

TRANSPORTATION IN PROCTOR, MN: A SURVEY OF EXISTING CONDITIONS AND FUTURE OPPORTUNITIES



Guiding the Future of Transportation for the Twin Ports Area

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DULUTH-SUPERIOR METROPOLITAN INTERSTATE COUNCIL

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November 2015

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Introduction

The Duluth-Superior Metropolitan Interstate Council (MIC) was asked to assist the Regional Planning staff of the Arrowhead Regional Planning Commission (ARDC) with the transportation element of an update comprehensive plan for the City of Proctor, MN. What follows is a summary and assessment of existing and future conditions as they relate to transportation issues in the community.

This report has been produced for the benefit of ARDC staff and Proctor community members in consider how to update the goals, objectives, and strategies of the updated plan—specifically as they relate to planned future investments in transportation infrastructure.



About the MIC:

The MIC is the designated Metropolitan Planning Organization (MPO) for the area that includes Duluth, Superior, Hermantown, Proctor and surrounding townships on both sides of the bridge. MPOs ensure that transportation infrastructure investments are planned cooperatively by all local jurisdictions (city, county, state and townships). MPOs exist across the United States for population areas over 50,000.

The goal of our planning process is ultimately to encourage local policy decisions and put forward transportation projects for federal funding that will enhance livability and optimize the movement of people and goods within the Duluth and Superior metropolitan area.



Mode Choice & Travel Behavior

The City of Proctor has an estimated population of 3,055 people, with approximately 1,472 (48%) working individuals over the ages of 16. The travel commuting behavior and mode choices of these community members is important because it represents the greatest segment of travel demand to and from the city. As shown in Figure 1, the vast majority of these workers, 81.6% (1,181) commute to work alone via a motor vehicle, followed by 11.1% (160) who carpool via motor vehicle. This is a pattern that is also supported by data regarding the number of vehicles per household. As Figure 2

shows, nearly 93% of Proctor households own 1 or more vehicles, a trend that is shared between homeowners and renters alike (see Figures 3 and 4).

Of the 1,583 number of people living in Proctor who do not work, 841 are of ages 16 and older. Because many goods and services within the Duluth-Superior area exist outside of Proctor (e.g. grocery store), it can be assumed there is significant travel demand associated with this segment of the community as well. As the individuals in this segment continues to age, mobility challenges are expected to increase.

Figure 1: Commute mode: Workers ages 16 and older

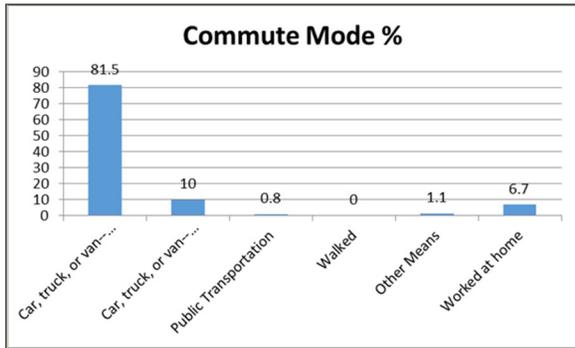


Figure 3: Vehicle ownership by home owners

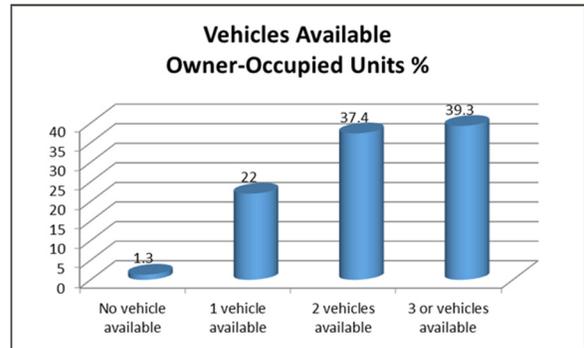


Figure 2: Vehicle ownership by household

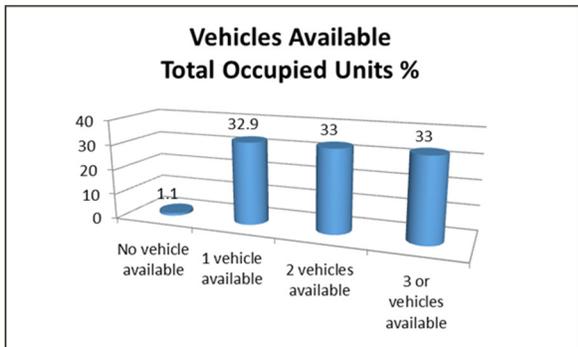
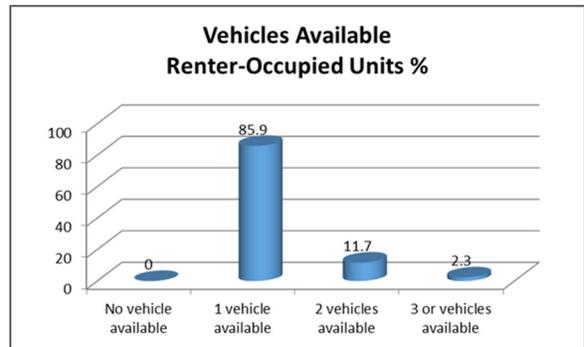


Figure 4: Vehicle ownership by renters

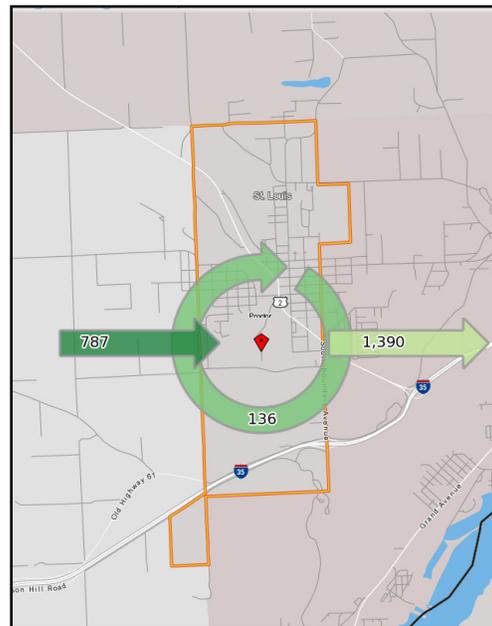


According to 2013 estimates from the Census Bureau’s Longitudinal Employment-Household Dynamics (LEHD) data, 1,390 (91.1%) of workers living in Proctor commuted to jobs outside the city boundary, while 136 (8.9%) both lived and worked in Proctor. By contrast, it is estimated that 787 people—more than half the size of Proctor’s working population—commuted to jobs within Proctor (see Figure 5).

Existing Travel Demand

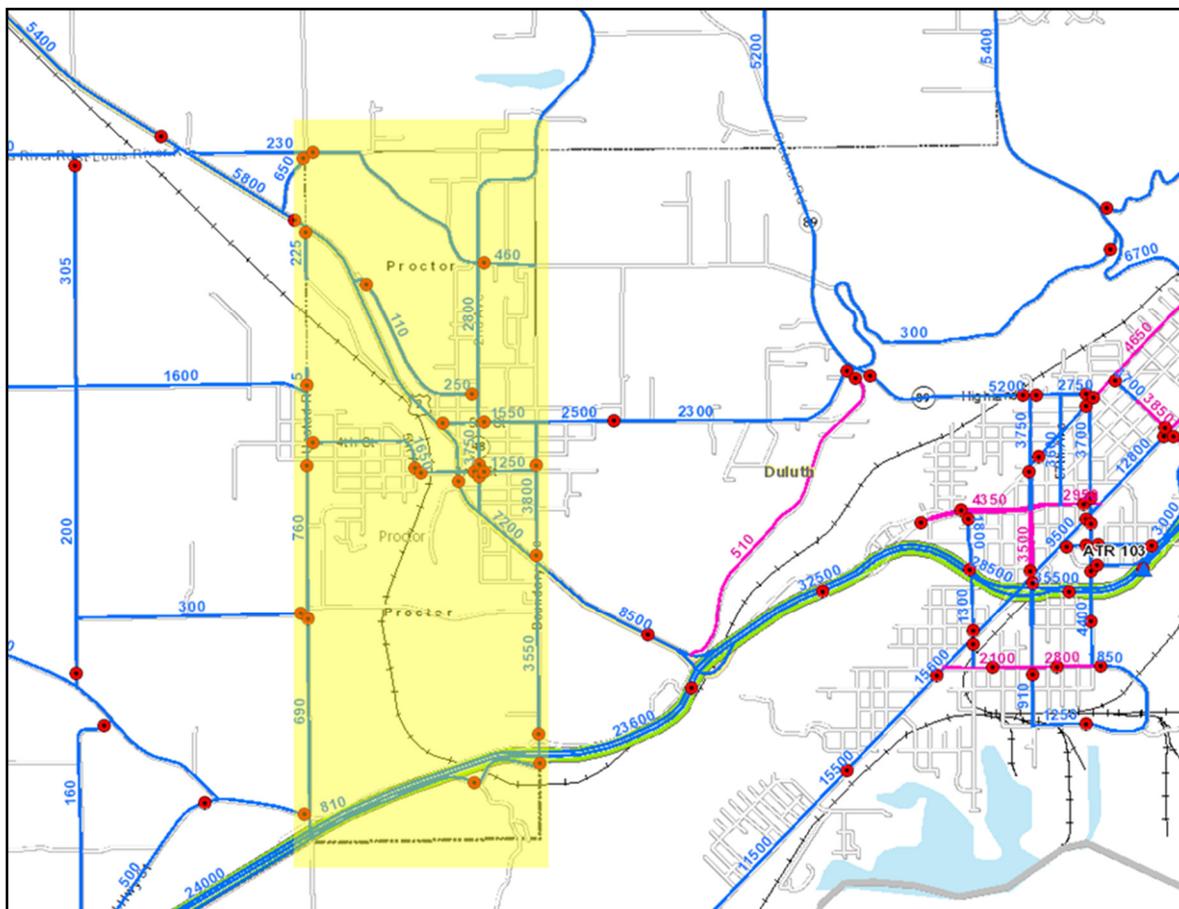
Figure 6 below displays the annual average daily traffic (AADT) in and around Proctor for the year 2013. It shows that next to I-35

Figure 5: Workforce commuting pattern—Proctor, MN (Year 2013)



Source: U.S. Census Bureau: On the Map (2015)

Figure 6: Average annual daily traffic (AADT) in Proctor, MN (Year 2011)



Source: MnDOT Traffic Mapping Application (2015)

(which carries an estimated 23,600 vehicles daily through Proctor), U.S. Highway 2 facilitates the greatest number of vehicle movements (7,200 AADT) within the community.

Other functionally classified routes that serve the community are listed below and also shown in Figure 7. These routes are not only important from a regional transportation perspective, but they represent state- and county-managed facilities.

- Boundary Avenue
(Major Collector; 3,800 AADT)
- 4th Street/5th Avenue
(Minor Collector; 1,650 AADT)
- 2nd Avenue
(Minor Collector; 2,800 AADT)
- 5th Street
(Major Collector; 1,500 AADT)
- 2nd Street
(Minor Collector; 1,250 AADT)
- Skyline Parkway
(Major Collector; 4,200 AADT)
- Thompson Hill Road
(Major Collector; 810 AADT)

The trend in travel demands on the arterials and major collector routes in Proctor are shown in Figure 8, while the trends on the city’s minor collectors are shown in Figure 9. More recent data (2013) was available for U.S. Highway 2, which suggests that the decline in travel demand of recent years is reversing.

One route in Proctor that stands out in terms of its traffic demand is 2nd Avenue. While levels of traffic have remained relatively flat on other streets, traffic on 2nd Avenue has grown by 48%

Figure 7: Functionally classified roadways in Proctor, MN



Figure 8: AADT trends on arterial and major collector routes in Proctor, MN

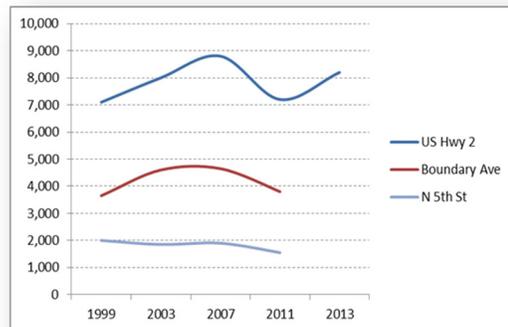
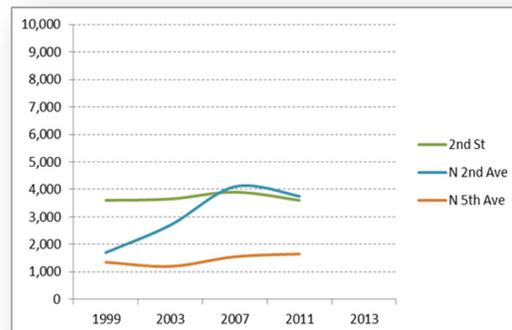


Figure 9: AADT trends on minor arterial routes in Proctor, MN



between 1999 and 2011, an increase of more than 600 vehicles a day. 2nd Avenue is a collector route that facilitates traffic between Proctor and Hermantown, which has been the fastest growing community in the Duluth area since the year 2000. It is assumed that the increase in traffic also reflects additional apartment units and commercial activity along the avenue over the past 15 years.

Forecasted Travel Demand

Future modeling of a 20-year growth in households and employment were done as part of the long-range regional transportation plan for the Duluth-Superior metropolitan area: *Connections 2040*. Part of that effort included modeling the future travel demand that might result from such growth. Under an “aggressive” growth scenario, Proctor was forecasted to grow by 130 households and 1,000 jobs by 2040.

Back in the fall of 2013, when the MIC was developing its forecasts and updating its model, MIC staff met with City of Proctor and St. Louis County staff to determine where growth was likely to occur. Figure 10 shows how future households were allocated across the city as a result of those discussions. Figure 11 shows how added future jobs were allocated.

It is important to emphasize that the growth forecasts are merely gross estimates used for the purposes of long-term planning. The

Figure 10: Forecasted growth in households (2040)

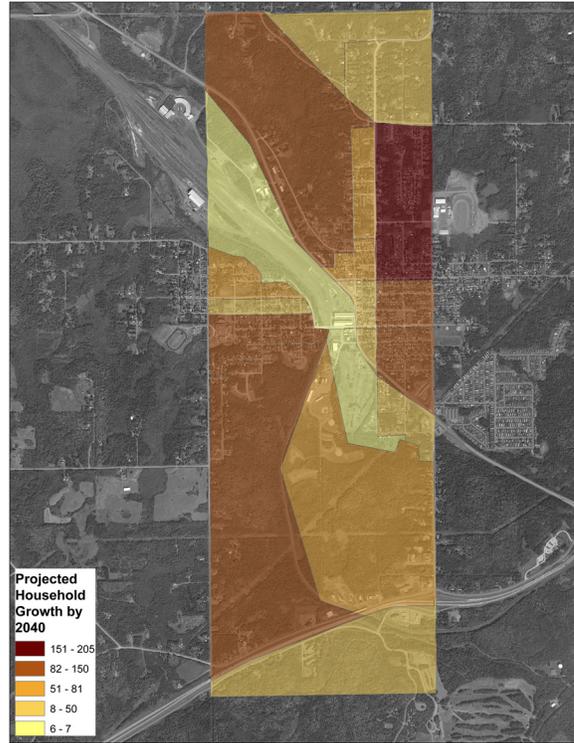
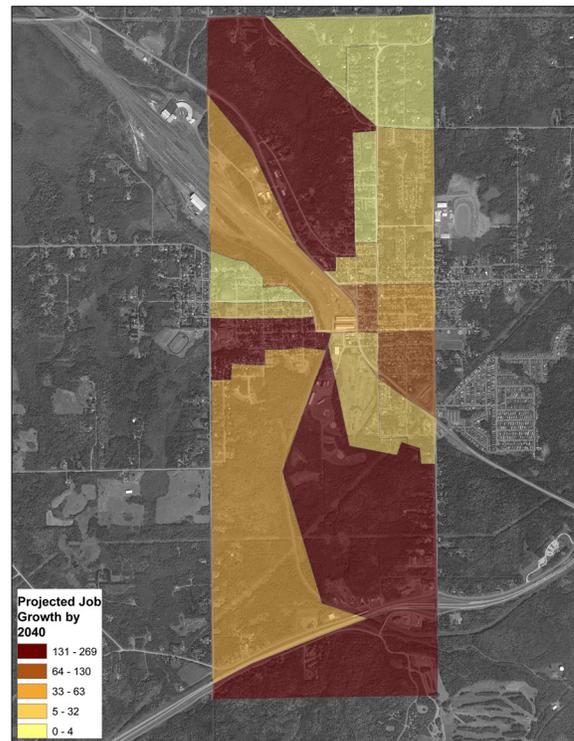


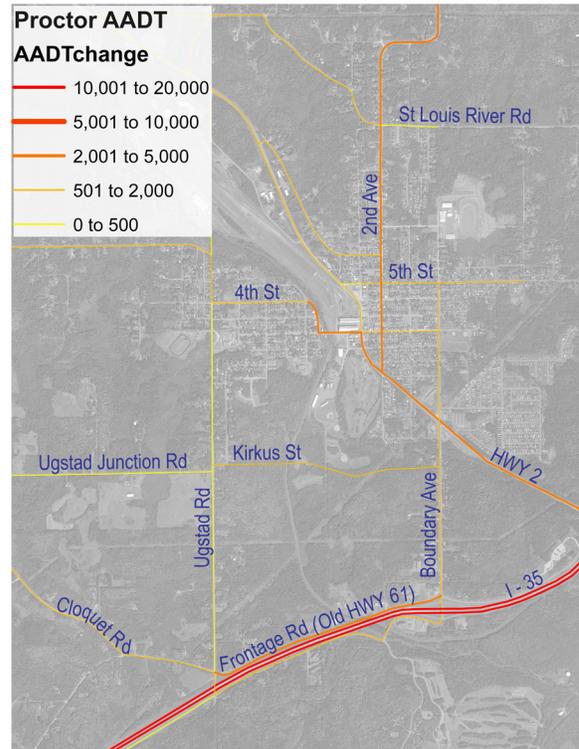
Figure 11: Forecasted growth in jobs (2040)



intent of the forecasting is not to try and predict growth as much as it is meant to help communities better conceptualize the possible planning and investments that should be done in the short- and mid-term in anticipation of the *degrees and patterns* of development that may occur.

Figure 12 shows the estimated changes in daily traffic volumes predicted by the MIC's long range travel demand model based on the future household and job forecasts. A few routes are worth noting. The biggest growth in traffic (~16,000 vehicles per day) is shown along I-35. This represents primarily an increase in commuter traffic from growth that is expected to occur in communities further southwest of the Duluth-Superior area. The route with the next largest increase in traffic (~5,000 vehicles) is 2nd Avenue/Lavaque Road, which represents additional traffic from the City of Hermantown which is also expected to experience significant growth in the coming decades. U.S. Highway 2 between downtown Proctor and I-35 is also forecasted to grow by about 4,000 vehicles as it receives additional traffic from growth occurring in both Proctor and Hermantown. Lastly, the north frontage road along I-35 (a.k.a. Old Highway 61) is forecasted to grow by about 4,000 vehicles as result of additional commercial and employment growth expected to occur in the southern part of the city. It is expected that this

Figure 12: Forecasted change in AADT (2040)



growth will naturally orient itself along I-35 instead of Kirkus Street because of the higher levels of exposure and convenient access that the interstate provides. It is for this reason the Minnesota Design Team (MDT) had also envisioned future commercial development congregating along I-35 in the future and a pattern of residential development occurring along Kirkus Street away from all the traffic and activity near the interstate (see Figure 13 on the following page).

The MDT had also envisioned a series of future accesses and street connections Old Highway 61, which would be a natural response to the type of development and

growth in traffic that is being forecasted there (see Figure 14).

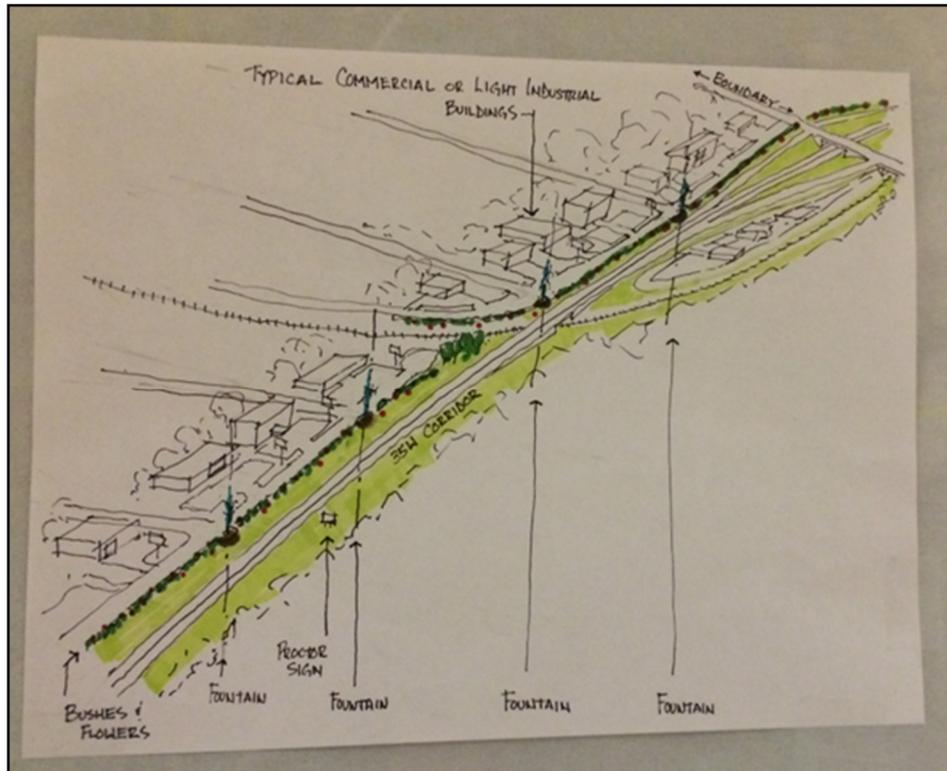
The construction of such connections is not without consequences. If unplanned, and left to occur in piecemeal over time, the development forms can become overly oriented to automobile traffic at the detriment walking or biking. As trail connections are being planned in this area, the potential impacts of future development patterns should continue to be considered.

Other consequence of additional street connections is increases in the costs associated with the ongoing maintenance of additional infrastructure.

Figure 13: Future land uses between Kirkus Street and I-35 (residential is yellow; red is commercial); MN Design Team, May, 2015.



Figure 13: Concept drawing of future access and street connections to Old Hwy 61 (MN Design Team, May, 2015).



Transit Service & Demand

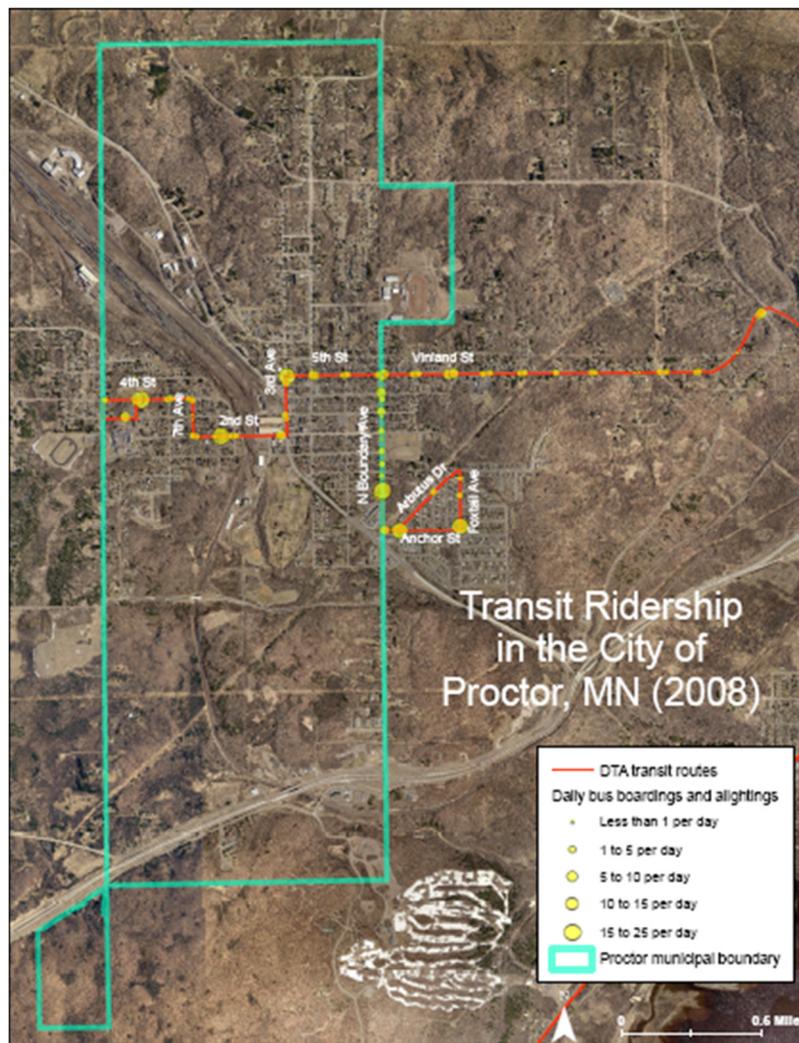
Figure 14 shows the existing DTA bus route that serves Proctor. The bus stops are represented by circles that vary in size according to the average number of passengers getting on and off the buses there.

There is a combined 255 bus boardings and alightings occurring per day within Proctor's municipal boundaries. If it were

assumed that those trips were made exclusively by Proctor residents who each made one departure and return trip per day, it would equal 4% of the population.

Approximately 51% of the ridership demand is occurring at four bus stops in the city. Those bus stops are: 4th Street between 9th Avenue and 8th Avenue; 2nd Street between 9th Avenue and 8th Avenue; 5th Street at 3rd

Figure 14: DTA bus route and passenger demand by bus stop



Avenue; and Boundary Avenue at Grove Street. While demand at the 2nd Street and 5th Street stops make sense based on the population densities of population and activities nearby, the other two have characteristics that are worth noting.

An average of 33 people are getting on or off a DTA bus at the 4th Street stop in western Proctor (Figure 15). It is the second-most used stop in the city, despite the fact there are no adjacent land use activities directly adjacent to it, and the stop is not supported with any amenities, such as a shelter or benches. It also lacks sidewalk

connection on the south side of the street (Figure 16). It is believed that the attraction of this stop might be the fact that it is a lay-over stop used by the DTA drivers to maintain their headways: the bus is there longer, and thus more people get on it there. At a minimum, this stop could be improved with sidewalk connections. It is recommended that this stop get looked at more closely as a candidate for possible future enhancements.

The bus stop that gets the most use in Proctor is at the intersection of Boundary Avenue and Grove Street (Figure 17). An

Figure 15: Bus stop location on 4th Street between 9th Avenue and 8th Avenue.



Image Source: Google Earth, modified (2015)

Figure 17: Bus stop location on Boundary Avenue at Grove Street



Image Source: Google Earth, modified (2015)

Figure 16: Street view of bus stop on 4th Street between 9th Avenue and 8th Avenue



Image Source: Google Maps (2015)

Figure 18: Street view of bus stop location on Boundary Avenue at Grove Street



Image Source: Google Maps (2015)

average of 44 people are getting on or off the bus there on a daily basis.

Similar to the stop at 4th Street, there is not a lot of trip-attracting land uses directly adjacent to the stop. The stop is also not served by sidewalks. There are more than 3,500 vehicles a day on that road, driving in excess of 30 mph. For safety reasons, it is recommended that this stop also be looked at as a candidate for future enhancements.

While current transit demand is not particularly high, it is recognized that a substantial amount of the community's population is aging. Many in this cohort may prefer to "age in place", yet many are also likely to experience increasingly limited income and physical mobility. Thus, there may also be increasing demand for transit services and amenities from these groups.

Sidewalks

Figure 19 shows the City of Proctor's existing sidewalk network, the relative condition of those sidewalks, and the location of DTA bus stops. From the image, it can be seen that some key bus stops lack quality sidewalk connections.

A significant gap in the sidewalk network exists on the eastern edge of the city. As shown in Figure 20, there no sidewalks connecting the intersection of US Highway 2 & Boundary Avenue with the rest of the city. The traffic signal at the intersection also lacks the signal heads and programming

Figure 19: Sidewalk condition and location of bus stops in Proctor, MN.

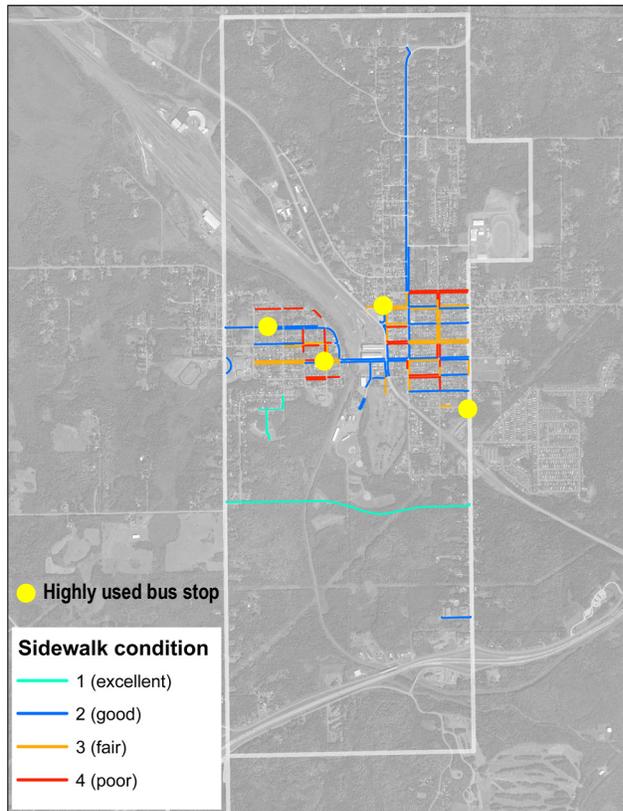


Figure 20: Condition of sidewalk miles in Proctor by the road type.



Image Source: Google Earth, modified (2015)

to support pedestrian crossings across Boundary Avenue. Given the commercial activity that exists around the intersection and the large population of people living in the trailer homes adjacent to Boundary Avenue, the City of Proctor should work with the City of Duluth and MnDOT to address the sidewalk gaps and insufficient signal support in order to serve the demand for pedestrian movements in the area.

Figure 21 shows the condition of Proctor sidewalks is organized to road ownership. By comparison, Proctor owns the most sidewalk miles, as well as the most miles in poor condition (1.7 miles, 16%).

Condition of Roadways

Although the MIC was not able to inventory the condition or age of the roadways within the City of Proctor, it is believed that the majority of the City's street pavements are 20 years older or more (see Figure 22). Deferring the maintenance of pavements results in the increased life-cycle costs of those facilities. It is therefore important to have a good inventory of the age and existing pavement conditions of the city-owned streets in order to prioritize maintenance and capital investments in coming years.

Another important strategy for managing the financial burden of infrastructure maintenance is to look for opportunities to synchronizing the repairs of underground utilities or facilities adjacent to the roadway

Figure 21: Condition of sidewalk miles in Proctor by the road type.

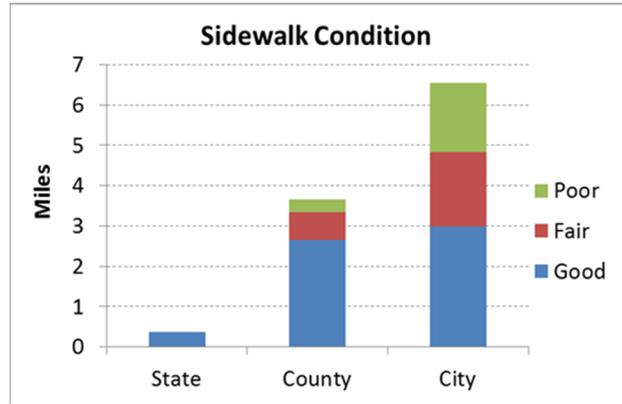
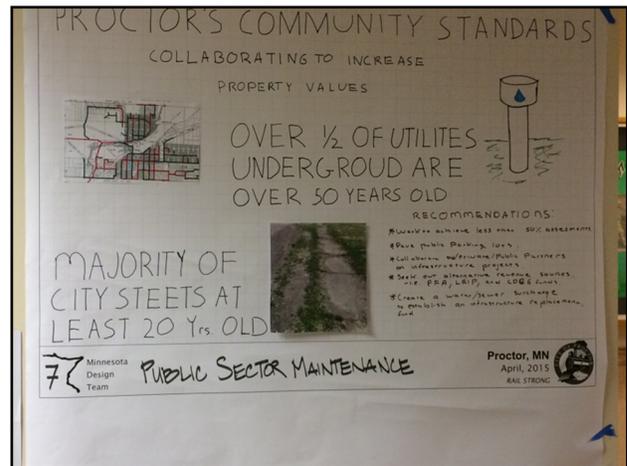


Figure 22: Summaries of the condition of Proctor streets and underground utilities (MN Design Team, May, 2015).



(such as sidewalks) with scheduled road construction projects.

Another important strategy for managing the financial burden of infrastructure maintenance is to look for opportunities to synchronizing the repairs of underground utilities or facilities adjacent to the roadway (such as sidewalks) with scheduled road construction projects.

For this reason, the MIC recommends that the City of Proctor conduct annual consultations with state, county, and regional transportation personnel regarding the short-, mid-, and long-term maintenance

plans for the routes in and around Proctor.

Table 1 below contains a list of the MnDOT and St. Louis County highway projects currently being planned in and around Proctor over the next 20 years. From that table, it can be seen that St. Louis County is planning to do improvement projects on the majority of their roadways within Proctor's city limits within the next two years.

The information represented in the table is subject to change, so Proctor officials are encouraged to revisit this list with state and county officials on an annual basis, and even more regularly with county officials in the coming years.

Table 1: List of known roadway improvement projects being planned for in and around Proctor, MN within the next 20 years.

Route	Project Description	Project Type	Jurisdiction	Timeline
Mountain Dr.	Spirit Mountain Pl. to Lindahl Rd.	Resurfacing	St. Louis County	2016
Ugstad Rd.	From Proctor High School to Mountain Dr.	Reconstruction	St. Louis County	2017
4th St.	Ugstad Rd. to 2nd St.	Resurfacing	St. Louis County	2017
5th St.	US 2 to Boundary Ave.	Resurfacing	St. Louis County	2017
Boundary Ave.	US 2 to Vinland Ave.	Resurfacing/ Rehabilitation	St. Louis County	2017
Ugstad Rd. and St. Louis River Rd.	US 2 to Boundary Ave.	Resurfacing	St. Louis County	2017
Lavaque Rd.	US 2 to 5th St.	Resurfacing	St. Louis County	2017
Old Highway 2	US 2 to 2nd Ave.	Resurfacing	St. Louis County	2017
I-35	Over CNRR Replace Br No 6501	Reconstruction	MNDOT	2020-2024
I-35	Thompson Hill From N End Br over DMIR RR to N End Br 69879 Over TH 23	Reconstruction	MNDOT	2020-2024

dialogue with MnDOT officials about monitoring conditions and programming possible safety improvements at the intersection of U.S. Highway 2 and 2nd Street.

There were two pedestrian strikes reported between 2005 and 2014, neither of which resulted in severe injury. The locations were at 3rd Street at Ugstad Road (2010) and on U.S. Highway 2 at 5th Street (see Figure 26). Both incidents occurred in 2010. The incident at U.S. Highway 2 involved a 27 year old trying to cross the highway, who

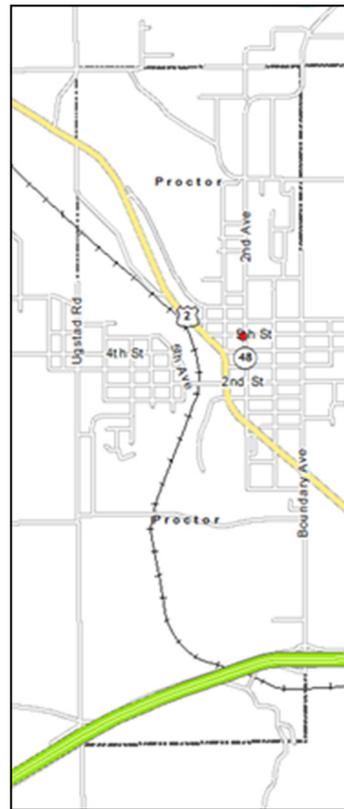
was not cited as being at fault for the crash. The incident on 3rd Street involved a 12 year old crossing 3rd Street, who apparently failed to yield to traffic.

There was one reported case of a vehicle striking a pedestrian over the 10 year period. The crash occurred on 2nd Avenue at 5th Street in 2011 (see Figure 27). The report indicates that a 6 year old cyclist failed to yield to traffic when crossing the avenue on his bike.

Figure 26: Locations of vehicle pedestrian crashes in Proctor, MN (2005—2014).



Figure 27: Locations of bike pedestrian crashes in Proctor, MN (2005—2014).



Conclusion

The information presented in the preceding pages summarizes existing conditions and anticipated trends with respect to transportation demand, as well as the condition and safety of existing infrastructure. The purpose for this summary is to provide ARDC regional planning staff and Proctor community members with information to consider during the updating of the goals, objectives, and strategies of the city's comprehensive plan.

General recommendations from the MIC staff are that the City of Proctor begin planning for a modest level future growth, with a concentration of commercial development oriented towards the I-35 corridor. This planning should be done through a lens of multi-modalism: considerations for the connectivity and accessibility of multiple modes of transportation. This should include efforts to incorporate sidewalk connections, transit stops, and bikeway and trail connections as part of future developments.

Planning for future growth should be matched with equal attention towards the maintenance and reconstruction of existing transportation infrastructure. It is the expectation that the costs associated with public infrastructure will continue to increase at rates that outpace increases in public revenues. With this in mind, the City of Proctor should make it a priority to optimize public investments through strategies related to the staging of those improvements, as well as identifying cost-

sharing opportunities with other public entities (e.g. MnDOT and St. Louis County) and private sector developers.

The City of Proctor should also seek out partnerships with other jurisdictions to coordinate transportation safety improvements, as well as the extension of trail networks.