

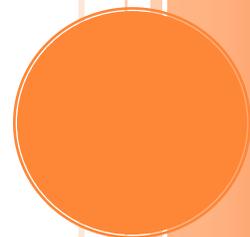
# HEALTH IMPACT ASSESSMENT (HIA)

*Of Highway 61 Corridor Redesign, Grand Marais, MN*

Full Report, including Executive Summary

Moving Matters Project of the Sawtooth Mountain Clinic and  
the Active Living Steering Committee (ALSC)

July 2015



# HIA STEERING COMMITTEE

The core of the HIA Steering Committee was the Active Living Steering Committee, which has been active in Cook County since 2011.

**Heidi Doo Kirk**  
Cook County Board of Commissioners

**Tim Kennedy**  
Grand Marais City Council

**Mike Roth**  
City of Grand Marais Administrator

**Dave Tersteeg**  
Grand Marais Parks & Recreation

**Joni Kristenson**  
Cook County Public Health and  
Human Services

**Frances Jarchow**  
Citizen Representative - Seniors

**Kristin Wharton**  
Sawtooth Mountain Clinic

**Sissy Lunde**  
ISD 166 School Board

**Leif Lunde**  
Cook County Law Enforcement

**Inger Andress**  
Leadership Advisor

**Maren Webb**  
Sawtooth Mountain Clinic

**Nikki Boostrom**  
Citizen Representative -  
Disabled, Non-Drivers

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# Health Impact Assessment (HIA)

*Of Highway 61 Corridor Redesign, Grand Marais, MN*

## EXECUTIVE SUMMARY

### *Introduction*

During spring 2014, the Sawtooth Mountain Clinic identified a potential opportunity for a Health Impact Assessment (HIA) to be conducted in conjunction with a streetscape design process. As part of its Moving Matters project, the Clinic has partnered with the City of Grand Marais to explore safety concerns on the main corridor through Grand Marais: Minnesota State Highway 61. The Grand Marais City Council previously identified the current Highway 61 corridor to be a chief concern due to public feedback about crossing and traffic safety. After completing a screening process and receiving funding from the Minnesota Department of Health to pursue this HIA, the Sawtooth Mountain Clinic initiated an HIA, with the local Active Living Steering Committee (ALSC). This HIA complemented the City of Grand Marais' Highway 61 Redesign process planned for late 2014. The Highway 61 Redesign Process, called Highway 61 Revisited, was a series of public and stakeholder meetings to explore the role Highway 61 plays in the community and to consider alternate designs. The Highway 61 Revisited process continued into 2015; therefore, the HIA was completed in the summer of 2015.

HIAs allow health considerations to be brought into rigorous policy conversations, especially with processes focused on the built environment and social policies and plans that do not typically consider health. HIA is a “**systematic process** that uses an array of **data sources and analytic methods** and considers **input from stakeholders** to determine the potential effects of a proposed policy, plan, program, or project on the **health of a population and the distribution** of those effects within the population. HIA provides recommendations on **monitoring and managing those effects.**”<sup>\*</sup> The Active Living Steering Committee and the Moving Matters project, both being concerned with Highway 61 and safety, physical activity, and health, deemed an HIA a worthwhile pursuit to help ensure a Highway 61 project that will contribute to the health of the community. This Executive Summary provides an overview of this HIA process; however, the full report contains detailed information about the process, data gathered, and other in-depth discussions that are helpful for understanding the process and results of this HIA.

### *Process*

The HIA process includes six steps, which have been followed for this specific HIA: Screening, Scoping, Assessment, Recommendation, Reporting, and Monitoring and Evaluation. Over the course of one year, this HIA process was guided by the ALSC serving as the HIA Steering Committee, led by Sawtooth Mountain Clinic staff. At the start of the process, the Highway 61 corridor was roughly defined as the area between 8<sup>th</sup> Avenue West and the New Gunflint Trail along Highway 61 through Grand Marais. Baseline community data was collected and presented to the committee, including physical health indicators (such as Body Mass Index and rates of diabetes and

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\* National Research Council, Improving Health in the United States: Role of Health Impact Assessment, 2011.

high blood pressure) and indicators related to the social determinants of health (such as affordability and availability of housing and unemployment rates). With input from the community, the HIA Committee chose three health concerns to focus upon for the purposes of evaluating the community health impacts of the Highway 61 corridor redesign:

- Safety: crossing safety, and walking and biking safety,
- Access: connectivity to core destinations within the City and Highway 61 corridor, and access in terms of mobility/accessibility, and
- Economic: economic potential of the corridor and individual economics/livability.

The committee then helped develop research questions to inform the data collection to assist in understanding and projecting how the proposed designs could impact the designated health concerns. The Clinic staff leading the HIA then compiled relevant data to create an assessment based upon the research questions. The committee reviewed the assessment, compiled, and developed recommendations based upon the assessment data. The HIA process has been iterative, informed both by data, observations, and local experience throughout the process. This local committee has been the heart of this process, and the recommendations developed reflect both the rigorous process and the established experience of this committee in the issue areas.

*Assessment*

The research questions identified by the HIA Steering Committee are as follows:

Health Concern	Existing Conditions Research Question	Impact Research Question
Safety	What accidents have occurred along this stretch of road?	With the corridor redesign, how will the proposed changes impact collision rates and severity?
	What levels of walking and biking are happening in the corridor?	How will the proposed changes impact the levels of walking and biking in the corridor?
	Are traffic speeds an issue in the corridor?	Will traffic speeds be reduced with the design changes?
	What are the current crossing distances, location of marked crosswalks, and types of crosswalk markings on the current corridor?	Will the crossings in the proposed designs increase perceived safety and reduce near misses and crashes between cars, bikes and vehicles?
Access	What are the missing connections for bikes and pedestrians in the corridor?	With connected bike and pedestrian infrastructure, will there be better access to priority destinations on foot and bike?
	What challenges do high risk populations (such as seniors, children, and disabled people) face in the Highway 61 corridor with accessibility?	How will the design changes impact mobility and accessibility for people of all ages and abilities in the corridor?
Economic	What are the current property value trends along the Highway 61 corridor?	What kind of impact could the Highway 61 redesign have on the property values along the corridor?

These research questions were then used to gather data to inform the committee’s assessment work.

Data was collected from a variety of sources, including data requests of the Minnesota Department of Transportation, Minnesota Department of Health, Cook County Assessor, and City of Grand Marais, with additional data gathered through a literature review, a speed study, bicycle and pedestrian counting, focus groups, and a community survey. The concept designs for the corridor, developed through a three-meeting community process and online feedback, were used during the assessment process. The main design components considered were reduction of crossing distances (with bump outs and narrowing of roadway), addition of dedicated bicycle and pedestrian infrastructure (sidewalks and multi-use trail or sidewalks and bike lanes), vertical definition of the corridor, and the narrowing of the roadway (influencing vehicle speeds and crossing distances).

Overall, the HIA found that the Highway 61 Revisited redesign would be beneficial to health. A summary of the HIA findings are presented in the following table:

<b>HIA Assessment: Summary of Findings</b>				
<b>Health Outcome/ Determinant</b>	<b>Direction (Positive or Negative Impact)</b>	<b>Likelihood of Impact</b>	<b>Distribution of Impact</b>	<b>Quality of Evidence</b>
<b>Collision rates and severity</b>	▲	Likely	Affects whole community relatively equally	***
<b>Levels of walking and biking</b>	▲	Likely	Affects whole community relatively equally	**
<b>Traffic speeds</b>	▲	Likely	Affects whole community relatively equally	***
<b>Perceived safety</b>	▲	Likely	Affects whole community relatively equally	*
<b>Access to destinations on foot or bike</b>	▲	Likely	Affects whole community relatively equally	***
<b>Mobility and accessibility</b>	▲	Likely	Disproportional effect on seniors/children/ disabled	**
<b>Property values</b>	▲	Possible	Possible disproportional effect on property owners and businesses	*

▼ = negative impact    ▲ = positive impact    ▲▼ = both positive and negative impacts possible

Literature association – strength of studies associating health impact with redesign of roads:

\*\*\* Many strong studies    \*\* Few good studies    \* No clear studies, but consistent with public health principles

## *Recommendations*

These findings led the HIA Steering Committee to create recommendations in order to maximize the health benefits of the Highway 61 Redesign. The recommendations are divided into “project” recommendations and “process” recommendations.

### Prioritized **Project** Recommendations for Highway 61 Redesign:

#### **1. Create Safer Pedestrian Crosswalks**

Crosswalk design and visibility should be considered for maximum pedestrian safety, as safety was the highest priority within the Highway 61 corridor redesign project. A plan for ongoing enforcement and education should be created and implemented by law enforcement and the City of Grand Marais in partnership with the Active Living Steering Committee, including evaluation measures.

#### **2. Design a Corridor that Welcomes and Invites People**

The corridor project should be designed as a place that is welcoming, accessible, and scaled for people (seniors, children, and all people) through strategies such as signage, seating, lighting, trees and vegetation.

#### **3. Re-assess Streets Network and Pedestrian Connectivity**

With the pre-design of the corridor project, take the opportunity to reassess where any missing connections are off of the corridor, that if resolved, would improve the pedestrian connectivity in Grand Marais.

#### **4. Year-round Maintenance Plan including Pedestrian and Bicyclist Use**

All modes, including walking, biking, snowmobiling, driving, etc., should be considered and, if possible, separately accommodated within the corridor year round. Create a year-round maintenance plan to ensure pedestrians the ability to use the corridor during all seasons. Snow clearing should happen in a timely manner. Responsibilities for maintenance between the City, MnDOT, and County should be set from the start.

#### **5. Appropriate Vehicle Speeds to Achieve Goals of Safer and More Accessible Walking and Biking**

Create a corridor with 20-25 MPH **design speed**\* to increase pedestrian, bicyclist, and motorist safety and create a more village main street feel to the corridor. Vehicle speeds greatly influence the perception of safety for people on foot and bike as well as the rates of survivability if a collision occurs.

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\* From AASHTO (American Association of State Highway and Transportation Officials): “Design speed is a selected speed used to determine the various geometric design features of the roadway.” In other words, design speed does not necessarily equal the posted speed limit.

## **6. Monitor Impact of Project**

Measure the impact of the corridor project on community health, including economic impact and number of people walking and biking. Highlight the creation of community capital and impact on health of the Highway 61 project.

### Prioritized Process Recommendations for Highway 61 Redesign:

#### **1. Community Engagement**

The community needs to be actively engaged by the City of Grand Marais and MnDOT throughout the stages of the planning and construction of the corridor project. Special efforts should be made to include input from potential and current users, including children/young families, seniors, people with disabilities, those that don't feel safe in the current corridor, and business/property owners along the corridor. Input from these groups will be especially important during the creation of the final design and the year-round maintenance plan.

#### **2. Building a Healthy Community through Future Decision Making**

Many government decisions that impact health are not traditionally considered health-related. The City of Grand Marais can have a positive impact on the health of our community through considering the health impacts of decision making. The use of HIA is one way to include health as a consideration in decision making. We encourage the City of Grand Marais to continue to consider health in future decisions taking into account the social determinants of health\*, such as housing, transportation, access to health care, the built environment, natural environment, etc.

#### **3. Use of Pilot Projects to Inform the Design**

To help ensure a successful and appropriately designed project, pilot projects could be used to test out options for the final design. This may be most helpful with the amenities portion of the design, such as seating types and locations.

#### **4. Sharing Project as Success**

Leverage the Highway 61 project, including the use of the HIA tool, as a success for other communities to replicate and experience while visiting Grand Marais. Also use the project to expand the community's understanding of the connections between health and the built environment and the HIA results to increase the community support and buy-in for the corridor project.

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\* From U.S. Department of Health and Human Services, Healthy People 2020: "Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks." The five key areas (determinants) include: Economic Stability, Education, Social and Community Context, Health and Health Care, and Neighborhood and Built Environment.

*Conclusion*

The HIA findings suggest that the proposed Highway 61 redesign will have an overall positive impact on the health of the community in the health concern areas. With the construction of the new corridor design, it is likely to have positive impacts on the safety of the corridor, as well as access related to connectivity and accessibility/mobility. It is possible that it will also have positive impacts on economics. In spring 2015, the City of Grand Marais was awarded project funding from the Transportation Alternatives Program for continuous pedestrian and bicycle facilities with a Highway 61 redesign project to be constructed in 2019/20. The scope and final design of the project are undetermined at this time. However, in order to maximize the positive health impacts of the Highway 61 project, the HIA Committee developed ten recommendations, which upon implementation will improve the benefits to the community especially for seniors, the disabled, and children.

# Health Impact Assessment (HIA)

*Of Highway 61 Corridor Redesign, Grand Marais, MN*

## INTRODUCTION

Health Impact Assessments (HIAs) allow health considerations to be brought into rigorous policy conversations, especially with processes focused on the built environment and social policies and plans that do not typically consider health. HIA is a “**systematic process** that uses an array of **data sources and analytic methods** and considers **input from stakeholders** to determine the potential effects of a proposed policy, plan, program, or project on the **health of a population and the distribution** of those effects within the population. HIA provides recommendations on **monitoring and managing those effects.**”<sup>\*</sup> The HIA process includes six steps (Screening, Scoping, Assessment, Recommendation, Reporting, and Monitoring and Evaluation) and the following report is laid out by the steps.

While HIA is a systematic process, it is also iterative. At each HIA committee meeting held over the course of a year, discussions were held on data, assumptions, and local conditions. These discussions led to requests for further data or information, all of which culminated in ten recommendations. In addition to the iterative nature of this HIA, it is important to understand that the status of the Highway 61 redesign process was in flux while this HIA was being conducted. At the outset of the HIA process, the Highway 61 Revisited community and stakeholder meetings were purely an exploratory exercise meant to build consensus around concerns and opportunities within the corridor. In December of 2014, the City of Grand Marais applied to federal funds from the Transportation Alternatives Program (TAP) for a connected bicycle and pedestrian infrastructure component of a prospective future Highway 61 design. At the completion of the HIA process, the City of Grand Marais was awarded TAP funding of \$600,000 (plus matching funds of \$151,140) to include bicycle and pedestrian infrastructure along the Highway 61 corridor through Grand Marais in 2019. In addition, the Minnesota Department of Transportation (MnDOT) has scheduled a reconstruction project for this corridor in 2020 (these dates will need to be reconciled). The specific design for the 2019/20 highway project is not determined at this time. It is important that the recommendations created through this HIA and the knowledge of the HIA Committee be carefully considered as an important resource as the City and MnDOT embark on a full design process for the Highway 61 corridor through Grand Marais.

## STEP 1: SCREENING

During spring 2014, the Sawtooth Mountain Clinic identified a potential opportunity for a Health Impact Assessment (HIA) to be conducted in conjunction with a local streetscape design

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<sup>\*</sup> National Research Council, *Improving Health in the United States: Role of Health Impact Assessment*, 2011.

process. As part of its Moving Matters project, the Clinic has been partnering with the City of Grand Marais on its plan to redesign the main corridor through Grand Marais, Highway 61. After identifying this project as a possible fit for an HIA, the Clinic undertook a screening process to decide whether an HIA would be feasible, timely, and add value to the decision-making process before proceeding.

### *Background*

The City of Grand Marais in Minnesota's Cook County commenced a Highway 61 Streetscape Design Process mid-2014. Highway 61 bisects the City of Grand Marais, Cook County, and Grand Portage. Through Grand Marais, Highway 61 has an average daily traffic count of 4,300 vehicles, with significant seasonal increases in the busy summer and fall tourist season. This corridor in Grand Marais is the economic and social heart of Cook County, as well as a much beloved area for Minnesotans. The City of Grand Marais in partnership with the Sawtooth Mountain Clinic, and with funding from Blue Cross Blue Shield of Minnesota's Center for Prevention, are undertaking a three-year project called Moving Matters. For this project, elected leaders are working with the community to create safer and more accessible areas for people to walk and bike throughout Cook County and Grand Portage. The Highway 61 Corridor Redesign project in Grand Marais is a hallmark of the Moving Matters project. It was identified as a main goal not only for the opportunity to create a more walkable, bikeable core of the community but also as an opportunity to help make the connection between health and transportation infrastructure in a rural area.

### *Screening – Key Stakeholders*

After identifying this streetscape design project as a potential opportunity for an HIA, the Sawtooth Mountain Clinic staff undertook a screening process to determine whether it would be feasible, timely, and add value to the decision-making process. The key stakeholders in this project that were consulted in the screening included the City of Grand Marais (City Administrator and City Councilors), the local Active Living Steering Committee, the Sawtooth Mountain Clinic Board of Directors and CEO, and the core Moving Matters project staff. These entities are all participating in the streetscape process as well as the community at large, property owners along the corridor, and Minnesota Department of Transportation (MnDOT).

Each key stakeholder was contacted to help gauge its interest in the HIA and to gather more information to assess whether it would be feasible and timely. For the City of Grand Marais, the City Administrator (Mike Roth), City Councilors (Tim Kennedy and Jan Sivertson), and streetscape project consultant (CJ Fernandez) were contacted via email and phone about the HIA. They were asked whether they saw a potential value-added with the addition of an HIA and if it would fit with the existing timeline for the streetscape process. The Active Living Steering Committee was consulted at its monthly meeting as it has been the driver behind the Moving Matters project and the strong Active Living work in the community. Lastly, the Sawtooth Mountain Clinic Board of Directors was consulted during its monthly board meeting at the Sawtooth Mountain Clinic. Staff members, Kristin DeArruda Wharton and Maren Webb, were involved in the conversations and were identified to serve as the lead staff on the HIA.

### *Screening – Added Value, Timeliness, and Feasibility of an HIA*

All parties consulted expressed interest in pursuing an HIA in conjunction with the Highway 61 design process. Many of the goals of the Highway 61 streetscape design process are intended to positively impact health: to improve the safety of highway crossings, safely accommodate bicyclists, and improve pedestrian infrastructure and connectivity. It was determined that the HIA would support these goals by providing a formal process and objective data to inform the design process and incorporate health into planning for this important piece of infrastructure. Additionally, performing an HIA had the potential to broaden the scope of health impacts discussed and examined beyond safety and accessibility considerations to ensure a holistic view of health was considered in the design. There was also interest in pursuing the HIA as it could catalyze the understanding of the impact of public infrastructure on health and accessibility in our rural area. As the streetscape process and HIA will address many issues and concerns regarding Highway 61 that are applicable to other parts of Highway 61 in the county, the HIA has the potential for applicability beyond Grand Marais, with similar issues in other communities along Highway 61.

The existing timeline for the Highway 61 streetscape design process was acceptable for the addition of a concurrent HIA process. At the time of the screening, there was still flexibility in the process, as it was still developing through conversation between the City of Grand Marais, the consultant, and the Moving Matters project. With all parties interested, it was concluded that the timeline could be accommodated for the HIA, and that the HIA would inform the design process as it developed as well as the key moment of the decision point (when the City Council votes to approve the resulting design).

Other than timeline, the other necessary components for feasibility of the HIA would be staffing and establishing an HIA Committee to guide the process. With two Sawtooth Mountain Clinic staff working on the Moving Matters project, there was enough flexibility in staffing that one staff member, Maren Webb, would be able to devote the necessary time to the HIA, with additional support from staff member, Kristin DeArruda Wharton. The Sawtooth Mountain Clinic would be the lead organization behind the HIA, in partnership with the other key stakeholders. With support from the Active Living Steering Committee, this committee became the core of the HIA Committee with invitations made to other important stakeholders, including health care representatives and corridor business owners. The group also has representatives from public health, law enforcement, city government, parks and recreation, elected officials (city, county, and school board), and community representatives (senior, disabled, and general).

### *Screening Conclusion*

After undertaking the screening process, the Sawtooth Mountain Clinic determined that an HIA with the Highway 61 Streetscape Design Process would be feasible, timely, and would add value to the decision-making process. An application was made for support from the Minnesota Department of Health, through a request for proposal. In August 2014, the Clinic was notified that the HIA had been funded and started in September 2014.

## STEP 2: SCOPING

During fall 2014, the scoping process commenced for the Highway 61 Revisited Health Impact Assessment (HIA). The scoping step is used to identify the relevant issues to be examined in the HIA as well as methods for assessment. The HIA Steering Committee and project staff were the core group involved in this step, although community input was also a vital component.

As the focus of this HIA is grounded in Grand Marais, the project staff started the scoping process by establishing the HIA Steering Committee and establishing a means to gather community input on relevant health issues. On September 4<sup>th</sup>, 2014, the City of Grand Marais and Moving Matters held the first community meeting for the Highway 61 Revisited project. At this meeting, comment cards were used to collect feedback from attendees. To start the conversation about the health issues, a question was included about community health concerns: “What do you believe are the greatest health concerns in our community? Circle the ones that are related in any way to Hwy 61.” There were 60 community members in attendance at this meeting and an additional 27 comment cards were completed online. With the responses to this question, project staff compiled a list of the health concerns shared, ranking them by frequency shared. This list was then shared with the HIA Committee.

The first gathering of the HIA Committee occurred on Tuesday, October 7<sup>th</sup>, with presentations about Health Impact Assessments and local baseline data. After presentations, the group was presented with the same question as was used previously with the attendees at the public meeting. The HIA Committee had a discussion and brain stormed a list of health concerns. This conversation often turned broader than just the corridor project, considering larger health issues and problems. The group was then given a printed copy of the list of health concerns shared by the community. This allowed the HIA Committee to see where their brainstormed list overlapped or did not overlap with the community list. This allowed them to narrow down top priorities, resulting in the focus areas:

- A. Safety
  - a. **Crossing Safety:** lack of safe crossings and vehicle behavior (speed compliance, not yielding to pedestrians, international truck route).
  - b. **Walking and biking safety:** lack of dedicated and connected infrastructure for walking and biking, seasonal issues (congestion in summer, snow clearing in winter).
- B. Access
  - a. **Connectivity:** lack of connected bicycle and pedestrian infrastructure within the Highway 61 corridor creates barriers to accessing destinations and services.
  - b. **Mobility/accessibility:** lack of accessible infrastructure such as curb cuts, especially partnered with handicap parking places, issues with snow clearing/de-icing, public transportation limitations (time of day, pick up areas, etc.), lack of parking near destinations for seniors and handicapped.
- C. Livability/Quality of Life/Economics
  - a. **Economic potential of corridor:** currently less vibrant than downtown, but ideal location so opportunity for growth exists. Some changes are already in process (new visitor’s center and Voyageur Brewing).

- b. **Individual economics:** high cost of transportation, food, housing, etc. Connection to health: difficult to spend the time to walk/bike for transportation if working multiple jobs, relationship between health status and income status, etc.

Also part of the discussion was who the most impacted populations would be for the Highway 61 project, with special consideration for children and seniors. At this first HIA Committee meeting, the group also completed a pre-evaluation to create a baseline for knowledge of HIA as well as collect input on the goals for this HIA. Afterwards, project staff compiled the information gathered for review at the second meeting.

Baseline community data was gathered to present a picture of our community and “where are we now.” The committee reviewed and discussed the following baseline information.

#### *Grand Marais and Highway 61*

The City of Grand Marais has 1,351 residents and the County has 5,176 residents.<sup>i</sup> While one of the smallest counties in Minnesota by population, it is estimated that 1.1 million visitors come to Cook County each year.<sup>ii</sup> Highway 61 runs through the entire county, with Grand Marais as hub connecting schools, library, County Courthouse, Clinic and Hospital, grocery stores, DMV, post office, and more.

#### *Demographics and other Data: Housing, Poverty Rates, etc.*

Cook County has a higher than average number of older adults and is predicted to grow at a faster rate than the state average. In 2010, 23% of Grand Marais, 20.3% of Cook County, and 12.9% of Minnesota were 65+.<sup>iii</sup> Cook County has a lower than average number of children, with 18.1% of Grand Marais, 16.8% of Cook County, and 24.2% of Minnesota under age 18.<sup>iv</sup> While smaller in number, the health and safety of our children is of vital importance to our community. More of these populations rely on walking, biking, and other alternate modes of transportation on a daily basis. And they are often more at risk for injuries from collisions, with slower crossing speeds and sometimes difficult visibility. 42.7% of Grand Marais, 33% of Cook County, and 26.7% of Minnesota live below 200% of the poverty rate.<sup>v</sup> Our communities have a high percentage of working poor. We also see a seasonal shift in employment, with 7.8% of Cook County workers unemployed in February 2014 and 3.3% in August 2014.<sup>vi</sup> Housing is another challenge, with a 0.0% rental vacancy rate in Grand Marais, 0.7% in Cook County, and 5.2% in Minnesota.<sup>vii</sup> At the same time, most housing units are not occupied by residents (47.7% occupied vs. 89.5% statewide) as so many are second homes or vacation rentals, which influences the cost of housing. This is challenging for a lower wage workforce, resulting in many residents spending more than 30% of their income on housing (31.9% of renters in Cook County and 34.6% of owners with a mortgage).<sup>viii</sup> Young people and young families have been at the forefront of local conversations about the future of our community, in regards to the high cost of living, limited housing stock, and mostly tourism based low wage jobs.

#### *International Workers*

Each year, Cook County businesses bring as many as 200 international students to work for a season during their college years. Most of these workers come from financially disadvantaged parts of the world: Turkey, China, Bulgaria, Jamaica, and many other countries. During their time in Cook County (often May – October), most are not able to drive. Walking and biking become their main modes of transportation, with some employers also providing shuttles to certain events. In Grand Marais, international workers are one of the largest populations of regular bikers for transportation.

*Grand Portage Tribe*

This area is the historic and traditional home of the Grand Portage tribe, who have had a significant cultural and economic impact on our community. Native Americans account for about **11% of the total county population, but about 20% of school children**. Chronic disease prevalence in Cook County is similar to Minnesota American Indian averages and is significant for diabetes and cardiovascular disease.

*Prevalence of Disease*

According to the 2010 Bridge to Health Survey, Cook County has a higher prevalence of diabetes, heart trouble/angina, and high blood pressure than the region and Minnesota on average.

	Cook County	BTH Region	MN
High cholesterol	24.7%	22.5%	33.9%
Diabetes	8.5%	8.0%	6.4%
Heart trouble or angina	9.5%	9.4%	6.4%
Stroke problems	1.7%	2.6%	2.3%
High blood pressure	28.1%	26.6%	21.6%

*Preventative Health Practices*

According to the 2010 Bridge to Health Survey, Cook County has a slightly lower rate of physical activity.

	Cook County	BTH Region	MN
Overweight	33.1%	33.6%	37.9%
Obese	20.4%	17.6%	25.4%
20+ min of vigorous physical activity 3+ days/week	29.1%	30.2%	29.4%
Consumption of fruits/veggies 5+ times/day	17.2%	16.2%	21.9%

At HIA Committee meeting #2, held on Tuesday, November 4<sup>th</sup>, the group reviewed the previously compiled goals and health concerns for the HIA, discussed and brainstormed relevant indicators and data sources, and received a presentation about pathways by Kristin Raab (Minnesota Department of Health technical assistance provider) and reviewed first drafts of project pathways. The HIA goals that were agreed to were as follows:

- Introduce community health as an important consideration for public projects, such as infrastructure, etc.
- Influence the Highway 61 redesign to result in a design that makes safe walking and biking an option year-round.
- Develop a broader base of support for healthy community projects, with increased community partnerships between businesses, health care, and municipal government.

The group also received a draft list of indicators and data sources that could be used for the HIA. Several other data sources and indicators were identified during the meeting and added to the plan.

After the second HIA Committee meeting, project staff used Human Impact Partner’s Scoping Exercise worksheet to gather together the indicators and data sources and to develop research questions.

**SAFETY:**

Existing Conditions Research Questions	Impact Research Questions	Indicators	Data Sources	Methods
<b>What accidents have occurred along this stretch of road?</b>	With the corridor redesign, how will the proposed changes impact accident rates and severity?	Number of accidents Types of accidents Locations of accidents Community perception of safety	MnDOT crash data MDH source for hospitalization and crash data Vehicle traffic (MnDOT) Bike/ped counts Data gathered through Hwy 61 process re: issues and safety	1. Literature review for impact of design features on safety and accidents
<b>What levels of walking and biking are happening in the corridor?</b>	How will the proposed changes impact the levels of walking and biking in the corridor?	Number of people walking Number of people biking	Bike/ped counts	1. Literature review for impact of design features on walking and biking levels 2. Automatic pedestrian and bicyclist counters

<b>Are traffic speeds an issue in the corridor?</b>	Will traffic speeds be reduced with the design changes?	Average traffic speed	Number of speeding tickets Speed study with speed gun	1. Literature review for impact of design features on traffic speeds 2. Radar speed gun study
<b>What types of crossings are perceived as safer and statistically are safer?</b>	Will the proposed crossing treatments increase perceived safety and reduce near misses and crashes between cars, bikes and vehicles?	Current types of crossings (distance, markings, etc.) Perceptions of safety Number of accidents Types of accidents Locations of accidents	Walkability audit (add crossing specs to the audit) Data gathered through Hwy 61 process re: issues and safety MnDOT crash data MDH source for hospitalization and crash data Vehicle traffic (MnDOT) Bike/ped counts	1. Assessment of current crossings 2. Literature review for impact of crossing treatments on perceived and real safety

**ACCESS:**

<b>Existing Conditions Research Questions</b>	<b>Impact Research Questions</b>	<b>Indicators</b>	<b>Data Sources</b>	<b>Methods</b>
<b>What are the missing connections for bikes and pedestrians in the corridor?</b>	With connected bike and pedestrian infrastructure, will there be better access to priority destinations on foot and bike?	Sidewalk and bike infrastructure gaps Distances to main destinations Handicapped parking? Curb cuts?	Sidewalk assessment Walkability audit Snow clearing map List of main destinations (from community meetings) and assessment	1. Mapping of key destinations with connected infrastructure to assess connectivity and access

<b>Where is the accessible infrastructure missing, such as curb cuts, handicap parking places, etc.?</b>	How will the design changes impact mobility and accessibility for people of all ages and abilities in the corridor?	Number of people walking or biking that have mobility challenges (disability, seniors, young children)	Bike/ped counts (especially 2-hour count with child data) Walkability audit Focus group of disabled, the elderly and students to ask about key destinations, current barriers, and safety concerns OR perception of design changes on perceived safety	1. Literature review for impact of design changes on mobility and accessibility and levels of use by these populations 2. Review of ADA requirements and impact on accessibility and mobility 3. Focus group – qualitative data collection
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**LIVABILITY/ECONOMICS:**

Existing Conditions Research Questions	Impact Research Questions	Indicators	Data Sources	Methods
<b>What is the economic productivity of the businesses along the corridor?</b>	How would the design changes impact the economic productivity along the corridor (number of businesses, types of businesses, addition of jobs)?	Property values Tax assessment	Property values from county assessor’s office Tax records Anecdotal stories of other communities that have done a corridor streetscape project in the past and how that impacted economic productivity	1. With current property values and tax assessment data, projecting future changes based on a literature review looking at impact of designs on property values, etc.

As the scoping process wrapped up, the project timeline needed updating. This was partially due to the status of the HIA but was also due to changes in the Highway 61 Revisited process timeline. The City of Grand Marais and its consultant revised the project timeline to create more time for community engagement and input for the process.

## STEP 3: ASSESSMENT

With the Scoping completed, the Assessment portion of the HIA commenced. The following was compiled and presented to the HIA Committee in December 2014 via PowerPoint presentation.

### SAFETY:

*Existing Conditions Research Question: What accidents have occurred along this stretch of road?*

Between 2004 and 2013, 46 accidents were reported along Highway 61 through Grand Marais.<sup>ix</sup> Of these reported accidents, two involved bicyclists. Six accidents involved injuries or possible injuries, with 40 accidents involving property damage.

Certain intersections within the corridor have had more accidents than the others. Between 2006 and 2012, 6 accidents occurred at 1<sup>st</sup> Ave West (26%), 5 accidents at 5<sup>th</sup> Ave West (22%), 2 accidents at Broadway (9%), and 2 accidents at Wisconsin Street (9%), of 23 reported accidents<sup>x</sup>. Of these 23 accidents, 5 individuals were emergency department treated and released (no hospitalizations, no deaths). One of the 5 cases had a moderate injury, while the other four were mild injuries.



While there are few bicyclist- or pedestrian-involved accidents, there is a public perception that this corridor is dangerous for people walking and biking. As one community member commented, “I’m surprised 61 through town doesn’t cause more car/car, car/pedestrian, car/bike accidents than it does.”<sup>xi</sup>

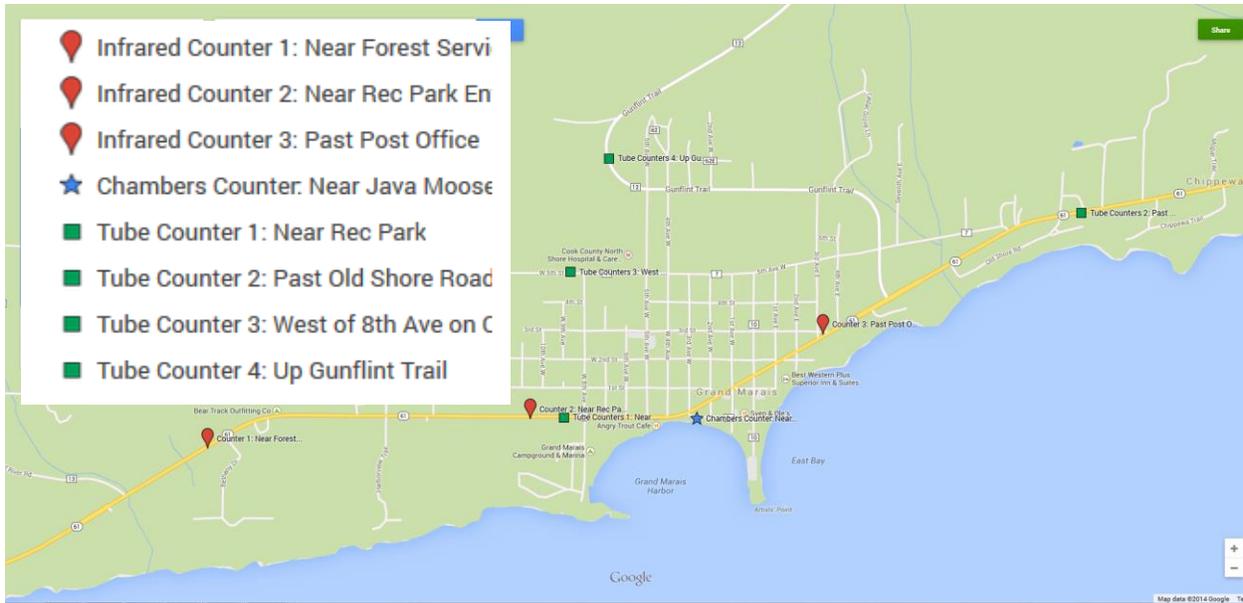
In July 2014, a pedestrian was struck by a vehicle while crossing Highway 61 in the crosswalk at Broadway Avenue in Grand Marais by a motor vehicle.<sup>xii</sup> Fortunately, the pedestrian suffered only minor injuries—abrasions to his left and right forearms—and did not need to be taken to the hospital. Often community members also talk about “near-misses” that they have seen between vehicles and pedestrians within the corridor.

*Impact Research Question: With the corridor redesign, how will the proposed changes impact collision rates and severity?*

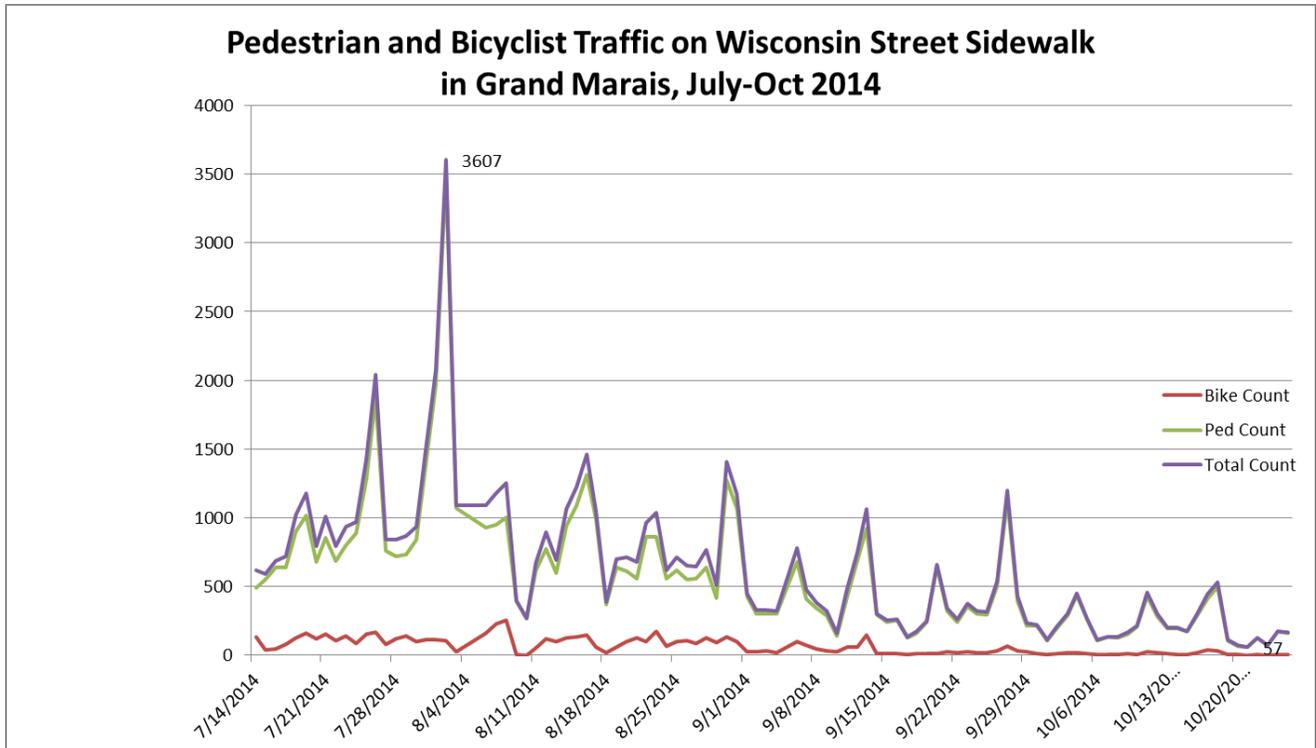
A final design for the Highway 61 corridor has not yet been created; therefore the two concept designs will be used in its stead as they are expected to inform the final design. The proposed design concepts will likely reduce the number of collisions in the corridor. Both concepts narrow the roadway, essentially acting as a road diet. Road diets can reduce crash rates by 25-47% and reduce crash injuries 34% on small town roadways.<sup>xiii</sup> There are fewer and less severe accidents on minor roads or narrower streets with lower design speeds, purpose-built bicycle-only facilities (i.e., bicycle lanes and paths), and street-lighting, paved surfaces, and low-sloped grades.<sup>xiv</sup> These components are all included in the concept designs, including at the intersections with the most historic collisions, leading us to expect fewer and less severe accidents with the new design. “Squaring off” intersections when possible is the preferred design option, and is included in the concept designs in several locations, as it reduces exposure to cross traffic and reduces pedestrian and bicyclist crossing distance/exposure to traffic. This could also result in fewer collisions with less exposure. With more pedestrians and bicyclists in the corridor, there is “safety in numbers” as well as dedicated infrastructure separating modes (depending on design option).<sup>xv</sup> In the existing corridor, the most corridor crashes were in the area with the highest Annual Average Daily Traffic (AADT). If the final design reduces AADT, which can often happen simply with a larger road construction project that diverts traffic for a time, there could be a reduction in collisions. However, it is unlikely that AADT will be greatly impacted, as this road serves more than just local traffic that would be more likely to take alternate routes.

*Existing Conditions Research Question: What levels of walking and biking are happening in the corridor?*

While automobile traffic for the Highway 61 corridor is quantified and estimated by the Minnesota Department of Transportation (MnDOT), pedestrian and bicyclist traffic is not monitored by MnDOT. This gap was recognized by the Active Living Steering Committee and Moving Matters project, so a collaborative bicycle/pedestrian count project was undertaken with University of Minnesota professor and researcher, Greg Lindsey. The count efforts have made use of four different counting techniques: three automated and one manual. The three automated counters include the Chambers counter, Trailmaster infrared counters, and pneumatic tube counters. Manual in-person two hour counts, using MnDOT’s “Standard Manual Bicycle and Pedestrian Screenline Count Form” have been performed periodically over the last few years in Grand Marais. The automated counts were started in July 2014. Several locations and technologies were employed for an abbreviated time (several days to several months), while other location and technologies are still in use. A map of the count locations is included below.



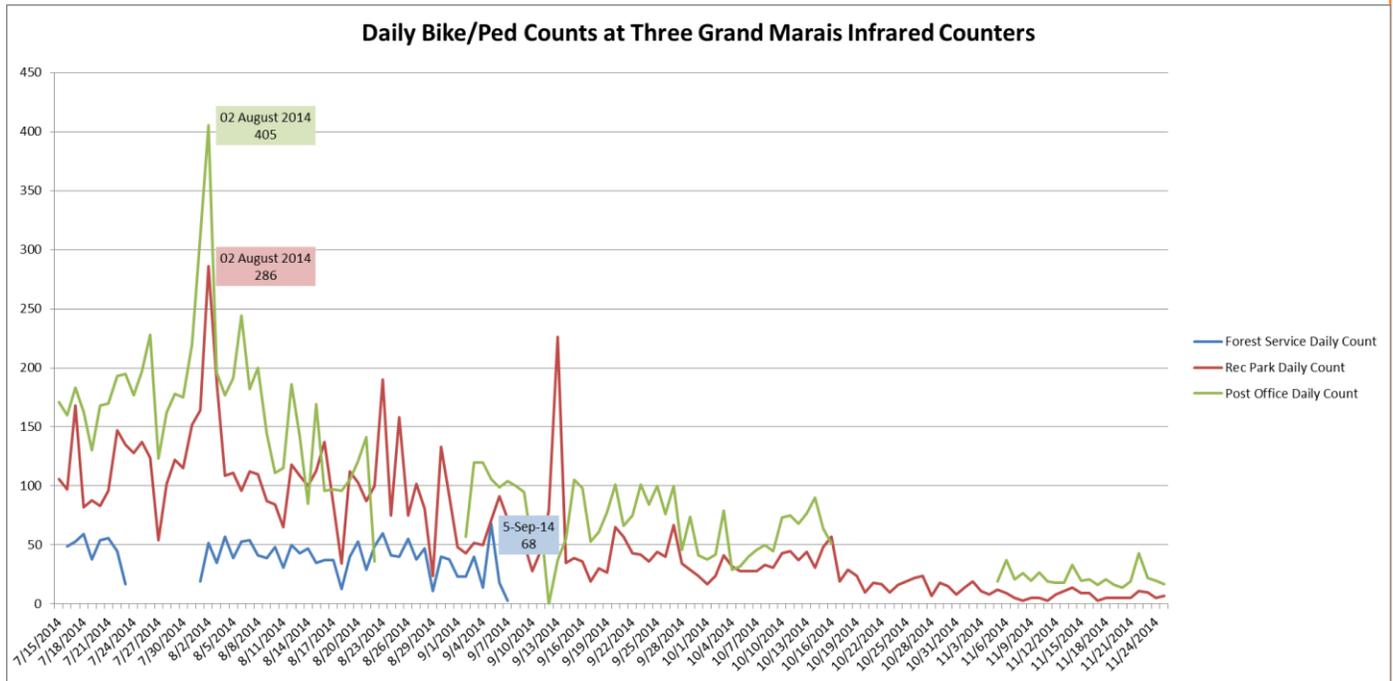
With the data collected thus far, we are able to gain additional understanding of the bicycle and pedestrian traffic, both in quantity and behavior. The most comprehensive data gathered is with the Chambers counter. This device counts separately bicyclists and pedestrians. This device is known to undercount, therefore, it is expected that these numbers are smaller than reality. The research team will be conducting further validation to estimate the amount undercounted. With 101 days of data between July and October 2014, over 64,000 individuals passed through the counter on Wisconsin Street across from Java Moose downtown: 90.31% of the count was pedestrians and 9.69% was people on bikes. The highest count during this period was on August 2<sup>nd</sup>, 2014 with 3,607 total people walking or biking by the counter. The lowest count day was October 21, 2014 with 57 pedestrians and no bicyclists. The average daily traffic for this time period (July-Oct 2014) was 62 bicyclists/day and 575 pedestrians/day. This counter is still in place.



The second technology used was the Trailmaster infrared counter. These devices do not distinguish between pedestrians and bicyclists and also tend to undercount. This undercounting is mainly due to an inability to count separately if people pass through the counter at the same time. The Trailmasters were deployed in three locations in Grand Marais and two remain in use. All three locations are along the Grand Marais bike path, which runs along Highway 61 on the south side from West Grand Marais (starting up the hill near Fall River Road) to the intersection of Highway 61 and Wisconsin Street, and starts again on the North side of Highway 61 from the Broadway intersection (stoplight) East until the New Gunflint Trail intersection. One counter was placed near the West portion of the trail from July to early September. There is a second counter just West of the entrance to the Rec Park (8<sup>th</sup> Ave West) and another just East of the Post Office on the trail (near 3<sup>rd</sup> Avenue East). These two counters are still in place.

The data collected from the three infrared counters, while not specific to bicyclist or pedestrian traffic, does provide some insight into the potential use of the corridor by pedestrians and bicyclists. Overall, the farthest east infrared counter, located east of the Post Office, had the highest average number of people passing by, followed by the counter near the Rec Park, and lastly the most western counter near the Forest Service Office.

There are some gaps in the data as is evident below. However, we are able to see some general trends. Both the Post Office and Rec Park counters had their highest counts on August 2, 2014, which was the Saturday of Fisherman’s Picnic, a large festival in Grand Marais. The downtown Chambers counter also saw a spike during this time. For the outlying counter near the Forest Service, its peak was on Friday, September 5.



*Impact Research Question: How will the proposed changes impact the levels of walking and biking in the corridor?*

The proposed concept designs create connected pedestrian and bicyclist infrastructure through the corridor. The levels of walking and biking in the corridor will likely increase with the addition of connected pedestrian/bicyclist infrastructure. With high pedestrian and bicyclist activity on Wisconsin Street, there is potential for spillover onto the Highway 61 corridor with better bike/ped connections and spaces. Dedicated infrastructure creates safer environments for walking and biking and with increased connectivity, can also be correlated with increased use.<sup>xvi</sup> Seasonal trends will continue with influence of visitors on numbers, however, snow cleared walking and biking infrastructure would increase activity on the corridor in the off season.

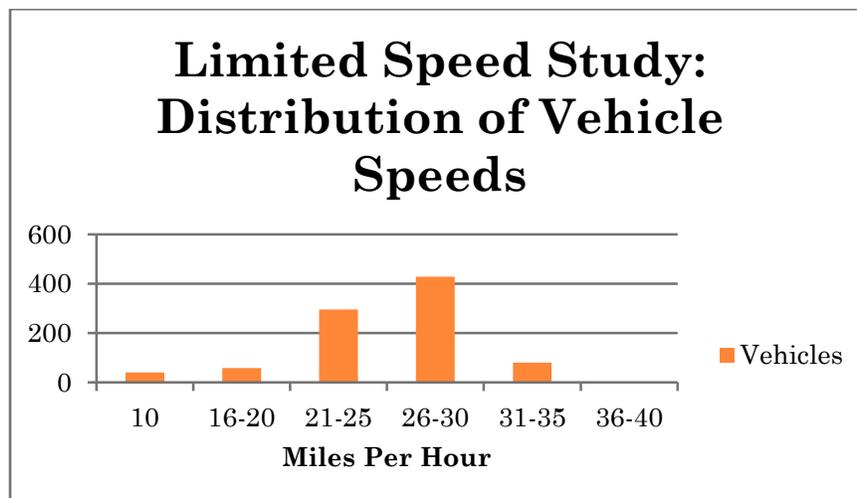
*Existing Conditions Research Question: Are traffic speeds an issue in the corridor?*

Traffic speeds and pedestrian safety have repeatedly come up during the public process for the Highway 61 project and other local conversations about safety and the highway corridor. Anecdotal evidence points towards traffic speeds being an issue. While data sets are limited, the Cook County Sheriff’s Department was able to provide traffic citation data for the corridor and a small scale speed

study was undertaken in December 2014. The Cook County Sheriff's Department provided number of traffic stops and citations issued in the Highway 61 corridor in Grand Marais. When the data was provided, the Sheriff relayed that there was some variability in the data as a new system was implemented during this window of time. In addition, not all traffic stops are for speeding. However, this is an indicator that there are infractions taking place within the corridor.

	2012	2013	2014 (as of early Dec)
Traffic Stops in Grand Marais Highway 61 Corridor	32	88	75
Citation Issued	5	8	18

The other speed related data was a limited sample speed study done in the corridor. The Cook County Sheriff's Department lent the Moving Matters project staff a speed gun and provided training on its use. The Moving Matters staff found a speed study toolkit available from a nonprofit called Transportation Alternatives, which included recommendations for how to conduct a speed study, data collection sheets, and other helpful information. With this resource, a limited sample speed study was conducted in December 2014. 8 hours of data were collected on weekdays in one location along the Highway 61 corridor in Grand Marais. The findings were of some surprise as the majority of vehicles were not speeding (speed limit is 30 mph for this part of the corridor). 9% of vehicles exceeded the speed limit for the complete data set; however, in some samples up to 14% of vehicles were speeding. The average speed was 26 mph and the highest speed observed was 36 mph.

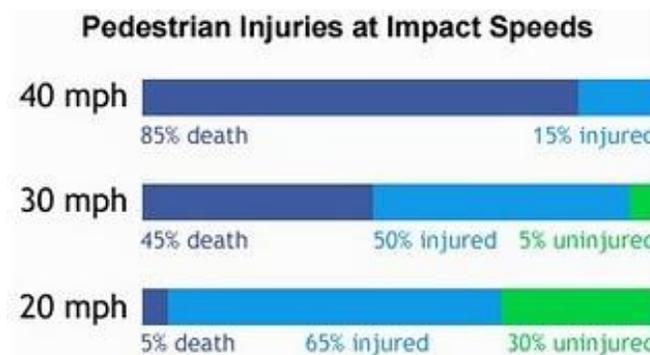


These unexpected results could be explained by a few factors. Seasonal variation may be at play here. During the winter months, when this data was collected, speeds may be lower due to road conditions, fewer drivers on the road, or even it being Cook County's off-season when residents may

be less busy. The other possible explanation is that the perception of people walking and biking is that drivers are exceeding the speed limit, because it feels unsafe. It may be that drivers are mostly going the speed limit or lower, but that this does not feel safe for people on foot or bike. Vehicle speeds do greatly influence both a driver’s ability to see a pedestrian or bicyclist as well as the survivability of a person hit by a motor vehicle. As is included in the NACTO (National Association of City Transportation Officials) guide, as vehicle speeds increase, a drivers peripheral vision narrows.<sup>xvii</sup> Slower speeds increase the drivers’ peripheral vision and increase the visibility of anyone walking, biking, or crossing the street.



In cases where there is a collision, speeds greatly influence the degree of pedestrian injuries, as is noted in the below image.<sup>xviii</sup>



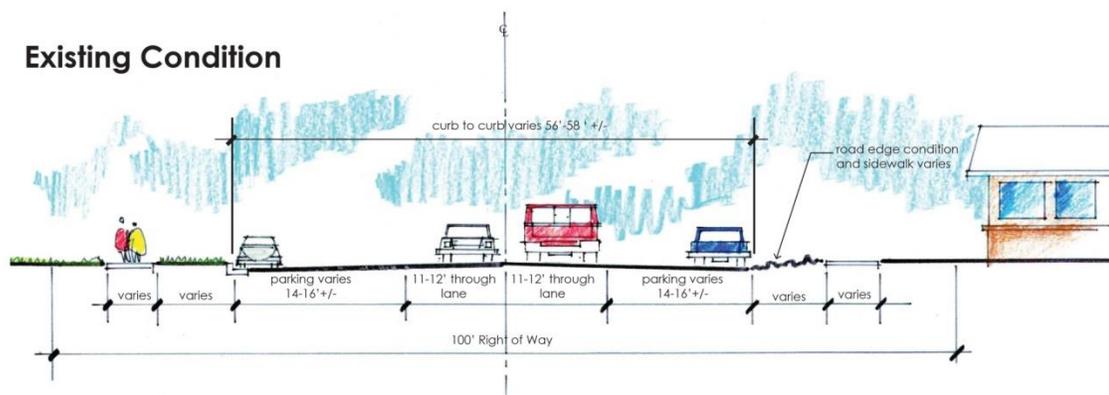
With these traffic speeds and injury or death rates, it is not surprising that the corridor does not feel safe to pedestrians with vehicles going the speed limit of 30 mph. At a speed of 30 mph, 45% of pedestrians hit would die and only 5% left uninjured. As one community member shared during the Highway 61 Revisited Public Process, “I’m surprised 61 through town doesn’t cause more car/car, car/pedestrian, car/bike accidents than it does.”

*Impact Research Question: Will traffic speeds be reduced with the design changes?*

The two concept designs that are being considered both include strategies to reduce traffic speeds to help “foster and enhance the existing Grand Marais ‘village’ character” per the design team. These strategies include narrowing of the driving lanes, bump-outs, vertical enclosure, etc., and while there is interest in keeping speeds down, the community feedback was also that traffic needs to keep moving during the busy summer season. Narrower driving lanes help promote slower driving speeds.<sup>xix</sup>

*Existing Conditions Research Question: What are the current crossing distances, location of marked crosswalks, and types of crosswalk markings on the current corridor?*

Crossing distances are wide, being 56-58 feet across Hwy 61 and up to 100 feet across driveways. These crossing distances put pedestrians at higher risk for vehicle collisions as they have to spend a longer time in the vehicle domain (in the road).



In the corridor there is a variety of crosswalk types: unmarked, continental and standard painted crosswalks, and partially painted crosswalks. There are no marked crosswalks in the corridor east of Broadway Avenue. There are marked crosswalks at Broadway Ave, 1st Ave W., 2nd Ave W. (1/2 set), 5th Ave W. (1/2 set), and 8th Ave W. (1/2 set). Other treatments include seasonal in-road bollards (5<sup>th</sup> Ave W. and 3<sup>rd</sup> Ave W.) and some pedestrian crossing signs.

*Impact Research Question: Will the crossings in the proposed designs increase perceived safety and reduce near misses and crashes between cars, bikes and vehicles?*

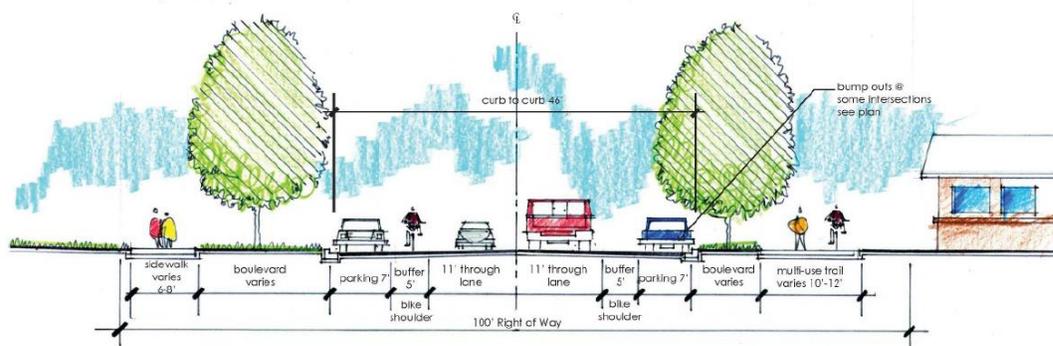
The proposed concept designs will most likely reduce the injury/collision risk for pedestrians crossing Hwy 61 with shorter crossing distances. These shorter crossing distances decrease the pedestrian’s exposure to collision hazards. The shorter crossing distances are achieved through several changes, including the narrowing of the roadway curb to curb, the addition of bump outs, and the squaring off of intersections. In the designs, the roadway is narrowed from the current 56”-58” curb to curb to 46” in areas without a turn lane and 54” with a turn lane. This is accomplished with 11 foot driving lanes, 7 foot parking lanes, and a 5 foot buffer/bike shoulder. The crossing distances are also narrowed with the use of bump outs, shortening the distance for crossing and also making

pedestrians waiting to cross more visible to oncoming traffic. In addition, the “squaring off” of several intersections will also result in shorter crossing distances parallel to Highway 61.

Continental crosswalk markings are used in the designs and make crosswalks more visible to drivers, increasing awareness of pedestrian activity. More marked crossings will create closer designated crossing areas, which are more likely to be used by pedestrians.

The perceived safety will also likely improve, due to the impact on traffic speeds (see traffic speeds question above) in addition to these crossing improvements.

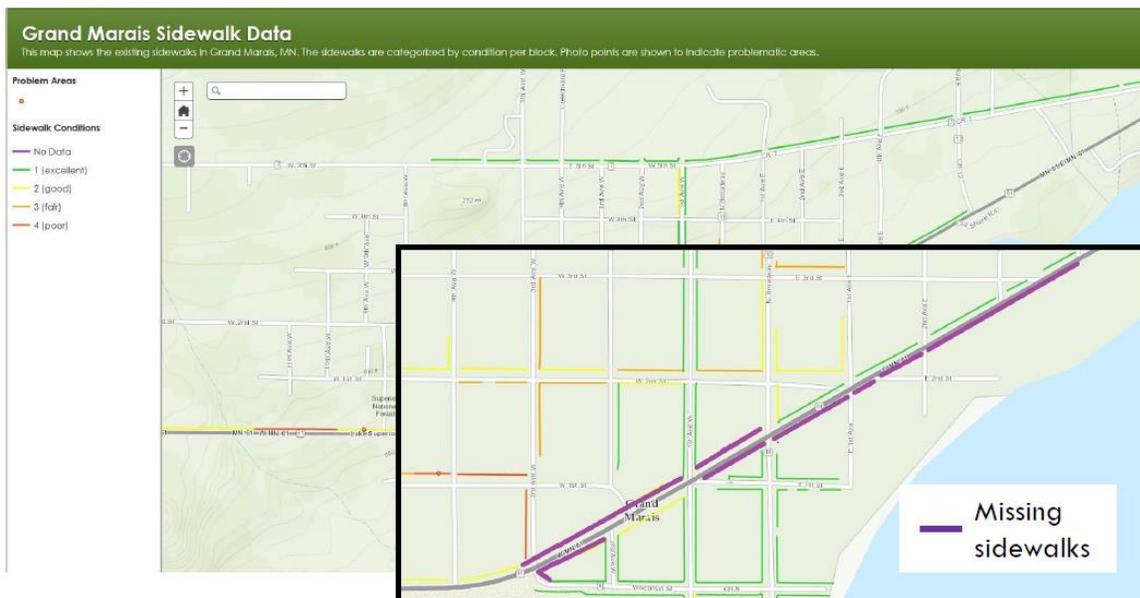
**Final Concept: Road**

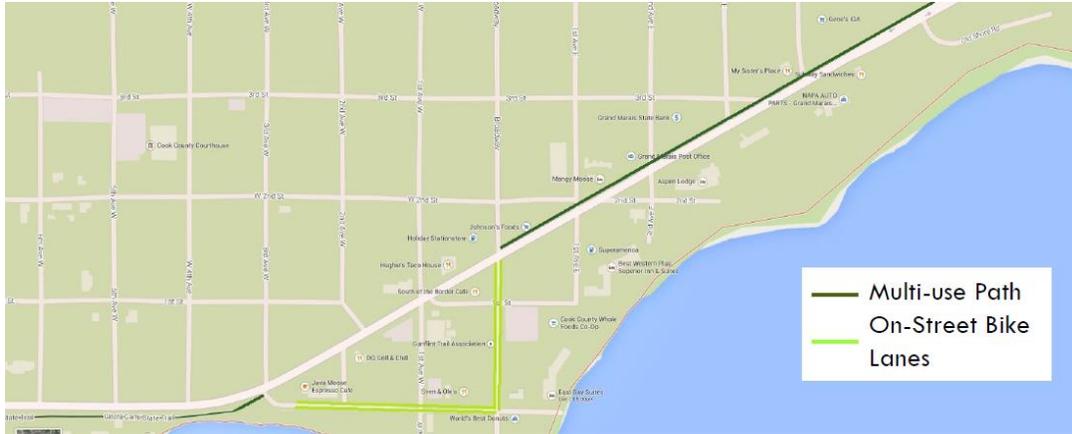


**ACCESS:**

*Existing Conditions Research Question: What are the missing connections for bikes and pedestrians in the corridor?*

There are missing connections for people on bikes and foot in multiple locations along the Highway 61 corridor. This was one of the recognized problems at the start of the Highway 61 Revisited process.



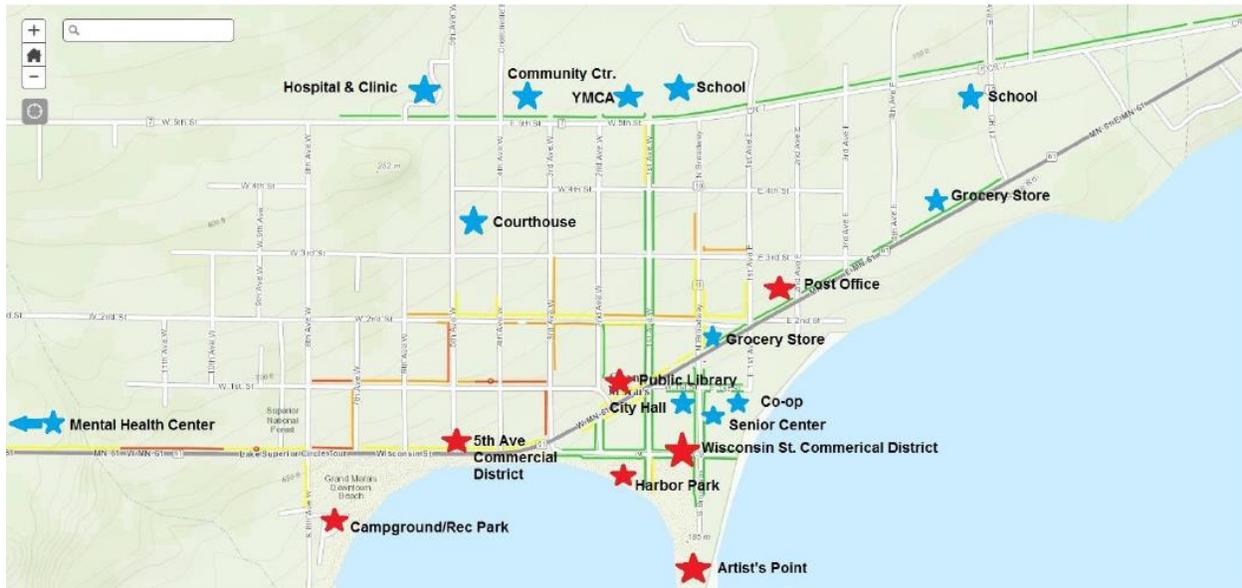


*Impact Research Question: With connected bike and pedestrian infrastructure, will there be better access to priority destinations on foot and bike?*

As part of the community process around the Highway 61 project, community members were asked to identify top destinations in Grand Marais.

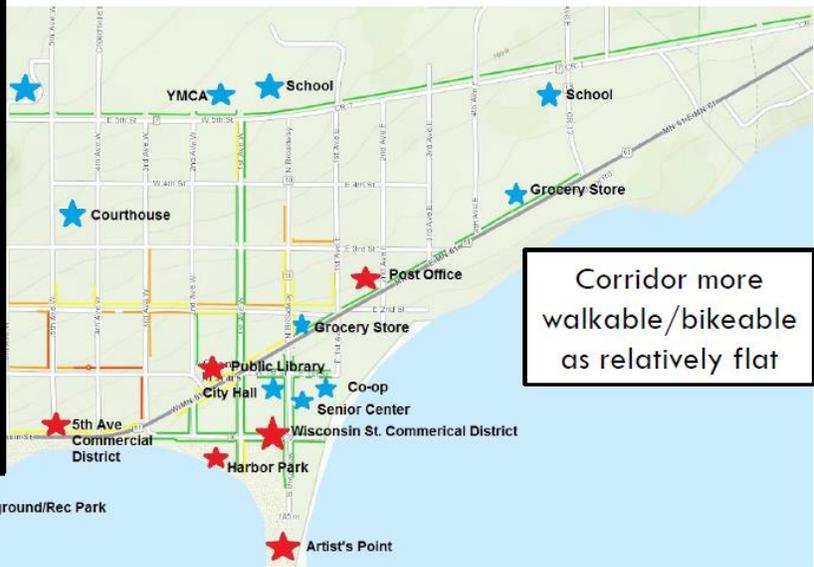


Many of these destinations are along the corridor or are accessed via the corridor.



Many other important destinations in Grand Marais, including the grocery stores, City Hall, and the schools, are off the corridor or often accessed via the corridor. Many of these destinations are also less than a mile apart. The corridor is also relatively flat, allowing for easier walking and biking.

- Dockside to Post Office: .5 mi (10 min walk)
  - ISD 166 to Library: .4 mi (7 min walk)
  - Library to IGA: .5 mi (10 min walk)
- Most destinations less than 1 mile apart**  
(20 min walk or 7 min bike)



Parts of the corridor that are currently missing bicycle and pedestrian infrastructure are between many of these key destinations. With the addition of connected bicycle and pedestrian infrastructure, these key destinations will become more accessible on foot and by bike.

Each concept design handles bicycles in a different manner: on-road bike lanes or an off-road multi-use trail. If on-street bike lanes are employed, we would expect to see more confident, experienced

bicyclists using this infrastructure. If a multi-use trail is employed, we would expect to see more of a mix of bicyclists, including families with young children.

While the implementation of either concept design would greatly improve the options for walking and biking, without improved bike/ped connections between the corridor and other key areas, the increases in walking and biking will be less than its potential. Therefore, city-wide connectivity is also important and will not be remedied completely by a Highway 61 project.

*Existing Conditions Research Question: What challenges do high risk populations (such as seniors, children, and disabled people) face in the Highway 61 corridor with accessibility?*

Twenty-three percent of Grand Marais' population is 65+, which is nearly twice the state average.<sup>xx</sup> Concerns that seniors have expressed include:

- “Very difficult and dangerous to cross the road”
- “Not shoveled sidewalks”
- “Lack of safe sidewalks”
- “Need curbs and sidewalks all along corridor and benches/seating along the sidewalks”

In a July 2014 bike/pedestrian count on the corridor, 30% of bicyclists that passed by were children. Children/young students cannot drive, so they are driven, walk, or bike for transportation. Students expressed these concerns and thoughts in several student focus groups:

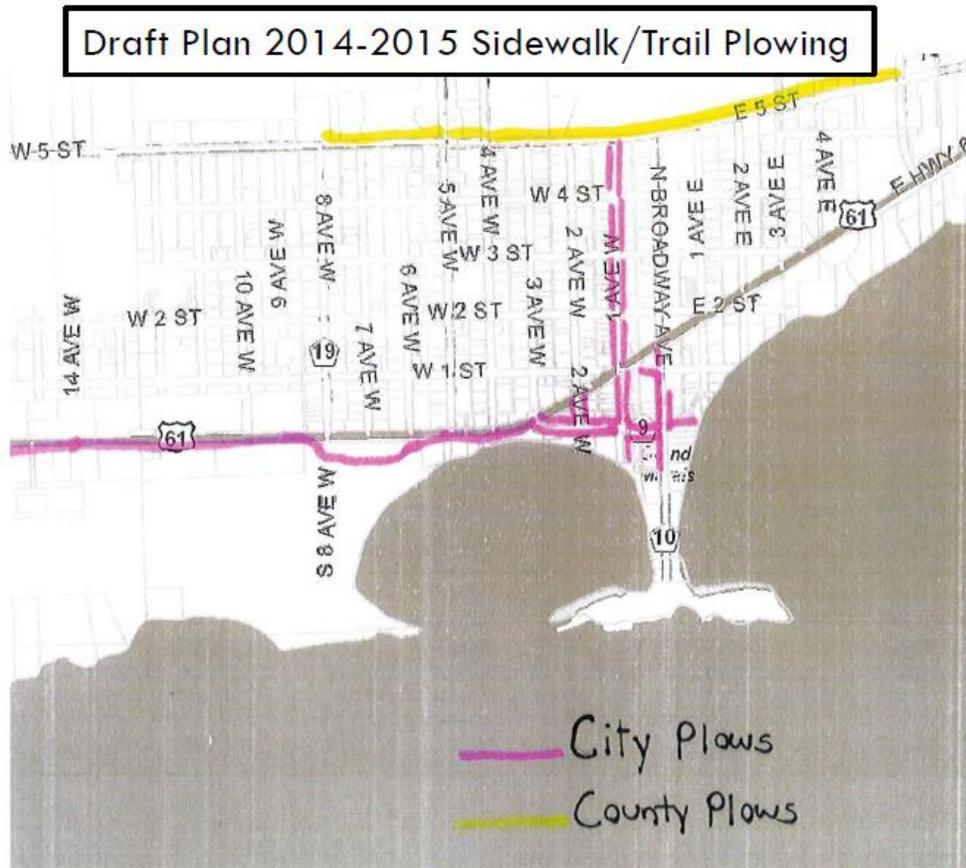
- “Cars don’t stop.”
- “You pretty much have to make a gesture like stepping out in the road before you try to cross. Even in the crosswalks, cars don’t stop.”
- Icy in the winter: “I slipped and almost fell in street into a car.”
- Lack of sidewalks (especially up/down hill), bike lanes, unclear crosswalks.
- When asked how old a person should be to cross Highway 61 without an adult, students responded 11 years old.

For people that are disabled or have difficulty with mobility, there are additional issues. The current corridor lacks not only pedestrian connections but also lacks accessible connections (curb ramps, cleared walkways, etc.). There is currently no handicap parking on Highway 61 and limited amounts on adjacent streets. Any new construction would be required to be American with Disabilities Act (ADA) accessible, although this may now ensure all accessibility needs are met. This area needs further research, as it is vital to have the infrastructure meet the needs of all abilities.

*Impact Research Question: How will the design changes impact mobility and accessibility for people of all ages and abilities in the corridor?*

Seniors, children, and the disabled may have the most to gain from this redesign, as many rely on walking for transportation. They, on average, suffer from the highest pedestrian collision rates.<sup>xxi</sup> People who are 65+ years old nationwide make up 12.6% of population, but account for 21% of pedestrian fatalities.<sup>xxii</sup> Fatal pedestrian injury remains a leading cause of death for those 15 years and younger, higher than drowned in swimming pools, killed by fire, suffocation, and poison.<sup>xxiii</sup> It is likely that the proposed designs will improve access for these populations to destinations through the

corridor. However, if the corridor is not connected to other parts of the community with accessible infrastructure, the impact of the redesign will be reduced.



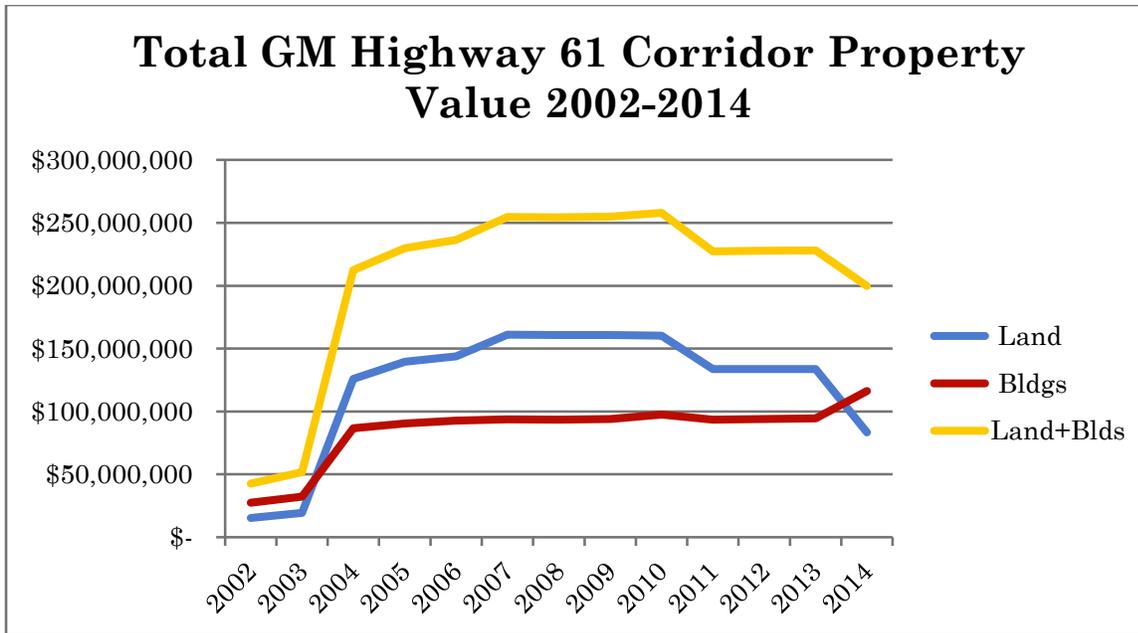
Source: City of Grand Marais

In order for year-round use (and benefits) of bicycle and pedestrian infrastructure to be realized, snow clearing/winter maintenance will be needed. While the largest number of individuals impacted will be in the summer, winter use is disproportionately local residents. For the corridor to be accessible year-round and to benefit local residents, visitors, and businesses, winter maintenance is required.

**ECONOMIC:**

*Existing Conditions Research Question: What are the current property value trends along the Highway 61 corridor?*

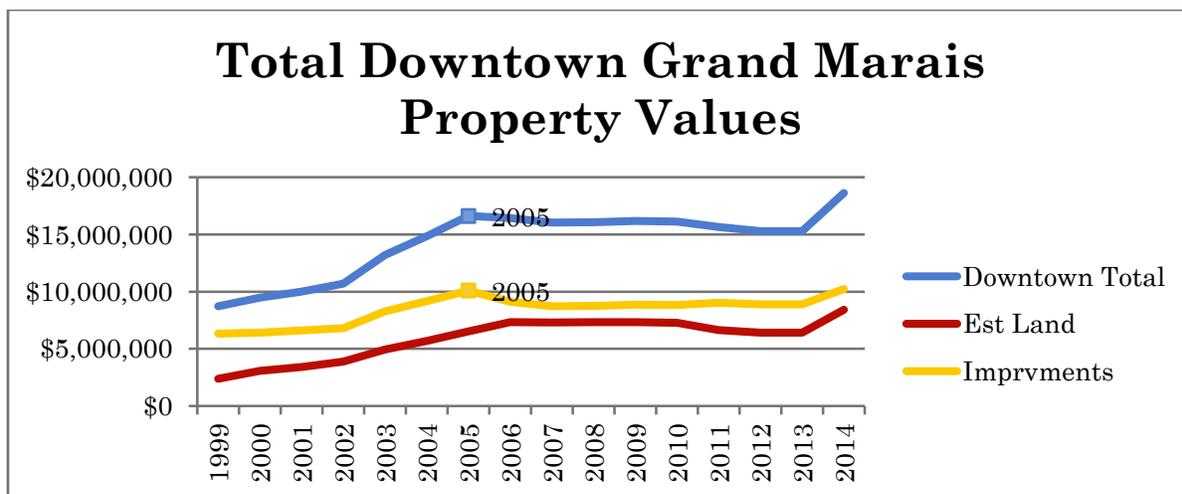
With assistance from the Cook County Assessor's office, the corridor property values from 2002 to 2014 were gathered and compiled. This table includes the sum of all property values in the corridor over time.



*Impact Research Question: What kind of impact could the Highway 61 redesign have on the property values along the corridor?*

Studies have found that the presence of a bike path/trail increase adjacent property values.<sup>xxiv</sup> More walkable commercial areas can see a value increase of 1-9% for each 10-point WalkScore increase.<sup>xxv</sup>

A local example was considered: the addition of sidewalks and bump-outs in downtown Grand Marais. While the Assessor’s Office does not officially include sidewalks or accessibility in their work, price setting of properties by real estate agents or sellers would likely take this into account and influences the Assessor’s valuations. This table includes the total of the downtown property values of the properties impacted by the addition of pedestrian infrastructure.



The property value change in downtown Grand Marais, compared with along the Highway 61 corridor, does show a potential for positive impact of pedestrian amenities on property values.

	<b>Downtown</b>	<b>Highway 61</b>
Total % Change in Property Values 2004-2005	12%	8%
% Change in Property Values 2004-2005, Land	15%	11%
% Change in Property Values 2004-2005, Buildings/Improvements	10%	4%

With the redesign and its associated improvement of walkability and bikeability, the properties along the corridor have the potential to see an increase in value.

The overall HIA findings are represented in summary form in the following table:

<b>HIA Assessment: Summary of Findings</b>				
<b>Health Outcome/ Determinant</b>	<b>Direction (Positive or Negative Impact)</b>	<b>Likelihood of Impact</b>	<b>Distribution of Impact</b>	<b>Quality of Evidence</b>
<b>Collision rates and severity</b>	▲	Likely	Affects whole community relatively equally	***
<b>Levels of walking and biking</b>	▲	Likely	Affects whole community relatively equally	**
<b>Traffic speeds</b>	▲	Likely	Affects whole community relatively equally	***
<b>Perceived safety</b>	▲	Likely	Affects whole community relatively equally	*
<b>Access to destinations on foot or bike</b>	▲	Likely	Affects whole community relatively equally	***
<b>Mobility and accessibility</b>	▲	Likely	Disproportional effect on seniors/children/disabled	**
<b>Property values</b>	▲	Possible	Possible disproportional effect on property owners and businesses	*

▼ = negative impact    ▲ = positive impact    ▲▼ = both positive and negative impacts possible

Literature association – strength of studies associating health impact with redesign of roads.

\*\*\* Many strong studies    \*\* Few good studies    \* No clear studies, but consistent with public health principles

## STEP 4: RECOMMENDATIONS

These findings led the HIA Steering Committee to create several recommendations in order to maximize the health benefits of the Highway 61 Redesign. Making the corridor safer and more accessible for people of all ages and abilities walking, biking, and driving through a well-considered design will increase community health and vitality. While the final design for the highway may differ from the current concept designs, to maximize health, the final design will need to address the following issues as identified in the Highway 61 Revisited process:

- Lack of enclosure – vertical
- Lack of definition – horizontal
- Storm water deficiencies
- Roadway is too wide
- Pedestrian infrastructure is missing in key locations

In order to achieve and enhance the goal of a safer and more accessible corridor for people on foot, bike, assistive device, or in automobiles, the Committee recommends the following prioritized recommendations for the Highway 61 Redesign Project. The Committee has further outlined recommendations for the community design and engagement process that have demonstrated effectiveness in creating positive outcomes through stakeholder and citizen engagement. Therefore, the recommendations are divided into “project” recommendations and “process” recommendations.

### Prioritized **Project** Recommendations for Highway 61 Redesign:

#### **1. Create Safer Pedestrian Crosswalks**

Crosswalk design and visibility should be considered for maximum pedestrian safety, as safety was the highest priority within the Highway 61 corridor redesign project. A plan for ongoing enforcement and education should be created and implemented by law enforcement and the City of Grand Marais in partnership with the Active Living Steering Committee, including evaluation measures.

#### **2. Design a Corridor that Welcomes and Invites People**

The corridor project should be designed as a place that is welcoming, accessible, and scaled for people (seniors, children, and all people) through strategies such as signage, seating, lighting, trees and vegetation.

#### **3. Re-assess Streets Network and Pedestrian Connectivity**

With the pre-design of the corridor project, take the opportunity to reassess where any missing connections are off of the corridor, that if resolved, would improve the pedestrian connectivity in Grand Marais.

#### 4. Year-round Maintenance Plan including Pedestrian and Bicyclist Use

All modes, including walking, biking, snowmobiling, driving, etc., should be considered and, if possible, separately accommodated within the corridor year round. Create a year-round maintenance plan to ensure pedestrians the ability to use the corridor during all seasons. Snow clearing should happen in a timely manner. Responsibilities for maintenance between the City, MnDOT, and County should be set from the start.

#### 5. Appropriate Vehicle Speeds to Achieve Goals of Safer and More Accessible Walking and Biking

Create a corridor with 20-25 MPH **design speed**\* to increase pedestrian, bicyclist, and motorist safety and create a more village main street feel to the corridor. Vehicle speeds greatly influence the perception of safety for people on foot and bike as well as the rates of survivability if a collision occurs.

#### 6. Monitor Impact of Project

Measure the impact of the corridor project on community health, including economic impact and number of people walking and biking. Highlight the creation of community capital and impact on health of the Highway 61 project.

#### Prioritized Process Recommendations for Highway 61 Redesign:

##### 1. Community Engagement

The community needs to be actively engaged by the City of Grand Marais and MnDOT throughout the stages of the planning and construction of the corridor project. Special efforts should be made to include input from potential and current users, including children/young families, seniors, people with disabilities, those that don't feel safe in the current corridor, and business/property owners along the corridor. Input from these groups will be especially important during the creation of the final design and the year-round maintenance plan.

##### 2. Building a Healthy Community through Future Decision Making

Many government decisions that impact health are not traditionally considered health-related. The City of Grand Marais can have a positive impact on the health of our community through considering the health impacts of decision making. The use of an HIA is one way to include health as a consideration in decision making. We encourage the City of Grand Marais to continue to consider health in future decisions taking into account the social determinants of health\*\*, such as housing, transportation, access to health care, the built environment, natural environment, etc.

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\* From AASHTO (American Association of State Highway and Transportation Officials): "Design speed is a selected speed used to determine the various geometric design features of the roadway." In other words, design speed does not necessarily equal the posted speed limit.

\*\* From U.S. Department of Health and Human Services, Healthy People 2020: "Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks." The five key areas (of determinants)

### 3. Use of Pilot Projects to Inform the Design

To help ensure a successful and appropriately designed project, pilot projects could be used to test out options for the final design. This may be most helpful with the amenities portion of the design, such as seating types and locations.

### 4. Sharing Project as Success

Leverage the Highway 61 project, including the use of the HIA tool, as a success for other communities to replicate and experience while visiting Grand Marais. Also use the project to expand the community's understanding of the connections between health and the built environment and the HIA results to increase the community support and buy-in for the corridor project.

## STEP 5 & 6: REPORTING & MONITORING AND EVALUATION

### *Reporting*

The reporting step of this HIA is being undertaken through the writing of this HIA report, as well as through a presentation to the Grand Marais City Council on Wednesday, July 29<sup>th</sup>, 2015. An Executive Summary was created and included in the final report for use more widely.

### *Monitoring and Evaluation*

Monitoring and Evaluation is the final step of the HIA process. There are three kinds of evaluation that will be undertaken.

- 1) Process evaluation gauges the HIA's quality according to established standards and the original plan for the HIA;
- 2) Impact evaluation assesses the HIA's impact on decision-making and its success according to the objectives established during scoping;
- 3) Outcome evaluation assesses changes in health status and health determinants as the decision is implemented.

Monitoring tracks indicators that can be used to inform process, impact, and outcome evaluations.<sup>xxvi</sup> The Clinic staff leading the HIA will be executing the Monitoring and Evaluation step, with consultation from the HIA Committee.

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include: Economic Stability, Education, Social and Community Context, Health and Health Care, and Neighborhood and Built Environment.

## CONCLUSION

The HIA findings suggest that the proposed Highway 61 redesign will have an overall positive impact on the health of the community in the health concern areas. With the construction of the new corridor design, it is likely to have positive impacts on the safety of the corridor, as well as access related to connectivity and accessibility/mobility. It is possible that it will also have positive impacts on economics. In spring 2015, the City of Grand Marais was awarded project funding from the Transportation Alternatives Program for continuous pedestrian and bicycle facilities with a Highway 61 redesign project to be constructed in 2019/20. The scope and final design of the project are undetermined at this time. However, in order to maximize the positive health impacts of the Highway 61 project, the HIA Committee developed ten recommendations, which upon implementation will improve the benefits to the community especially for seniors, the disabled, and children.

- i 2010 Decennial Census, U.S. Census Bureau.
- ii Cook County Visitor's Bureau, 2015.
- iii 2010 Decennial Census, U.S. Census Bureau
- iv 2010 Decennial Census, U.S. Census Bureau
- v American Community Survey, 2008-2012
- vi Minnesota Department of Employment and Economic Development
- vii American Community Survey, 2008-2012
- viii American Community Survey, 2008-2012
- ix Minnesota Department of Transportation (MnDOT). 10 Year Crash Data – Route 61, 109+.100 to 110+00.750. Report Date: August 7, 2014.
- x Minnesota Department of Health (MDH). Crash and Hospitalization Data: Crashes Occurring on the Highway 61 Corridor in Grand Marais by Selected Variables, CODES Crash and Hospital Linked Data, MN 2006-2012. Report received November 25, 2014.
- xi City of Grand Marais. Written Public Comment Received from Highway 61 Redesign Process.
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- xiii Winona HIA: HSIS, 2010 and Stout et al, 2006, as cited in VTPI, 2014
- xiv Winona HIA: Frith, 2012, as cited in VTPI, 2014; Reynolds et al, 2009. Reynolds C, Harris A, Teschke K, Cripton P, Winters M. 2009. The impact of transportation infrastructure on bicycling injuries & crashes: a review of the evidence. University of British Columbia Centre for Health and Environmental Research. Available at [http://cyclingincities.spph.ubc.ca/files/2011/10/infrastructure\\_cycling.pdf](http://cyclingincities.spph.ubc.ca/files/2011/10/infrastructure_cycling.pdf).
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- xvii NACTO. Urban Street Design Guide: Design Speed. Available at <http://nacto.org/usdg/design-controls/design-speed/>.
- xviii National Center for Safe Routes to School. Slowing Down Traffic. Available at [http://guide.saferoutesinfo.org/engineering/slowing\\_down\\_traffic.cfm](http://guide.saferoutesinfo.org/engineering/slowing_down_traffic.cfm).
- xix NACTO. Urban Street Design Guide: Lane Width. Available at <http://nacto.org/usdg/design-controls/design-speed/>.
- xx 2010 Decennial Census, U.S. Census Bureau.
- xxi National Complete Streets Coalition. Dangerous by Design Report. Report Date: 2014. Available at <http://www.smartgrowthamerica.org/research/dangerous-by-design/dbd2014/national-overview/>.
- xxii Ibid.
- xxiii Ibid.
- xxiv Racca, D. and A. Dhanju. 2006. Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas. University of Delaware, Delaware Center for Transportation Working Paper 188. Available at [http://headwaterseconomics.org/wphw/wp-content/uploads/Trail\\_Study\\_51-property-value-bike-paths-residential-areas.pdf](http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_51-property-value-bike-paths-residential-areas.pdf).
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- xxvi The Pew Charitable Trusts. The HIA Process. <http://www.pewtrusts.org/en/about/news-room/news/2014/08/28/the-hia-process>