Highway 68 Corridor -- Public Input on Safety and Transit

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Highway 68 Corridor – Public Input on Safety and Transit

September 5, 2014

Prepared for the Highway 68 Corridor Coalition

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Contents
SECTION 1: INTRODUCTION .................................................................................................................. 1
SECTION 2: METHODOLOGY ................................................................................................................ 1
SECTION 3: HIGHLIGHTS ...................................................................................................................... 2
    Safety .............................................................................................................................................. 2
    Transit/mobility ............................................................................................................................... 3
SECTION 4: POINTS OF CONCERN (WEST TO EAST).......................................................................... 4
SECTION 5: COMMUNITY MEETINGS AND SURVEY INPUT .............................................................. 5
SECTION 6: TRAFFIC AND CRASH DATA ........................................................................................... 12
SECTION 7: RESEARCH LIMITATIONS ............................................................................................... 20
SECTION 1: INTRODUCTION

The University of Minnesota, Morris | Center for Small Towns worked with the Highway 68 Corridor Coalition to gather input from citizens and publicly available data relating to safety and transportation issues along Highway 68 from Canby to Marshall, MN. This information was compiled and is presented in this report. The information in this report will be used to inform the Minnesota Department of Transportation concerning future changes to the Highway.

The Highway 68 Corridor Coalition was created to “jointly and cooperatively plan for and maximize the opportunities for sub-regional transportation and transit development, quality growth and diversification along Trunk Highway 68 through a system of collaboration pursuant to Minnesota Statutes, 1994, Section 471.59, as amended.” Coalition members include city and county officials from the various communities along the highway. The coalition includes the cities of Canby, Porter, Taunton, Minneota, Ghent, and Marshall.

SECTION 2: METHODOLOGY

Four community meetings were conducted: Canby, Minneota, and two in Marshall. Facilitation was conducted by Neil Linscheid from the University of Minnesota, Extension | Center for Community Vitality. Participants were asked a series of questions relating to their experiences regarding safety and transit on the highway, their typical destination and use of the highway, and their driving patterns. On average, there were ten participants at each meeting. These meetings were recorded and transcribed. The information was summarized and compiled into this report.

An online survey was developed in order to gather further input. Four open ended questions were asked:

1. Are there any specific locations on Highway 68 that you feel are unsafe or cause for concern? Please give the location (intersection, mile marker, etc…), along with your concern.
2. Are there any other issues or reasons you feel unsafe when riding on Highway 68 that are not specific to one location?
3. How are you satisfied and/or not satisfied with transit service along Highway 68?
4. What are your suggestions to improve transit service?

Over 100 people participated in the survey. Responses to these questions were compiled and integrated with the comments from the community meetings in order to present cohesive themes relating to safety and transit along the highway.
The term “participants” refers to attendees of the meetings as well as people who completed the survey.

SECTION 3: HIGHLIGHTS

The University of Minnesota, Morris | Center for Small Towns along with the University of Minnesota, Extension conducted 4 community meetings and developed an online survey to receive input on safety and transit issues along the Highway 68 corridor from Canby to Marshall, MN. We hope this input will be useful in informing the Minnesota Department of Transportation (MnDOT) for future changes to the Highway.

The following is a short breakdown of the main categories of public input we received from the community meetings and the online survey. For in-depth information of the input received see “Section 5: Community Meetings and Survey Input”.

Safety

- **Width of the road, no shoulder:** All participants in the community meetings and survey expressed opinions relating to the width of the road and believe this is No. 1 priority for changes. The following are common comments relating to highway width:
  - no space to pull over in an emergency situation;
  - ditches are too steep;
  - need to pull into oncoming traffic to get around emergency vehicles;
  - larger vehicles have no room to maneuver, which has led to close calls when passing vehicles pulled-over on the side of the road;
  - emergency vehicle drivers expressed concern due to the difficulty in passing vehicles during an emergency;
  - there are no turn, acceleration, or bypass lanes, making it more difficult to enter the highway and maneuver around traffic; and,
  - some of the box-culvert bridges are too narrow and unsafe for large trucks and farm equipment.

- **Angle of township roads:** Township and county roads all run north-south or east-west and Highway 68 runs northwest-southeast, meeting all of the other roads at an angle.
  - Several intersections have low visibility, making residents feel unsafe turning. See section titled “Section 4: Points of Concern” for specific problem areas.
  - This was especially true at the intersection of Highway 68 and County Road 33 where large trucks have to turn at an acute angle and must swing well into oncoming traffic.

- **Farm equipment getting larger:** Farm equipment has gotten larger while the highway has not, creating unsafe conditions when attempting to pass.
Increasing levels of traffic: Most sections of the Highway 68 corridor have seen decreases in the volume of traffic since 2005; see section titled “Section 6: Traffic and Crash Data”. However, many participants believe that there is too much traffic on the highway considering its width. The following are specific comments made to this issue:

- morning and evening rush hours are very busy;
- more farm trucks traveling longer distances; and,
- Marshall is much more of a regional hub; “used to take 5 minutes to cross Marshall, now it takes 15 to 20”.

Depth of rumble strips: MnDOT recently began installing rumble strips on road ways to keep vehicles from swerving into on-coming traffic and to inform drivers about the location of the side of road during bad weather. However, there were numerous complaints about this installation:

- they are so deep that they vibrate and move cars when passing;
- ice buildups within the strips, creating slippery conditions; and,
- some participants expressed frustration that the rumble strips were not on the sides of the road.

Driver speed: Many participants were concerned about driver speed:

- it is difficult to enter the highway, especially with larger vehicles;
- drivers drive too slow and too fast, leading to a concern about other drivers attempting to pass another vehicle during busy travel times and taking risks with on-coming traffic; and,
- drivers do not slow down enough in towns.

Transit/mobility

- Prefer flexibility gained from driving personal vehicle: Most participants made comments relating to the need for flexibility:

  - staying late or arriving early to work; and,
  - many participants said they combine many tasks with their commute, such as running errands over lunch break or right after work, and dropping and picking up their children from daycare.

- Carpooling/ridesharing: A few participants expressed interest in carpooling/ridesharing in order to save on gas and still run errands:

  - participants would like to see a better way to organize and promote this option.

- 68 too narrow for buses: Transit service drivers reported using county roads to avoid 68 due to safety concerns relating to the width of the road.

- Limited knowledge of transit services: Many participants had few comments about transit services because they have never utilized the service. In fact, many didn’t know transit service was available:

  - there was a perception that the bus is for elderly/low-income;
  - some participants felt that the dial-a-ride system is inconsistent; and,
many participants did not know of transit options.

- **Transit use:** Transit chiefly used for medical trips and summer youth programs
- **Canby-Marshall commuter route:** A Canby-Marshall commuter route was brought up with participants to gauge interest. The following are some of the comments received:
  - there needs to be coordination among employers, daycare providers, and the Marshall bus service, to provide an incentive (employer subsidize transit, coordinated shifts), reduce penalties (daycare “late fees”), and seamless transition (Marshall buses timed with commuter route, reduced rates);
  - participants expressed concern about leaving their vehicle parked all day without some sort of security;
  - participants would like to see a comprehensive communication system that will consistently notify them of pick-up times and delays due to weather; and,
  - there was frustration among participants that the buses seem to start after commuters are off the highway, which isn’t helpful for workers with a set start-time.

### SECTION 4: POINTS OF CONCERN (WEST TO EAST)

The following is a list of specific intersections and areas along Highway 68 pointed out as “areas of concern” by community meeting and survey participants.

**Intersection with Yellow Medicine 15**

Issues: Low visibility and no turn lanes make it especially hazardous for larger vehicles and farm equipment.

**Blind hill located 1/2 mile west of Canby, termed “Butcher Hill” by the locals.**

Issues: Low point where cars cannot be seen. Residents report waiting minutes to make sure there are no cars in the low spot.

**West side of Porter**

Issues: Water backs up and occasionally runs over the road when there is heavy rain.

**Intersection with Lincoln County 8**

Issues: County road intersects at an angle making turning hazardous. Lack of bypass lanes makes left turns difficult.

**Intersection with Lyon County 5 and 8**

Issues: Drivers accelerate too fast out of Ghent and do not slow down soon enough, making it hard to enter from those roads. Both intersect at odd angles and are offset, further increasing confusion.
Hill east of Ghent (Mile 34.5)

Issues: Dangerous to turn and pass due to low visibility.

Intersection with Lyon County 33 and 76

Issues: Archer Daniels Midland Company (ADM) is where most of the farm trucks go. Highways 33 and 76 are offset making crossing dangerous, especially for trucks. Whenever a vehicle--especially a large truck--has to turn at an acute angle it will find itself swinging well into oncoming traffic. It was discussed that turn and acceleration lanes will be added in the future, though as of September 2014, there is no mention of this on MnDOT’s website.

SECTION 5: COMMUNITY MEETINGS AND SURVEY INPUT

Input gathered from the community meetings and the online survey was compiled and is summarized below. In addition to the public input, included are the Minnesota Department of Transportation’s best practices, which are listed if they applied to any of the concerns given.

SAFETY: Road Width (Public Input)

The first safety issue mentioned at each meeting and within survey responses is the one that community members unanimously felt should be fixed first, the width of the highway. Participants noted that the driving lanes have been widened over the years, but the road itself has remained the same width, consequently leaving no room on either side. Further adding to the problem is the angle of the ditches on the side of Highway 68, which were mentioned numerous times as being too steep and making pulling over nearly impossible. Five of the participants were bus drivers, and they reported feeling unsafe having to pick passengers up along 68 because traffic will drive into the opposite lane to get around a stopped bus or emergency vehicle. One bus driver even stated that their service avoids 68 entirely and instead uses the county roads because there is no room for wide vehicles to maneuver or for faster vehicles to pass without having to partially enter opposing lane in order to look ahead.

Emergency vehicles face added challenges on the highway, especially when traveling with sirens because there is no room for drivers to pull over. When an emergency vehicle is stopped along the highway, drivers must travel in the opposing lane in order to pass around them, which still does not give the emergency vehicle more than half of a lane of clearance. Despite a general consensus that the speed of traffic is too fast, participants reported feeling unsafe when police do pull drivers over, especially during rush hour, due to the limited space on the side of the road. When a driver is pulled over along the highway, residents state that it effectively becomes a one-lane road and creates an unsafe situation.

In addition to trucking, farmers also rely on 68 to transport equipment. Two farmers attended the Canby meeting and noted that farm equipment has gotten much larger in the past.
few years, which makes them hesitant to even cross the highway with it. They reported the same problems as the bus drivers in terms of drivers passing, but they face the added challenge of being much slower than the speed of traffic. Drivers will pass unsafely, sometimes even passing on the left while the equipment is making a left turn, because they do not perceive just how slow the equipment is going. At each subsequent meeting it was noted that they would appreciate a shoulder and bypass lanes to avoid farm equipment.

SAFETY: Road Width (MnDOT Recommendations, Potential Remedies)

Single-vehicle crashes accounted for 58% of all accidents on Highway 68 from 2004 to 2014, which makes it a high priority for safety improvements. Widening the road was not included as a treatment in the Department of Transportation report on roadway departure, which is why it is not included here. Treatments related to the curvature of the road are not included here, as very few accidents took place on curved sections of road.

*Provide a safety edge for pavement drop-off:* This treatment would change the angle of the edge of the road. Instead of ending at a 90-degree angle, this treatment would provide a 30-degree angle, which allows motorists to more easily recover if tires leave the paved surface. It is recommended that this be done as part of any resurfacing project.

*Create clear zones:* A clear zone should be a drivable area alongside the road that allows drivers to recover after departing the roadway. This would entail removing objects and reducing the angle of the existing ditches, requiring approval of landowners.

It was noted that the bridges and culverts along Highway 68 are scheduled to be redone in the near future. At the Marshall meeting it was suggested that the bridges and culverts be widened in preparation for widening the road. The resident suggesting this change felt that widening the bridges would make approval of a road widening project much more likely. Another attendee pointed out that this would require the approval of adjacent landowners who may not be willing to give up land. At each meeting at least one attendee knew of a landowner who would not give up land for a construction project, which may be an obstacle.

SAFETY: Intersections (Public Input)

Another major safety concern that was brought up was the angle of the township and county roads with Highway 68. While all of the township and county roads run either north-south or east-west, Highway 68 runs northwest-southeast and meets every road between Canby and Marshall at an angle. These angles are especially problematic for farmers who need to drive large hauling rigs along 68 in order to deliver corn to the processing plant outside of Marshall (ADM). Whenever a vehicle--especially a large truck--has to turn at an acute angle it will find itself swinging well into the opposing lane. Residents at each meeting overwhelmingly felt that the addition of turn, bypass, and acceleration lanes would drastically improve access and traffic flow. In addition, several intersections were mentioned as needing visibility improvements (see Section 4: Points of Concern for these specific points of concern).
SAFETY: Intersections (MnDOT Recommendations, Potential Remedies)

The Department of Transportation recognizes intersection safety as “one of the most pressing safety issues on local roads.” They provide several recommendations for improvement of intersection safety, with the relevant ones listed below.

Clear sight triangles on approaches: This would entail clearing an area around an intersection in order to improve drivers’ ability to see other vehicles when turning without needing to pull forward on the major road and into the path of traffic.

Turn lanes: This would need to be done in conjunction with widening the road and would reduce the number of rear-end collisions, as well as improving the flow of traffic by allowing turning traffic a place to slow down while other traffic can travel forward uninhibited.

Bypass lanes: These would only work at T-intersections and require a shoulder. They function similarly to left-turn lanes, but require traffic continuing straight to move out of the way.

Realign skewed intersections: This is the most effective and permanent solution to the intersection safety problem on 68, but very expensive and involved. The realignment can be done by changing the pavement markings, adding islands to the intersection, or changing the angle of the road. All treatments for intersection skew will involve cooperation from landowners, especially any road redirections.

Change horizontal and/or vertical alignment of approaches: This would improve sight distance on the more challenging hills that were frequently mentioned in community meetings. This is an expensive intersection treatment as it involves changing the actual contours of the road, but also the most effective in terms of increasing visibility and reduction of intersection crashes attributed to poor visibility.

SAFETY: Speed in Towns (Public Input)

Participants in Minneota also noted that drivers generally do not slow down enough when entering a town, and will speed up too soon when leaving. One attendee who works on the outskirts of Minneota stated that the speed limit outside of his work is 45 mph, but that drivers frequently drive closer to 60, making entering and exiting the highway difficult. At the meeting a community member suggested that a speed limit sign with a radar be placed outside of towns, which was met with general approval from the other participants.

SAFETY: Other Concerns (Public Input)

The safety concerns along Highway 68 have been getting worse due to a perceived increase in traffic and development, especially in Marshall. One of the bus drivers reported that “it used to take five minutes to cross Marshall, now it takes 15 to 20.” Participants noted that until recently people would work and live in their same communities, but now the norm is to work in Marshall and live in an outlying town. This shift in regional dynamics has increased the traffic along all highways running into Marshall, especially 68. One participant in Marshall
noted, “For all our complaints about [highways] 23 and 19, 68 is worse.” Many participants also noted that rush hour times were very difficult due to people trying to pass and the various speeds everyone would drive.

The rumble strips in the center of the highway were mentioned as a nuisance, and several participants noted that smaller cars tend to be jerked around when passing. The general consensus was that the rumble strips are necessary, but residents are unsure why two strips were added in the center and none on the shoulder. Additionally, they mentioned that the rumble strips on 68 appear to be deeper than the ones on comparable roads, which aggravates the problem of passing and causes increased ice buildup.

TRANSIT: Overview

The second half of each meeting was spent on transit issues along Highway 68. At three of the four meetings there was at least one representative from a local transit organization. The presence of the transit representatives was helpful to know what has already been tried and exactly what services are offered in the area. We first covered general transit issues and then discussed the possibility of a commuter route to reduce traffic along Highway 68.

While two of the participants reported using the transit services and expressed satisfaction with the level of service provided, they admitted that they were unwilling to give up driving. The general sentiment at each focus group was that transit is nice for those that need it, but that people in the area enjoy the freedom that comes with driving. One attendee told the story of her father who has no peripheral vision and lost his license, but he still goes to the DMV regularly to try and retest, because he cannot handle the loss of independence. Another attendee stated, “we live out here because we like the freedom” when asked why he thought people in rural regions do not use transit.

TRANSIT: Awareness and Publicity

In terms of awareness, participants seemed to be aware of who the service providers were, but not necessarily on the specifics of what each provider does. At the meeting in Marshall where no transit representatives were present, awareness was lower. In fact, numerous participants stated “there’s no transit in this area” when asked. The perception in the community is that transit is primarily for the elderly and those who cannot afford to drive, though participants in Canby noted that the transit is widely used for summer recreation.

One thing that was mentioned is potential users not thinking about the cost of driving compared to transit, which is something that should be emphasized in any advertising. Because people are aware of how much it costs to drive, having a clearly publicized fare structure allows people to compare the cost for themselves. In addition, there are tax credits available for using public transportation that can help the cost argument.
Many participants stated that it is difficult to determine where each transit organization goes and what services they provide based on their website. For younger potential riders who are more tech-savvy this is the primary way they obtain information, so it is critical that websites be as user-friendly and extensive as possible. Fares should be prominently displayed on the website, along with the total cost for some of the more popular routes. Ideally there would be a way to book rides online, which would most likely have to be developed out-of-house, which may be costly.

**TRANSIT: Coordination and Service Model**

In order to increase service along Highway 68, especially for commuters that value convenience, transit along the highway should be coordinated amongst the three services. Participants noted that there doesn’t seem to be much coordination among the transit service providers. Currently, each service operates on a dial-a-ride system and they frequently end up in each others’ areas of coverage. Because Marshall appears to be the area most frequently visited, it may be worth it to coordinate rides to the area. This could be accomplished through a centralized dispatch or communication between services to see if trips can be combined. If the combination is done equitably it would reduce the total miles driven and make each ride given more cost-effective for all three organizations.

The participants who use the transit services enjoy the level of service, but those that don’t use it find that their biggest obstacle is not knowing where the bus will be. Several residents suggested that they would be more likely to use a transit system if there were marked stops and a schedule so they could plan their day around it. In Minneota the feeling was that having a schedule would be a way to make transit more a part of the culture along the corridor, though substantial logistical hurdles would need to be jumped to successfully implement it. Having clearly marked stops with posted schedules would allow users to more easily plan their day around transit with the guarantee that a bus would arrive and depart at set times. Marked stops would additionally increase the visibility of transit and make more people aware of the options available.

**TRANSIT: Other Alternatives**

As gas prices increase people admit that it is making them rethink their driving choices, but the cost has not been sufficient to make them stop driving. To get around this, several participants mentioned ridesharing, which they feel allows them more freedom to run errands in town over the transit, while still saving on gas. In order for transit to be the preferred option for these commuters, the feeling expressed was that it would have to either improve in convenience or be drastically cheaper than driving. Many safety concerns had to do with the volume of traffic, especially between Minneota and Marshall, which carpooling can help remedy. Coordination of carpooling can be done through employers or other local organizations. Additionally, Zimride is a service that allows users to post their route and a rate for riders. All payments are handled electronically through their site and a Facebook account is required to use
the service, which makes the service more geared towards young people. The benefit of
carpooling is that it requires very little capital as the vehicles are owned and insured by the
individual drivers.

In addition to carpooling, providing resources for a ride sharing service could further
reduce the number of cars on the road as well as free up parking spaces in Marshall. Two service
models are currently in use for ride sharing programs. The first model is car-sharing, which is
much more common in urban areas. Car-sharing is predominantly done by private companies
(Zipcar being the most well-known) who own the vehicles and allow people to use them for a
membership and/or hourly fee which are used to cover gas, insurance, and maintenance. The
second model, vanpooling, can be done in a variety of different ways depending on interest and
funding availability. The most common model involves vans owned and insured by employers
which are used by a group of employees that all have similar commutes. CalVans in California
works on a similar system to the privately owned vans, but the vans are owned by the California
Vanpool Authority and routes are requested through the CalVans website. When enough users
request a route, and one of them qualifies as a driver, then they are given a van to be used for that
route. Traditionally these programs are done with full-size vans, though it may be more practical
to use minivans depending on interest levels.

**TRANSIT: Canby-Marshall Commuter Route**

The idea of a commuter route from Canby to Marshall was tried years ago, however, the
idea did come up at each community meeting as a way to reduce traffic on Highway 68 during
morning and evening rush hours. With the increase in workers that commute to Marshall there
may be more willing riders. We gauged interest in the route and discussed ways to make the
route more viable as an option.

Interest in the route amongst participants was relatively low, most participants stated that
they would likely not use it or would only use it one day a week. The reasons given for not using
the route were similar to the reasons given for not using transit in general: needing the freedom
to run errands during the day or after work, not wanting to be late, not wanting to wait around,
and needing a flexible schedule. Participants expressed concern that the bus would make them
late for work or late after work to pick kids up from child care services that typically charge
steep late fees. The general sentiment towards the route was that participants could see
themselves using it one day a week when they knew they had nowhere to be before or after
work.

After discussing usership, participants were asked about reasons they were hesitant about
this route specifically. A primary concern expressed during the discussion was how riders would
get around once in Marshall. Participants felt that if the bus stopped at every place of
employment it would make them late, and also were unwilling to pay to transfer to another bus
within Marshall that would drive them to work. Similarly, they also wondered how the bus
would pick them up within their communities. The concern was that they would either have to
walk or leave their vehicles in an unsecured parking lot all day. An additional concern that was brought up was weather cancellations, especially in the winter. The transit services cancel service on days when the weather is deemed unsafe for the buses, but employers do not cancel work, which could lead to a situation where riders are left without a means of transportation. Especially problematic would be if the inclement weather hit during the workday, leaving riders stranded in Marshall.

Next, participants were asked what it would take to convince them to use the bus route, focusing on the cost and convenience aspects they had mentioned previously. In terms of cost, it would have to be significantly less than driving in order to make people consider using it, though convenience still trumps. The challenge for transit providers is that for most commuters the cost of driving is just factored in as a cost of living and high gas prices are considered an inconvenience, but at present they have not risen enough for people to drastically rethink their driving practices. In order to attract users, the route would have to provide an incentive such as a gift card for frequent use. Convenience was mentioned as the most important reason for driving to work, so any commuter route would need to achieve similar levels of convenience in order to truly gain popularity.

Participants provided several suggestions to improve the convenience of a commuter route. First, having a secure parking lot where vehicles could be left while riding the bus would allow users to drive to the bus with a guarantee that their cars would be safe during the day. Parking lots that remain largely vacant during business hours could be converted into park and ride lots, though this will require coordination with the lot owner and may entail a fee. The alternative is to create a lot specifically designed for park and ride, which is by far the most expensive option. Realistically, using existing parking lots is far more cost-effective until ridership is sufficient to justify the purchase of a lot. It was mentioned that vehicles would need to be kept safe for the day, while participants felt the area was very safe they still felt uneasy about leaving their vehicles unattended for a whole workday. Lot attendants are one solution, but they would increase cost. A partnership with law enforcement would allow for staffing costs to remain low, but the lot will not always be watched in this scenario, which may not alleviate potential users concerns. In order to justify hiring lot attendants, they can also be used to communicate disruptions or changes in service.

The route would also need to be coordinated with shift times, as each employee has a slightly different schedule. Coordination with employers would allow the route to be planned in advance and each employer would be aware of when their employees would be getting in to work. On the transit side, the organization running the route would have to guarantee to employers that their workers will arrive on time, otherwise they would have no incentive to encourage employees to use it. Finally, there would need to be some way to get around within Marshall during breaks to run errands or get lunch. The inability to get around town during the day was the most mentioned reason for not wanting to use transit to get to work. The addition of
a circulator route within Marshall could be billed as an option for transit users that would allow them to get around town during the day.

SECTION 6: TRAFFIC AND CRASH DATA

The Minnesota Department of Transportation provides traffic and crash data for all major trunk highways. The information provided below is meant to give a quick snapshot of the traffic and crash information occurring on Highway 68 using data that is publicly available. MnDOT has much more data available and expertise on these issues and would be worth contacting to produce a more thorough analysis.

First, traffic data will be examined by comparing traffic levels since 2004. Then, a summary of the crash data beginning on January 1, 2004 through February 6, 2014 will be provided. During the community meetings, Highway 23 was mentioned frequently as a comparison to Highway 68. Therefore, a similar stretch to the Highway 68 corridor from Highway 23 has been included as a comparison. The highway 23 segment begins in Holland, MN and runs up to Marshall, east of CSAH 7.

Traffic Data

The Minnesota Department of Transportation provides the Annual Average Daily Traffic (AADT) rate for particular stretches of every major trunk highway. Traditionally, the AADT is the volume of traffic of a highway or road for a year divided by 365 days. However, this is not feasible for every road so MnDOT conducts a 48 hour count and then use models to create an estimate. Count stations are set-up up at various points in the road which then measure the volume of traffic for a particular road segment. The table below provides the AADT for each segment along Highway 68. It is worth noting that daily traffic counts are influenced by numerous factors, including construction on local highways. Here are descriptions of each segment from West to East:

- Canby: from Lac Qui Parle Ave N running SE to city limits
- Canby to Taunton: Canby city limits to Quincy Street in Taunton
- Taunton: from Quincy Street to 120th Avenue
- Taunton to Minneota: from 120th Avenue to N Market Street in Minneota
- Minneota: from N Market Street to City limits
- Minneota to Ghent: Minneota city limits to N Chapman Street in Ghent
- Ghent: N Chapman Street to N Collins Street
- Ghent to Marshall: N Collins Street to Channel Parkway in Marshall
<table>
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<th>Segment</th>
<th>2004 AADT</th>
<th>2006 AADT</th>
<th>2008 AADT</th>
<th>2010 AADT</th>
<th>2012 AADT</th>
<th>% Change 2004 - 2012</th>
<th>Average AADT</th>
<th>Segment Length (Miles)</th>
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<td>-3%</td>
<td>3,470</td>
<td>4</td>
</tr>
<tr>
<td>Ghent</td>
<td>4250</td>
<td>4100</td>
<td>3950</td>
<td>4300</td>
<td>4150</td>
<td>-2%</td>
<td>4,150</td>
<td>1</td>
</tr>
<tr>
<td>Ghent - Marshall</td>
<td>4050</td>
<td>3900</td>
<td>3900</td>
<td>4300</td>
<td>4000</td>
<td>-1%</td>
<td>4,030</td>
<td>5</td>
</tr>
</tbody>
</table>

The % change from 2004 to 2012 in the AADT shows small decreases for most segments. However, the volume has been relatively stable throughout the years.

Highway 23 runs through Marshall and serves a very similar role as Highway 68 in that it serves commuters going to and from Marshall. The table below provides the AADT for each of the segments along Highway 23 at a similar distance between Canby and Marshall. Here are descriptions of each segment from South to North:

- Holland to County Road 18: from County Road 16 in Holland to County Road 18
- County Road 18 to Ruthton: from County Road 18 to County Road 18 in Ruthton
- Ruthton to Florence: County Road 18 in Ruthton to Highway 14 in Florence
- Florence to County Road 13: from Highway 14 to County Road 13
- County Road 13 to Russell: from County Road 13 to 170th Ave in Russell
- Russell: 170th Ave in Russell to County Road 31 in Russell
- Russell to County Road 20: County Road 31 in Russell to County Road 20
- County Road 20 to Lynd: County Road 20 to County Road 72 in Lynd
- Lynd to Marshall: County Road 72 in Lynd to County Road 7 in Marshall.
Most of the segments have seen increases in traffic since 2005. Traffic is about double in each of the segments compared to Highway 68, however Highway 23 becomes a four-lane road from Lynd to Marshall.

**Crash Data**

Crash data was obtained from the Minnesota Department of Transportation for the stretch of highway between Canby and Marshall from January 1, 2004 to February 6, 2014. The segment of road used for this data follows the segments used in the section above for the average daily traffic (AADT).

During this time period there were 145 total accidents reported to the MnDOT, while Highway 23, from Holland to Marshall (also using segments listed in section above), had 371 accidents. This is 2.5 times as many accidents as Highway 68. However, Highway 23 has twice as much traffic. Highway 23 has seen on average 37.1 accidents per year over the 10 year period, while Highway 68 has seen 14.6. For Highway 23, 2005 had the highest occurrence of accidents. Following 2005 there has been a steady decline in accidents with 2013 showing the lowest occurrence over the 10 year period. As for Highway 68, the number of accidents have not followed a particular trend over the 10 year period. 2004 had the highest occurrence of accidents, followed by 2010. There have been varying highs and lows between these years.
To compare road safety across different roadways, and account for the volume of traffic, MnDOT has developed a crash rate formula. This formula produces the rate of crashes per million vehicle miles driven. This, essentially, weights crashes with volume, allowing highway planners to see which highways are dangerous due to bad design, rather than only the volume of traffic. Below is a table that provides the crash rate for each segment on highways 68 and 23, as well as the severity rate, which provides a rate at which crashes incur more severe injuries. The severity level is defined as:

- A = Injury – incapacitating injury
- B = Injury - non-incapacitating injury
- C = Injury - possible injury
- N = Property damage - no apparent injury
- Fatal = Crash with fatality
When comparing the crash rates between highway 68 and 23 we can see that they both have areas of concern. The highlighted values indicates that the rate is above the 2008 state average for a rural, 2-lane highway with ADT between 1,500 and 5,000, which is .7 for the crash rate and 1.2 for the severity rate\(^1\).

<table>
<thead>
<tr>
<th>Highway 68 Crashes (2004 – 2013)</th>
<th>Segment</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>N</th>
<th>Fatal</th>
<th>Total Accidents</th>
<th>Crash Rate</th>
<th>Severity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canby</td>
<td>0 0 2 3 0</td>
<td>5</td>
<td>0.68</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Canby - Taunton</td>
<td>0 8 8 38 0</td>
<td>54</td>
<td>0.78</td>
<td>1.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taunton</td>
<td>0 0 0 1 0</td>
<td>1</td>
<td>0.15</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taunton - Minneota</td>
<td>0 3 2 18 0</td>
<td>23</td>
<td>1.05</td>
<td>1.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minneota</td>
<td>0 0 1 1 0</td>
<td>2</td>
<td>0.08</td>
<td>0.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minneota - Ghent</td>
<td>2 9 3 13 1</td>
<td>28</td>
<td>0.55</td>
<td>1.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghent</td>
<td>0 0 0 0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghent - Marshall</td>
<td>2 6 7 17 0</td>
<td>32</td>
<td>0.44</td>
<td>0.78</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highway 23 Crashes (2004 – 2013)</th>
<th>Segment</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>N</th>
<th>Fatal</th>
<th>Total Accidents</th>
<th>Crash Rate</th>
<th>Severity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holland - County Road 18</td>
<td>1 1 7 23 3</td>
<td>35</td>
<td>0.65</td>
<td>1.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Road 18 - Ruthton</td>
<td>0 0 0 9 0</td>
<td>9</td>
<td>0.39</td>
<td>0.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruthton - Florence</td>
<td>1 4 6 32 2</td>
<td>45</td>
<td>0.75</td>
<td>1.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Florence - County Road 13</td>
<td>0 2 1 22 0</td>
<td>25</td>
<td>0.64</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Road 13 - South of Russell</td>
<td>0 0 2 12 0</td>
<td>14</td>
<td>0.39</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russell</td>
<td>0 1 5 14 1</td>
<td>21</td>
<td>0.80</td>
<td>1.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russell - County Road 20</td>
<td>3 7 3 38 0</td>
<td>51</td>
<td>1.16</td>
<td>1.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Road 20 - Lynd</td>
<td>5 7 3 38 0</td>
<td>53</td>
<td>0.86</td>
<td>1.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lynd - Marshall</td>
<td>5 14 35 62 2</td>
<td>118</td>
<td>0.86</td>
<td>1.48</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Highway 68 has two segments that are above the 2008 average among similarly classified roads. These segments are between Canby and Taunton, and Taunton and Minneota. The latter segment also has a severity rate above the 2008 state average.
On Highway 68, the ages of drivers involved in accidents ranged from 15 to 89 years. The top 3 age cohorts with the most accidents included 58 and over (29), 16-21 (29), and 22-27 (27).

On both highways, December had the highest number of crashes. Interestingly, it was found that most accidents occurred on dry road surfaces as opposed to snow surfaces. In addition, most accidents occurred in clear weather (52%) and on roads that were straight and leveled (77%).
Most accidents occurred between the hours of 3pm and 8pm. This was followed by the hours between 5am and 10am.

There are many factors that contribute to accidents and the accident reports capture most of these. The following are some of the most interesting factors regarding accidents on Highway 68.

- Only seven drivers were under the influence of drugs or alcohol (3.3%)
- 68 crashes involved no inclement weather or lighting conditions (46.6%), and only 14 crashes listed weather as a contributing factor (9.6%)
- The most common type of accident is a collision with a motor vehicle in transport with 57 (39.0%), the next most common types are collisions with deer at 24 (16.4%) and overturns/rollovers at 23 (15.8%)
- 84 (57.5%) accidents did not take place at intersections, but intersections account for 69.8% of injury accidents, and the only reported fatality in the last 10 years.

- Passenger cars accounted for 45.7% (95) of the vehicles involved in crashes followed by pickups at 21.6% (45)

SECTION 7: RESEARCH LIMITATIONS

The purpose of this project was to gather as much information and input available. The input gathered from the general public was open to anyone willing to speak (or write) on the issue. There was no selection process, thus the input was not generated from a random sample. The comments and issues in this report cannot be attributed to representing the region.

The data from the Minnesota Department of Transportation is generated from accident reports given by county officials, the county highway department, and police forces. There are numerous instances where an accident may have not been reported to officials. This is particularly true for vehicles hitting a deer. Therefore, the data is not 100% accurate representation of the accidents on Highway 68.
University of Minnesota, Morris Center for Small Towns

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