholders representing: City Planning Commission, Carlton County (Public Health and Transportation), Fond du Lac Reservation, Arrowhead Area Agency on Aging, Chamber of Commerce, Cloquet Hospital, Cloquet Active Transportation Coalition, major manufacturers, and interested community members. The committee was staffed by the City Planner. The committee was tasked with affirming a vision, review of assessment data, providing input on prioritized issues, advising the development of goals, objectives, policies and strategies, and approving the document draft for the public hearing process. The UAC also advised the HIA process providing input on the assessment scope, stakeholder engagement activities and research activities. The UAC reviewed research, predications, recommendations and monitoring plan.

The update and HIA process was facilitated by a five member Transportation Update Planning Team: the City Planner and Assistant City Engineer, two staff from the Arrowhead Regional Development Commission (ARDC), and a Carlton County Public Health Educator. The ARDC provided planning assistance, facilitation and documentation of the update and HIA process. Carlton County Public Health assisted with HIA-related communication and community engagement.

For Cloquet's HIA public input provided at a January 22, 2014 visioning meeting along with local data narrowed the categories for the health impact assessment to focus on the health impacts of pedestrian and bicycle travel. The HIA focused on the health impacts of routine physical activity and transportation. A moderate amount of physical activity is strongly related to decrease in both cardiovascular risk and the risk for coronary heart disease. Health benefits can be achieved by integrating walking and bicycling into daily routine such as walking to the store. The exact areas identified for further research were narrowed down by the UAC during the February 27, 2014 meeting. The research areas included three street environments which affect people walking and bicycling and therefore may limit physical activity were chosen: 1) Intersection design, 2) Street connectivity for bicycles, and 3) Sidewalk snow removal.

Assessment

The HIA used a community survey, and data collected from literature and best practice to predict possible positive or negative impacts on health for each category.

Incorporation of Bicycle and Pedestrian Infrastructure into Street Intersections

Due to capacity and time constraints, one intersection (Highway 33 and Cloquet Avenue) was studied. According to 2010 U.S. Census data, 2,095 people (17 percent of the City's population) live within ½ mile of the Hwy 33 and Cloquet Avenue intersection. This area encompasses a downtown commercial area, middle school and an assisted living residential apartments. The Transportation Section Update can support local transportation trips by pedestrians and bicyclists by designing the intersection to be more comfortable and accessible for pedestrians and bicyclists to use. Design treatments should decrease traffic speeds, and include short crossing distances, and bicycle facilities.

Street Connectivity for Bicyclist along 14th Street

14th Street is a local north and south connector street between the City's downtown to a community college. Approximately half the City's population (5,946 2010 U.S. Census) live within half mile of the street. The community survey results indicated many respondents drive or walk along the street but few bicycle on it. However half the community survey respondents reported designated space for bicycling along 14th Street would influence their decision to bicycle on 14th street. Streets designed to provide designated space for bicyclists and encourage correct roadway behavior by both drivers and bicyclists could increase the transportation options for residents within ½ mile and potentially increase the number of bicyclists utilizing 14th Street.

Sidewalk Snow Removal

During winter months snow not uniformly cleared from sidewalks causes barriers for pedestrians especially children and older adults. Within Cloquet, residents under 18 years old make up 28 percent of the population

and residents over 65 years old are 15 percent of the population. The introduction of a snow removal ordinance would have some influence on whether residents clear their sidewalks however it would not influence those unable to physically clear snow. A program which strived for uniform snow removal would provide equitable pedestrian access.

Recommendations

The following recommendations should be taken into consideration for future transportation planning initiatives. They are intended as a basis to meet the public's health needs and concerns identified through the HIA process. They should be considered by all agencies and organizations that have a role in meeting the needs of the Cloquet community within the HIA project area. Implementation should strive to achieve equitable outcomes for the identified vulnerable populations.

Cloquet Intersection Recommendations

1. When improvements to this intersection are being planned. The City and MnDOT should design the intersection for increased visibility and comfort for pedestrian and bicyclists crossing the intersection. Consider design features such as:
    a. Include pedestrian crossing facilities on the north and east sides of the intersection.
    b. Design intersection with reduced curb radii on the south corners on the intersection.
    c. On Cloquet Ave include pedestrian refuge island that provide a comfortable waiting area.
        i. Work to keep crossing distance length under 60 feet.
    d. Adjust pedestrian signal timing to allow for longer crossing time.
    e. Include bicycle facilities on Cloquet Ave and Hwy 33.
2. The City and MnDOT should partner to conduct a public process to improve the aesthetics adjacent to the intersection to alert approaching Highway 33 traffic of Cloquet Ave and the presence of pedestrian and bicyclists.
3. Include design features to increase safety, comfort and visibility for pedestrians and bicyclists at all intersections during street improvement projects.

Bicycle Connectivity Recommendations

1. Install a bicycle lane on both sides of 14th Street with intent of creating a bicycle network incorporating the most bicycled streets, within the City's urban core (approx.. five square miles), to support bicycle trips under two miles.
    a. Develop a Cloquet bicycle network map
2. Routinely maintain bicycle lanes – remove debris and gravel to reduce bicycle crashes and injury.

3. Work with partners to provide outreach and education about bicycle laws and for the safety of all road-users.
4. Include bicycles (and pedestrians) during routine traffic counts on 14th Streets.

Sidewalk Snow Removal Recommendations

1. Develop a municipal sidewalk snow removal program to clear the streets and sidewalks to allow for accessible and equitable mobility within town that meets ADA requirements.
2. Work with MnDOT to coordinate snow removal along Highway 33 sidewalks.
3. Prioritize sidewalk snow removal from sidewalks that are along streets with high residential density and along streets that connect to necessary destinations (i.e. schools, public buildings, health care, and grocery stores).

Monitoring Plan

The Cloquet HIA Monitoring plan outlines eight health indicators to be routinely monitored and by whom to track the implementation of the HIA. The six indicators include; 1) City and MnDOT crash data, 2) Bicycle/Pedestrian Counts, 3) Resident/Community Survey, 4) Total miles of bicycle facilities, 5) Physical activity rates, 6) Vehicle speeds, 7) Number of vehicles on the road, and 8) Percentage of sidewalks cleared.

Evaluation

Evaluation of the Cloquet Transportation Update HIA included a process and an impact evaluation. The HIA Team and UAC members evaluated the process through a self –evaluation. The Cloquet HIA process followed the Minimum Impact Standards. Overall the process provided an increase opportunity for community engagement and discussion on how health is impacted by transportation plans.

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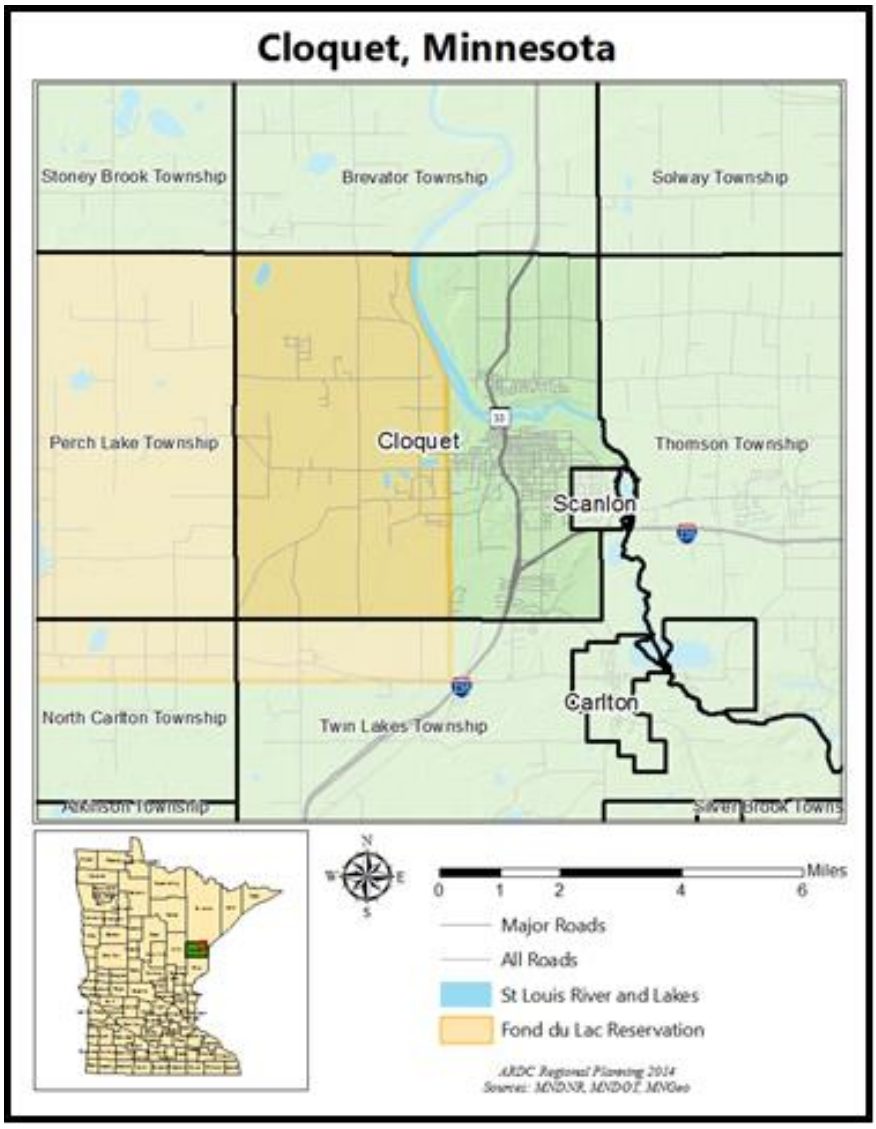
Background

The City of Cloquet (population 12,148), established in 1904, is 36 square miles in Minnesota's northeast Carlton County and is 20 miles from the City of Duluth metropolitan area. The City makes up 35 percent of the County's population. Neighboring Cloquet to the east is the City of Scanlon (population 991); to the west is the Fond du Lac Band of Lake Superior Ojibwe; and rural townships border Cloquet to the north and south. Cloquet is situated on the St. Louis River, whose flow drove the development of the wood products industry that the City was built upon. This industry retains its presence in the community today. The City's original neighborhoods were established along the St. Louis River and continue to be the central business and service area for the City and adjacent communities. This urban area is approximately five square miles.



Study Area Map

In 2005, the City of Cloquet went through a comprehensive planning process to update their 1994 Cloquet Land Use Plan. The Plan, adopted in 2007, outlined the City's vision for the future and provides a framework for more detailed planning. The plan sets goals and objectives in seven sections (Land Use, Transportation, Utilities and Community Facilities, Natural and Cultural Resources, Housing, Economic Development, and Intergovernmental Cooperation).

CLOQUET 2007 Vision Statement

The 2005 City of Cloquet Comprehensive Planning process lead to the development of a vision statement adopted was the Plan in 2007 as the following:

Cloquet is a growing community and economic center with a small town character. Lying along the scenic St. Louis River, Cloquet abounds with rich natural resources. It provides its diverse population with excellent

education and healthcare facilities, efficient public services and infrastructure, exceptional cultural and recreation opportunities, and quality jobs.

The City decided to update the Comprehensive Plan by the seven sections over a period of years as the section's goals and objectives were met or no longer pertinent. The City recognized the need to update the Transportation Section in 2012 and identified this section for a HIA.

The Comprehensive Plan (2007) Transportation Section includes an inventory and analysis of facilities and then goals, objectives and policies for Cloquet's road system, railroad, airport, transit services, and trails.

Transportation Section Goal

Cloquet has an integrated, multi-modal transportation system that provides safe, efficient, environmentally sensitive, healthy and economical movement of people and goods.

The 2007 Transportation Section stated three objectives and 15 policies. Since adoption in 2007, the City has implemented the Plan's transportation policies through numerous projects and planning efforts that were identified in the Plan. The efforts led City staff to identify and start discussing a need for more specific policy direction on the sidewalk network and its maintenance (i.e. snow removal) along with a plan for bicycle facilities. Thus, in 2014 the City of Cloquet with the assistance from the Arrowhead Regional Development Commission began an Update of the Transportation Section in order to respond to the city and region's changing transportation needs.

The City decided to conduct a health impact assessment of the Transportation Section update to bring awareness to the health effects of transportation planning and policies proposed. The HIA added to the Update process broader stakeholder engagement, research and recommendations for transportation policies which positive impacted health.

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Decision-makers and Decision-Making Process

The City of Cloquet Transportation Section update was intended to outline improved goals, objectives, specific policies and future projects that more fully address the City's street network and for the first time, all travel modes including motor vehicles (including freight), walking, bicycling, transit, rail and air.

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Timeline

The Transportation Section Update and HIA steps were conducted concurrently from October 2013 to September 2014. All steps of the HIA were timed to inform the Update process.

Update Discussion Areas

The concurrent process provided an opportunity to build community-wide awareness around the connection between health and transportation. Two modes of travel, walking and bicycling, needed to be addressed during the Update. The main pedestrian issues were: sidewalk condition, connectivity, and snow removal. The need to improve connectivity throughout the city was identified as an additional issue in regard to bicycling.
The HIA effort was an opportunity to utilize research related to the health impacts of the current environment and conditions for walking and bicycling, and then create recommendations based on the research for

consideration as part of the Transportation update. The additional information would inform the discussion on how the City could move towards specific transportation goals, policies (such as “Complete Streets”), and procedures that balance health within transportation priorities that could then lead to adoption and implementation by City Council.

Stakeholders

Transportation planning infrastructure impacts a whole community and regional area. The list of stakeholders includes both the public as key traffic generators, and entities responsible for maintenance and operation of the infrastructure.

Cloquet residents – 12,148 residents within Cloquet.
Carlton County - Carlton County is the responsible entity for some streets and roads within Cloquet.

Fond du Lac Band of Ojibwe - The Fond du Lac Band of Lake Superior Chippewa Reservation is adjacent to Cloquet. The City, County, and Band coordinate on transportation planning projects and programs.

City of Scanlon - The cities of Scanlon and Cloquet share some common streets and transportation infrastructure.

Cloquet School District - The District enrolls 1,200 students in four schools within Cloquet. It is the District’s policy to provide bussing for students who live more than one mile from school.

Sappi, Inc. - Sappi, Inc. manufactures wood pulp and paper products within Cloquet at a mill located along the St. Louis River, just east of Cloquet Avenue downtown.

USG, Inc. - USG, Inc. manufactures ceiling tile at a plant on the west side of Highway 33 within the historic downtown area.

Cloquet area Chamber of Commerce - The Chamber’s mission is to provide resources and support to its approximately 200 members.

Cloquet Housing Authority - The Cloquet Housing Authority manages subsidized multi-family housing units for low-income families and individuals. All of the housing is located within the City’s central area.

Cloquet Memorial Hospital - The Hospital, located north of St Louis River, is a key employer and medical destination.

Cloquet Active Transportation Coalition - A coalition with the purpose to increase and promote opportunities for walking and bicycling within Cloquet. The coalition is supported by a half-time Carlton County Public Health Educator through the Northeast Minnesota Statewide Health Improvement Program (SHIP).

Minnesota Department of Transportation, District One - The responsible entity for Highway 33.

Scoping Summary

Purpose

The Health Impact Assessment (HIA) scoping step identifies a list of health concerns associated with a proposed project and helps to determine and prioritize the health indicators to be further evaluated in the assessment step. This process also identifies the responsible parties for conducting the assessment and notes who will be involved. Most importantly, it is an opportunity to engage the public in setting priorities for research on the policies that will impact their transportation choices.

Health and Transportation

Research shows there is a connection between people's health and their surrounding built environment. Since the 1980s, obesity rates have risen in all 50 states with between 15 to 30 percent of the population in each state now categorized as overweight.[i] It is important to keep in mind the equity of health when addressing chronic disease, transportation, and built environment. In the U.S., chronic preventable disease is a leading health indicator and the burden of disease and premature death is highest among vulnerable populations. [ii]

In the last 40 years, the obesity rates among children have tripled.[iii] The change in development has had an impact on lifestyles and on the increase in obesity rates. Many people live in suburban areas or in places where destinations are far enough away that walking or bicycling is not a viable option. This creates barriers for routine outdoor physical activity such as walking and bicycling, because destinations are not easy or convenient to access. This change in residential development built away from commercial uses increased and accommodated motor vehicle travel and reduced the opportunity for physical activity. The rise of obesity rates in the US has brought attention to the design of our communities and the policies and programs behind them.

Over the last decade, numerous studies have been conducted on the topics of community design, transportation policies and programs, and their relation to health. This work has begun to help reframe how we look at health, transportation, and the built environment. The U.S. Department of Health and Human Services *Healthy People 2020,* provides national guidelines for physical activity. The guidelines were developed in response to the preponderance of scientific research supporting the health benefits of regular physical activity among youth and adults and the reality that many adults do not meet the guidelines. The guidelines outline broad objectives to positively impact physical activity through changes to the structural environment (i.e. sidewalks, bike lanes, trails and parks) and supportive policies that improve access to facilities.[iv]

Traffic safety is also of concern for physical health. Nationwide in 2010, 4,280 pedestrians were killed and an estimated 70,000 were injured in traffic crashes representing a four percent increase from 2009.[v] The majority of the fatalities, 72 percent, occurred in urban settings versus rural settings.[vi] According to National Highway Traffic Safety Administration (NHTSA), in 2009, children ages 15 and younger accounted for seven percent of the pedestrian fatalities and 23 percent of all pedestrians injured.[vii] Traffic safety is impacted by the built

environment. For example roads designed for higher speed motor vehicle traffic with multiple lanes, no (or incomplete) sidewalks, and typically distant or minimal crosswalks, make it dangerous for pedestrians to utilize the streets[viii]. In rural areas there are fewer pedestrian crashes, however because the vehicle speeds are higher on road ways the crashes that do occur are more severe.[ix]

Baseline Carlton County Health Data

Condition	BTH Region Report 2010	Carlton County 2010 (CI)	BRFSS 2009 (7)			Healthy People 2020 goal
			Minnesota	Wisconsin	National	
High cholesterol	22.5%	24.9% (19.7-30.1)	33.9%	35.8%	37.5%	13.5%
Diabetes	8.0%	11.2% (7.6-14.8)	6.4%	8.2%	8.3%	N/A
Heart trouble or angina	9.4%	10.2% (7.0-13.3)	6.4%	7.7%	7.8%	N/A
Stroke problems	2.6%	2.6% (1.1-4.0)	2.3%	2.2%	2.4%	N/A
High blood pressure	26.6%	27.8% (22.3-33.2)	21.6%	27.7%	28.7%	26.9%

Figure 1- Bridge to Health Assessment Data 2010-Prevalence of Medical Conditions

Summary/Demographic Profile

The HIA team reviewed baseline City demographic data. The 2010 U.S. Census data reported of the 12,124 Cloquet residents, 28 percent, or 3,437, are under the age of 18 years old, and 15 percent, or 1,843, are 65 years old or older. The ethnicity of the City's population is 84 percent White, 11 percent Native American and a small percentage of Hispanic (1.3 percent) and Asian (.5 percent) residents. The City's homeownership rate is 65 percent. Housing units in multi-unit structures are 18 percent of Cloquet's housing stock. The City's median household income is $45,919[x] with 14 percent of the population living below the poverty level.

	BTH Region Report 2010	Carlton County 2010 (CI)	BRFSS 2009 (7)		
			Minnesota	Wisconsin	National
Overweight (BMI 25-29.9)	33.6%	35.4% (28.6-42.2)	37.9%	36.4%	36.2%
Obese (BMI 30-99.8)	17.6%	24% (18.6-29.5)	25.4%	29.2%	27.2%
20+ minutes of vigorous physical activity 3+ days per week	30.2%	29.9% (23.4-36.3)	29.4%	31.1%	29.2%
Consumption of fruits/vegetables 5+ times per day	16.2%	13.5% (9.2-17.9)	21.9%	22.7%	23.5%

Figure 2- Bridge to Health Assessment Data 2010-Weight Status, Physical Activity, and Fruit and Vegetable Consumption

The HIA team reviewed baseline County health data related to chronic disease and physical activity. The data collected was from the *Northeast Minnesota and Northwestern Wisconsin Bridge to Health Survey (2010)*. This survey is conducted every five years to provide local information on key health indicators to assist with addressing pressing health issues and improve the area's health status. The survey data is collected by telephone interview within a sample size developed using a disproportionate stratified sampling method. 4,500 interviews were conducted during the most recent survey completed in 2010. The survey provides detailed data reflecting the region's health. The survey asks a series of questions related to health risk behaviors and the prevalence of medical conditions throughout the Region. The data collected is analyzed by Region and by County. The 2010 survey responses indicated that within Carlton County, the obesity rate was 24 percent. This rate was close to the State and National averages of 25 and 27 percent, respectively. The Survey asked about the prevalence of medical

conditions that are associated with chronic disease and physical activity including: high cholesterol, diabetes, heart trouble or angina, stroke problems, and high blood pressure. The County respondents reported rates of diabetes, heart trouble, stroke problems and high blood pressure that were higher than the Region and State. The prevalence of high blood pressure is slightly lower in Carlton County compared to the rest of Minnesota and the nation.

Current Physical Activity Rates

Nationally, the Center for Disease Control and Prevention (CDC) recommends adults achieve 150 minutes per week of moderate intensity aerobic activity with some muscle-strengthening activities. The CDC states that it is okay to reach the 150 minutes in 10 minute increments, which includes walking and/or bicycling to destinations within a city to access goods and services, or to commute to work or school.[xi]

It is well understood that the lack of physical activity is one of the leading causes for obesity, which then can lead to a series of chronic diseases such as cardiovascular disease, type 2 diabetes and metabolic syndrome, and some cancers (CDC). In studies performed by the CDC, physical activity was strongly related to decreases in both cardiovascular risk and the risk for coronary heart disease. [xii] In general, research shows that the health benefits of physical activity outweigh any consequences (ex. injury, inhaling pollutants, etc.).

Nationally, most adults are not getting the recommended 150 minutes per week of exercise. Currently, only 48 percent of all adults meet this recommended guideline (ibid).

The Bridge to Health Survey results on weight status, physical activity, and fruit and vegetable consumption indicated the County's overweight and obesity rates were 35.4 and 24 percent respectively. Carlton County respondents who reported getting 20 minutes of vigorous physical activity three days per week was 29.9 percent. The County percentage was near the Minnesota, Wisconsin, and National rates, showing close to a third of the population is getting 20 minutes of physical activity a day but two-thirds, or most of the population is not getting the minimum recommended amount of physical activity a week.

The Minnesota Student Survey 2013

The Minnesota Student Survey is given every three years to students in fifth, eighth, ninth, and eleventh grades to collect health data on the younger population. The survey asks a series of questions regarding activities affecting health including physical activity.[xiii] A current routine question on the survey asks students how often they are getting CDC recommended 60 minutes of exercise a day: "*During the last seven days, on how many days were you physically active for a total of AT LEAST 60 MINUTES PER DAY?"* Statewide, the 2013 survey indicated, at most, a quarter of the student respondents reported daily 60 minutes of physical activity in a seven day period. Additionally, students were asked: *"During a typical school day, how many hours do you go outside, take a walk or go for a bike ride?"* Statewide, close to half the students reported typically one hour of time outside walking or bike riding. However about a third of student respondents in grades five and eight reported getting two hours of outside physical activity, which is more than the minimum recommended amount of activity.

The survey also asks about organized physical activity opportunities such as physical education and sports team participation. About half of the students surveyed reported attending physical education classes five days per week. Students who reported participating in club/community sport team totaled around a third of students in the fifth and eighth grades and dropped to around a quarter of the student respondents for those in ninth and eleventh grades. Participation in high school sports was reported by more than a third of respondents.

Current Travel Behavior

Within the U.S., a majority of trips are made by motor vehicle. However, in the last decade the average annual vehicle miles traveled in trip length has seen a decline.[xiv] Trips taken by walking, bicycling, and transit has seen a slight increase. The *National Household Travel Survey* W*alking and Cycling in the United States 2001-2009 (NHTS)* analyzed the walking and bicycling trends. On average, Americans made 17 more walking trips in 2009 than in 2001, and covered nine more miles per year, compared with only two more bike trips, and five more miles of cycling.[xv] The NHTS and the U.S. Census both report on main modes of transportation, however, the Census only reports on commuting to and from the workplace, whereas NHTS reports on travel for all trip purposes, providing a more comprehensive view of travel behavior. In 2009, about 73 percent of walking trips and 51 percent of bicycling trips were for utilitarian or routine purposes. Additionally, in 2009, 27 percent of walking trips and 49 percent of bicycling trips were used for recreation, exercise, and sports. The survey indicated that less than two percent of Americans cycle daily, and less than one percent of Americans achieve 30 minutes of physical activity through cycling on any given day (NHTS 2009). Nationwide, the analysis of the last three surveys conducted suggested a small, but statistically significant, increase in active travel between the years 2001-2009, mainly due to more walking (NHTS 2009).

National travel trends also indicate that active travel declined for women, children, and seniors, but increased among men, the middle-aged, employed, well-educated, and persons without a car. Nationwide, half of all trips taken are three miles or less, and 28 percent are a mile or less.[xvi] In rural areas, 30 percent of all trips are two miles or less, and a majority of these trips are by car.

Stakeholder Engagement

The City of Cloquet formed an Update Advisory Committee (UAC) to advise the Update and HIA processes. The City of Cloquet mailed invitations to join the UAC to stakeholder representatives. The UAC members represent City officials and community stakeholders. Community stakeholders involved included traditional transportation partners along with representatives from public health, the local hospital, a local Active Transportation Coalition and the Area Agency on Aging. The inclusion of health, active transportation advocates, and senior representatives on the UAC provided a health perspective to the transportation discussion. The UAC scheduled meetings monthly during the process. All UAC meetings are open to the public and promoted through local media sources.

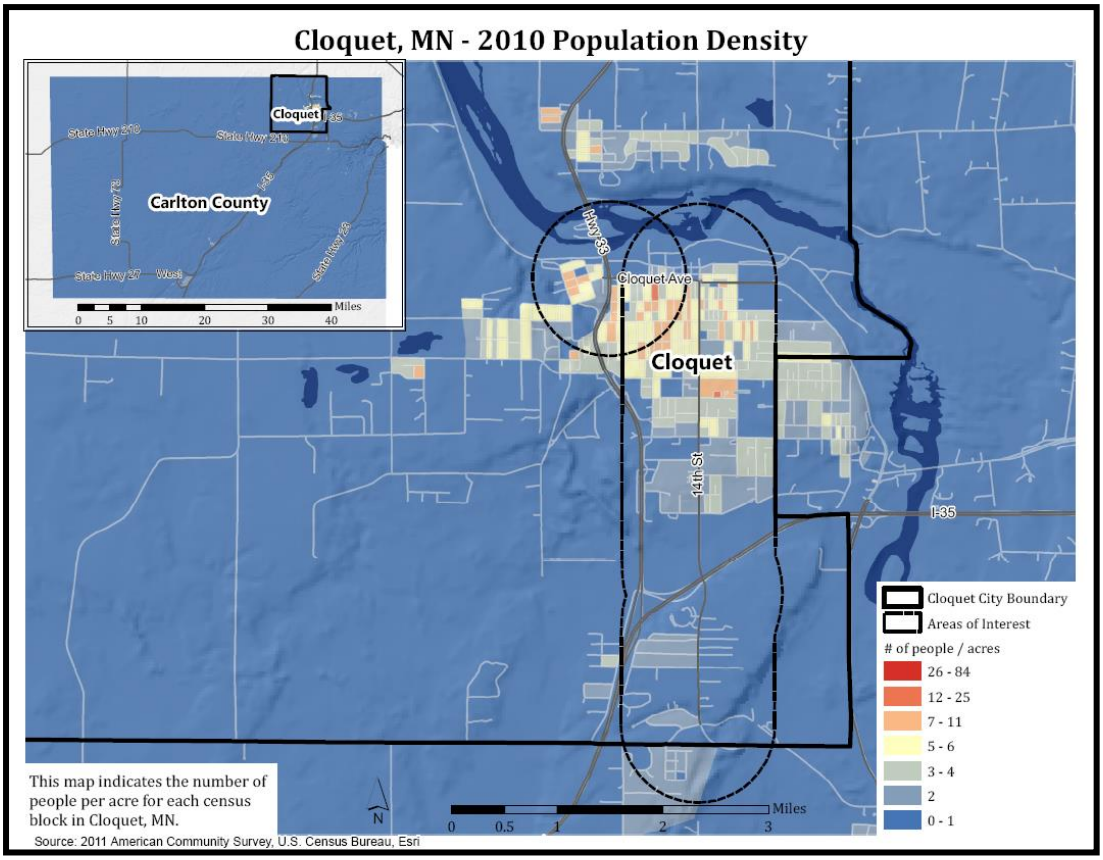


Figure 3- 2010 Population Density. The majority of Cloquet population is located around Cloquet Ave and Hwy 33.

Scoping Exercise

On January 22, 2014, the City of Cloquet and HIA Team held a public HIA training for UAC members followed by a Community Transportation Section Update Visioning meeting. These two meetings initiated the update process and HIA. During the Visioning Meeting, attendees were led through an activity to identify existing assets and barriers to transportation for all travel modes and began to determine a vision for transportation in Cloquet. The comments provided were summarized by travel mode, with priority projects, policies, and key themes identified.

The HIA Team reviewed the community visioning meeting summary and the priority projects and policies identified by attendees. The team used pathway diagrams to consider short-term, intermediate, and long term health outcomes of specific areas discussed at the meetings which impact health as it relates to physical activity.

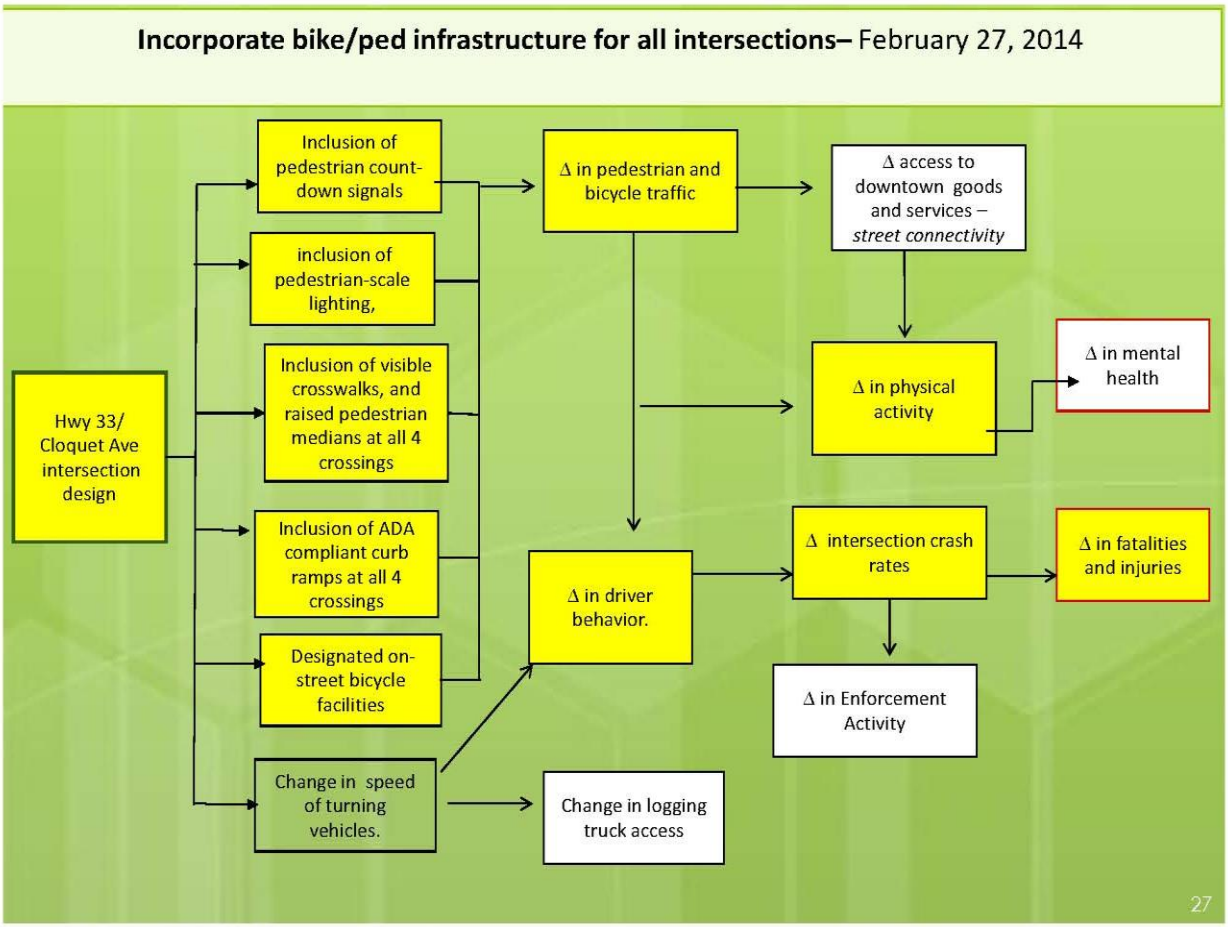
Pathway diagrams outline potential ways which health may be affected and guide the formation of research questions. During this scoping exercise process, the team considered its capacity to conduct the necessary HIA tasks and research within the update process timeline in order to develop recommendations to inform the advisory committee.

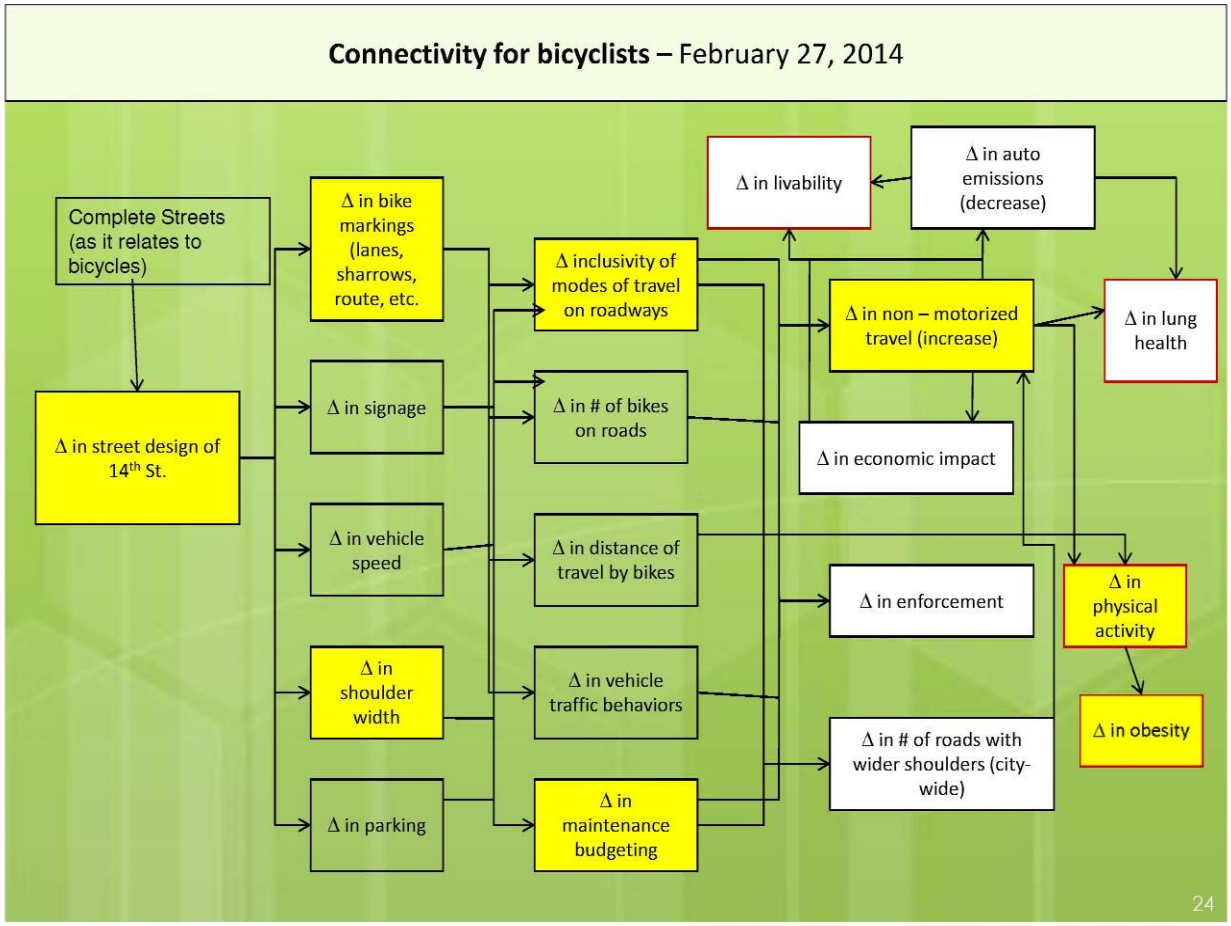
Three main themes related to physical activity and transportation were selected for scoping based on their relationship to health impacts for Cloquet's residents and vulnerable populations, and the team's capacity to conduct assessment activities in a timely manner. The three health categories included:

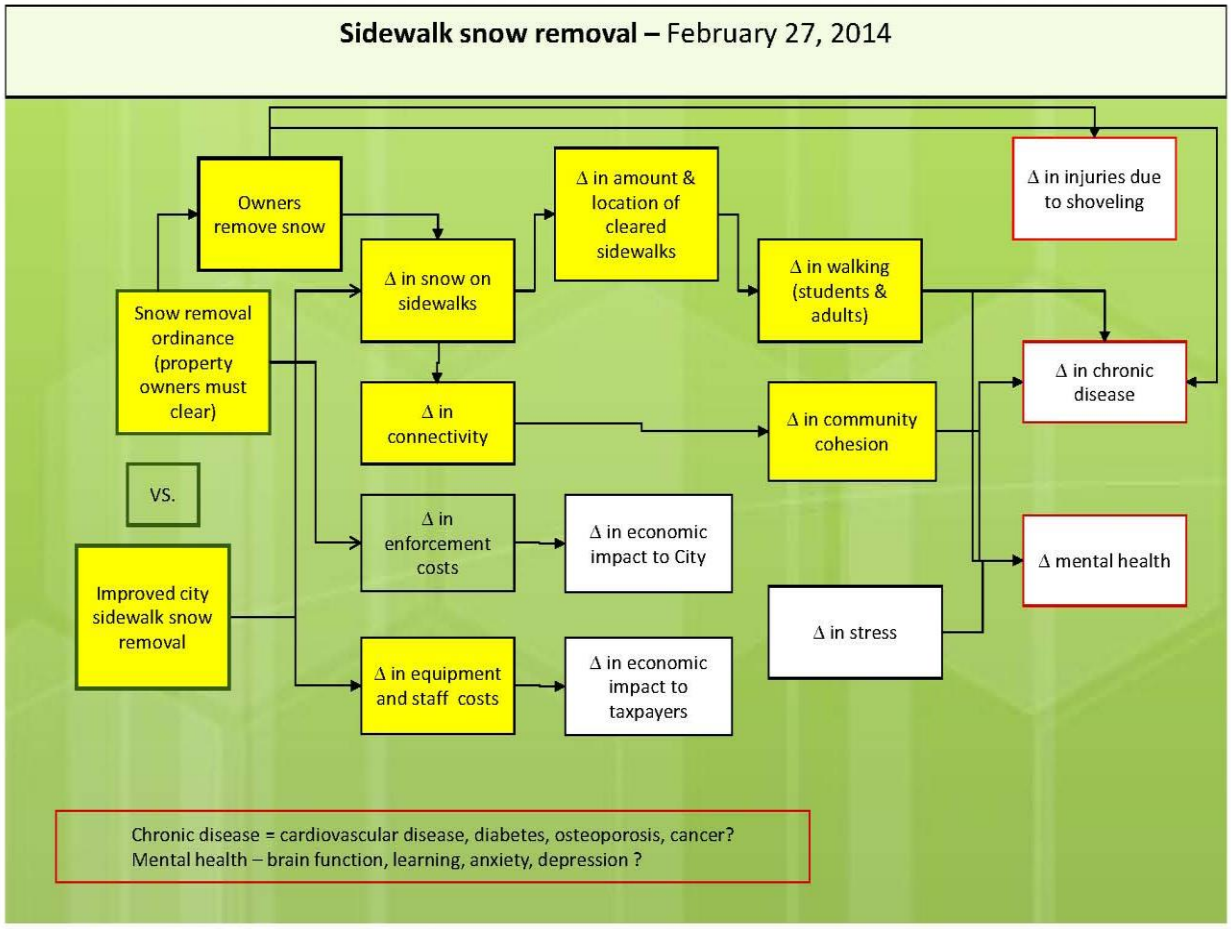
1) Intersection safety for pedestrians and bicyclists at Highway 33 and Cloquet Avenue
2) Connectivity for bicyclists along 14th Street
3) Sidewalk snow removal

Pathway Diagrams

At the February 27, 2014 UAC meeting three pathway diagrams with research questions were presented for review and prioritization for assessment. Not all the health pathways could be addressed during the HIA because of limited time and resources.


Incorporate bike/ped infrastructure for all intersections– February 27, 2014
Hwy 33/ Cloquet Ave intersection design
Inclusion of pedestrian count-down signals
inclusion of pedestrian-scale lighting,
Inclusion of visible crosswalks, and raised pedestrian medians at all 4 crossings
Inclusion of ADA compliant curb ramps at all 4 crossings
Designated on-street bicycle facilities
Change in speed of turning vehicles.
Δ in pedestrian and bicycle traffic
Δ in driver behavior.
Change in logging truck access
Δ access to downtown goods and services – street connectivity
Δ in physical activity
Δ in mental health
Δ intersection crash rates
Δ in fatalities and injuries
Δ in Enforcement Activity
27


Connectivity for bicyclists – February 27, 2014
Complete Streets (as it relates to bicycles)
Δ in street design of 14th St.
Δ in bike markings (lanes, sharrows, route, etc.
Δ in signage
Δ in vehicle speed
Δ in shoulder width
Δ in parking
Δ inclusivity of modes of travel on roadways
Δ in # of bikes on roads
Δ in distance of travel by bikes
Δ in vehicle traffic behaviors
Δ in maintenance budgeting
Δ in livability
Δ in auto emissions (decrease)
Δ in non – motorized travel (increase)
Δ in economic impact
Δ in enforcement
Δ in # of roads with wider shoulders (city-wide)
Δ in lung health
Δ in physical activity
Δ in obesity
24


Sidewalk snow removal – February 27, 2014
Owners remove snow
Δ in amount & location of cleared sidewalks
Δ in injuries due to shoveling
Δ in snow on sidewalks
Δ in walking (students & adults)
Snow removal ordinance (property owners must clear)
Δ in chronic disease
Δ in connectivity
Δ in community cohesion
VS.
Δ in enforcement costs
Δ in economic impact to City
Δ mental health
Improved city sidewalk snow removal
Δ in stress
Δ in equipment and staff costs
Δ in economic impact to taxpayers
Chronic disease = cardiovascular disease, diabetes, osteoporosis, cancer?
Mental health – brain function, learning, anxiety, depression ?

Assessment Summary

The Assessment involved reviewing baseline health data of people affected by the proposed Transportation Section update, followed by predicting the potential positive and negative health effects. The following section describes the research methodology, analysis, and recommendations for the health category.

Methodology

The Assessment Step was conducted by the Cloquet HIA Team over a three month period with the UAC providing input. The team determined, with the UAC, to review three main methods of research to study the health impacts on walking and bicycling by further studying the physical environments around: 1) Intersection safety for pedestrian and bicyclist at Highway 33 and Cloquet Avenue; 2) Connectivity for bicyclist along 14th Street; and 3) Sidewalk snow removal. Two research questions per study area were selected from the pathway diagrams. The questions chosen focused on the impact the build environment has on physical activity and health and complete within timeframe of the HIA.

<u>Intersection safety for pedestrian and bicyclist at Highway 33</u>

1. *What intersection design features increase the number of pedestrians and bicyclist utilizing an intersection?*
2. *What intersection design features have reduced the rate of bicyclist and pedestrian injuries and fatalities?*

<u>Street Connectivity for bicyclist along 14th Street</u>

1. *How would a bicycle friendly street design (connectivity) affect crash/injury rates?*
2. *How will bicycle street connectivity reduce motor vehicle trips less than two miles?*

<u>Sidewalk Snow Removal</u>

1. *How has implementation of a fine for lack of snow removal ordinance in other cities and communities impacted sidewalk snow removal?*
2. *How have cleared sidewalks promoted physical activity?*

The research methods used included conducting a community survey, a review of the existing literature and best practices documents, and phone interviews with city staff to discuss local program implementation. These methods are described below, along with the findings related to health impacts, and recommendations.

Community Survey

The community survey questions were developed by the HIA Team and reviewed by the UAC. The survey questions were based on the prioritized research questions and included questions that would provide

demographic and current travel mode information. The 41-question survey was distributed by email and provided in hard copy at a number of locations. The HIA team reviewed existing research, guidelines, and best practice methods, and interviewed city staff on local program implementation.

The UAC members tested the online survey format and provided feedback on the question content to finalize the survey. The HIA Team developed an action plan for survey distribution which utilized UAC members, community partners, and stakeholders to reach the targeted populations. The distribution plan considered all populations, especially low-income households, households with children, the Cloquet resident population over 65 years old, and the Native American population. The survey questions and the distribution method developed focused on trying to obtain results which were equitable. The survey web link and paper copies were available for two full weeks (April 7-21, 2014).

The distribution method used the established networks within the community. Carlton County Public Health worked with their contacts at Fond du Lac Tribal and Community College to send the survey web link out to all of the college's students. The Fond du Lac Reservation posted the survey web link both on the Reservation's main website, as well as the Fond du Lac Human Services website. The Cloquet Area Chamber of Commerce sent the survey web link to their members, and requested that members forward the survey along to their contacts. The Cloquet School District and the City of Cloquet both posted the survey web link and information about the process on their websites. Carlton County Public Health also emailed the survey to all Carlton County Public Health and Human Services employees, the Cloquet Active Transportation Coalition members, and community members involved with Cloquet's Safe Routes to School program.

Paper copies of the Community Survey were distributed to key locations around Cloquet including Carlton County Public Health and Human Services building, Cloquet City Hall, the Cloquet Public Library, Anytime Fitness, and three apartment complexes which serve as senior and low-income living facilities (Larson Commons, Aspen Arms, and Evergreen Knoll). The Cloquet High School participated by distributing the survey to a sampling of high school students, mainly ninth and tenth grade students. The release of the community survey was announced through a media release to the local newspaper, the Cloquet public access television channel and the local radio station. The community survey reached a potential 7,740 people within the identified population groups. Many of these population groups were Cloquet residents.

Potential Community Survey Reach		**Distribution Method**
Number of Tribal Members (2010 Census)	4240	Survey link on website
Number of People reached by the Cloquet Area Chamber of Commerce	400	Email to Chamber members
Sample of 9th/10th Grade students at Cloquet High School	100	Hardcopy distributed
Larson Commons (85), Aspen Arms (77)	162	Hardcopy available at offices
Fond du Lac Tribal and Community College (2014 MNSCU)	2840	Email to all students
Subtotal	7,742	
Cloquet Population (2012 City-Data)	12,036	Survey link on City's website and hardcopy distributed

Figure 4- Potential Community Survey Reach.

Survey Respondent Profile

The survey results as health indicators around physical activity and transportation were considered and identified for further assessment through public and stakeholder input along with the populations who could be most impacted by the City's Transportation section update.

Cloquet residents most impacted by the transportation update include those populations who have limited or no access to motor vehicles and rely on walking, bicycling, transit, and carpooling as travel modes. The residential population focused on during the HIA includes residents over 65 years old, households with children, and low income residents in Cloquet, neighboring City of Scanlon, and the Fond de Lac Reservation.

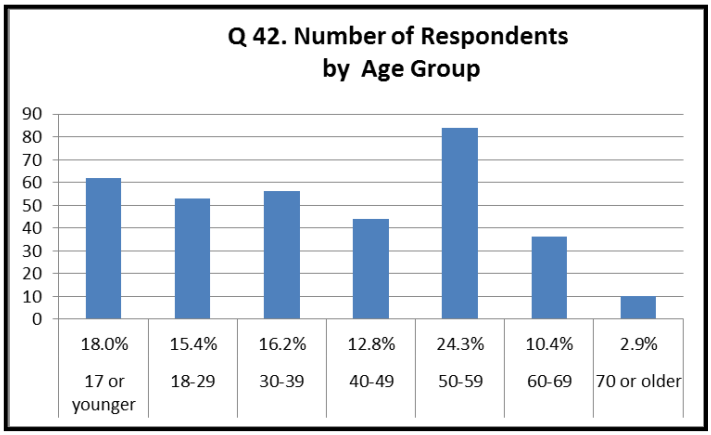


Figure 5- Survey Question No. 42: 50-59 years old and 17 years old and younger age groups had the most survey respondents.

The Community Survey had 400 respondents within two weeks. The large response showed the value of the HIA project through the number of interested community members. The Survey asked seven questions about demographics: age; race; residency; work location; and household make-up including, age of household members, and annual household income.

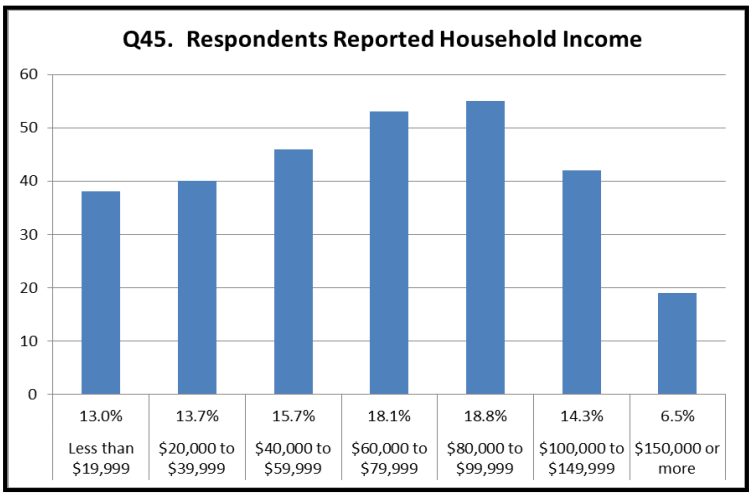


Figure 6 – Survey Question No. 45: 75 % of survey respondents reported their household income.

A majority of respondents (87 percent) identified themselves as white. The next highest response or 16 percent of the people taking the survey identified themselves as American Indian or Alaskan Native. Finally a little over 1 percent of the respondents identified themselves as either Black or African American or Asian. Survey respondents were able to choose all that applied which produced a response rate greater than 100 percent. The survey asked people to report on how long they have lived in Cloquet. Of the 400 people that answered the question, 28 percent reported they have lived in Cloquet all their life and 24 percent reported they do not live in Cloquet. The third highest response rate was from people who reported living in Cloquet for between 16 – 40 years. The remaining respondents reported living in Cloquet 15 years or less.

The survey asked people if they worked in Cloquet. Survey respondents reported 60 percent worked in the City of Cloquet and 39 percent reported they did not work in Cloquet.

People were asked in the survey about the age make up of their household (See Q43 graph). The question asked about the number of children, teenagers, adults and seniors who lived within each respondent's household. The question received 298 total responses. There were 170 people who reported an average of 1.2 children per household and 150 people reported 1.17 teenagers in the household. The largest response, 247 people responded that there were on average 2.2 adults in the household. Finally, 80 people indicated the presence of seniors in the household at an average response rate of .96 per household.

Literature and Best Practice Review

The HIA Team reviewed both existing literature and best practices related to the six research questions. The HIA team reviewed current research and guidance on the incorporation of bicycle and pedestrian infrastructure into street intersections and bicycle-friendly street design. Research sources included U.S. Department of Transportation, Federal Highway Administration, Minnesota Department of Transportation, American Planning Association, and Smart Growth America. Best practices reviewed included a review of projects completed by the Federal Non-motorized Transportation Pilot Program in the cities of Columbus, MO and Minneapolis, MN. These projects included evaluation data on pedestrian and bicycle use before and after infrastructure projects. Data collected by the cities of Seattle and Minneapolis provided information on how street use changed after specific projects were completed. Research conducted on sidewalk snow removal included a review of the U.S. Department of Transportation Federal Highway Administration *Guide for Maintaining Pedestrian Facilities for Enhanced Safety.* This guide addressed snow and ice removal and offered both current and best practices. The HIA team conducted phone interviews with a few cities on snow removal programs and the implementation of city snow removal ordinance enforcement practices.

Health Categories

The Cloquet Comprehensive Plan Transportation Section Update has chapters organized by transportation modes: motor vehicles, roadway freight, pedestrians, bicycles, public transit, railroads, and airports. The public input provided at the January 22, 2014 Visioning Meeting narrowed the categories for the health impact assessment to focus on the health impacts of pedestrian and bicycle travel. The exact areas identified for further research were narrowed down by the UAC during the February 27, 2014 meeting. Three street environments which affect people walking and bicycling and therefore may limit physical activity were chosen and include: 1) Intersection design, 2) Street connectivity for bicycles, and 3) Sidewalk snow removal.

Incorporation of Bicycle and Pedestrian Infrastructure into Street Intersections

1. *What intersection design features increase the number of pedestrians and bicyclists utilizing an intersection?*
2. *What intersection design features have reduced the rate of pedestrian and bicyclist injuries and fatalities?*

Intersection of Highway 33 and Cloquet Ave

Existing Conditions

Street access and intersection safety for pedestrians and bicyclists was a key concern identified during the Cloquet public visioning process and in the community survey responses. The public noted a number of intersections of concern and two intersections especially noted as barriers for pedestrians and bicyclists were along Highway 33 at the intersections with Doddridge Road and Cloquet Avenue. Because of the short timeframe for the HIA assessment step, the Cloquet HIA Team, with Update Advisory Committee (UAC) member input, decided to choose one of these intersections for further study and to serve as an example. The intersection chosen was Highway 33 and Cloquet Ave because of the potential for impacting future planning decisions around intersection improvement projects. The intersection of Highway 33 and Doddridge Rd was not chosen for further research because the HIA results/recommendations would have no effect, as it was scheduled for reconstruction in 2014 and the project already included pedestrian improvements.

State Highway (Hwy) 33 serves a key regional north/south route connecting from Interstate 35 to the Range cities. Hwy 33 is a four lane arterial road and serves 13,400 vehicles AADT (Average Annual Daily Traffic Count)[xvii] in the vicinity of Cloquet Avenue. The speed limit on Hwy 33 north of the intersection with Cloquet Ave is 40 mph. The speed limit south of the intersection is 35 mph.

Cloquet Avenue on the east side of Hwy 33 serves as the community's main street with local businesses and along with municipal services like the Cloquet City Hall, Post Office, and Carlton County Public Health and Human Services. In addition, a multi-unit residential apartment building for low-income residents is located along Cloquet Avenue where many of the residents are seniors or have mobility impairment. Cloquet Avenue has an average of 8500 vehicles AADT.

The speed limit on Cloquet Avenue is 30 mph. On the west side of the intersection is Cloquet's historic downtown district, a City campground and park, and industrial area along the St Louis River. Further west, and adjacent to this district, is a residential neighborhood.

The intersection currently has three pedestrian crossing areas. There are two crosswalks immediately at the intersection. On Hwy 33 a pedestrian crosswalk is located on the south side of the intersection. The crossing distance is 124 feet and spans five travel lanes, with a 13 foot median. There is a pedestrian signal. The crossing distance on the west side of Cloquet Avenue is approximately 200 feet, which includes an 18 foot wide median between travel lanes and a 30 foot pedestrian island between westbound travel lanes and southbound Hwy 33 traffic making a right turn onto Cloquet Ave. There are three eastbound travel lanes, two turn lanes, and one through lane amounting to an approximately 80 foot crossing distance. Cloquet Ave westbound has two travel lanes totaling 40 feet. The right turn lane from southbound Hwy 33 is 30 feet. The intersection's north side does not have pedestrian crossing facilities across Hwy 33. On the east side of the intersection, the pedestrian crosswalk is 350 feet east (or a block) of the immediate intersection. This Cloquet Avenue

Which three aspects of the Hwy 33 and Cloquet Ave intersection concern you when crossing by foot or bicycle?

Answer Options	Response Percent	Response Count
How far it is to cross	25.7%	74
Not enough time to cross	41.0%	118
Speed of vehicles approaching	69.1%	199
Vehicles turning on a red light	47.9%	138
Uncomfortable place to wait at the curb	36.5%	105
Uncomfortable place to wait in the median	41.7%	120
Curb ramps not accessible	6.9%	20
Poor street lighting	11.5%	33

Figure 7- Survey Question No. 33: The aspects of Hwy 33 and Cloquet Ave are of concern for those crossing by bicycle or on foot.

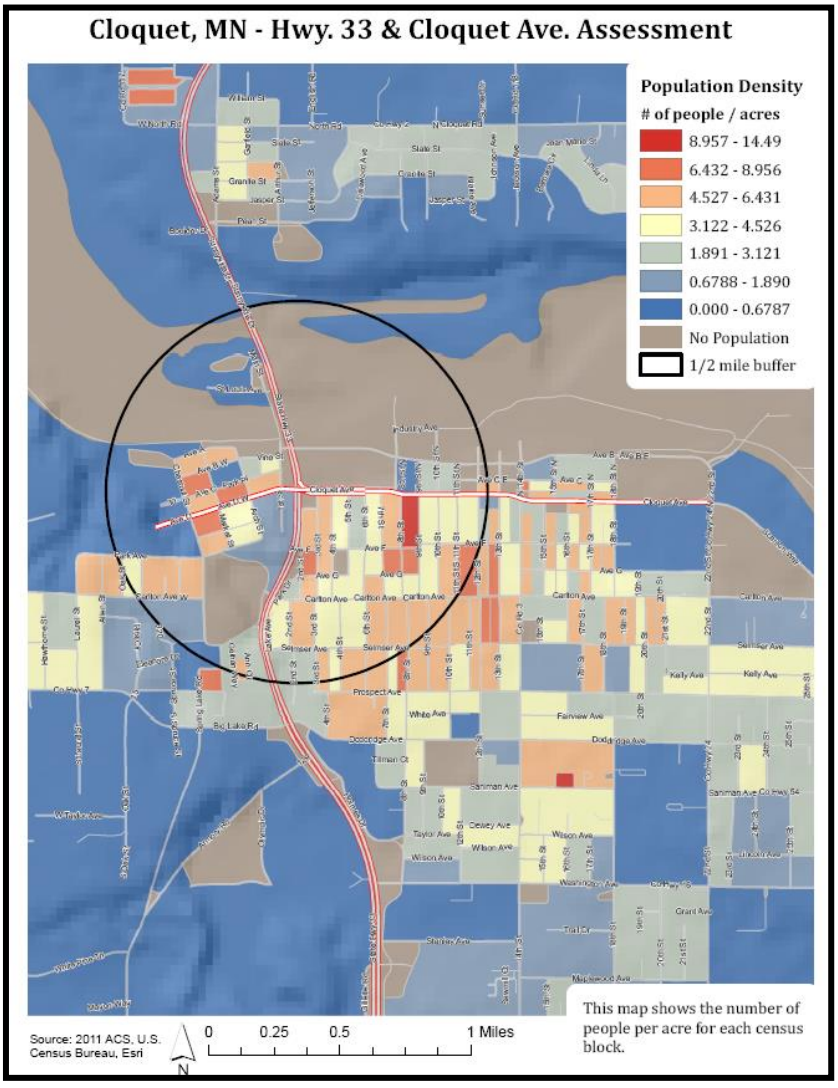


Figure 8- Population Density within 1/2 mile of the Intersection of Hwy 33 and Cloquet Ave

crosswalk is 126 feet wide and crosses five travel lanes and a 30 foot median area.

Intersection Crash Data

The Minnesota Department of Transportation (MN DOT) Crash data between2003-2013 had 1,163 reported crashes within the city limits of Cloquet, MN. Of these crashes, 49 occurred within 500 feet of the Highway 33 and Cloquet Avenue Intersection. Most crashes were during the daytime and the two most common crashes at the intersection were rear-end vehicle collisions followed by right angle crashes (34 percent). There was one reported vehicle and bicyclist crash at the intersection. MNDOT crash data reported no pedestrian and vehicle collisions. The severity of reported crashes showed 20 percent of the crashes resulted in possible injury, six percent resulted in injury, and two percent resulted in fatality.

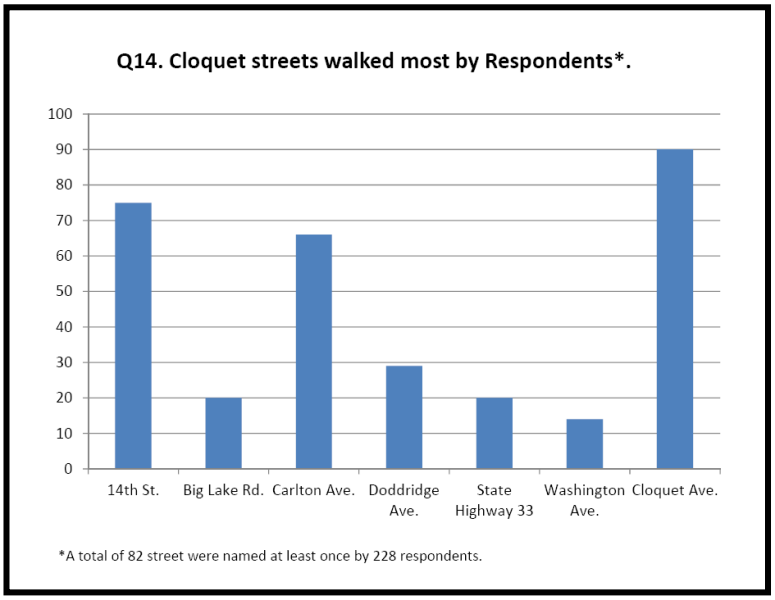


Figure 9- Survey Question No. 14 - A total of 82 streets were named at least once by 228 respondents.

The City of Cloquet Police Department crash data from 2009 – 2014 had 24 reported crashes of all types with no reported vehicle and bicycle or vehicle and pedestrian crashes.

The Cloquet HIA assessment researched three health indicators related to physical activity and pedestrian and bicycle travel. The assessment researched how intersection design features increase the number of pedestrians and bicyclists utilizing an intersection and what design features have reduced the rate of injuries and fatalities.

Community Survey Summary

The community survey asked six questions about the Highway 33 and Cloquet Avenue intersection (questions #28 -#33). The survey asked how often respondents traveled through the intersection. Most respondents (33 percent) reported traveling through the intersection more often than once a day followed by 30 percent of respondents reported traveling through the intersection 2-3 times per week. Additionally this intersection was identified by 21 respondents in question 16 as an intersection most often crossed when walking, one of the five most frequently crossed intersections in the City. Respondents were asked how often they walked across the intersection. The majority of respondents, 43 percent reported that they never walked across the intersection while 22 percent reported walking across the intersection a few times a year. Small percentages of respondents between 2 and 5 percent reported crossing more than once a day up to once a month. The comfort level of respondents for walking across the intersection is listed in Figure 10a.

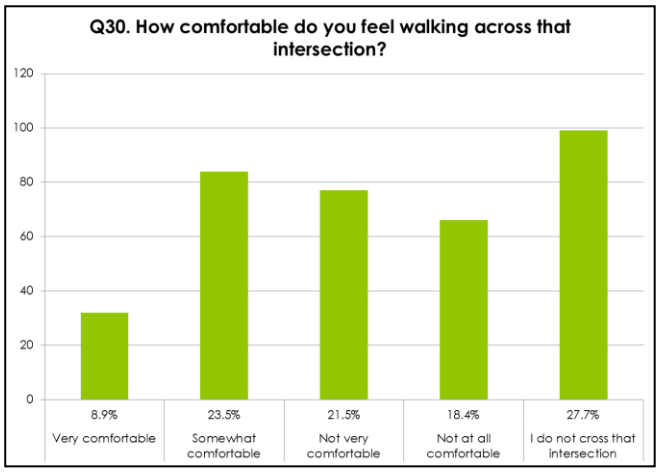


Figure 10a- Survey Question No. 30: Level of comfort reported walking across the intersection.

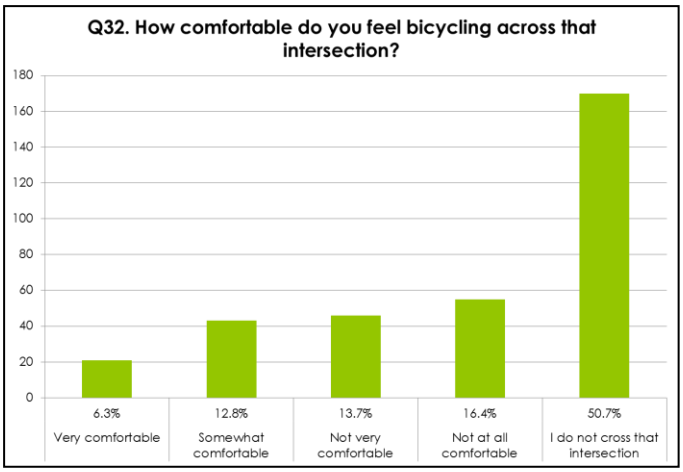


Figure 10b- Survey Question No. 32: Level of comfort reported bicycling across the intersection

Individuals were asked how often they bicycle across the Highway 33 and Cloquet Ave intersection and 68 percent reported never bicycling across the intersection. There were 11 percent of respondents who reported riding through the intersection a few times a year. Small percentages indicated riding across the intersection more frequently, with 5 percent reporting 2-3 times per month. People were also asked how comfortable they felt bicycling across the intersection. Half of the respondents reported they do not cross the intersection by bicycle. Figure 10b depicts the comfort of bicyclists through this intersection. It shows the majority are not very comfortable or not at all comfortable (a total of 30 percent).

The final question referring to this intersection asked people to identify three aspects of the intersection that concerned them when crossing by foot or bicycle. Respondents reported vehicle speed of vehicles approaching (69 percent) was a top concern followed by vehicles turning on a red light (47.9 percent), uncomfortable place to wait in the median (41.7 percent), and not enough time to cross (Figure 10c).

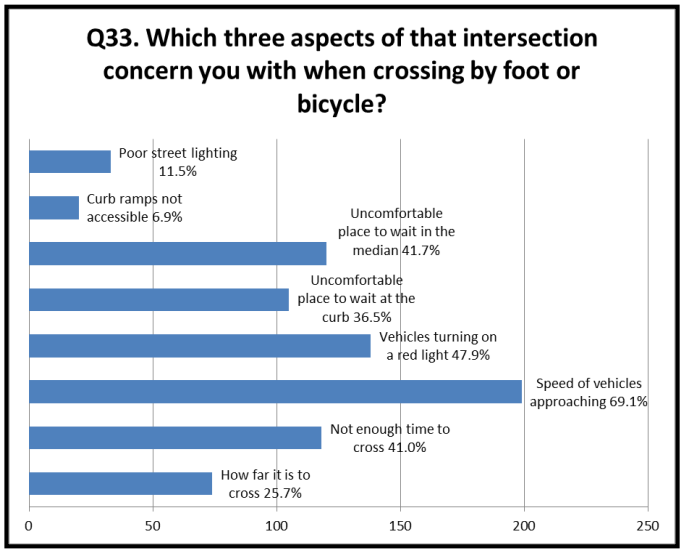


Figure 10c- Survey Question No. 33: Speed of vehicles approaching (69%). Reported as top concern for those crossing by bike or foot.

Q33. Which three aspects of that intersection concern you with when crossing by foot or bicycle?

Survey Comment:
"Lack of designated bike lanes. Semi-truck traffic and cars towing trailers take up too much space."

Literature Review

Intersection design features for pedestrians and bicyclists work to improve the street environment for both users. The research showed some specific design treatments for each mode of transportation that increased use and decreased the number of crash injuries.

A review of pedestrian and bicycle safety guidelines (such as, ITE *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (2010)* and *Boston Complete Streets Guidelines p.143 (2013))* on intersection design provides detailed guidance on three key components for increasing safety, convenience with minimal delay. The pedestrian safety measures described include lower motor vehicle speeds, narrower motor vehicle lane widths, reduced turning radii and traffic calming measures. Intersection features noted for pedestrian convenience and comfort include appropriate sidewalk widths, crosswalks that support pedestrian desire lines, street trees, buildings that front the street, pedestrian-friendly street lights, and street furniture like benches, public art and trash receptacles. The bicyclist safety needs also include lower motor vehicle speeds, narrower lane widths, reduced turning radii and traffic calming. Additionally, the bicyclist requires less exposure to potential conflicts with other road users. Street design features need to lessen exposure by the inclusion of dedicated space appropriate for the street environment, shorter crossing distances, signal design that accommodates bicycle speed and reduces conflict with other modes. Bicyclists also need an appropriate degree of separation from motor vehicles at intersections (such as: bicycle lanes, buffered bike lanes or cycle tracks). Features for bicyclist intersection convenience and comfort include good pavement quality, street surface materials that minimize vibrations, connections to other bikeways, wayfinding signs, and bicycle parking. The bicyclist design features for minimal delay include responsive traffic signals, bicycle detection, and direct routes across complex intersections.

Pedestrian Design Features

Research has shown that pedestrians are at greatest risk of injury when crossing intersections of arterial streets where vehicles are traveling 40 mph or faster.[xviii] At 40 mph, more than 80 percent of pedestrians die when hit by vehicles, while less than 10 percent die when hit by a vehicle traveling 20 mph or less. At signalized intersections, pedestrian safety is compromised by long crossing distances, short signal timing, median and islands without ramps or cut-throughs, curbs without curb ramps or level landings, pedestrian actuated signal devices that are difficult to activate or in hard to reach locations, and limited information during pedestrian signal phase[xix]. Studies show that a combination of slowing or "calming" traffic and the provision of pedestrian infrastructure reduces injuries for pedestrians and bicyclists. The U.S. DOT Federal Highway Administration (FHWA) Safety Program provides information on a number of intersection design features that are effective in slowing traffic and improving pedestrian safety. Design characteristics for improved pedestrian safety at signalized intersections include short crossing distances with more visible crosswalks and tight corner radii to slow speeds of turning vehicles. Design features should be appropriate for the street's environment and include signal timing, lane striping and built infrastructure. The best practice research literature on intersection design describes the use of three main physical features: 1) pedestrian refuge islands, 2) reduced curb radius, and 3) curb extensions. These features, along with related education and enforcement measures, have been shown to increase the pedestrian and bicyclist volumes at intersections, and reduce crashes. In addition, research has

found the routine presence of pedestrians at intersections has had a positive effect on the incidence of crashing[xx].

Pedestrian Refuge Islands

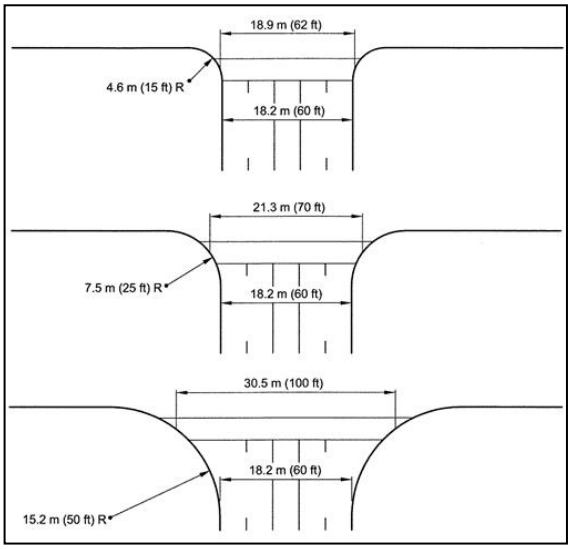
Pedestrian refuge islands (crossing areas) are raised islands placed in the street at intersection or midblock locations to separate crossing pedestrians from motor vehicles. They are also referred to as center islands, refuge islands, and pedestrian islands.[xxi] The installation of an island that is at least six feet wide can make the street crossing in stages more convenient. In addition, where there is a separated right-turn lane, a raised accessible pedestrian island is recommended. It should be designed to a size (at least 120 feet) to include accessible features that allow a pedestrian to wait in comfort.

Intersection with Sidewalk Curb Extension

The placement of pedestrian refuge areas at intersection marked crosswalks has been demonstrated by the FHWA to have a 46 percent reduction in pedestrian crashes. They have been shown to be especially effective at multi-lane intersections. The use of medians designed for pedestrian safety and comfort is a key feature for areas where there are a number of pedestrians, high traffic volumes (over 12,000 ADT) and intermediate or high travel speeds.

Reduced Curb Radius

The reduction of a curb radius lowers speed of right-turning vehicles and could reduce the rate of severe pedestrian injury in a collision due to lower vehicle turning speeds. A tighter curb radius also reduces pedestrian crossing distance.



From FHWA Chapter 9- A curb radius increase from 15' to 50' can increase pedestrian crossing distance from 62' to 100' causing increased pedestrian exposure to risk.

Sidewalk Curb Extensions

Sidewalk curb extensions reduce the pedestrian crossing distance and subsequent exposure to traffic can reduce the incidence of pedestrian and vehicle collisions. Curb extensions provide greater visibility between pedestrians and vehicles. Curb extensions can also reduce speeds of approaching traffic and reduce right-turning vehicle speeds.[xxii]

Bicycle Design Features

Intersection design features for pedestrians improve the safety for bicyclists as well. However research indicated some additional design considerations such as on-road marked bicycle lanes have a positive safety effect reducing injury rates, collision frequency or crash rates by about 50 percent compared to unmodified roadways.[xxiii]

Bicycle Lanes

Bicycle lanes are a portion of a street designed by striping, signage, and pavement markings for the designated use of bicyclists. The types of lane treatment to install depends on the street environment and surrounding land use. The bike lane width guidelines suggest lanes that are five to six feet wide.[xxiv]

Intersection Treatments

Intersection treatment features can include pavement markings and signage to direct bicyclists and other users on how to travel through the intersection. The design and placement of the features to create a comfortable and safe intersection design is dependent on the context of the street environment.

Roundabouts and Traffic Circles

Transportation studies have shown that the installation of roundabouts and traffic circles are effective at reducing traffic speed and crashes.

Roundabouts require traffic to circulate counterclockwise around a center island. They are used on high volume streets to assign right-of-way between conflicting traffic movements. They have been shown to reduce pedestrian and motor vehicle collision by 75 percent over the stop sign or signal-controlled intersection.[xxv] This treatment slows vehicle traffic and eliminates the potential for the most dangerous crash types- right-angle, left turn, and head-on collisions, because traffic moves in the same direction.

Example of a through bike lane in Lansing, MI.
Photo: League of MI Bicyclists

Traffic circles are raised islands that are placed in the intersections for traffic circulation. They are effective at calming intersections, especially within neighborhoods where the traffic is mainly local with limited large vehicles, but where vehicle speeds, volumes, and safety are problems. Traffic circles have, on average, seen an 11 percent decrease in the 85th percentile of travel speeds and an average of 29 percent decrease in crashes.

Best Practices – Columbia, MO and Seattle WA

In 2009, the City of Columbia, Missouri reconstructed a major commuter intersection of Providence Road and Steward Road to improve safety. The intersection connects a regional trail, numerous residential neighborhoods, and a university. The redesigned intersection has remodeled intersection geometry, crosswalk construction and signal timing. Traffic counts done between 2007 and 2010 showed a 19 percent increase in weekday walking and a 31 percent increase in weekday bicycling after the project was completed.[xxvi]

In 2011, the City of Seattle, Washington reconfigured the travels lanes on NE 125th Street to decrease speeding and collisions and improve bicycle and pedestrian access. The existing street had four lanes with sidewalks. The speed limit on the street was 30 mph but 87 percent of drivers were traveling over the speed limit and 16 percent were speeding at 40 mph or over. The Street reconfiguration project created two travel lanes, a middle travel lane, and bicycle lanes next to the sidewalk. After the lane reconfiguration project the City analyzed the data percentage of drivers speeding decreased by 11 percent and the percentage of speeding 10 mph over the limit decreased by 67 percent. After the project the rate of collisions and injury collisions declined by 10 and 17 percent respectively.[xxvii]

Cloquet Intersection Health Impact Predictions

Health impact predictions for the Cloquet Highway 33 and Cloquet Ave intersection based on the Community Survey results and review of the existing literature include:

- Lowering the speed limit to below 40 mph on Hwy 33 north of the intersection would reduce the potential for serious injury crashes for pedestrian and bicyclists crossing.
- Shortening the crossing distance segments to under 60' would increase the number of pedestrians and bicyclists utilizing the intersection.
- Increasing time allotted for pedestrian to cross time could encourage more usage from the whole population, especially seniors and those with mobility impairments.
- Design intersection radii so it requires a slower speed for turning motor vehicle traffic which would reduce the risk for serious pedestrian vs. vehicle crashes and injury.
- Inclusion of a raised, accessible pedestrian right turn island would increase visibility of pedestrian crossing and provide comfortable crossing for pedestrians.
- Inclusion of on-street bicycle lanes on Cloquet Ave would increase the number of bicycles utilizing the intersection.
- Redesigning the intersection could lead to more people getting physical activity and walking and bicycling along Cloquet Ave and through the historical district.

Cloquet Intersection Recommendations

Based on the findings, recommendations for the incorporation of bicycle and pedestrian infrastructure into street intersections are below for consideration by the respective responsible entities. Implementation should strive to achieve equitable outcomes for identified vulnerable populations.

4. When improvements to this intersection are being planned. The City and MnDOT should design the intersection for increased visibility and comfort for pedestrian and bicyclists crossing the intersection. Consider design features such as:
    a. Include pedestrian crossing facilities on the north and east sides of the intersection.
    b. Design intersection with reduced curb radii on the south corners on the intersection.
    c. On Cloquet Ave include pedestrian refuge island that provide a comfortable waiting area.
        i. Work to keep crossing distance length under 60 feet.
    d. Adjust pedestrian signal timing to allow for longer crossing time.
    e. Include bicycle facilities on Cloquet Ave and Hwy 33.

5. The City and MnDOT should partner to conduct a public process to improve the aesthetics adjacent to the intersection to alert approaching Highway 33 traffic of Cloquet Ave and the presence of pedestrian and bicyclists.

6. Include design features to increase safety, comfort and visibility for pedestrians and bicyclists at all intersections during street improvement projects.

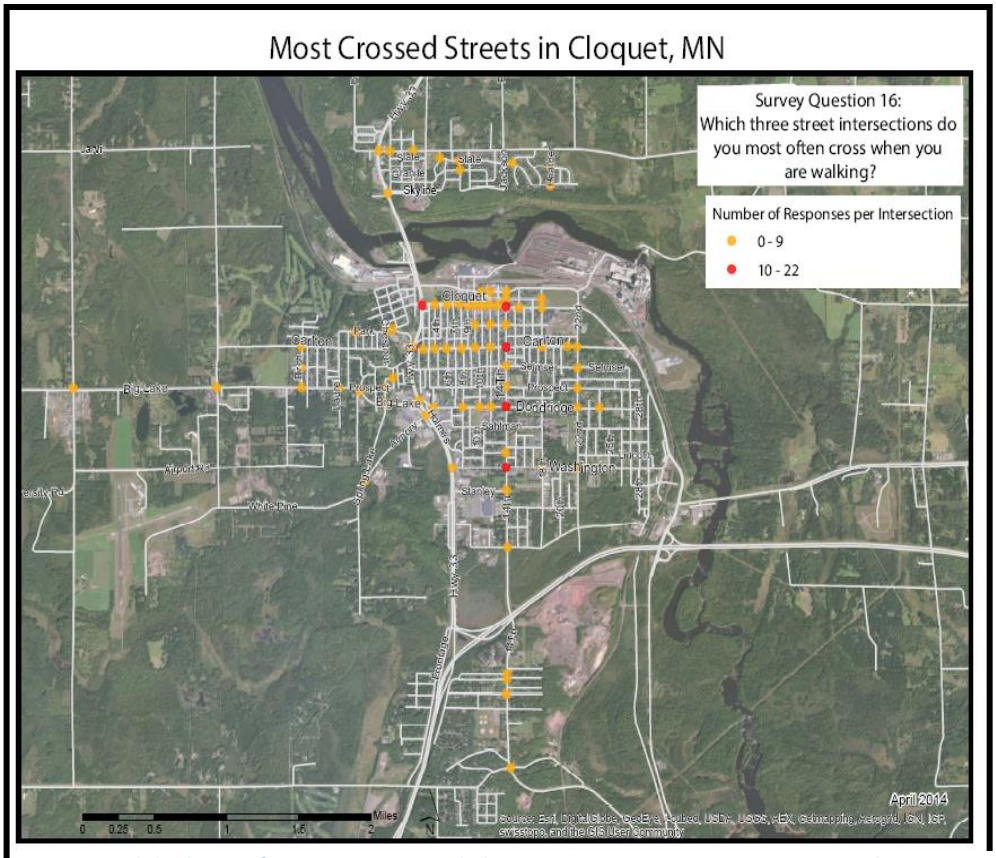


Figure 11- While the HIA focus on Hwy 33 and Cloquet Ave intersection, survey respondents indicated four other intersections were crossed often. These intersections would benefit from the recommendations.

Street Connectivity for Bicyclists along 14th Street

1. *How would a bicycle friendly street design (connectivity) affect crash/injury rates?*
2. *How will bicycle street connectivity reduce motor vehicle trips less than two miles?*

Existing Conditions – 14th Street

The U.S. Census (2010) shows the total population living within a half mile of 14th Street is 5,946 people. Within that population, 1,635 (27.5 percent) are children under the age of 18 years old and 968 (16.3 percent) who are over age 65. This indicates that almost half the City's population lives within walking and bicycling distance of 14th Street.

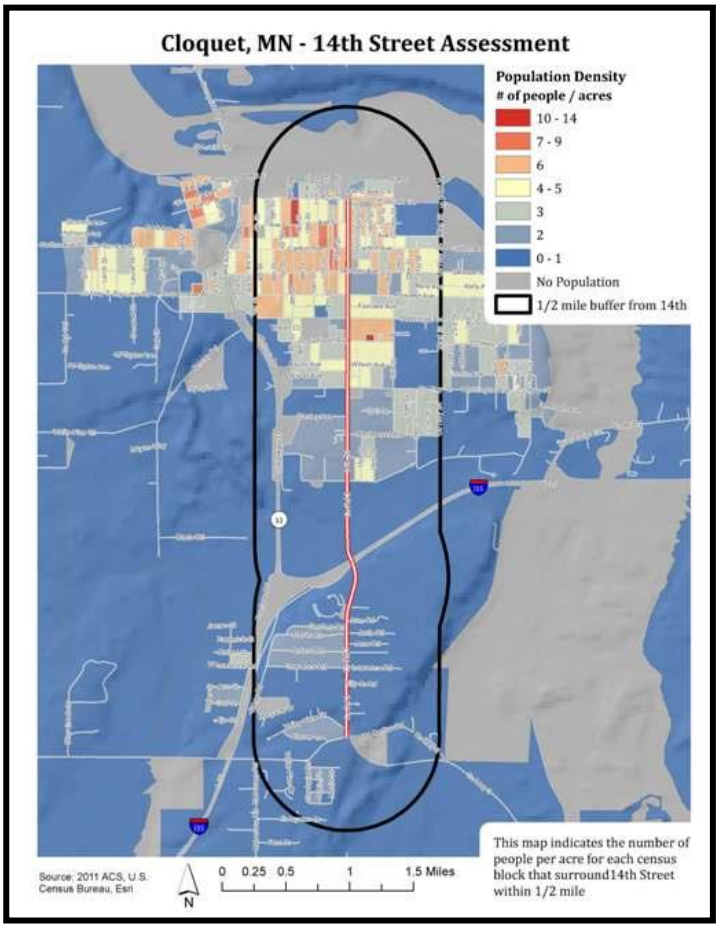


Figure 12- 5,946 people live within a half-mile of 14th Street.

The City of Cloquet's 14th Street is a north-south local street. At the north end of the street is Cloquet Avenue, which serves as the City's downtown "Main Street". The southern terminus of the street is Highway 45 in the City of Carlton. The street functions as a local connector with two lanes of traffic with a road shoulder adequate for vehicle parking. Sidewalks are present on both sides of 14th Street from Cloquet Ave to Prospect Ave. South of Prospect Ave sidewalks are present to Wilson Ave along the east side of 14th Street. The annual average Daily Traffic (AADT) count conducted by the Minnesota Department of Transportation (MNDOT) in 2010 reported between 1,500 – 7,000 vehicles using 14th St with the highest AADT between the approximately half mile section between Carlton and Doddridge Avenues.

14th Street is maintained by both the City and Carlton County. The City is responsible for maintenance of a half mile section from Cloquet Ave to Carlton Ave. The County maintains the street from Carlton Ave south to the street's terminus at Hwy 45.

The northern portion of the street maintained by the City, in proximity of Cloquet Ave is within the City's established gridded street system with city blocks approximately 400' long and a mix of land use; with both residential and commercial destinations adjacent to the street. The Cloquet Public Library and Cloquet School District Administration building are located along this section. The speed limit along this section of street is 30mph. South of Doddridge Ave, the City blocks are longer with the adjacent land use being predominantly

residential, with some multi-family housing and both an elementary and secondary school located within a few blocks of 14th Street and Doddridge Ave. South of Wilson Ave, the 14th Street corridor has low-density residential and industrial land uses with a section of wet land south of Tall Pine Lane. The wetland and wooded area extend around three quarters of a mile over Interstate 35 (I-35) to a residential area and Fond du Lac Tribal and Community College. In summer 2013, the bridge over I-35 was fitted with railings which meet the height requirement to allow for bicycle facility designation. Fond du Lac Tribal and Community College is approximately two miles south of Cloquet Ave on 14th Street. The speed limit is 50mph from Tall Pine Lane to southern terminus of I-35 bridge then changes to 30mph in the residential area. Along 14th Street south of the College, the adjacent land use is sparsely populated with woods and wetland areas until the street's terminus at Hwy 45.

Currently the street does not have designated bicycle facilities; bicyclists utilize the street's shoulder and maneuver around vehicles occasionally parked along it.

Community Survey Summary

The Community survey asked seven questions on bicycle connectivity and 14th Street (questions #34 - #40). The first question asked people if they lived on or within two blocks of 14th Street. The survey responses showed that 18 percent live near 14th Street and 82 percent live away from it. Respondents who lived near 14th Street were asked a series of follow up questions regarding what aspects of the street, if at all, improved their quality of life. The street attributes that improved quality of life for most respondents was the presence of sidewalks (48 percent). Other attributes included the presence of good lighting in the evening (32 percent), retail along 14th (13 percent), and on-street parking (9 percent). Respondents who reported that their life was not improved by living near or on 14th Street was 37 percent. People living on or near 14th Street were also asked about how the current 14th Street environment made their quality of life worse. The largest response to this question was nothing made life worse living on or near 14th Street with 37 percent. Aspects of the street that were reported to reduce quality of life for respondents included: narrow sidewalks (26.6 percent), no room for bikes (25 percent), always having to stop for cars (19 percent), poor lighting (18.8) and many driveways (8 percent).

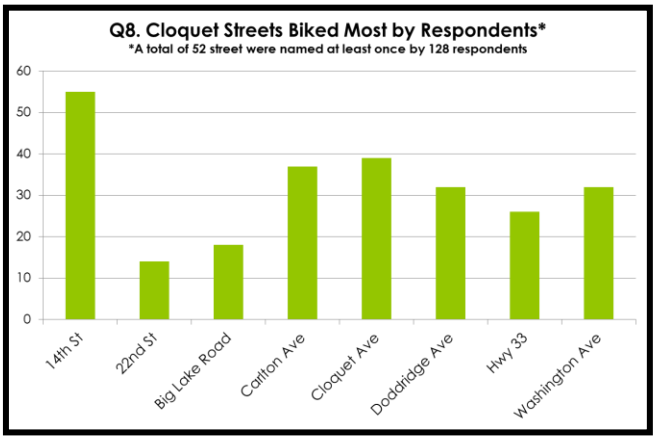


Figure 13- Survey Question No. 8: The top streets biked by survey respondents.

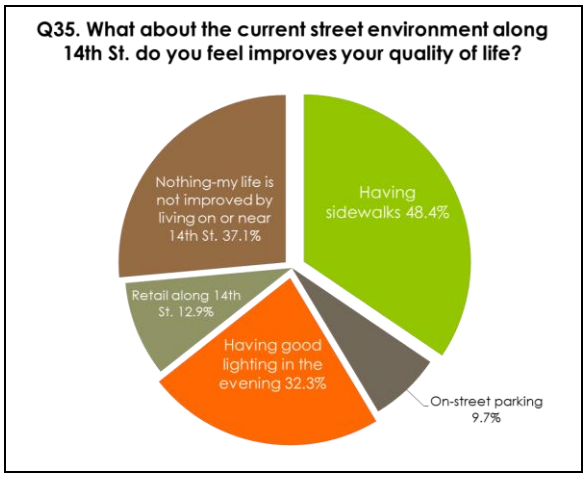


Figure 14- Survey Question No. 35: Current street environment reported along 14th Street.

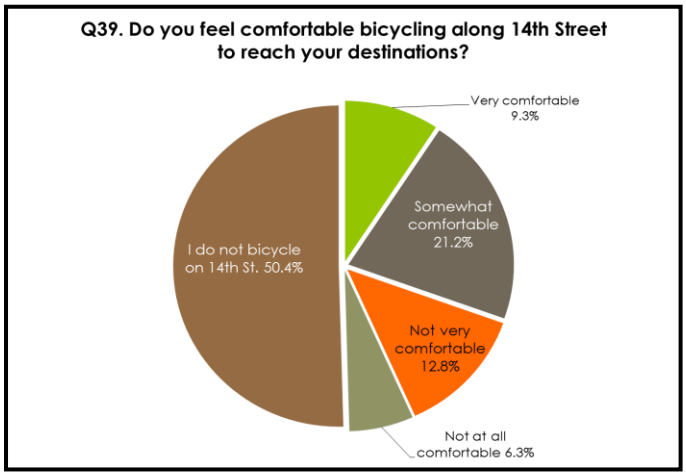


Figure 15- Survey Question No. 39: For respondents who bicycled, 21 percent felt somewhat comfortable riding on 14th Street.

The last four questions asked people to report on their current travel routine on 14th Street and their comfort level with bicycling on the street. More than three quarters (77 percent) of those responding to the survey report that they use 14th Street at least once a day. Individuals reported the two modes of transportation used most often on 14th Street to be their own motor vehicle (85 percent) and walking (26 percent). Bicycling as a mode of transportation was selected by 13 percent of respondents. Carpooling/ride sharing was reported by 13 percent of respondents. Public transit was reported as a mode of travel for seven percent of respondents.

Respondents were asked about their comfort level bicycling along 14th Street to reach their destinations. Half of the respondents reported that they do not bicycle on 14th Street. The respondents who did indicate bicycling on 14th Street, 30 percent reported feeling somewhat or very comfortable riding on the street. 19 percent of survey respondents reported feeling not very comfortable or not at all comfortable riding on the street. The final question asked people if designated space for bicycling along 14th Street (e.g. bicycle lane) would influence their decision to ride on 14th Street. Respondents reported almost a virtual tie, with 49 percent reporting designated bicycle facilities would influence their decision and 50 percent indicating it would not influence their decision to bicycle on 14th Street.

Survey Comment: "Designated and marked bike lanes along 14th street would be the single best improvement to trail connectivity and safety in Cloquet. It already is the natural link from Cloquet to Carlton and the Munger/Laveau trails, Jay Cooke State Park and points beyond. There are a lot of walkers, runners, and bikers already using 14th Street. It would provide safer options for students walk/biking to the college and to Hilltop Park and Braun Park."

Q41: If you do bicycle in Cloquet, where do you like to bicycle and why?

Survey Comment: "I ride near my home because there is not much traffic."

Comment #80 p. 110 (PDF)

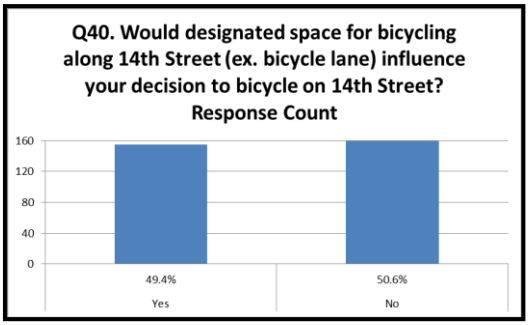


Figure 16- Survey Question No. 40: Almost half of the respondents reported bike lanes would influence their decision to bicycle on 14th Street.

Literature Review

Bicycle connectivity defined for this HIA literature and best practices review included the definition of bicycle network and connectivity factors. A bicycle network is a system of bikeways designated by a jurisdiction. A system may include bike lanes, bicycle routes, shared-use paths, and other identifiable bicycle facilities as appropriate for the street's environment and adjacent land use. The factors that contribute to the degree by which there is bicycle connectivity in a community include: bicycle user needs, overcoming barriers, traffic volumes, connections to land uses, route directness ,logical routes, intersections, aesthetics, spacing or density of bikeways, safety, security, and overall feasibility.

The current research has shown how bicycle friendly street design (connectivity) can affect crash and injury rates and the number of bicycle trips, which could reduce motor vehicle trips less than two miles. A number of studies highlight the degree by which connectivity factors affect a person's decision whether to bicycle.[xxviii] Community design features such as short street blocks, and key community destinations in proximity of home and work, support bicycling (and walking).

A study in the City of Minneapolis, Minnesota analyzed two street and bicycle trips before and after the redesign of two city streets (Bryant Ave and Franklin Ave). Both redesign projects included the provision of on-street facilities to improve bicycle connectivity. After evaluation, the City reported bicycle traffic increased 43 percent and the total number of vehicle crashes decreased, while traffic efficiency was maintained on those streets.[xxix] Additionally, the City's Public Works Department Bicycle and Pedestrian Section analyzed bike crash rates and the number of bicyclists from 2000-2010. The number of bike crashes dropped 20 percent while the number of cyclists increased 174 percent from 2003-2008.[xxx] The evaluation did not provide results on the topic of the street's improved bicycle connectivity reducing motor vehicle trips less than two miles.

On-Street Bike Facilities

On-street bicycle facilities are design features that designate an area of travel for bicyclists. Bicycle facilities design treatments include: paved shoulders, shared lanes, and bicycle lanes. The on-road bicycle facility and its design used on any specific roads depends on the traffic conditions and surrounding land use. Below are the main categories of on-street bicycle design treatments.

Paved Shoulders

Paved shoulders can be considered an on-road designated bicycle facility within more rural areas with lower traffic volumes. A paved shoulder width of at least 5 feet is recommended for safety.[xxxi]

Shared Lanes

As legal vehicles of roadways, bicyclists can utilize and share any road unless it is prohibited by law. Shared roads exist everywhere. The traffic conditions and width of the roads will determine a bicyclist's comfort and decision to ride on a road. Streets or roads with low traffic volumes and slower speeds are more comfortable conditions for a majority of bicyclists. The installation of signs along key routes can raise awareness for all road users that bicyclists are sharing and utilizing the road.

Bicycle Lane

Bicycle lanes are designated by striping, signage, and pavement markings. The lanes allow bicyclists to ride their own speed without interference from surrounding traffic conditions. Bike lanes assist with ensuring predictable behavior and movement from all street users. The main types of treatment include: conventional bike lanes, buffer bike lanes, contra-flow lanes, and left-side bike lanes.[xxxii]

Conventional Bike Lanes

Conventional bike lanes are striped and signed designated areas. The design and placement of lanes depend on the street conditions such as the presence of parking and water drainage.

Buffered Bike Lanes

Buffered bike lanes are conventional lanes with a designated striped space separating the bike lane from motor vehicle lanes and/or parking lane. The design has been used on streets with higher motor vehicle travel speeds and volumes and/or streets with high volume of truck traffic.[xxxiii]

Contra-flow Bike Lanes

Contra-flow bike lanes are designed to give designated space for bicyclists to ride in the opposite direction of motor vehicle traffic. The lanes are separated by a yellow lane and convert the street from one-way to two-way with one lane for motor vehicle and bike traffic and one for bicycle traffic only.

Left –sided Bike Lanes

Left sided bike lanes are designed like a conventional lane but placed on the left side of a one-way street or two—way median divided streets. The design is typically used on streets with higher motor vehicle speeds and volumes and/or high volumes of right -turning traffic or rush hour parking restrictions.

Bicycle Connectivity Predictions

Based on the assessment findings health impact predictions for bicycle connectivity include:

- Including on-street bicycle facilities such as a bike lane could increase the number of bicyclists utilizing 14th Street.
- If a bicycle facility such as a bike lane is present, vehicle speeds would reduce.
- If more bicyclists are utilizing 14th Street there would be a short-term increase in bicycle and vehicle crashes resulting in bicyclists being injured.
- If a bicycle lane is designated, it would improve the transportation options for residents living within ½ mile and therefore their overall mobility.
- Improving bicycle facilities would improve the physical activity opportunities for a majority of the City's residents, including those who live at a low-income apartment building within ½ mile of 14th Street.

Bicycle Connectivity Recommendations

The recommendations based on the assessment findings for bicycle connectivity along 14th Street include the following and are for consideration by the respective responsible entities. Implementation should strive to achieve equitable outcomes for identified vulnerable populations.

5. Install a bicycle lane on both sides of 14th Street with intent of creating a bicycle network incorporating the most bicycled streets, within the City's urban core (approx.. five square miles), to support bicycle trips under two miles.
    b. Develop a Cloquet bicycle network map

6. Routinely maintain bicycle lanes – remove debris and gravel to reduce bicycle crashes and injury.

7. Work with partners to provide outreach and education about bicycle laws and for the safety of all road-users.

8. Include bicycles (and pedestrians) during routine traffic counts on 14th Streets.

Sidewalk Snow Removal

1. *How has implementation of a fine for lack of snow removal ordinance in other cities and communities impacted sidewalk snow removal?*
2. *How have cleared sidewalks promoted physical activity?*

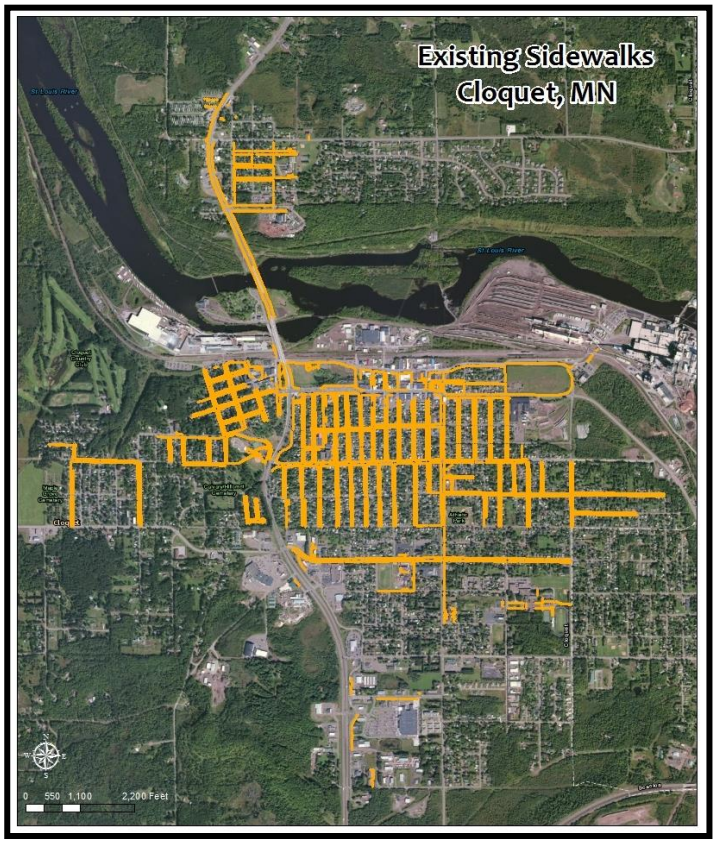


Figure 17- Existing Sidewalks in Cloquet, MN

Existing Conditions

The City of Cloquet is 36 square miles and has both urban and rural characteristics. The urban area is within the City's central area (approximately five square miles) and includes a 145 mile sidewalk network and the highest population density. This central area of the City includes the downtown, schools, City parks and residential areas including four multi-unit residential housing facilities.

The City of Cloquet does not have a policy or ordinance requiring property owners to clear snow from their sidewalks. The City's current practice is to encourage property owners throughout the winter months to clear snow from adjacent sidewalks. Within the downtown area along Cloquet Ave, the City will remove snow from the sidewalks with snowplows once property owners have shoveled the snow on the streets to the street's curb edge. The majority of sidewalks, however, are not cleared which has previously resulted in access barriers and unsafe conditions as residents are forced to walk in the street. During the winter of 2013-2014, the City piloted snow removal on sidewalks designated as routes for students walking to school.

Q22: Are there specific sidewalks that you have noticed remain uncleared during the winter? If so, please list them.

	Street	Streets From	Streets To
1		Cloquet Ave	Carlton Ave
2		Wilson Ave	Washigton Ave
3	Carlton Ave	12th St	14th St
4	Carlton Ave	14th St	19th St
5	Carlton Ave	14th St	Hwy 33
6	Carlton Ave	16th St	Cloquet Ave
7	Doddridge Ave	22nd St	14th St
8	Doddridge Ave	14th St	Carlton Ave
9	Doddridge Ave	14th St	8th St
10	Doddridge Ave	18th St	22nd St
11	Doddridge Ave	Hwy 33	22nd St
12	14th	14th St	Cloquet Ave
13	14th St	Selmser Ave	Doddridge Ave
14	14th	Doodridge Ave	Carlton Ave
15	14th St	Ave B	Stanley Ave
16	14th St	Carlton Ave	Cloquet Ave
17	Park Ave	Chestnut St	Laurel St
18	Park Ave	Maple St	Chestnut St
19	22nd	Selmser Ave	Carlton Ave
20	Stanley Ave	Hwy 33	14th St
21	11th St	Carlton Ave	Cloquet Ave
22	12th St	Carlton Ave	Cloquet Ave
23	13th St	Carlton Ave	Cloquet Ave
24	Cloquet Ave	12th St	10th St
25	Cloquet Ave	18th St	Hwy 33
26	Hwy 33	Clqouet Ave	Skyline Blvd
27	Hwy 33	Cloquet Ave	Pinehurst Park
28	Hwy 33	Cloquet Ave	North Cloquet Rd

Figure 18- Survey Question No. 22: Identified specific sidewalks noted to not be of snow.

Community Survey Results - Access and Mobility

The Community Survey asked ten questions regarding sidewalk snow removal and winter pedestrian access and mobility (questions #18 - #27). The first question asked people if they were able to clear snow during the winter for pedestrian access. The survey responses show that 48 percent were able to clear snow, while 21 percent reported being partially able to clear snow from sidewalks and 17 percent reported that their property manager/landlord

cleared the snow. Those who reported not being able to shovel were nine percent of the respondents and three percent reported that they did not have sidewalks.

The survey asked a follow up, open-ended question for respondents who reported not being able to clear snow at all or partially and asked about the barriers for clearing snow. The question resulted in 35 comments which were categorized into five common barriers: 1) Heavy and hard to shovel snow, 2) Plowed snow covers sidewalks, 3) Unable to shovel, 4) Try to shovel but not effective (snow is too heavy and/or icy to move or there is too much snow), and 5) No sidewalk.

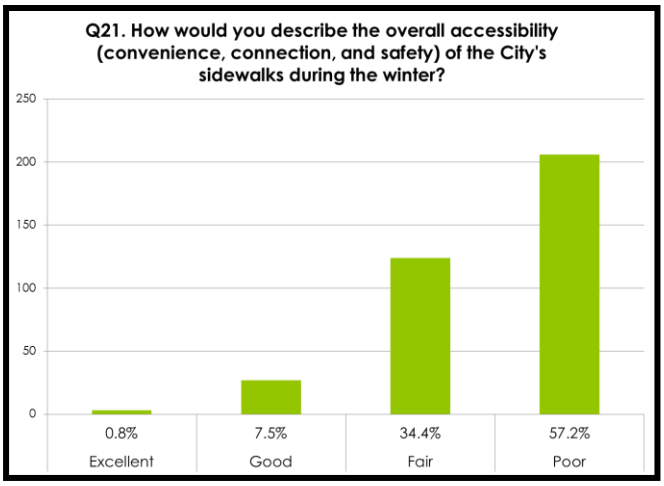


Figure 19- Survey Question No. 21: Over half the survey respondents reported the sidewalks in poor condition.

The survey asked people to rate the overall condition of Cloquet sidewalks. The majority of respondents (58 percent) rated the sidewalk system in fair condition followed by 20 percent of the respondents rating the sidewalks in good condition and 19 percent reporting poor conditions.

The survey asked about the overall accessibility (convenience, connection, and safety) of the City's sidewalk system during winter. The majority of people, 57 percent, reported poor winter accessibility and 34 percent rated the accessibility as fair. A small percentage, seven percent, reported good accessibility.

Respondents were asked to list specific sidewalks that they notice remain unclear of snow during the winter; they provided 126 comments.

> "75% of ALL sidewalks in Cloquet are uncleared of snow making going places difficult"
>
> Comment #11, p 76 (PDF)

The survey asked people if cleared sidewalks in the winter would influence their travel decision to walk to local destinations more often. A similar percentage of respondents reported that cleared sidewalks (29 percent) or partially (29 percent) would influence their decision to walk to local destinations. About a quarter (25 percent) of respondents reported that cleared sidewalks would not influence their decision and 16 percent of respondents were neutral on the question.

People were asked if uncleared sidewalks prevented them from traveling to places they needed to go. Survey responses to this questions reported that 60 percent were not prevented from going places while 40 percent of respondents were prevented from traveling to needed places because of unclear sidewalks. A follow up question asked if cleared sidewalks in the winter would improve

> … "I am especially concerned about the walks on the streets where school kids need to walk. However, there are lots of people who walk, and they become a hazard when they are forced to walk on the street when the walks aren't cleared or are very icy."
>
> Comment # 62, p 78 (PDF)

their mobility (ability to move freely or easily) around the Cloquet area. The majority of respondents, 40 percent, reported that cleared sidewalks would improve mobility. A slightly smaller percentage of respondents, 37 percent, reported it would partially improve their mobility and 22 percent of respondents said it would not improve their mobility.

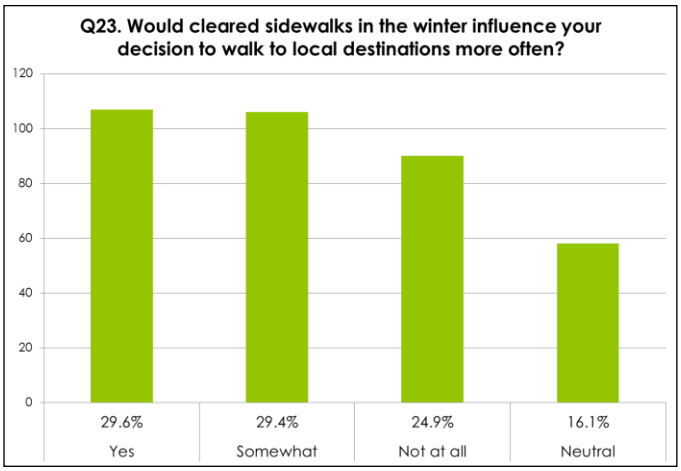


Figure 20- Survey Question No. 23: Over half of the respondents indicated cleared sidewalks would influence their decision to walk.

The final series of questions asked about how a snow removal ordinance would influence the public's decision to clear sidewalks in front of their homes. The majority of respondents, 41 percent, indicated they do not have sidewalks. However, for those respondents with sidewalks, 32 percent reported that their decision would be influenced by a snow removal ordinance and 21 percent said their decision to clear sidewalks would not be influenced by an ordinance. A small percent indicated that their property manager/landlord would be responsible for snow clearing and therefore would not be influenced to clear the snow with the presence of a snow removal ordinance. The aforementioned question also solicited additional open-ended comments. Respondents provided 56 comments which were categorized into six themes: 1) Twenty-one comments on the ordinance not influencing decisions, 2) Seventeen comments on miscellaneous topics, 3) Seven comments on people unable to shovel, 4) Five comments on how an ordinance would influence their decision, 5) Four comments on tax implications to an ordinance, and 6) Two comments about the enforcement of the ordinance.

When asked: "Would a City of Cloquet snow removal ordinance, requiring homeowners to clear sidewalks or risk a fine, influence your decision to clear sidewalks, or get them cleared, in front of your home?"

Survey Response: "Some home owners are not able to clear their own due to health and adding fines to their situation is unfair. They are usually on fixed incomes and may already pay some to do their drive ways and a fine would be just one more added expense they can't afford. For those that would clear and, do now clear their own, when they finish then the plow comes along and undoes all their work.."

Comment #39, Q 26, p 91 (PDF)

The survey asked a follow-up question to those respondents who answered that they would not be influenced to clear snow with the presence of an ordinance. The question received 59 comments which were categorized into three common themes; 1) No sidewalks in front of house, 2) Unable to physically clear snow, and 3) Landlord currently clears snow from sidewalk.

Literature Review

The FHWA *Guidance for Maintaining Pedestrian Facilities for Enhanced Safety* documented best practices in snow and ice removal to allow for safe and accessible passage for pedestrians. FHWA cites the common challenges to pedestrian travel after snowfall include street plowing that pushes snow onto sidewalks or blocks crosswalks, blocks drains that create puddles at the curb ramps, patches of ice that are slipping hazards, and stretches of snow and ice covered sidewalk. These challenges were reiterated by the Cloquet Community survey respondents.[xxxiv] The FHWA ADA Guidelines for the Public-Right-of-Ways specify that sidewalks have 48 inches of clear passageway.

Cities with Property Owner Snow Removal Ordinances

Research on six small city snow removal ordinances within Minnesota showed a common municipal snow removal policy places the responsibility for sidewalk snow removal on the property owner adjacent to the sidewalk. Ordinances state the property or homeowners responsibility to remove snow from all sidewalks next to his/her residence within a stated time period (for instance 12 hours) and when the time period begins (i.e. after snow stops falling in the daytime, and before 1pm when the snow has fallen during the night). Along with snow, municipal ordinances usually address the clearing of ice off sidewalks and when it needs to be cleared. Some ordinances specify ways to remove ice such as using an ice-melting substance .There are two main enforcement measures utilized by cities including: 1) a warning of noncompliance then followed by a fine to the property owner, or 2) a warning and then city workers remove snow and either bill for the work completed or assess the property owner for amount specified within the ordinance. Enforcement of a snow removal ordinance in small cities are typically prompted if a city receives a complaint about uncleared sidewalks. Another sidewalk access barrier that is not addressed by a municipal snow removal ordinance are the sidewalks which abut vacant lots, and property and street corners.

> When asked: "What gets in the way of you clearing your sidewalk?"
>
> Survey Response: "the snowplow puts more snow on the sidewalk and I cannot keep it clear."
>
> Comment #27, Q 19, p 74 (PDF)

In the City of Cambridge, Minnesota (Population: 8,217, Sidewalks: 34 miles) the municipal sidewalk snow and ice removal ordinance places the responsibility of snow removal on the property owner. The City ordinance includes a $50 fine for unshoveled or icy sidewalks. A phone interview with City of Cambridge Planning staff provided an explanation of ordinance enforcement implementation. The City typically enforces the ordinance upon the receipt of a complaint. During the winter of 2013, large amounts of snow prompted the City to actively enforce the ordinance (Westover M. personal communication June 24, 2014). The result was a few property owners complied and cleared snow but many property owners did not or were not able to which kept

the sidewalks inaccessible. Additionally, most of the home owners issued warnings and then fines did not pay them. This was due to homeowners not receiving the warning which had been positioned by City staff on their front doors. However, homeowners frequently don't use the front door in the winter opting for the back door closer to their garage or car parking area. The City plans to reevaluate the snow removal enforcement program to increase future compliance.

The FHWA *Guidance for Maintaining Pedestrian Facilities for Enhanced Safety* reports the most effective snow removal enforcement programs treat snow removal enforcement much like parking enforcement: violators are promptly ticketed, and failure to pay the initial fee results in additional penalties. The procedures for enforcement are performed by parking officers, police, or inspectors.

City Shares Public and Private Snow Removal Responsibilities

Another municipal snow removal program studied includes a snow removal ordinance with property owner responsibility for clearing and in addition there are sections of sidewalk the municipality will clear.

In the City of Maynard, MA (Population: 4,239, Sidewalks: 11 miles) the City clears sidewalks along the main walking routes to school, along downtown streets, and in the areas not abutting private property. The City requires home and property owners to clear the adjacent sidewalks within 24 hours of a snow event. The City snow removal ordinance states homeowners are responsible for snow plowed onto the sidewalk from the street.

This snow removal program uniformly clears the sidewalks on streets that are connections to important local destinations and consequently are along streets which carry more traffic. Snow removal from these sidewalks provides better accessibility and keeps pedestrians from walking in the street close to faster moving vehicles.

City Removes Snow from All Sidewalks

The final municipal snow removal program studied was in cities which plowed the sidewalks within the jurisdiction.

The City of Burlington, VT (Population: 40,000, Sidewalks: 150 miles) has a property owner snow removal ordinance however the City's Public Work's Department Snow Fighting Program clears the snow from all the sidewalks. The program plan is detailed with nine plowing routes clearing all 150 miles of sidewalk. The snow removal plan outlines different procedures depending on the storm event. The City pays extra attention to the downtown area and around the schools which includes crossing guard locations. Sidewalk snowplowing begins around 4:00am and takes between seven and eight hours to complete all the routes once. The City has 13 sidewalk plows, which serve other purposes during the year. Burlington's program is highly effective in providing uniform and more equitable pedestrian access all winter allowing residents improved access and mobility.

Sidewalk Snow Removal Predictions

Based on the Cloquet community survey and best practices review, health impact predictions for snow removal include:

1. The introduction of a City snow removal ordinance would have some influence on residents however sidewalks might not be cleared uniformly.
2. An ordinance combined with active enforcement measures may slightly increase the number of residents who clear their sidewalks.
3. The implementation of a fine for the lack of snow removal would negatively impact identified vulnerable populations and those unable to shovel.
4. Cleared sidewalks would increase accessibility and mobility for residents and increase their ability to walk.

Sidewalk Snow Removal Recommendations

Recommendations for sidewalk snow removal are below for consideration by the respective responsible entities. Implementation should strive towards equitable outcomes for identified vulnerable populations.

4. Develop a municipal sidewalk snow removal program to clear the streets and sidewalks to allow for accessible and equitable mobility within town that meets ADA requirements.

5. Work with MnDOT to coordinate snow removal along Highway 33 sidewalks.

6. Prioritize sidewalk snow removal from sidewalks that are along streets with high residential density and along streets that connect to necessary destinations (i.e. schools, public buildings, health care, and grocery stores).

Monitoring Plan

The HIA Team, with input from the Update Advisory committee, developed a monitoring plan which is meant to track physical activity health indicators and the implementation of the HIA recommendations. The plan outlines the data to be collected, timeline and the party responsible for collection and analysis. Future monitoring will allow for the tracking of health indicators and changes that impact health. Data to be routinely collected and monitored includes: 1) City and MnDOT crash data, 2) Bicycle/Pedestrian Counts, 3) Resident/Community Survey, 4) Total miles of bicycle facilities, 5) Physical activity rates, 6) Vehicle speeds, 7) Number of vehicles on the road, and 8) Percentage of sidewalks cleared. The following is the detailed monitoring plan.

Indicator	What needs to be monitored/how	Who Follow Up	How Often	Reported out publicly
City Crash Data	Annual Stats	City Engineer	Annually	City Council Report
MN DOT Crash Data	Annual Stats	City Engineer	Annually	City Council Report
Bicycle/Pedestrian Counts	Number of Bicycles/Pedestrians on designated roadways/sidewalks As needed based on project (requests from organization heading up project)	Now - Public Health through SHIP, Future - requesting organization	Summer (project specific, and/or trend) and Winter (as related to snow shoveling)	Yes - City Council, County Engineer, MN DOT as needed
Resident/Community Feedback	Intersection Data Bicycling Data Snow Shoveling Data Adjust/Add questions as needed	City and Public Health Partnership	Every two years	Yes - summary report out to public, with full results available
Total miles of bicycle facilities	Database of miles and map of locations	ARDC - initial database and map, then pass to City to maintain	Update Annually	City Council, Newspaper promotion of new trails/links
Physical Activity Rates	Bridge to Health, Minnesota Student Survey	Public Health	Every three years	Yes - City Council
Vehicle Speeds	Project and concern based	MN DOT - authority for speed zone set-up City - counters, radar speed sign	Speed Audits (MNDOT - as requested) Speed monitoring (City - as requested)	Available publicly, results given to person/group concerned, police notified
# of vehicles on the road	AADT Stats Impact on primary bike/ped zones	MN DOT and City	MNDOT performs traffic counts every four years. City can perform counts more often (location-specific) and for specific zone bike/ped impacts	Available on MN DOT's website, but no promotion Data used in community meetings, retail, etc.
Percentage of sidewalks cleared	Key locations (safe routes, main bike/ped routes, etc.)	City, resident reports	24 hours after storm, 48 hours after storm Interim policy to determine comparison data to prior years	Newspapers, City Website, etc. (based on potential policy)

Figure 21- HIA Monitoring Plan.

Evaluation

Evaluation of the HIA process and its impact is important for the advancement of HIAs as a decision-making method and provides valuable information on successes and lessons learned.

Process Evaluation

The Cloquet HIA evaluation process included a self-evaluation by the HIA and Transportation Update team members. The HIA and Update Advisory Committee (UAC) members participated in the process evaluation by completing an online survey.

Did the HIA meet its intended purpose?

The Team agreed that the HIA did meet its purpose of providing an opportunity for a discussion on health and transportation and offered information and recommendations for inclusion in the Update.

Overall thoughts on the HIA process?

The Team members agreed the HIA was helpful in initiating a local discussion around transportation and health by leading the community into a different way of thinking about transportation planning using the HIA process. The concurrent Update and HIA processes use of one advisory committee introduced more discussion on health topics related to the transportation update process. The HIA emphasis on community engagement increased the diversity of community member engaged in the process. The community survey provided more public input then traditionally received during a Transportation planning process. The team found the scoping step was critical to create research questions that meant the needs of the decision-makers and community. The technical assistance provided by the Human Impact Partners staff was invaluable to the HIA Team in ensuring each step was properly organized and completed. A limitation of the project was the one year timeframe. It was not long enough for the Team, UAC members and the community to become familiar enough with HIA process perspective to offer fully-informed comments. The team thought in retrospection, an 18 month process would have been ideal.

What challenges or barriers did the HIA encounter?

The main challenge encountered by the HIA Team was simultaneously working to become proficient in the HIA scientific method while leading the Cloquet HIA process and trying to teach the concepts to the UAC so they could provide well-informed input during each step. In addition, it was a challenge to compile sufficient data to form solid predictions within the Transportation Update process schedule to allow for the timely reporting of recommendations to the UAC.

Did the HIA meet the HIA minimum Elements and Practice Standards?

Overall we met the HIA minimum Elements and Practice Standards. We conducted a HIA within a timeframe to provide information to the decision-making body. We engaged the identified vulnerable stakeholder population and other interested community members. The assessment scope included areas of concern for community members that met the capacity and timeline of the HIA process. We collected baseline data as well as

researched secondary data to form predications. Recommendations were presented to makers as well as the monitoring plan.

UAC Member Survey Responses

The HIA Team asked UAC members to participate in an online survey after the process was completed. Six UAC members took the survey out of the 14 members contacted. A summary of the evaluation survey results are below.

1. *"What was your level of knowledge of HIA prior to and then after participating in the project?"*
   Most UAC survey respondents indicated having none or limited prior HIA knowledge. After participating in the process individuals reported having some or greater knowledge of HIA.

2. *"How satisfied were you with the process and what did you learn?"*
   Individuals reported a range of satisfaction with the process. Half of the respondents were satisfied with the remaining either somewhat satisfied or unsatisfied with the HIA process. Three comments were provided on the increased awareness how health is impacted and city design plays a role.

3. *"Do you think a HIA was an effective tool for this project? Why or Why not"*
   In general survey respondents reported the HIA was an effective tool in that it helps decision-makers think about how a transportation system may have health consequences. However it was noted the process required additional staff and resources to conduct.

4. *"What challenges and benefits do you see with this HIA?*
   Survey respondents noted the challenges seen with this HIA process included limited public engagement. Implementation of the HIAs recommendation would be a challenge due to the cost and the existing community structure. The benefits reported by respondents included new community connections were made during the process. One individual reported its raised awareness about how current projects are proposed and all the impacts.

5. *"Would you participate in this process or recommend this to someone else? Why or Why not"*
   Most of the respondents indicated they would participate in another HIA process or recommend the process to someone else. Individual comments included that the process was educational and a noted desire to conduct more HIAs on future projects if a HIA's timeframe fit a project being proposed.

Impact Evaluation

The Cloquet Transportation Section Update was impacted by the Cloquet HIA by the introduction of health topics and more community engagement opportunities. The additional engagement provided input which would not have been part of the Update otherwise. There is potential now for health to be considered by City staff and the Planning Commission in the future as the Transportation Plan is implemented.

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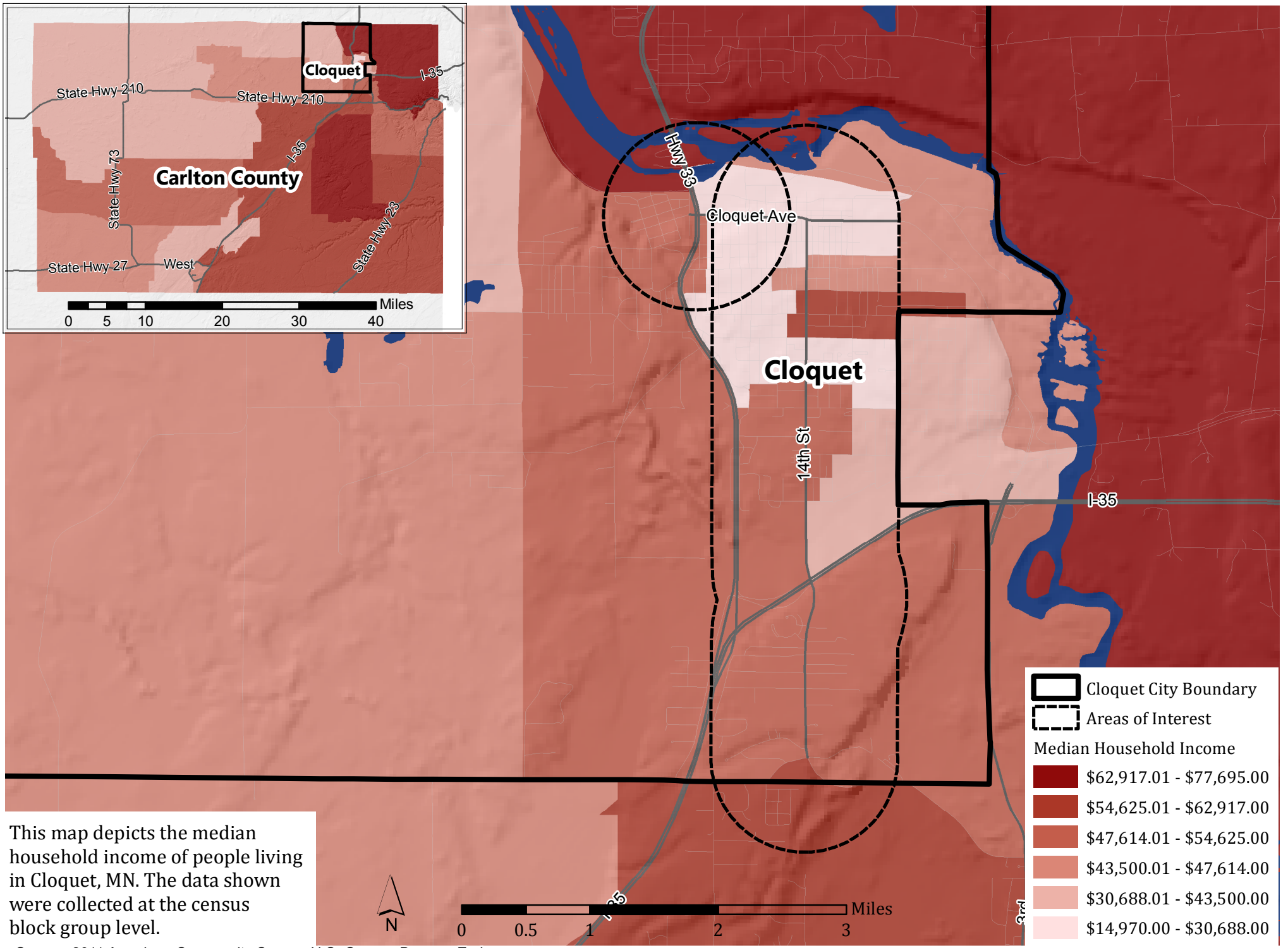
Appendix A: Maps

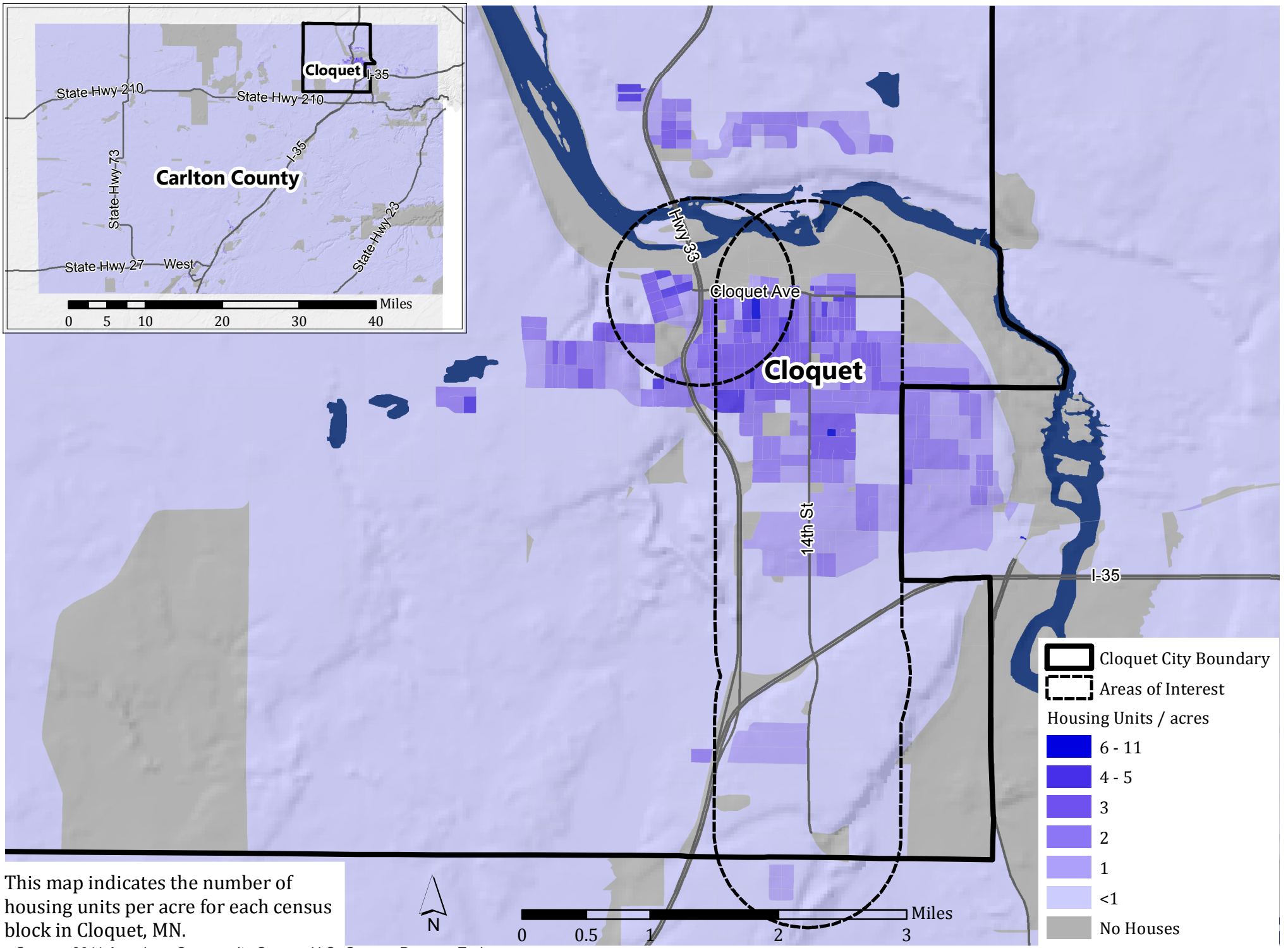
Cloquet, MN - 2011 Median Household Income



This map depicts the median household income of people living in Cloquet, MN. The data shown were collected at the census block group level.

Source: 2011 American Community Survey, U.S. Census Bureau, Esri

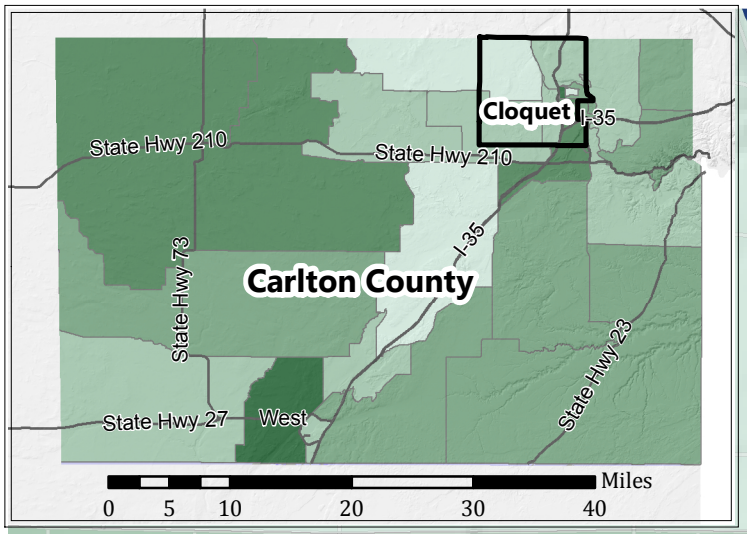
Cloquet, MN - 2010 Number of Houses Per Block



This map indicates the number of housing units per acre for each census block in Cloquet, MN.

Source: 2011 American Community Survey, U.S. Census Bureau, Esri

Cloquet, MN - 2011 Population Over Age 60



Hwy 33
Cloquet Ave
Cloquet
14th St
I-35
3rd

Cloquet City Boundary
Areas of Interest
Percent of people over 60
12% - 14%
15% - 19%
20% - 24%
25% - 28%
29% - 35%

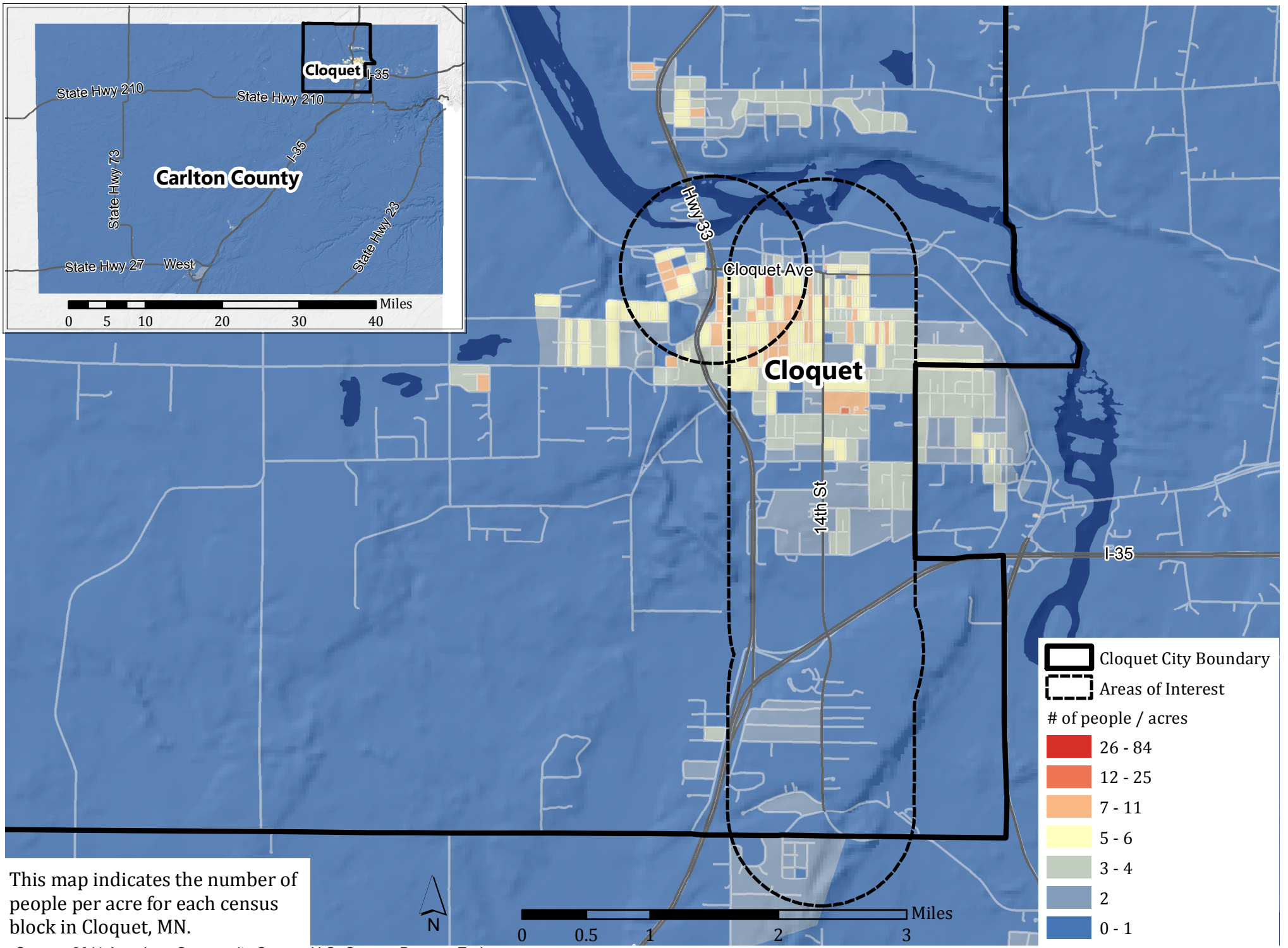
N

0 0.5 1 2 3 Miles

This map depicts the percentage of people over age 60 living in each census block group.

Source: 2011 American Community Survey, U.S. Census Bureau, Esri

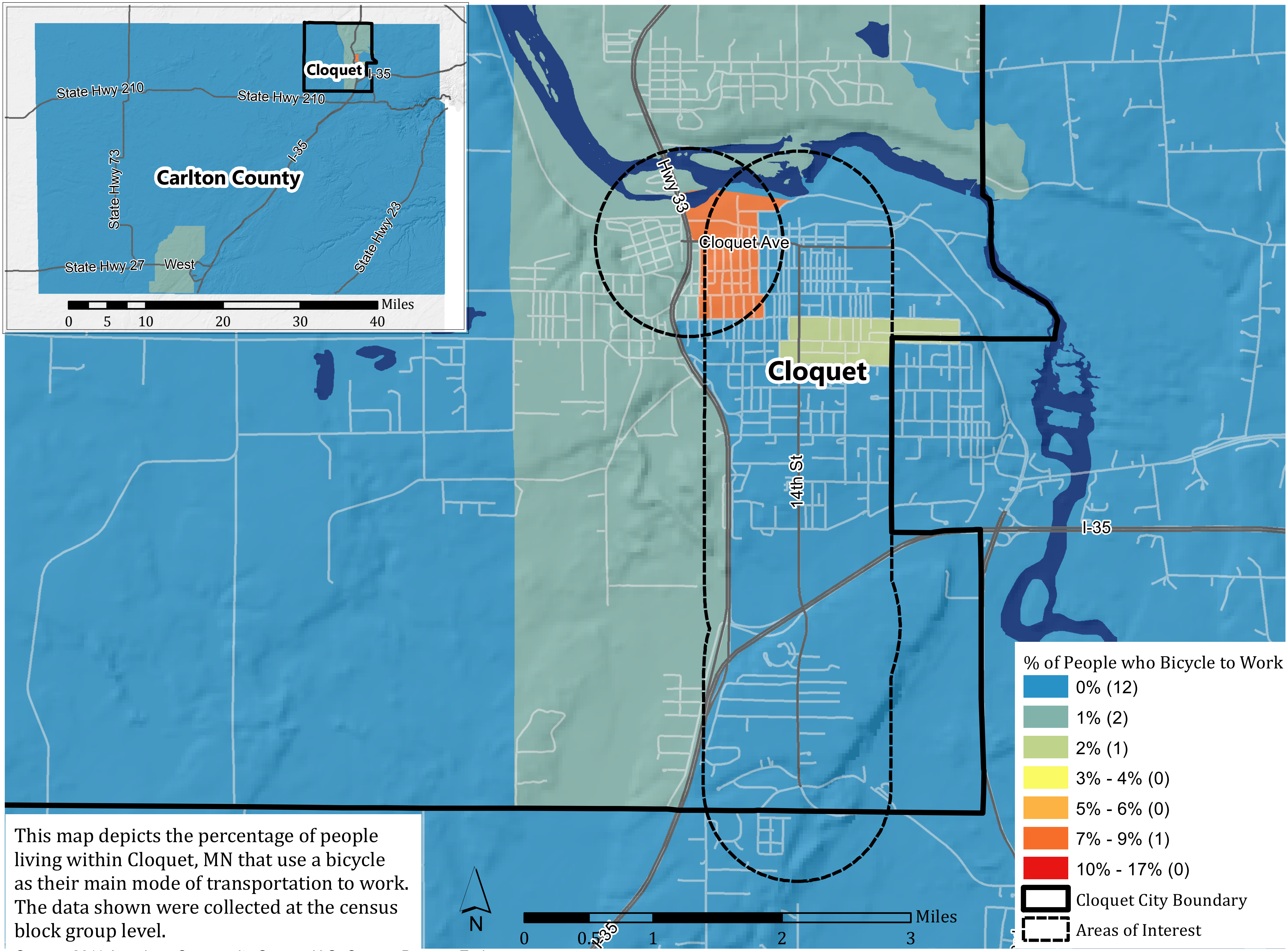
Cloquet, MN - 2010 Population Density



This map indicates the number of people per acre for each census block in Cloquet, MN.

Source: 2011 American Community Survey, U.S. Census Bureau, Esri

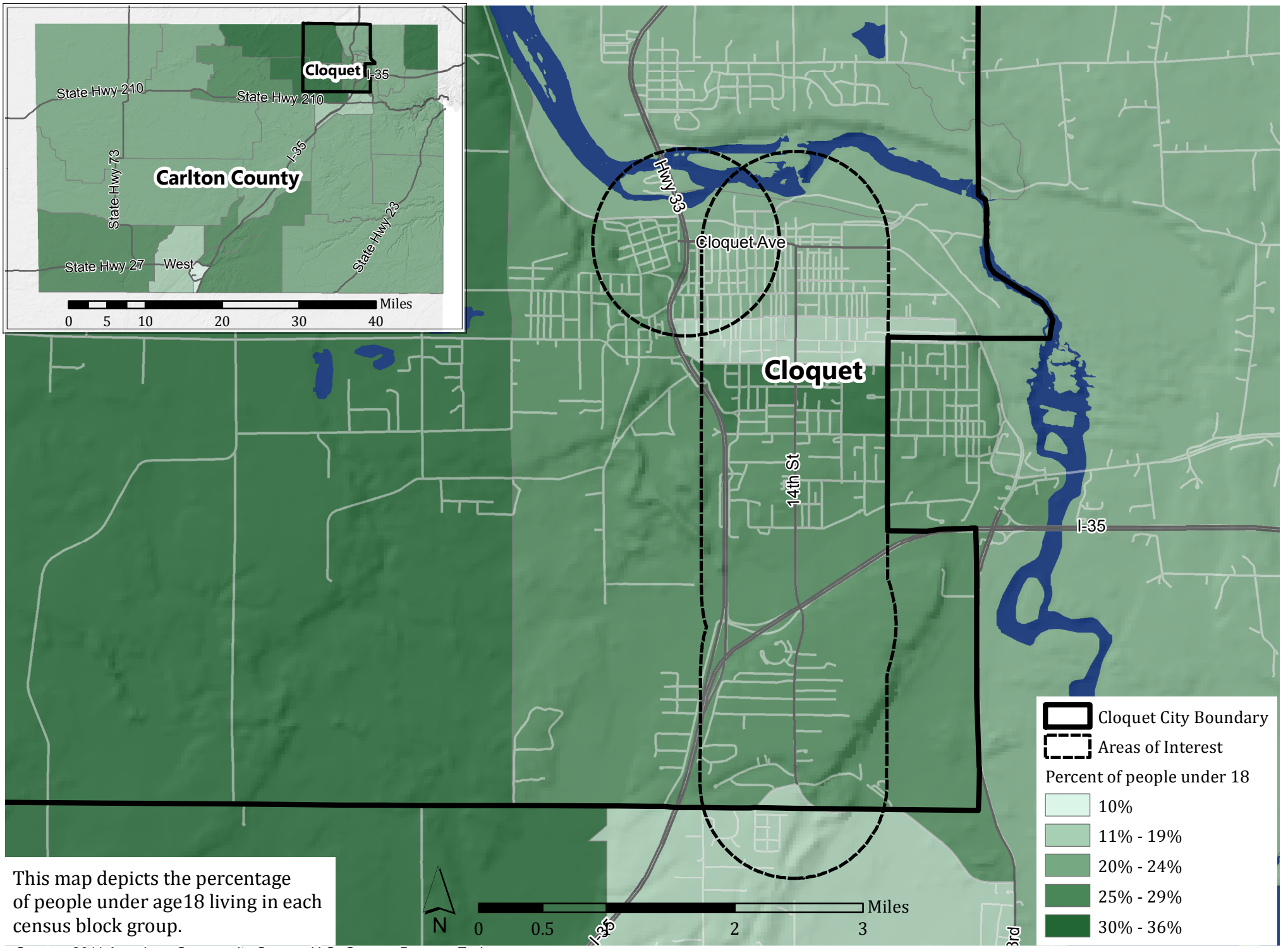
Cloquet, MN - 2011 Percent of People Who Bike to Work



This map depicts the percentage of people living within Cloquet, MN that use a bicycle as their main mode of transportation to work. The data shown were collected at the census block group level.

Source: 2011 American Community Survey, U.S. Census Bureau, Esri

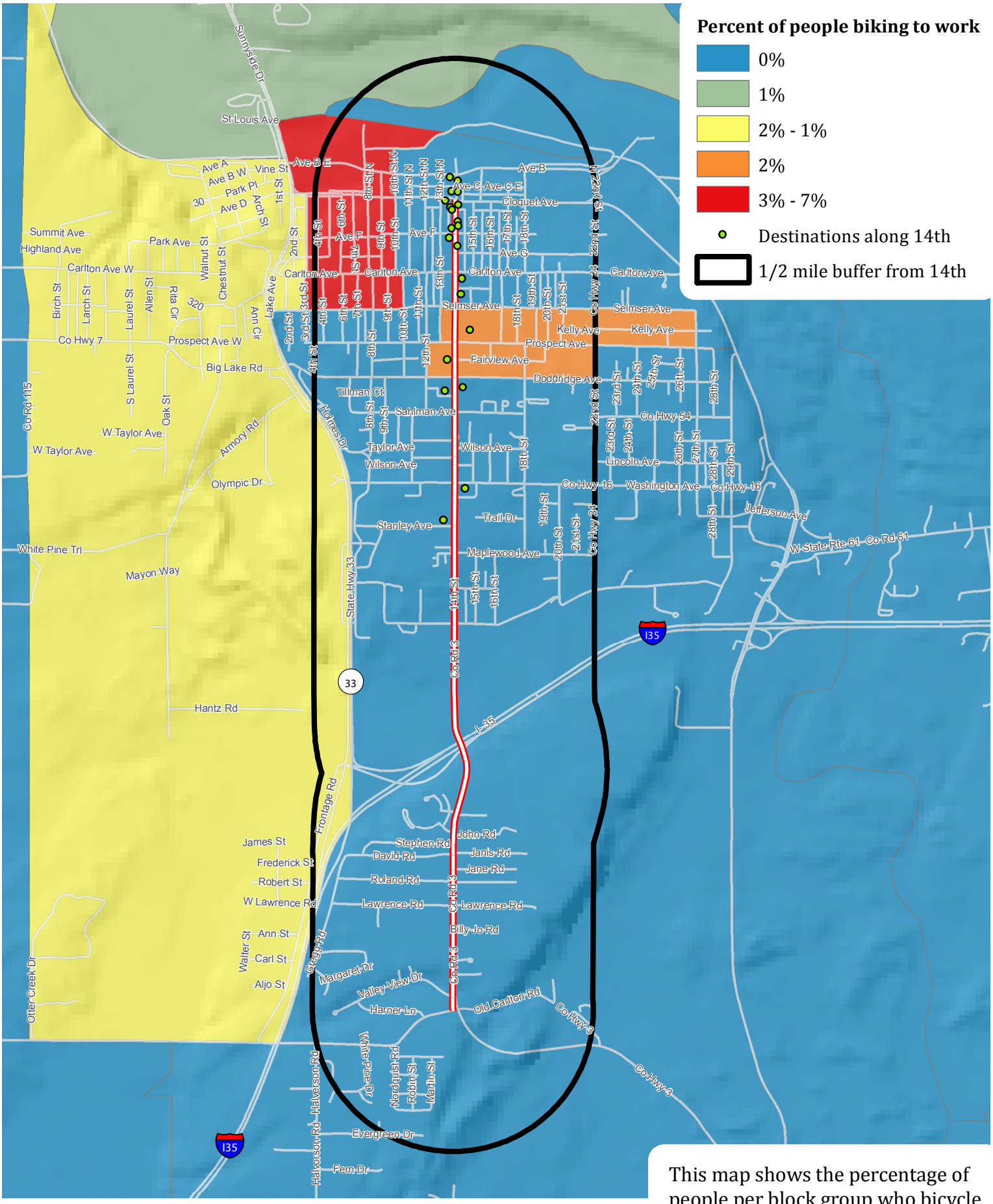
Cloquet, MN - 2011 Percent of Population Under Age 18



This map depicts the percentage of people under age18 living in each census block group.

Source: 2011 American Community Survey, U.S. Census Bureau, Esri

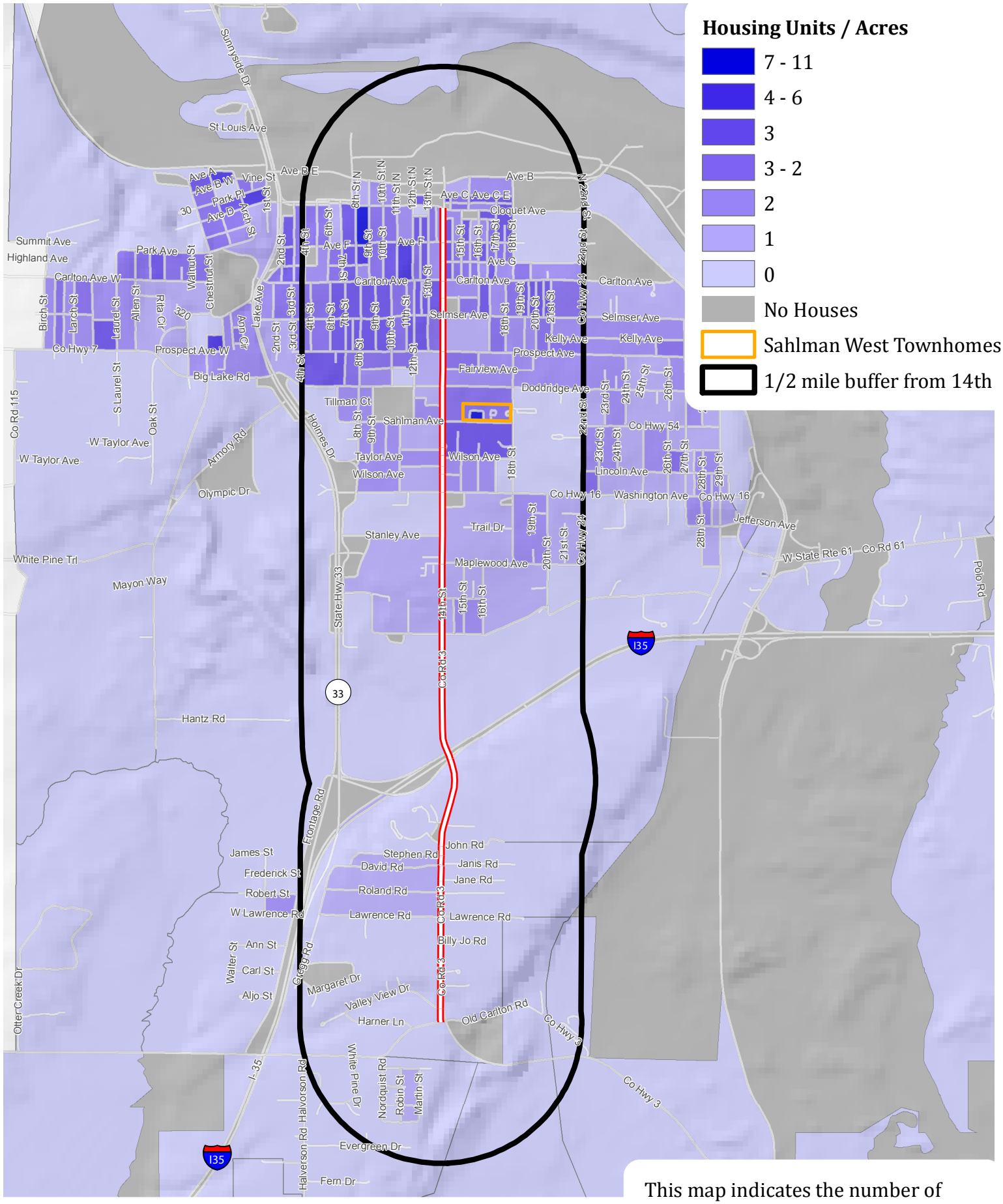
Cloquet, MN - 14th Street Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map shows the percentage of people per block group who bicycle to work as theirmain method of transportation

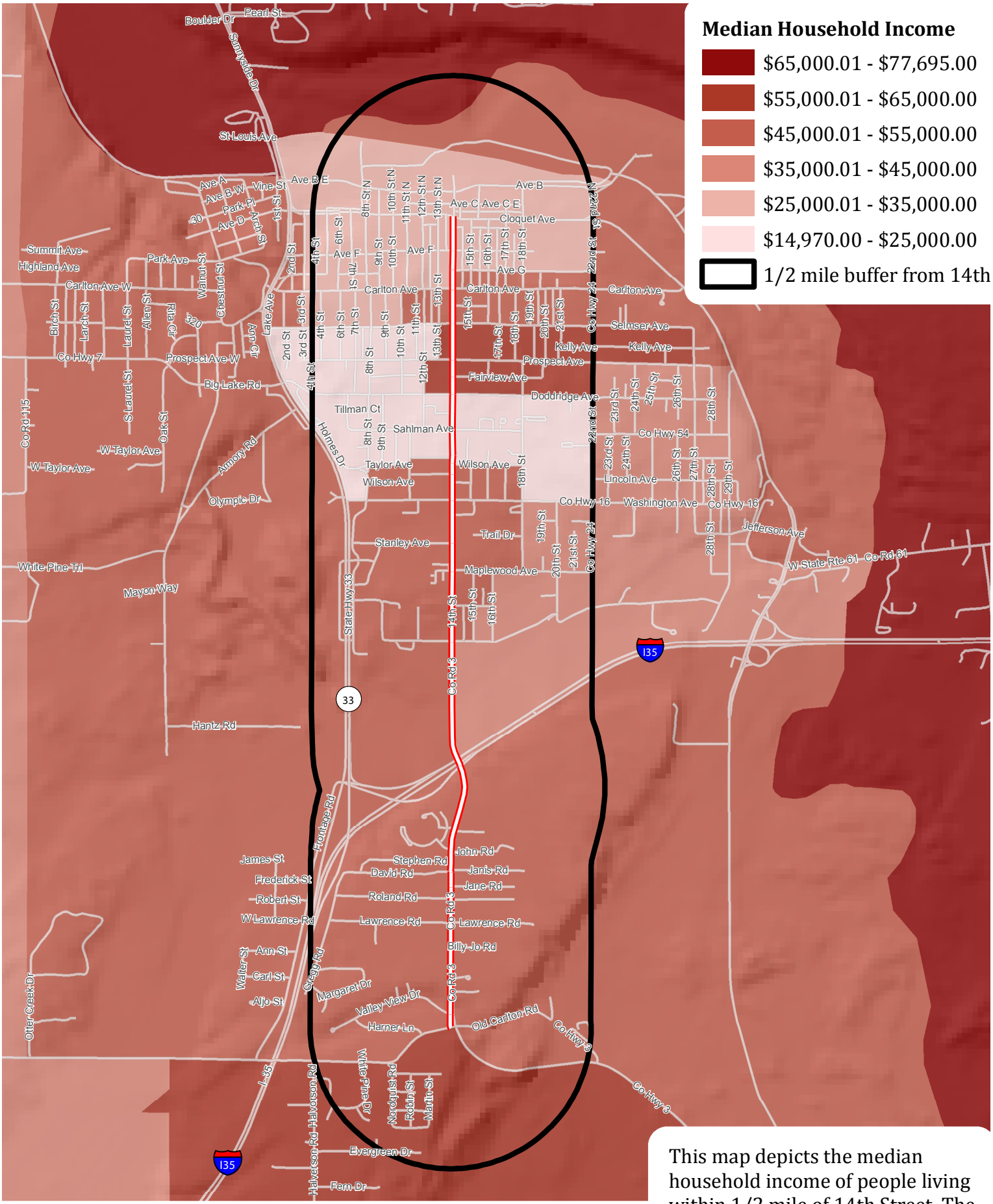
Cloquet, MN - 14th Street Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map indicates the number of housing units per acre for each census block that surround14th Street within 1/2 mile.

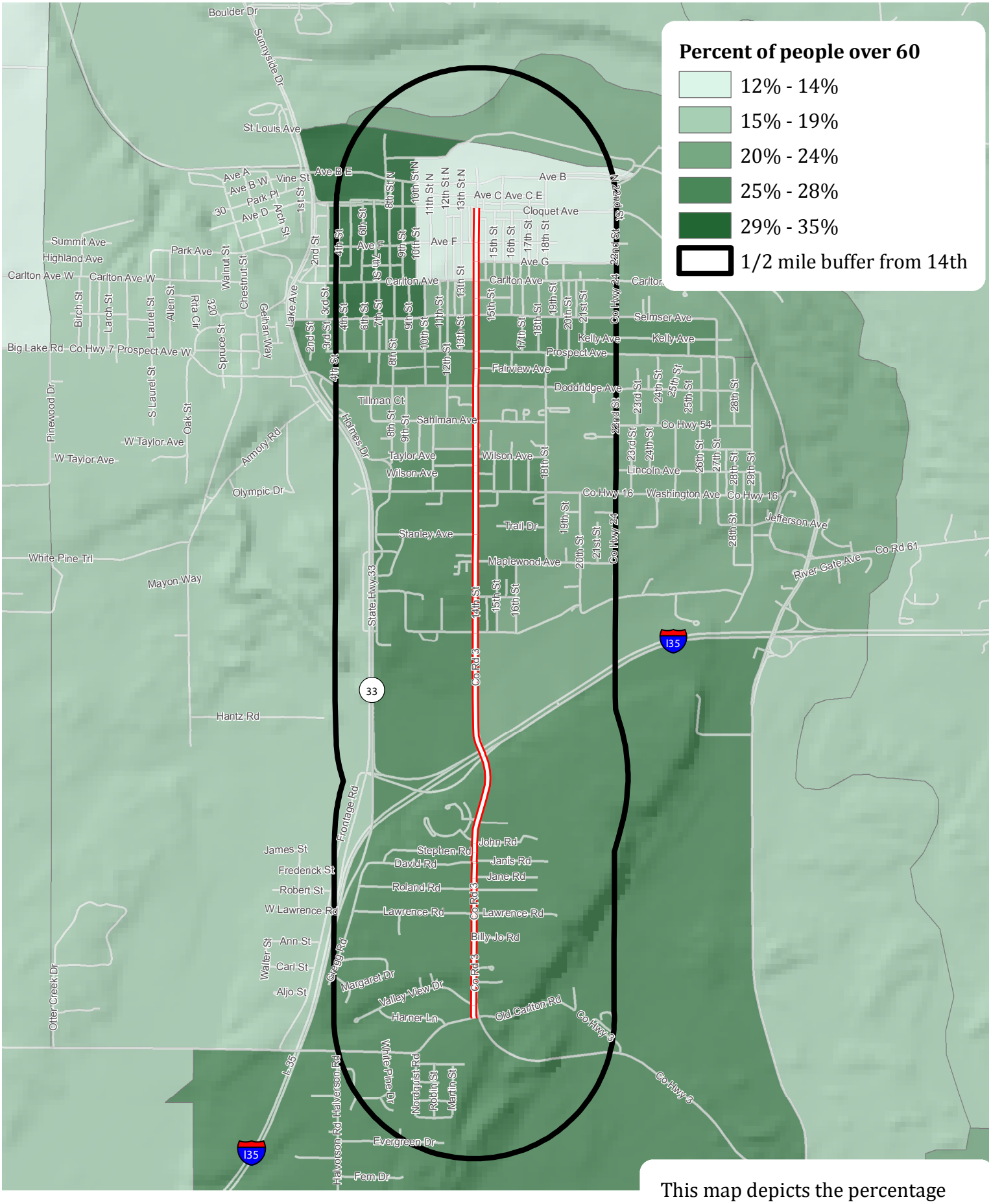
Cloquet, MN - 14th Street Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map depicts the median household income of people living within 1/2 mile of 14th Street. The data shown were collected at the census block group level.

Cloquet, MN - 14th Street Assessment



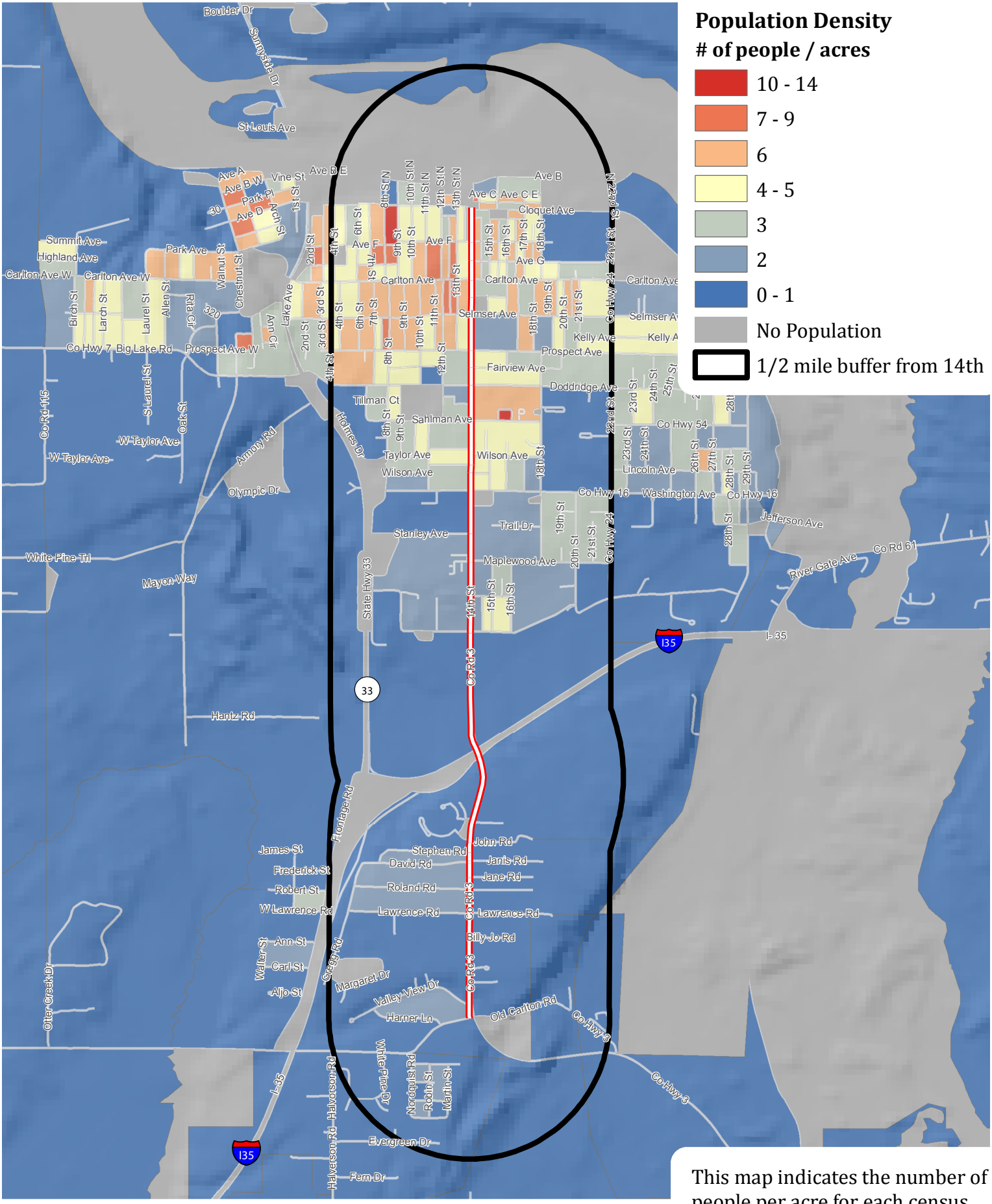
Source: 2011 ACS, U.S. Census Bureau, Esri

N

0 0.25 0.5 1 1.5 Miles

This map depicts the percentage of people over age 60 living in each census block group.

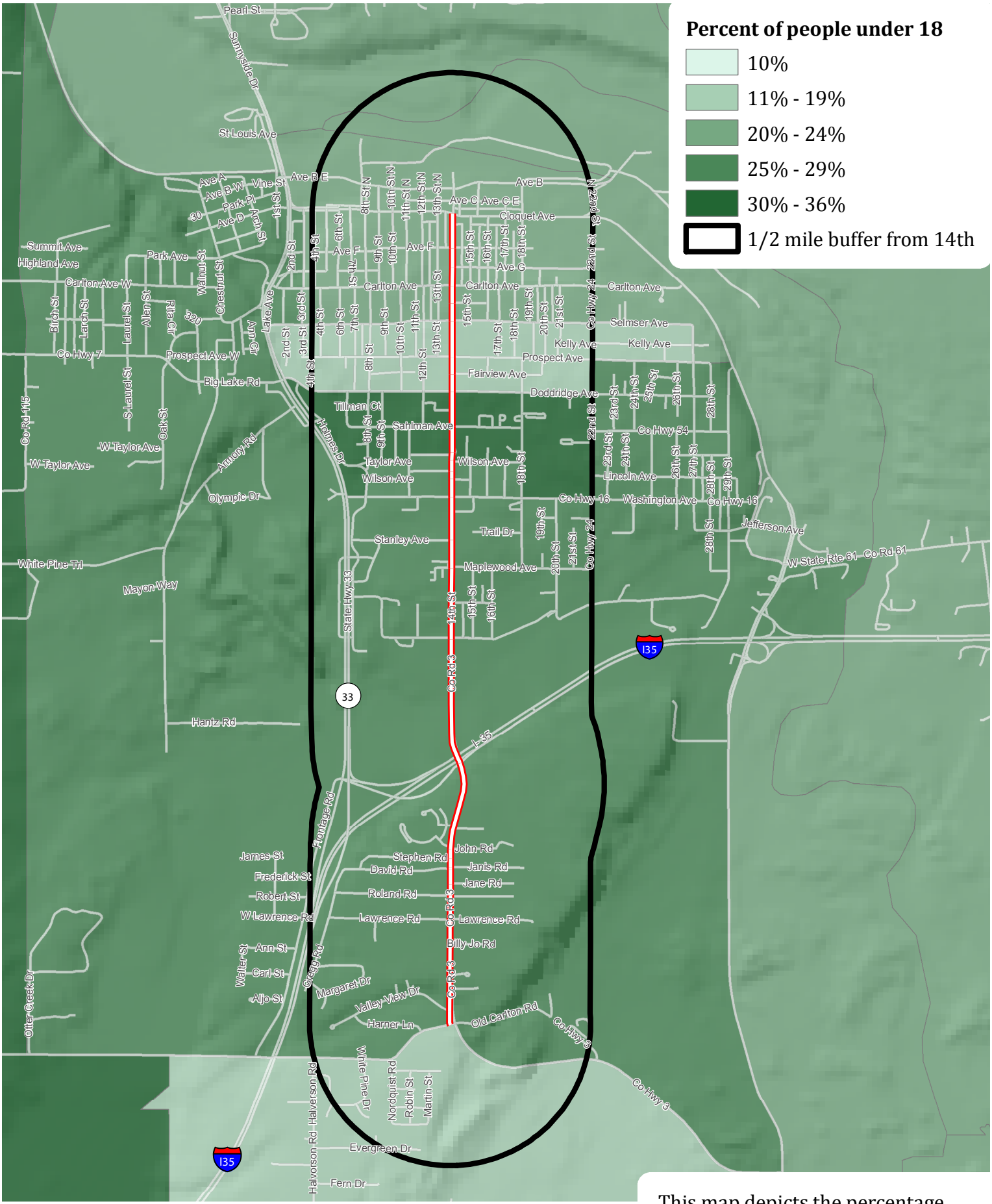
Cloquet, MN - 14th Street Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map indicates the number of people per acre for each census block that surround14th Street within 1/2 mile

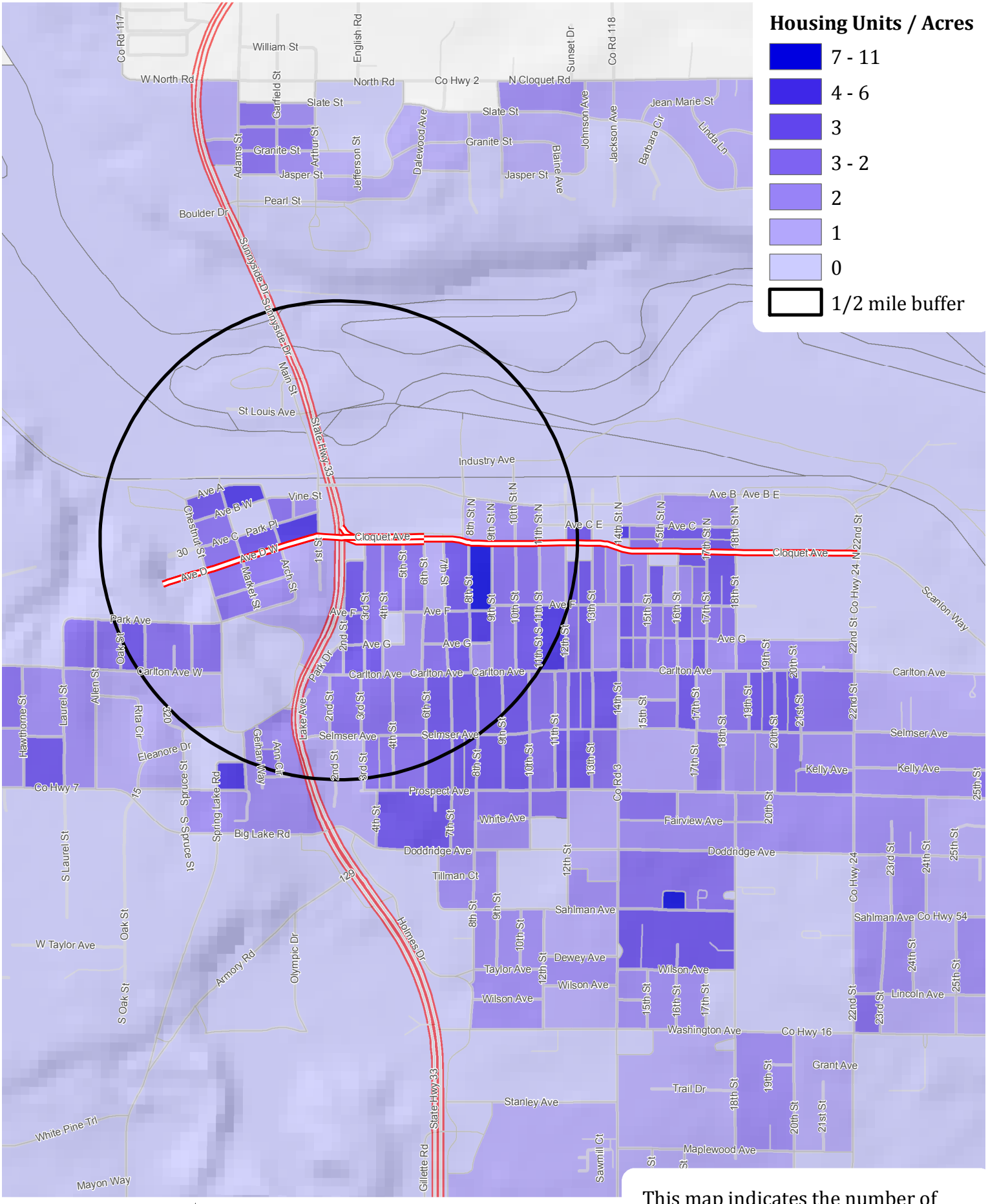
Cloquet, MN - 14th Street Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map depicts the percentage of people under age 18 living in each census block group.

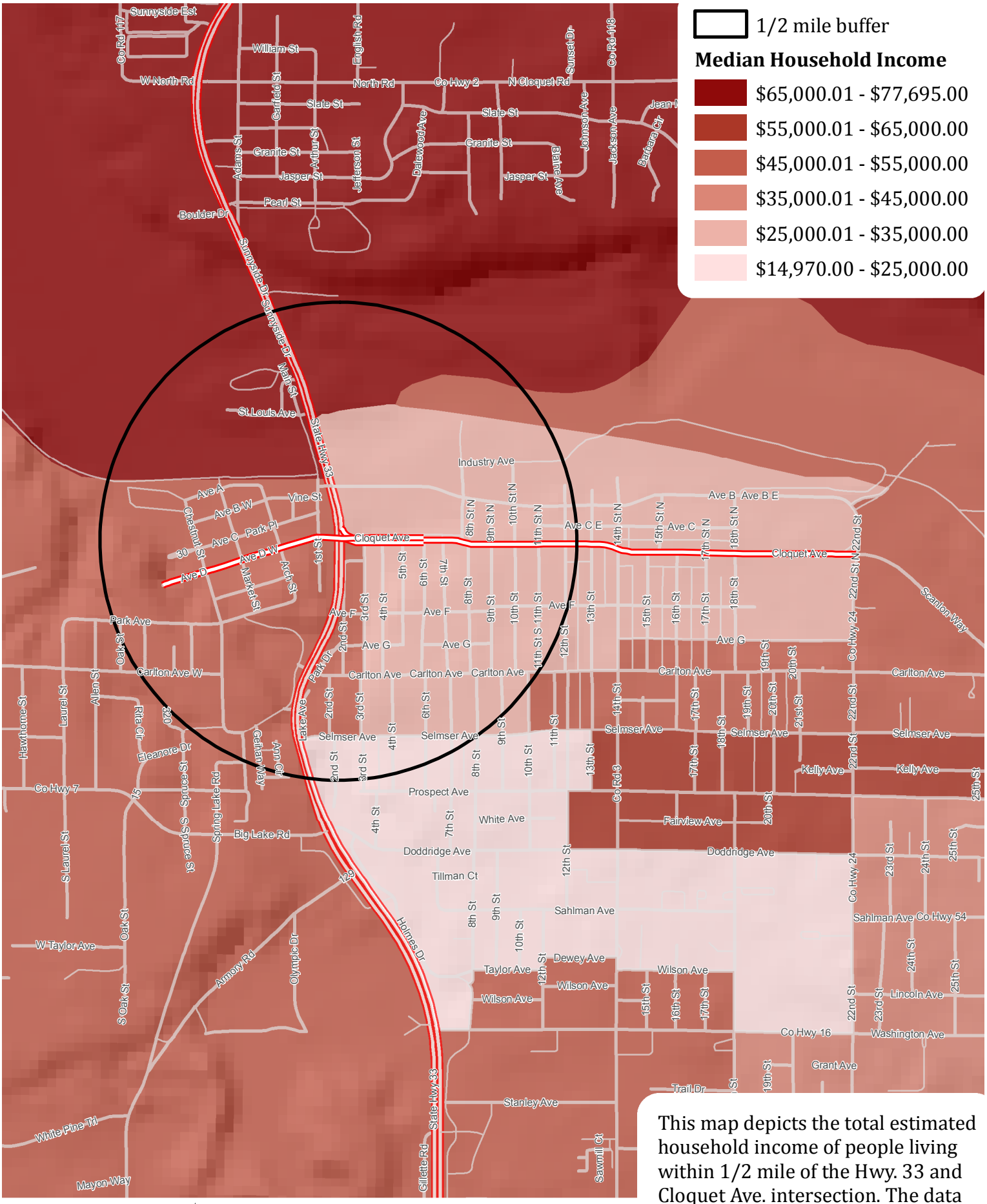
Cloquet, MN - Hwy. 33 & Cloquet Ave. Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map indicates the number of housingunits per acre for each census block.

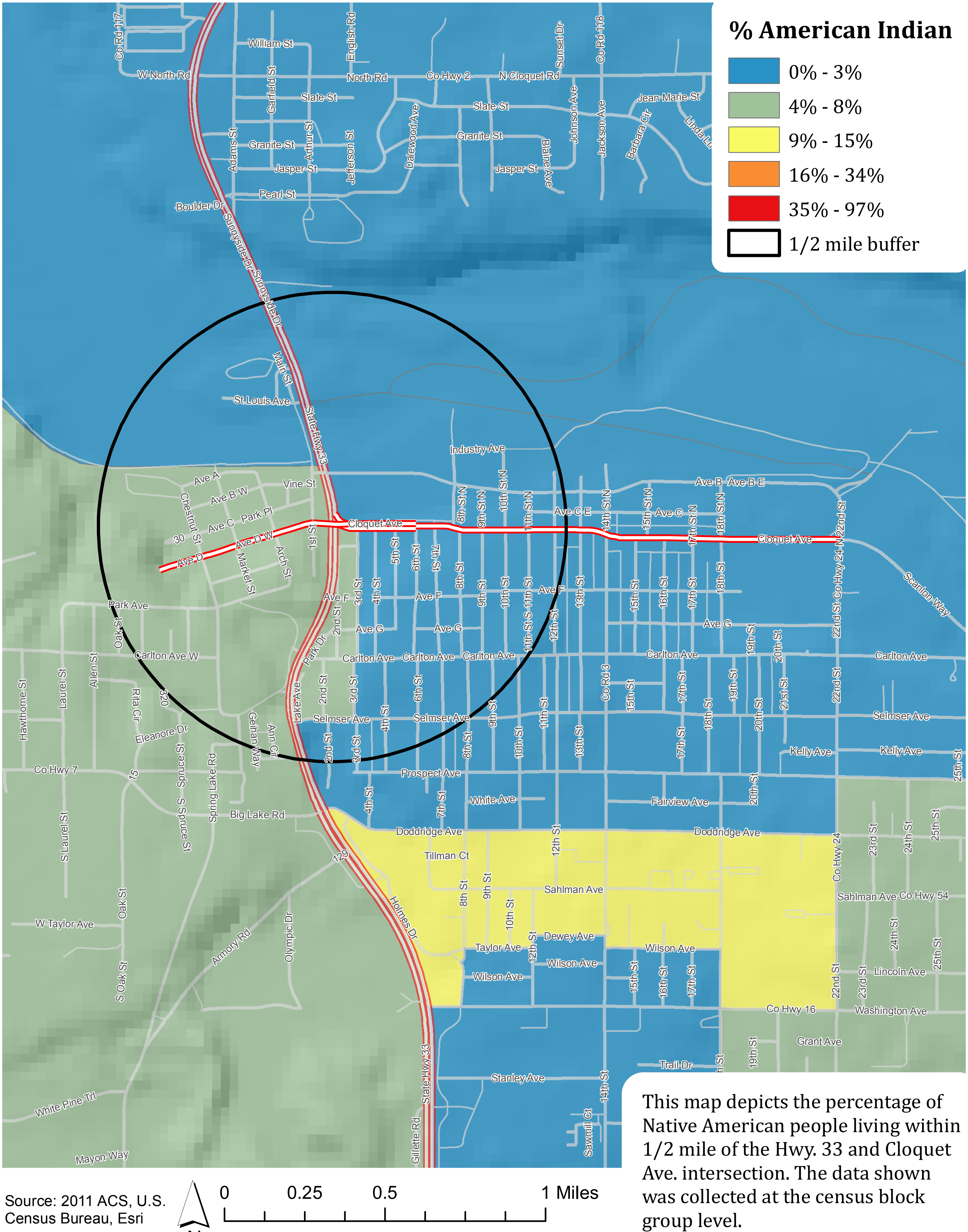
Cloquet, MN - Hwy. 33 & Cloquet Ave. Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map depicts the total estimated household income of people living within 1/2 mile of the Hwy. 33 and Cloquet Ave. intersection. The data shown was collected at the census block group level.

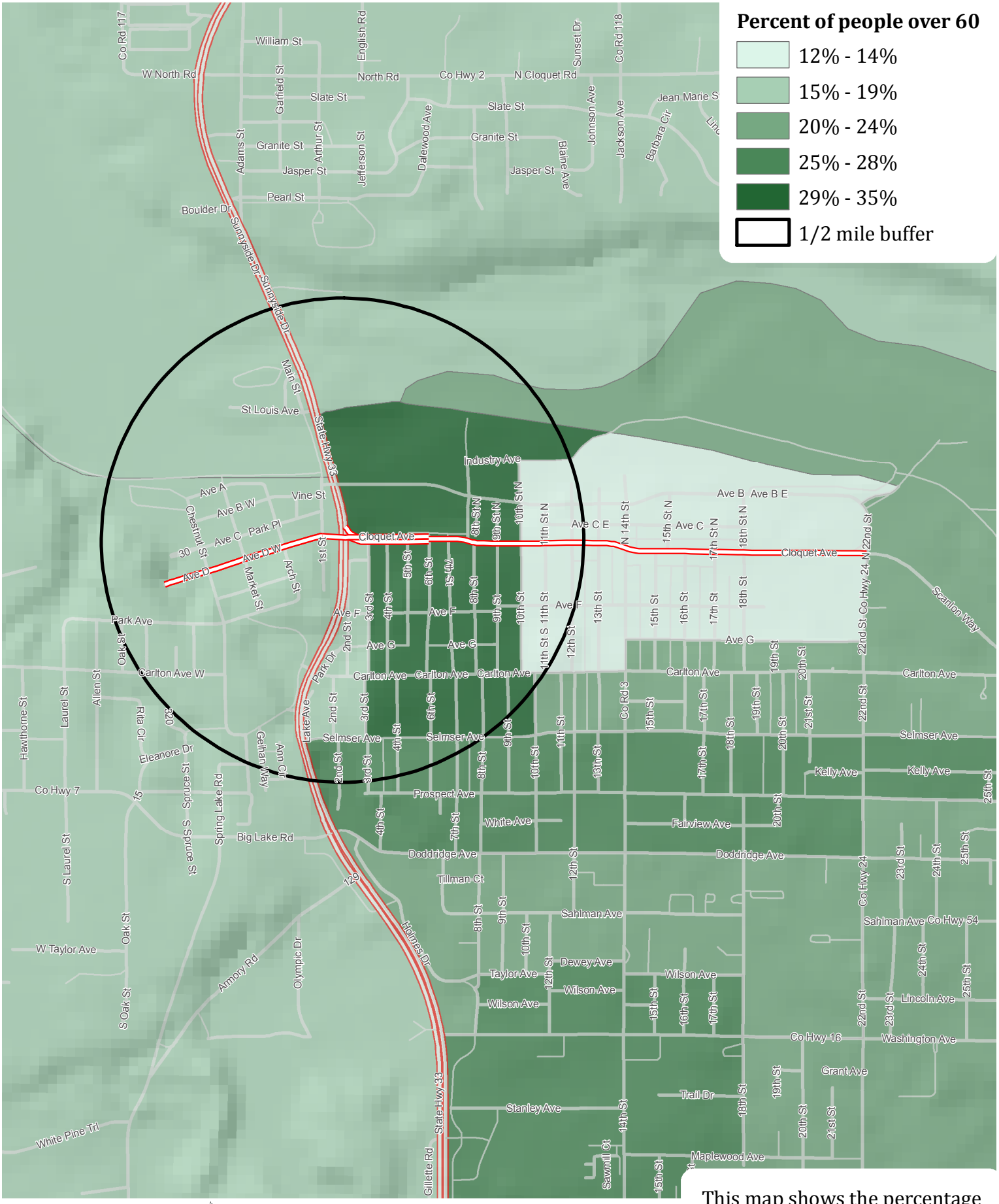
Cloquet, MN - Hwy. 33 & Cloquet Ave. Assessment



This map depicts the percentage of Native American people living within 1/2 mile of the Hwy. 33 and Cloquet Ave. intersection. The data shown was collected at the census block group level.

Source: 2011 ACS, U.S. Census Bureau, Esri

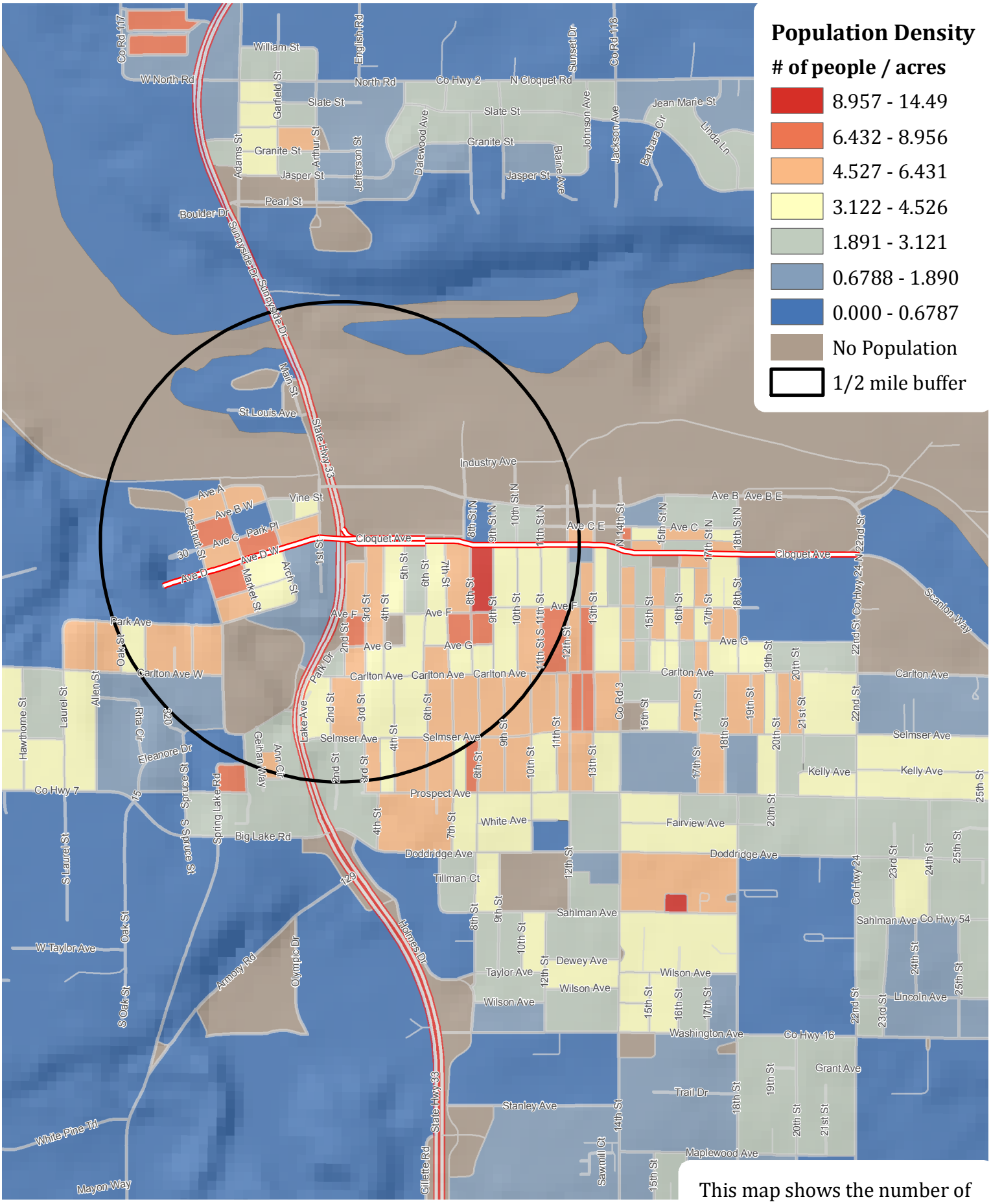
Cloquet, MN - Hwy. 33 & Cloquet Ave. Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

This map shows the percentage of people over age 60 for each census block group.

Cloquet, MN - Hwy. 33 & Cloquet Ave. Assessment



Source: 2011 ACS, U.S. Census Bureau, Esri

N

0 0.25 0.5 1 Miles

This map shows the number of people per acre for each census block.

Cloquet, MN - Hwy. 33 & Cloquet Ave. Assessment

Source: 2011 ACS, U.S. Census Bureau, Esri

N

0 0.25 0.5 1 Miles

This map shows the percentage of people under age 18 for each census block group.

Appendix B: HIA Community Survey Questions

HIA Community Survey - Print Version

Community Survey

The City of Cloquet is currently updating it's Comprehensive Plan's Transportation Section. At the same time that the update process is occuring, a Health Impact Assessment (HIA) is underway to inform on the health impacts of transportation during the update. As part of the HIA process, the City is conducting this survey to gather resident input on current travel habits and future transportation priorities. The survey topics were chosen due to their potential impact on physical activity through bicycling, walking, and transit use.

The survey explores four areas: 1) Modes of Transportation, 2) Sidewalk snow removal, 3) Street intersections, as they relate to pedestrian and bicycle crossing-using the example location of Hwy 33 and Cloquet Ave, and 4) Bicycle connectivity-using the example location of 14th Street. Your participation in this survey is confidential.

1. How long have you lived in Cloquet?

- ◯ Less than 2 years
- ◯ 2-5 years
- ◯ 6-10 years
- ◯ 11-15 years
- ◯ 16-40 years
- ◯ All my life
- ◯ I do not live in Cloquet

2. Do you work in Cloquet

- ◯ Yes
- ◯ No

HIA Community Survey - Print Version

Modes of Transportation

These questions ask about travel patterns, which modes of transportation you use, may use, and how often you use them.

3. Which two modes of transportation do you use most often when traveling in Cloquet and the local area?

- [ ] My own motor vehicle
- [ ] Public Transit
- [ ] Get a ride or Carpool (share a vehicle)
- [ ] Bicycle
- [ ] Walk

Other (please specify)

HIA Community Survey - Print Version

Modes of Transportation

4. How often do you drive a car to destinations/places in the Cloquet area?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

5. How often do you get a ride or carpool to destinations/places in the Cloquet area?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

6. For you, what are the obstacles for getting a ride or carpooling? (Please select all that apply)

- [ ] I need a vehicle during the day
- [ ] Do not know anyone to ride/carpool with
- [ ] Other drivers not going to my destination
- [ ] Not enough options for times to leave
- [ ] No obstacles for me

Other (please specify)

HIA Community Survey - Print Version

Modes of Transportation

7. How often do you bicycle to destinations/places in the Cloquet area?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

8. If you bicycle in Cloquet, which streets you usually use? Please list up to five streets you use the most.

9. For you, what are the obstacles to bicycling? (Please select all that apply)

- ☐ I do not bicycle
- ☐ I do not have a bicycle
- ☐ My bicycle does not work
- ☐ It is too dangerous to ride on the streets
- ☐ Places I go are too far to bike to
- ☐ Weather
- ☐ No obstacles for me

Other (please specify)

HIA Community Survey - Print Version

Modes of Transportation

10. How often do you take public transit to destinations/places in the Cloquet area?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

11. For you, what are the obstacles to taking public transit? Please select all that apply.

- ☐ I am not familiar with the transit services available
- ☐ The buses do not go where I go
- ☐ The hours of operation are not convenient
- ☐ The bus ride is too long
- ☐ No obstacles for me

Other (please specify)

HIA Community Survey - Print Version

Modes of Transportation

12. How often do you walk to destinations/places in the Cloquet area?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

13. If you walk, do the streets you usually take have sidewalks?

- ◯ Yes
- ◯ No
- ◯ Some

14. Please list the three streets you walk along the most.

15. For you, what are the obstacles to walking in Cloquet? Please select all the apply.

- [ ] Sidewalks are not present
- [ ] Sidewalk pavement is in poor condition
- [ ] Places I go are too far
- [ ] Street crossings are a barrier
- [ ] Motor vehicle speed
- [ ] Poor street lighting
- [ ] I am unable to walk
- [ ] Unclear sidewalks
- [ ] No obstacles for me

Other (please specify)

HIA Community Survey - Print Version

Modes of Transportation

16. Which three street intersections do you most often cross when you are walking?

Sidewalk Snow Removal

Sidewalk snow removal is a current community discussion. The City seeks your input on the Cloquet sidewalk system and how you utilize the sidewalks.

17. Do you have sidewalks in front of your home? (If YES - please answer questions 18 & 19. If NO, please skip to question 20)

- ◯ Yes
- ◯ No

HIA Community Survey - Print Version

Sidewalk Snow Removal

18. Are you able to clear snow during the winter for pedestrian access?

- ◯ Yes
- ◯ No
- ◯ Partially
- ◯ My landlord/property manager clears the snow
- ◯ There are no sidewalks

Other (please specify)

19. If no or partially, What gets in the way of you clearing your sidewalk?

HIA Community Survey - Print Version

Sidewalk Snow Removal

20. Overall, how would you rate the condition of Cloquet sidewalks?

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

21. How would you describe the overall accessibility of the City's sidewalks during the winter?

- ◯ Excellent
- ◯ Good
- ◯ Fair
- ◯ Poor

22. Are there specific sidewalks that you have noticed remain uncleared during the winter? If so, please list them. (Example, Cloquet Avenue between 15th and 16th)

HIA Community Survey - Print Version

Sidewalk Snow Removal

23. Would cleared sidewalks in the winter influence your decision to walk to local destinations more often?

- ◯ Yes
- ◯ Somewhat
- ◯ Not at all
- ◯ Neutral

Other (please specify)

24. Have uncleared sidewalks prevented you from traveling to places you need to go?

- ◯ Yes
- ◯ No

Other (please specify)

25. Would cleared sidewalks in the winter improve your mobility around the Cloquet Area?

- ◯ Yes
- ◯ Somewhat
- ◯ No

Other (please specify)

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Sidewalk Snow Removal

26. Would a City of Cloquet snow removal ordinance, requiring homeowners to clear sidewalks or risk a fine, influence your decision to clear sidewalks, or get them cleared, in front of your home?

- ◯ Yes
- ◯ No
- ◯ My landlord/property managers clears the snow
- ◯ There are no sidewalks

Other (please specify)

27. If no, why not?

Intersections-Highway 33 and Cloquet Ave

This section asks about residents' experiences with street intersections. The intersection of Highway 33 and Cloquet Ave. was chosen as an example for this survey.

28. How often do you travel through the intersection of Highway 33 and Cloquet Ave?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

Intersections-Highway 33 and Cloquet Ave

29. How often do you walk across that intersection?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

30. How comfortable do you feel walking across that intersection?

- ◯ Very comfortable
- ◯ Somewhat comfortable
- ◯ Not very comfortable
- ◯ Not at all comfortable
- ◯ I do not cross that intersection

Intersections-Highway 33 and Cloquet Ave

31. How often do you bicycle across that intersection?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

32. How comfortable do you feel bicycling across that intersection?

- ◯ Very comfortable
- ◯ Somewhat comfortable
- ◯ Not very comfortable
- ◯ Not at all comfortable
- ◯ I do not cross that intersection

Intersections-Highway 33 and Cloquet Ave

33. Which three aspects of that intersection concern you with when crossing by foot or bicycle?

- [ ] How far it is to cross
- [ ] Not enough time to cross
- [ ] Speed of vehicles approaching
- [ ] Vehicles turning on a red light
- [ ] Uncomfortable place to wait at the curb
- [ ] Uncomfortable place to wait in the median
- [ ] Curb ramps not accessible
- [ ] Poor street lighting

Other (please specify)

Bicycle Connectivity-14th Street

The follow questions on bicycle connectivity will help us understand current bicycle use and explore what you believe Cloquet should focus on as we plan for the future of bicycle travel. We use 14th Street as an example location.

34. Do you live on or within two blocks of 14th Street? (If YES, please answer questions 35 & 36, if NO, please skip to question 37)

- ◯ Yes
- ◯ No

Bicycle Connectivity-14th Street

35. What about the current street environment along 14th St. do you feel improves your quality of life?

- [ ] Having sidewalks
- [ ] On-street parking
- [ ] Having good lighting in the evening
- [ ] Retail along 14th St.
- [ ] Nothing-my life is not improved by living on or near 14th St.

Other (please specify)

36. What about the current street environment along 14th St. do you feel makes your quality of life worse?

- [ ] Narrow sidewalks
- [ ] No room to bike
- [ ] Poor lighting
- [ ] Many driveways
- [ ] Always have to stop for cars turning
- [ ] Nothing-living on or near 14th St. does not make my life worse

Other (please specify)

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Bicycle Connectivity-14th Street

37. Do you ever travel on 14th Street to reach destinations?

- ◯ More often than once a day
- ◯ Once a day
- ◯ 2-3 times a week
- ◯ Once a week
- ◯ 2-3 times a month
- ◯ Once a month
- ◯ A few times a year
- ◯ Once a year
- ◯ Less than once a year
- ◯ Never

38. Which modes of transportation do you use most often when traveling on 14th Street? Please select up to two.

- ☐ My own motor vehicle
- ☐ Public Transit
- ☐ Get a ride or Carpool (share a vehicle)
- ☐ Bicycle
- ☐ Walk

Other (please specify)

39. Do you feel comfortable bicycling along 14th Street to reach your destinations?

- ◯ Very comfortable
- ◯ Somewhat comfortable
- ◯ Not very comfortable
- ◯ Not at all comfortable
- ◯ I do not bicycle on 14th St.

Bicycle Connectivity-14th Street

40. Would designated space for bicycling along 14th Street (ex. bicycle lane) influence your decision to bicycle on 14th Street?

- ◯ Yes
- ◯ No

Other (please specify)

41. If you do bicycle in Cloquet, where do you like to bicycle and why?

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Demographic Questions (optional)

42. Which category below includes your age?

- ◯ 17 or younger
- ◯ 18-29
- ◯ 30-39
- ◯ 40-49
- ◯ 50-59
- ◯ 60-69
- ◯ 70 or older

43. How many children (0-12 years old), teenagers (13-17 years old), adults (18-64 years old), and seniors (65+) live in your household?

Children (0-12 years old)	
Teenagers (13-17 years old)	
Adults (18-64 years old)	
Seniors (65+ years old)	

44. Are you White, Black or African American, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific Islander, or some other race? (Please check all that apply)

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Native Hawaiian or other Pacific Islander

Other (please specify)

45. What is your total household income?

- ◯ Less than $19,999
- ◯ $20,000 to $39,999
- ◯ $40,000 to $59,999
- ◯ $60,000 to $79,999
- ◯ $80,000 to $99,999
- ◯ $100,000 to $149,999
- ◯ $150,000 or more

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Thank you for your participation!

If you have questions about this survey or would like to participate further in Cloquet Health Impact Assessment of the Transportation Section Update, please contact Al Cottingham, City Planner at 218-655-1517 or acottingham@ci.cloquet.mn.us.

City of Cloquet Comprehensive Plan

Transportation Section Update

Health Impact Assessment

December 2014

Prepared for:
The City of Cloquet

Prepared by:
Regional Planning Division
Arrowhead Regional Development Commission

The Arrowhead Regional Development Commission (ARDC) is a regional planning agency located in Duluth, Minnesota. ARDC is responsible for providing local government assistance, regional intergovernmental coordination, and a forum for regional discussion to the counties, cities, towns, tribes and agencies in the seven-county Arrowhead Region. ARDC's Regional Planning Division offers communities planning services on both a project-by-project and an ongoing basis.

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If you have questions regarding ARDC or the Cloquet HIA, please contact:

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