# City of Herreid

# Master Transportation Plan

# 2021


**City of Herreid**

**South Dakota**

**Department of Transportation**

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**South Dakota Department of Transportation**

**City of Herreid**

**August 2021**

**Prepared By:**

**Tyler Tornese - Intern**

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## Study Advisory Team

| Members | Organizations |
|---|---|
| Melinda Neeley | City of Herreid |
| Gary Weismantel | City of Herreid |
| Ryan Goehring | City of Herreid |
| Steve Gramm | SDDOT – Project Development |
| Logan Gran | SDDOT – Project Development |
| Sarah Gilkerson | SDDOT – Project Development |
| Tyler Tornese | SDDOT – Project Development |

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# Introduction

## Project

Under Fixing America's Surface Transportation (FAST) Act signed into law in December 4, 2015, a percentage of the federal transportation funds received by South Dakota must be designated for transportation planning and research activities through the State Planning and Research Program (SPR). Historically, the South Dakota Department of Transportation (SDDOT) used a portion of the SPR funds for transportation planning studies for counties and Class 1 cities (>5000) not within a Metropolitan Planning Area.

Transportation Alternatives (TA) is authorized by the Fixing America's Surface Transportation Act (FAST Act) and is a set-aside of Surface Transportation Block Grant (STBG) program funding. TA includes the Safe Routes to School, Scenic Byways and Recreation Trails Programs. These project types should all be submitted under this TA call for Letters of Intent. These set-aside funds include all projects and activities that were previously eligible under the Transportation Alternatives Program (TAP), encompassing a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historical preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.

It became apparent during the first round of TAP applications that many of the small communities applying for the grant funds are lacking an overall community transportation plan. The absence of a community transportation plan may be a detriment in obtaining TAP and other transportation-related funds. It may also be a detriment to the community as a whole as it grows and changes. Not only will a community transportation plan be a benefit in many funding

situations, but it will also help aid a community in developing a transportation network that provides better access to schools, business districts, residential districts, agricultural and industrial facilities, and parks and recreation attractions.

With that in mind, the SDDOT started dedicating a portion of its SPR funds to establish the Small Community Transportation Planning Program in 2014. The City of Herreid was selected as the 2021 project for this program. The City of Herreid Master Transportation Plan intends to lay out a vision and set the direction for how people and goods move throughout the community. The transportation planning process has been a collaborative effort between the City of Herreid and the SDDOT. The Plan's study team has worked with the Herreid community to identify the expectations and goals of citizens, system stakeholders, and local officials for their multi-modal transportation system. The Plan addresses the study area in Figure 1. The Transportation Plan report provides the City of Herreid with a blueprint for achieving its vision for the transportation system through a series of recommended projects, programs, and policies.

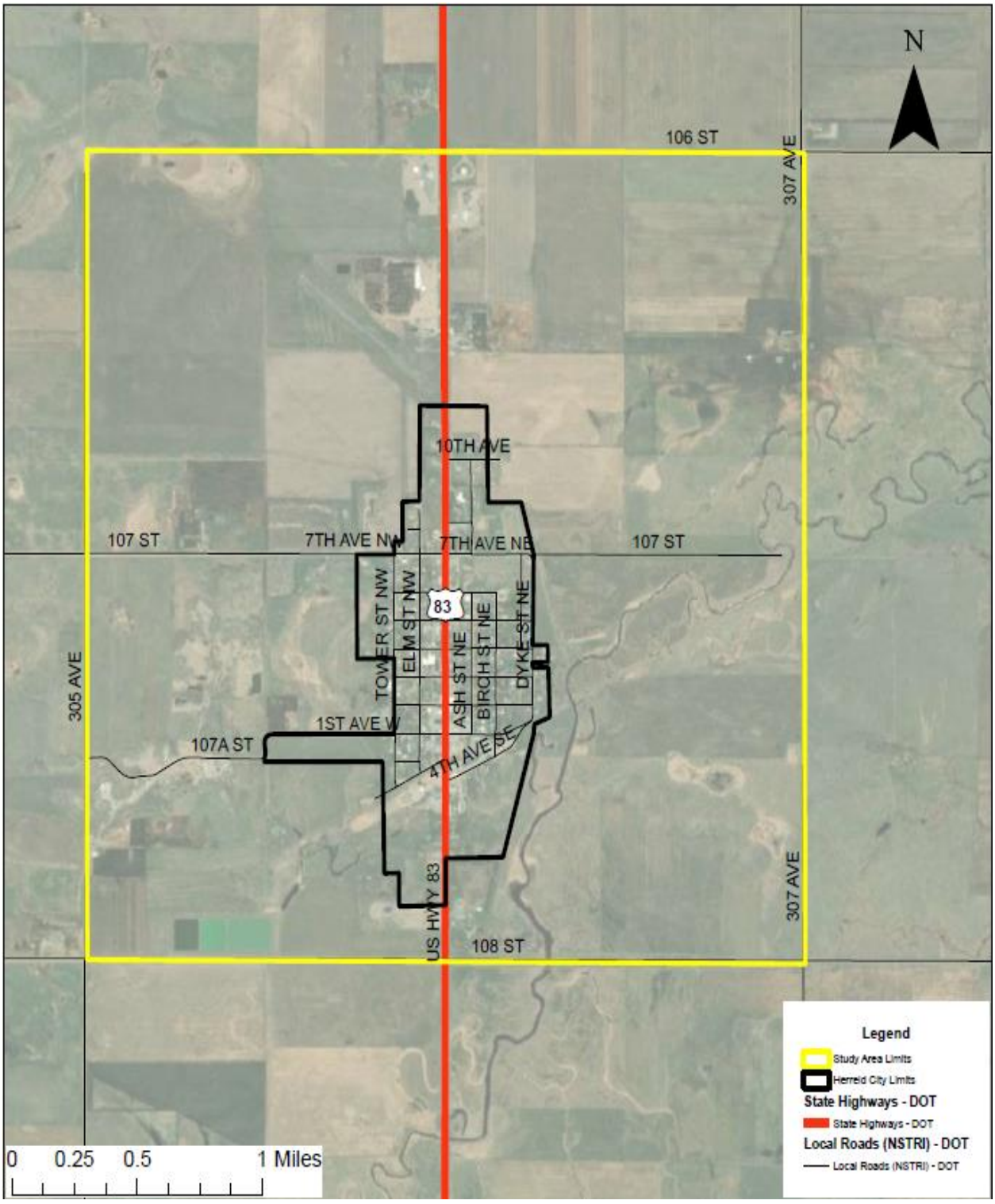



*Figure 1. Study Area Map*

# Historical context

The City of Herreid (see Figure 1) was established in 1901 and was named after South Dakota's 4th Governor, Charles Nelson Herreid. Although the area was originally settled in the 1800's, Herreid become much more prominent with the introduction of the Soo Line railway system which came to the area in the early 1900s. This railway line was instrumental in transporting people and goods across the Midwest and Canada. While the Soo Line railway system heavily contributed to the formation of towns and cities in the region, it has since shut down. The population of Herreid has fluctuated over the last century, with a peak population of 767 in 1960 to a population of 468 in 2020 (see Figure 2). Herreid is split through the center by US Route 83. This highway is a popular route for truckers and travelers, as Herreid proudly calls itself the first and last stop in South Dakota along this route.

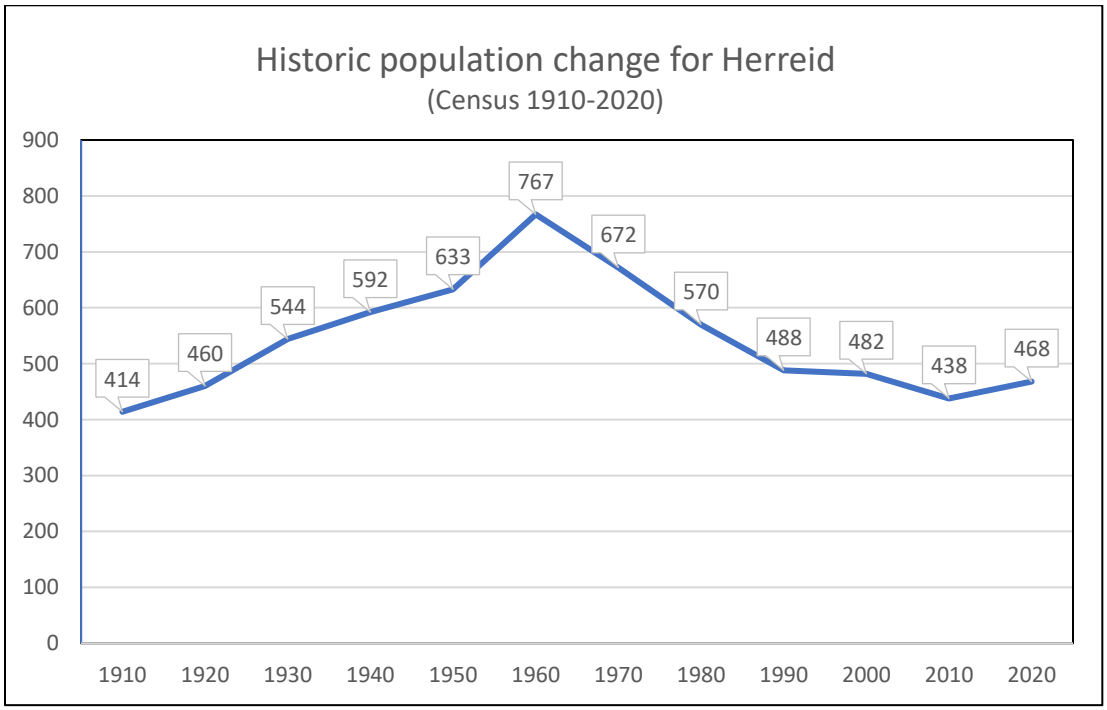



*Figure 2. Historic Population change for Herreid*

The age structure in Herreid is diverse (see Figure 3), with members of the community spread across many age groups. This means that Herreid's transportation system must strive to adequately serve all members of the community safely, with the diverse age make up in mind. In addition to age, the community has a variety of employment vectors and pass-by attractions that attract a wide range of vehicles. Farming equipment from nearby farms to commercial semi-trucks to motorists stopping in or passing through the town; Herreid's transportation system is exposed to a variety of uses.

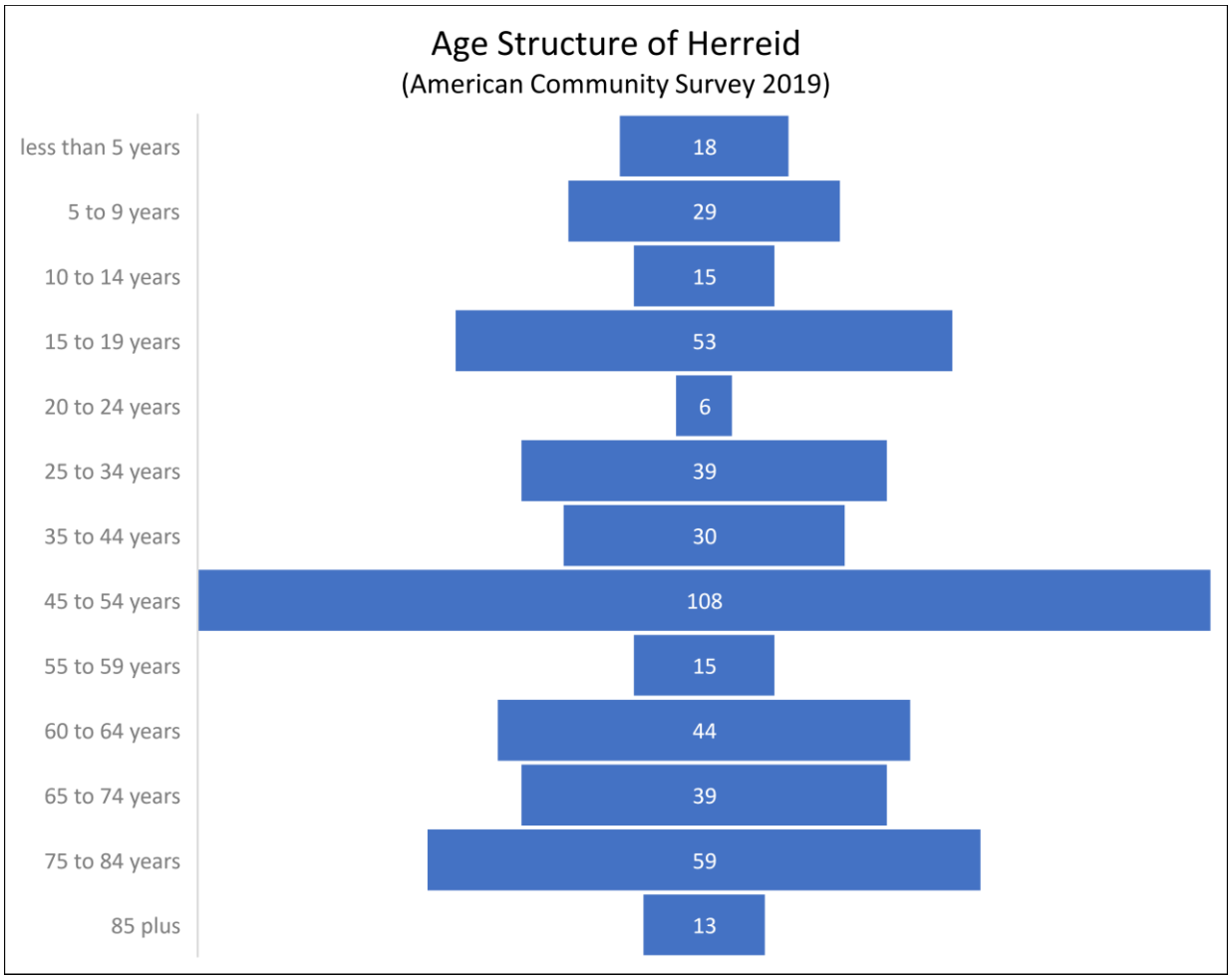



*Figure 3. Age Structure of Herreid (ACS 2019)*

# Geographical context

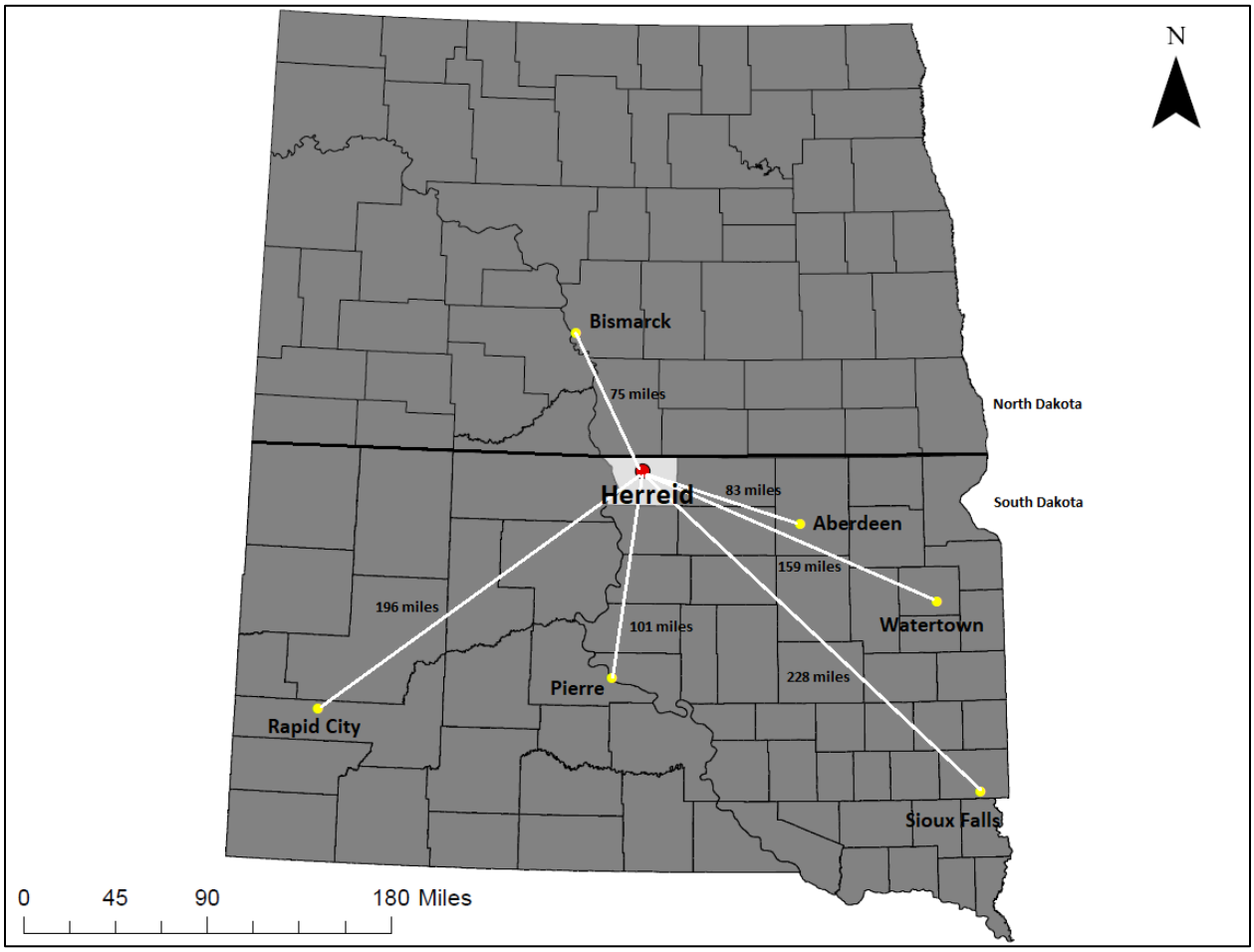



*Figure 4. Geographical Context Map*

Herreid is centrally located in the Northern region of South Dakota, rurally nestled between Aberdeen (class 1 City population >5000) and Bismarck (class 1 City population >5000). With no other class 1 cities less than 100 miles away, Bismarck and Aberdeen are significant travel routes for Herreid residents for miscellaneous tasks that are not available in Herreid. Figure 4 displays Herreid's geographical context to other major South Dakota cities and Bismarck, North Dakota.

# Method and Process

Moving forward, the City of Herreid's need for a transportation plan will intensify as the City's trajectory continues to change and develop. The central purpose of this transportation master plan is to provide recommendations that the City of Herreid could implement to address identified issues, concerns, and needs. The methodology behind this study is embedded in a data driven process that revolves around the inventoried analysis of data within the study area, public input, and historical data maintained by SDDOT (see Figure 5).

First, to achieve an in-depth understanding of how the transportation system operates and performs as is, - data was collected to create an inventory of information representing Herreid. This data gathering created a database of baseline information on the study area that was utilized to assess and understand the transportation system in conjunction to meeting with the public and getting input. Specific data that was collected during this inventory creating stage includes: sidewalk connectivity and quality, pedestrian crosswalk locations, traffic sign locations, historical crashes, road quality and type, speed limits, American Disabilities Act (ADA) compliance, and average daily (including projected future) traffic flows.

The next step in understanding the transportation system in Herreid was perhaps the most important. This was gathering public input and direction on how the public uses the transportation system and any issues that they have with it. To do this, this study utilized an online survey that contained closed and open-ended questions pertaining to the transportation system that the public was encouraged to complete. In addition to the survey, two public meetings with open discussions were held where the public was encouraged to attend and contribute. At the first meeting, there was a brief presentation on the study itself and what the purpose was, which then opened the floor to the public for an open discussion on the Herreid

transportation system. The second meeting was used to present the preliminary findings and recommendations to the public, opening the floor to feedback on possible projects and alternatives to issues identified in Herreid.

After these major steps, the final part in the process of this study was the act of synthesizing all the information produced and gathered in this study. This stage curated analysis utilizing public input and inventoried data, which together produced the data driven results of this study. From the results this synthesizing stage, different alternatives and projects were finalized for the City of Herreid. These alternatives and projects represent the recommendations at the heart of this transportation plan.

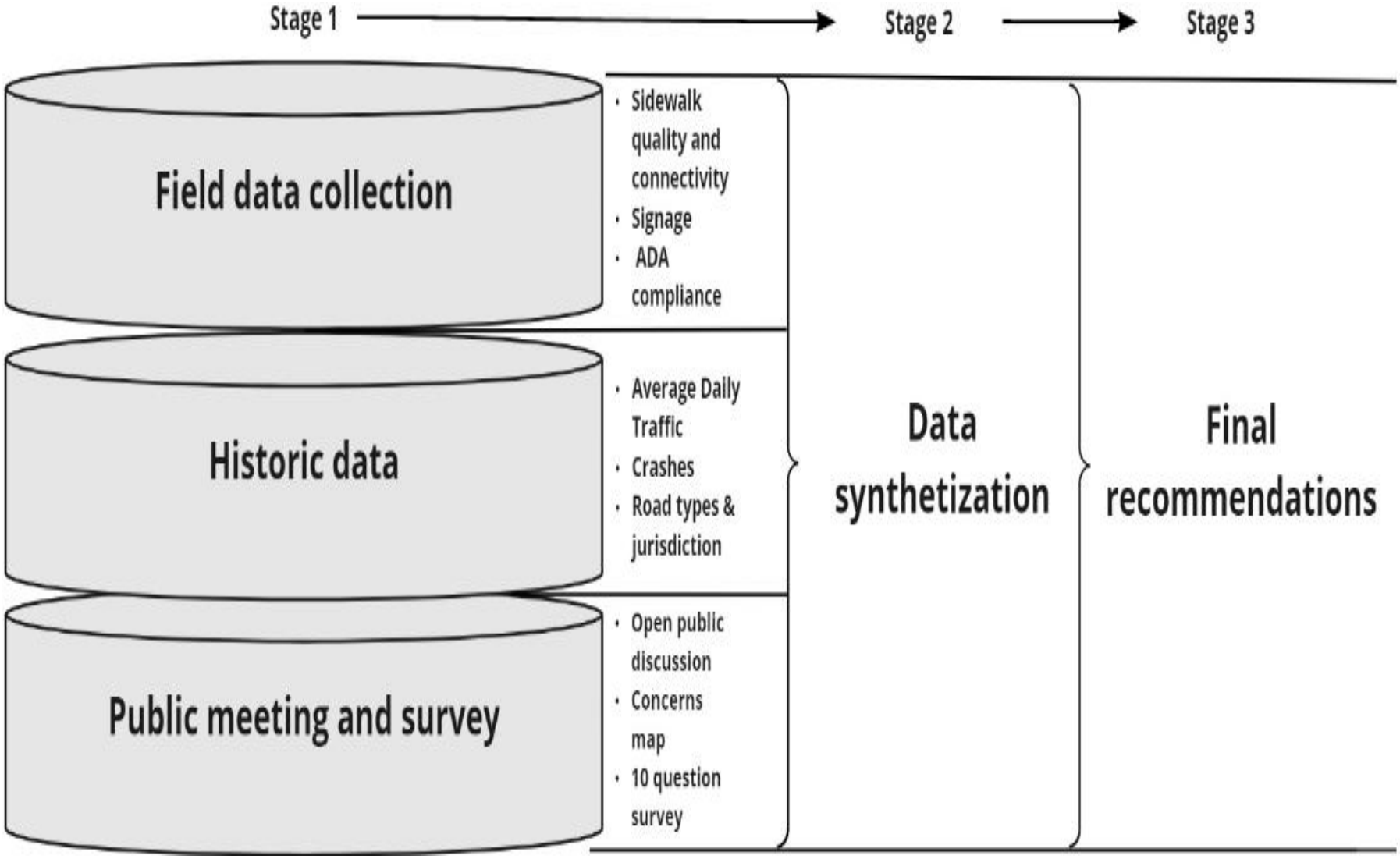



*Figure 5. Research Methodology*

# Goals and Objectives

The goals and their respective objectives (See Figure 6) are center to the motivation of this study. As mentioned in the methods section, the central purpose of this study is to provide recommendations for the City of Herreid to implement that are recognized as solutions to improve their transportation system through the identification of distinct opportunities and issues. To achieve this central purpose, a set of goals with objectives were established that were based off the visions and concerns of Herreid's residents and the data acquired the inventory stage of this study. In practice, goals and objectives create the combination of broad arching visions and the methods that will be used to get there.


**Herreid Water Tower**

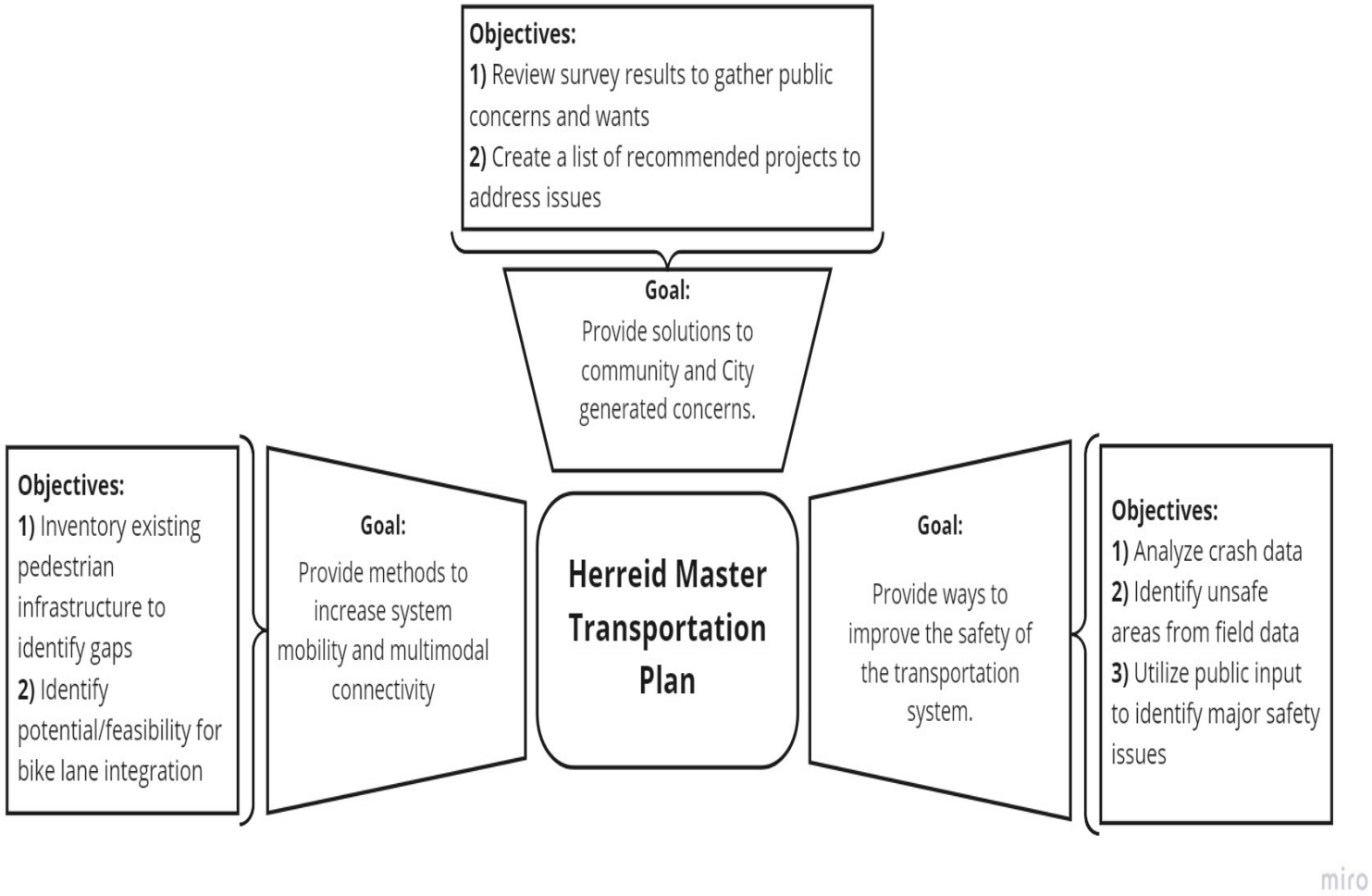



*Figure 6. Goals and Objectives*

# Inventory of Existing Conditions

## Transportation System

Herreid's existing transportation system serves as the baseline source of information for this study from which we curate actions, policies, and improvements that might be desirable to the community and best for increasing the system's overall performance. The issues identified that currently create problems for the transportation system are the impetus for future transportation system improvements in Herreid. Due to a construction project taking place throughout Herreid, a roadway pavement assessment was not possible given that many roads were being repaved. Therefore, roadway pavement quality has not been included in the inventory of existing conditions.

The primary traffic route in Herreid is US Route 83, which intersects the City through the middle, going north and south. This highway is the single most traveled road in Herreid and contains many places of interest along it that serve the community. In no specific order, these places of interest include Herreid's school, City Hall, the community center, the pool and parks, and multiple shops and restaurants. In addition to serving Herreid, US Route 83 is also on the National Highway System (NHS), and thus a major trucking route for moving goods to and from South Dakota, as well as a common route of travel for regular drivers. As such, it is no surprise that this road is the most often traveled within Herreid's City limits. The other major roads in Herreid are peripheral county roads that connect Herreid to other parts of the county, these roads run around the City following a large grid pattern. Within the heart of the City, neighborhood roads feed into US Route 83 from East and West tracts. These neighborhood roads closely follow the grid pattern layout of the overall City, creating many major and minor intersections.

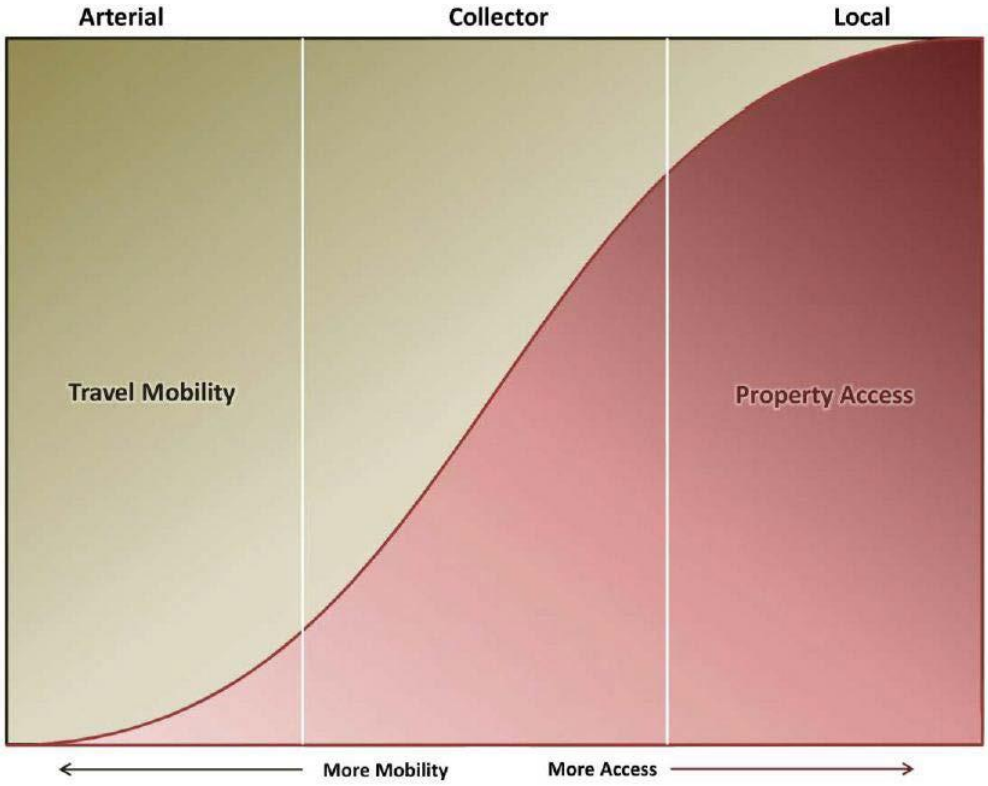



*Figure 7. Travel Mobility*

The types of roads in Herreid and who has jurisdiction over them is displayed in the following two maps below (see Figure 8 and Figure 9). The mobility and access of the types of roads and how they measured up compared to each other based on their classification is graphically represented in Figure 7. Figure 7 is showing that local roads provide more property access and less travel mobility whereas arterial and collector roads offer more travel mobility and less property access.

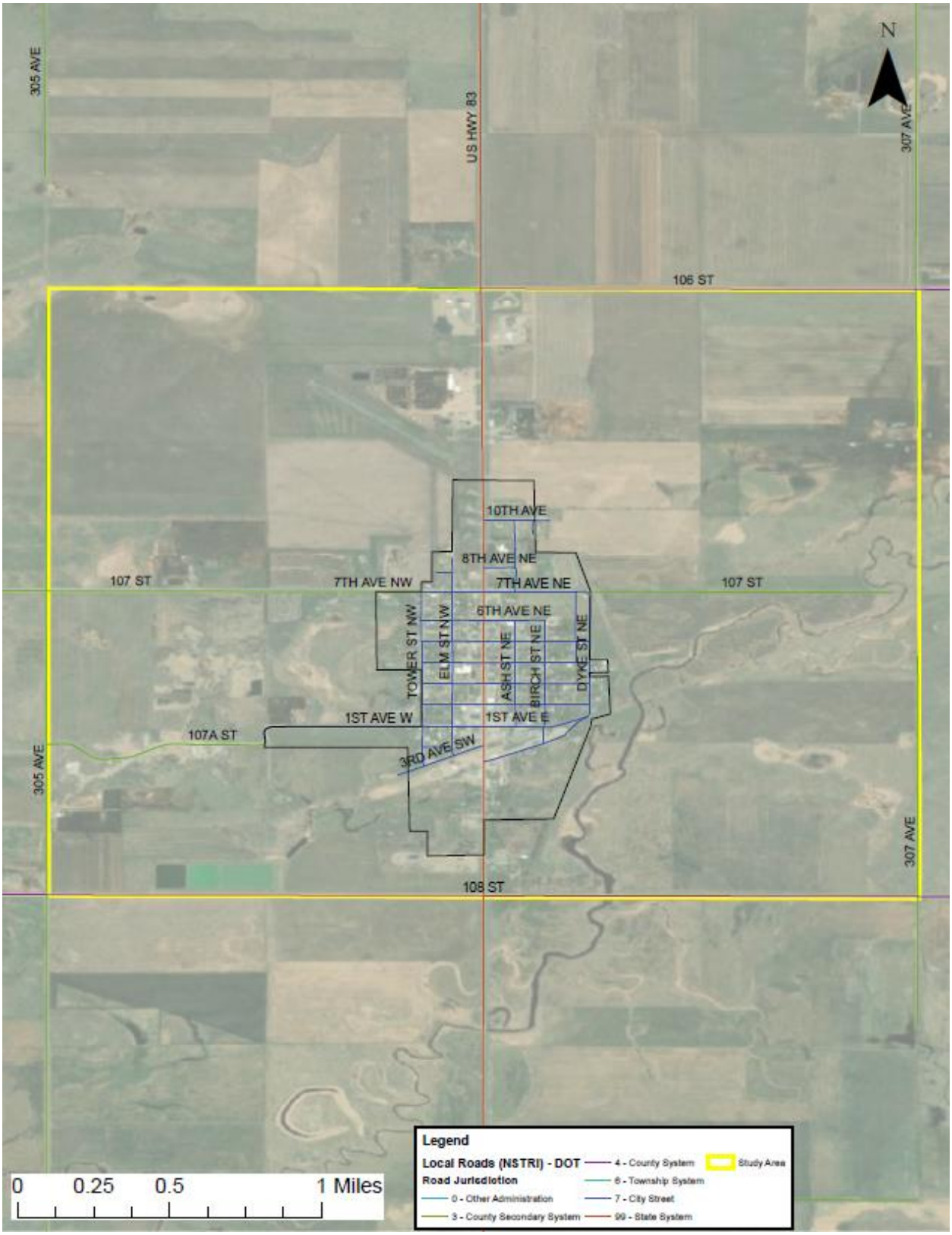



*Figure 8. Road Type Map*

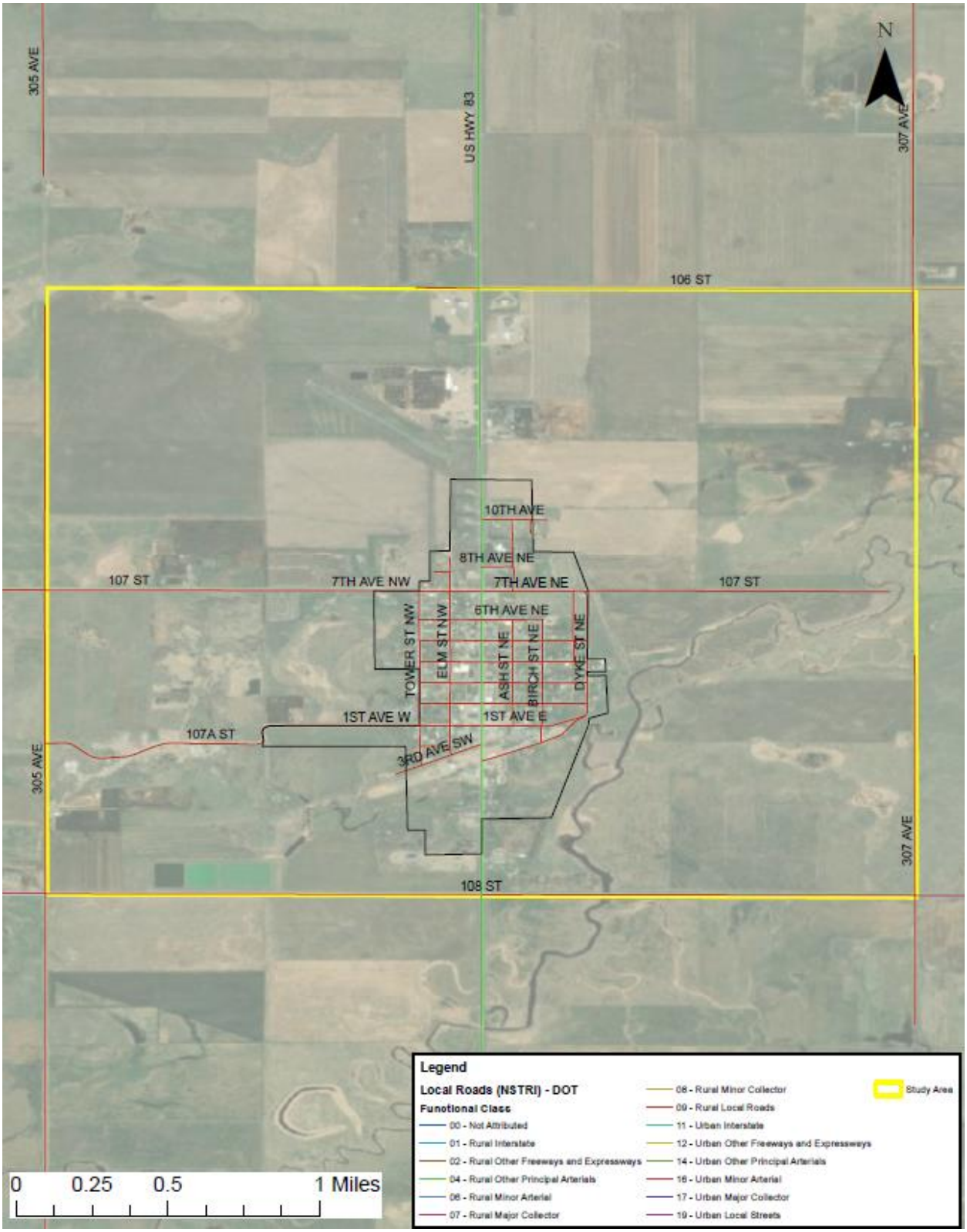



*Figure 9. Road Functional Class*

The distribution of road types and jurisdictions in Herreid is alternatively displayed in two figures (Figure 10 and Figure 11). These figures highlight the roadway dynamic that is observed in Herreid, and as can be seen, local roads dominant the road type. This makes the process for Herreid less complicated when it comes to long term transportation planning and policies, as the City is the major controller of most of the roads that affect the City's transportation system. The roads where the City does not have jurisdiction are the county roads and the state roads.

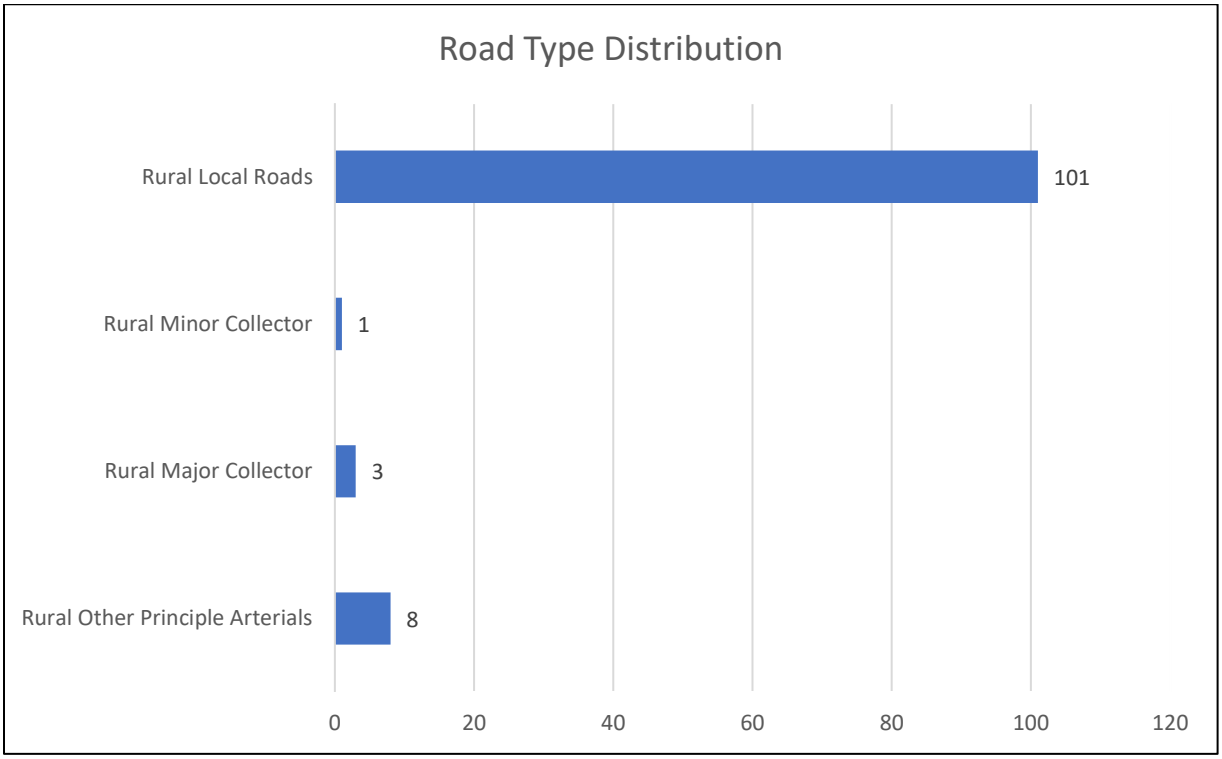



*Figure 10. Road Type Distribution*

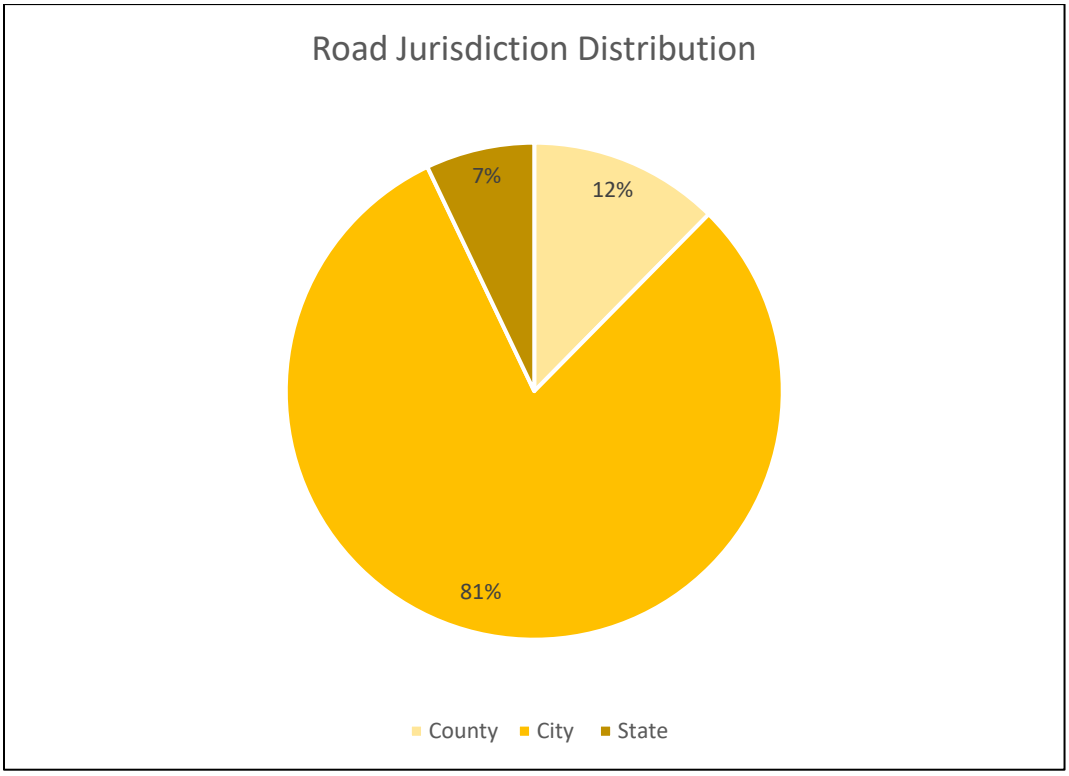



*Figure 11. Road Jurisdiction Distribution*

While the majority of roads in Herreid are rural City roads, the single most frequently traveled road when it comes to Average Daily Traffic (ADT) is by far US Route 83. US Route 83 surpasses all roads in the study area with more than 900 daily vehicles. Close to a third of all the daily vehicles on US Route 83 is estimated to be truck traffic. Figure 12 shows the ADT levels of the different roads in the study area. This map illustrates the difference routes that are used most frequently on a daily basis in Herreid.

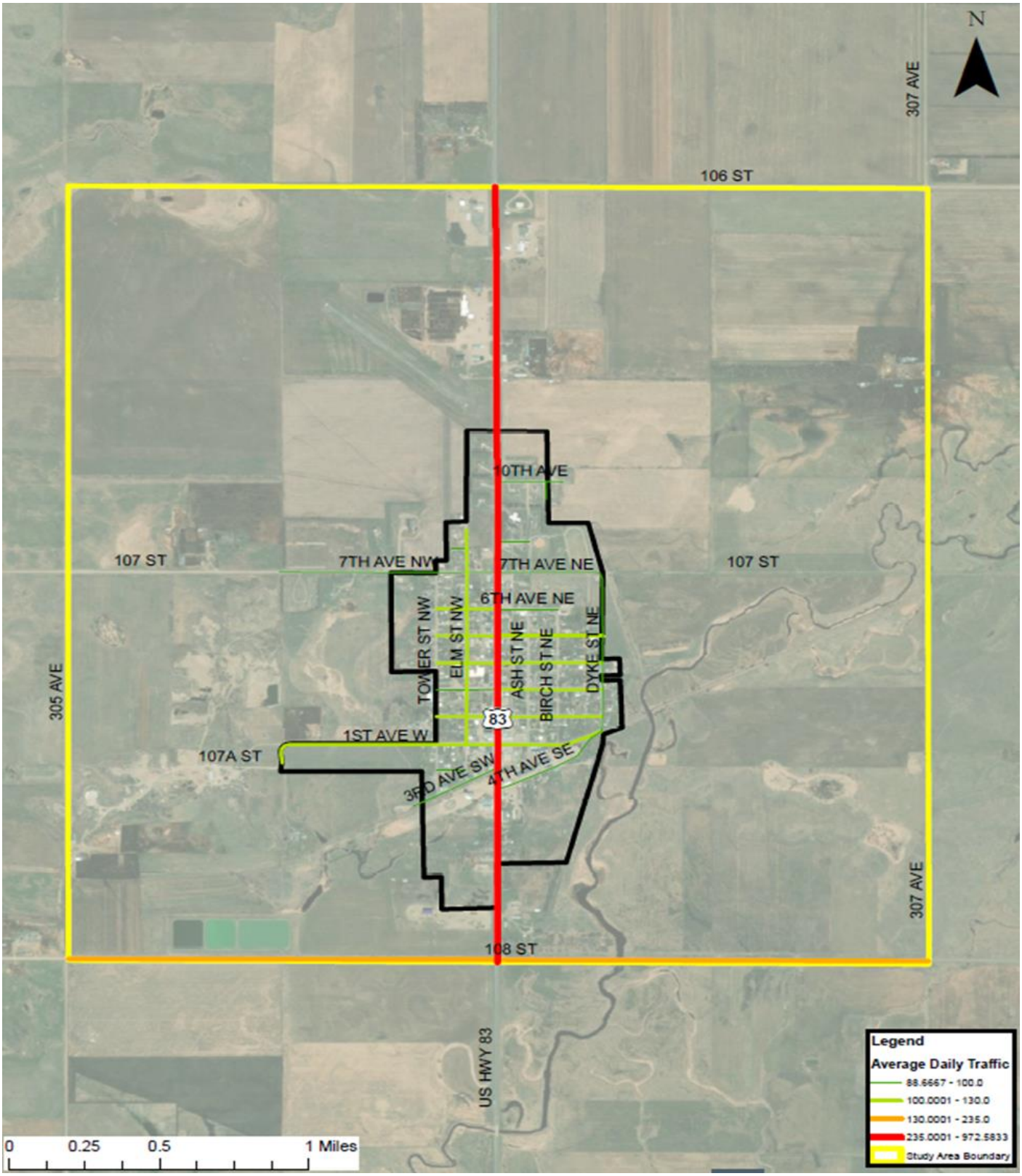



*Figure 12. Average Daily Traffic Map*

While US Route 83 is clearly the single most traveled road, it is observed through the ADT measurements that there are some City roads that represent significant routes of travel within the City. These routes represent important corridors of travel within the City of Herreid's transportation system that should be adequately planned for and taken into account. Specifically, these routes are Elm Street and 1st Ave West. Elm Street runs parallel to US Route 83 and intersects 1st Ave West. These two roads, Elm Street and 1st Ave West, are on average the most traveled roads aside from US Route 83 within Herreid City limits. Residential homes, churches, a City park, and the school are on Elm Street, which could explain the increased amount of traffic on this road compared to other roads in the town. 1st Ave West is likely high traffic due to its connection to private businesses.

# Analysis of Traffic Safety

To analyze traffic safety for motorists in the City of Herreid, crash records were analyzed for the years between 2016 and 2021. In this 5-year span, there were 9 crashes reported (see Table 1). Most of these crashes occurred on US Route 83. This stretch of roadway in Herreid has the highest frequency of crashes as well as the highest average annual traffic. In addition to crashes happening on US Route 83, many of the crashes occur near or within intersections.

*Table 1. Crash Type Frequency*

| Severity | Frequency (2016-2021) |
|---|---|
| Animal Crash (property damage only) | 1 |
| No injury (property damage only) | 5 |
| Non-incapacitating | 1 |
| Incapacitation possible | 2 |

While US Route 83 has the highest frequency of crashes on it, the overall majority of crashes in Herreid occur on City roads (see Figure 13). County roads surrounding the periphery of the study area and Herreid make up the second highest number of overall crashes. These county roads are popular work routes for trucks and other large vehicles.

An important caveat to this crash data is that these numbers only represent reported crashes. This means that there could have been more crashes and/or instances of crashes that happened but were not reported to authorities or the crashes were determined not the meet the minimum property damage amount required to be reported to the State's Department of Public Safety. It is common for minor crashes to occur, like running off the road during inclement weather or crashes with no property damage, where no authorities are contacted.

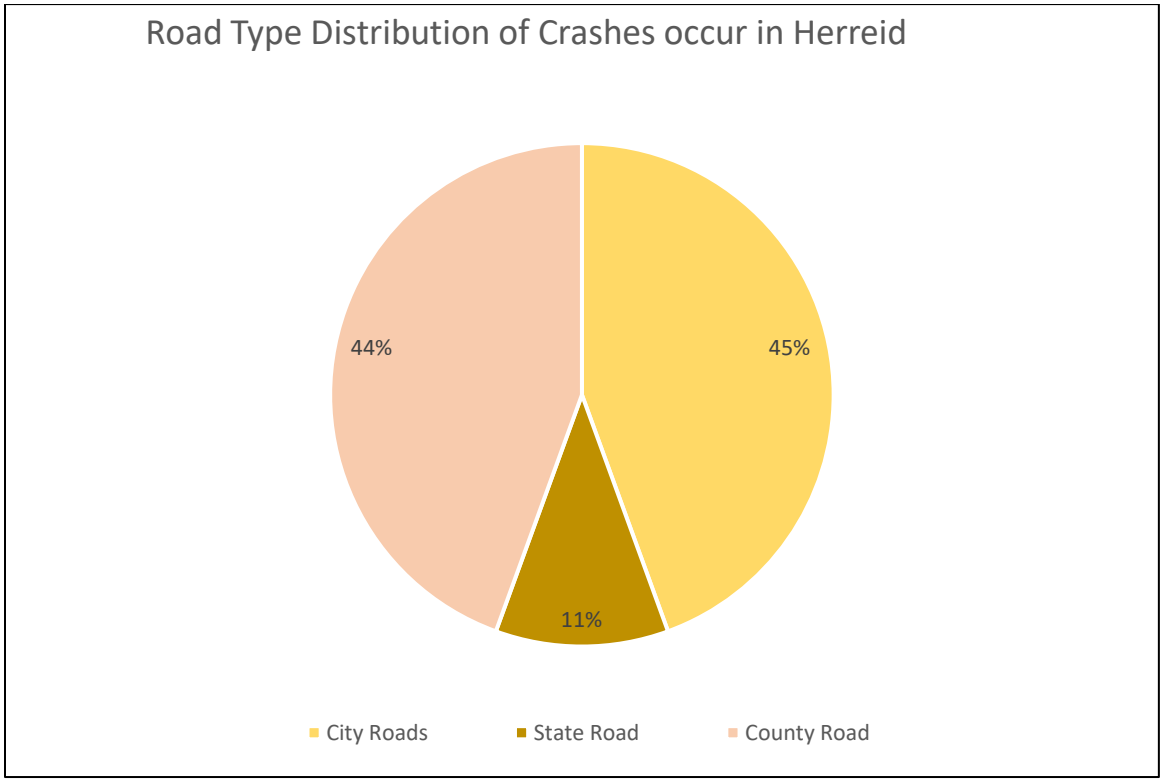



*Figure 13. Road Type Distribution of Crashes*

At many of the intersections along US Route 83 where street parking is allowed, there were observable line of sight issues present for both motorists and pedestrians preparing to enter the roadway. These line of sight issues are caused by the vehicles parked close to the intersections of City roads and US Route 83. Multiple concerns about these line of sight issues were expressed by members of the public in surveys and during the first public meeting. Other line of sight issues members of the public also expressed during the meeting included instances of property owners having objects or vegetation very close to the roadway at intersections within neighborhood streets that compromise motorist's sight. Figure 14 shows the reported crashes between 2016 and 2021 within Herreid, organized by severity. Two overlapping crashes occurred at the intersection of 108$^{th}$ Street and US Route 83.

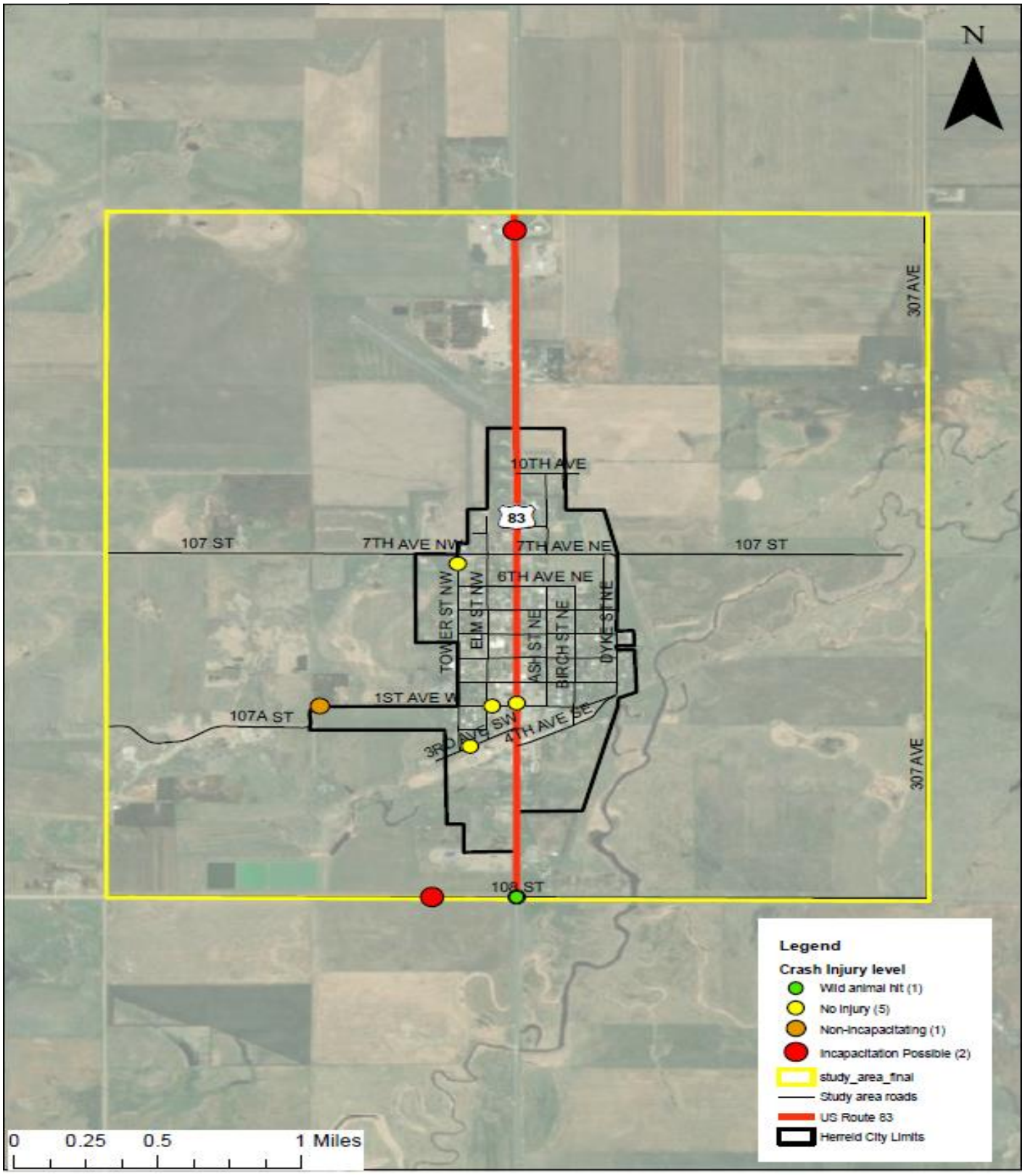



*Figure 14. Crash Map*

# Assessment of Pedestrian Infrastructure

The ability for pedestrians to safely move through any transportation system is vital to its performance, as everyone at some point is a pedestrian in their community. Safe crossings and maintained sidewalks that are connected to major community resources are key to high pedestrian mobility.

To begin the assessment of pedestrian infrastructure in Herreid, all the roadways with sidewalks were identified to create an inventory of the existing network of sidewalks available for the public, regardless of their quality. Then, after identifying the existing network, the entire network was walked and rated utilizing a mobile data collector to evaluate every segment of sidewalk. A map and corresponding chart were created displaying the results from rating the entire sidewalk network in Herreid (See Figure 15 and Figure 16).

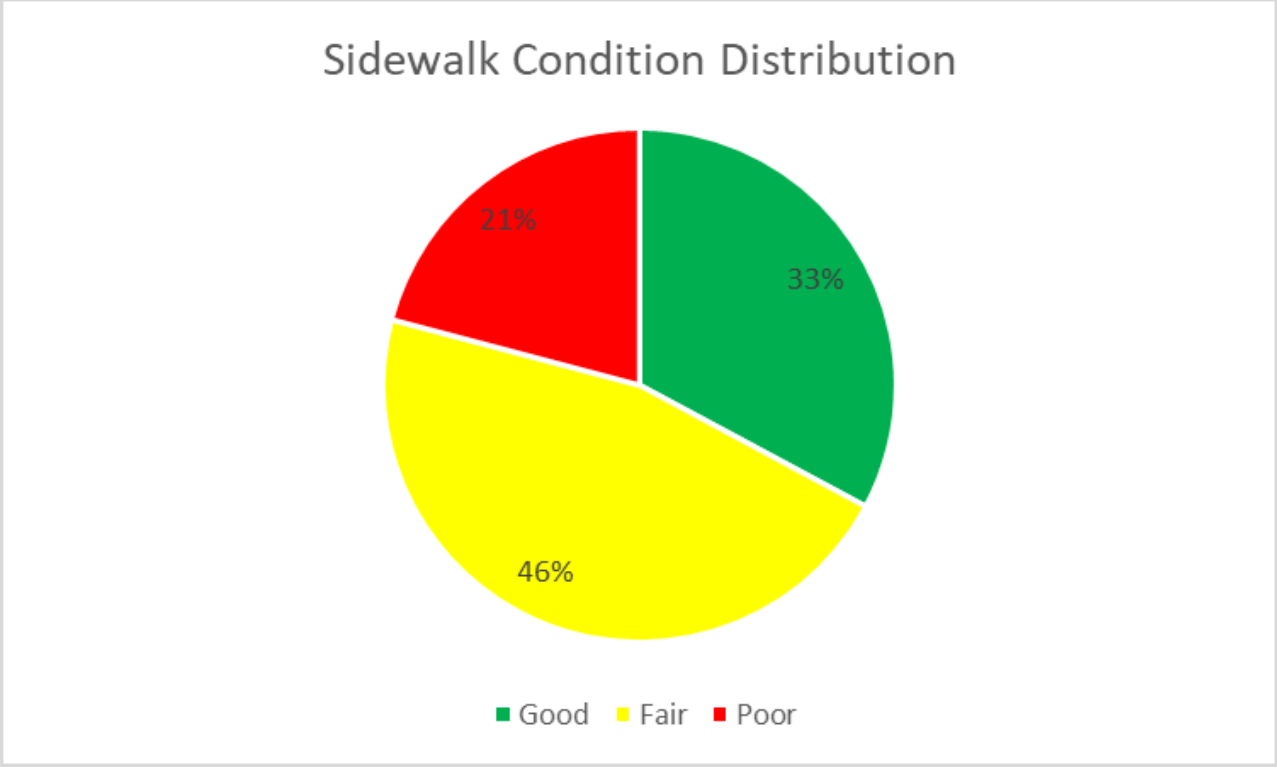



*Figure 15. Sidewalk Condition Distribution*

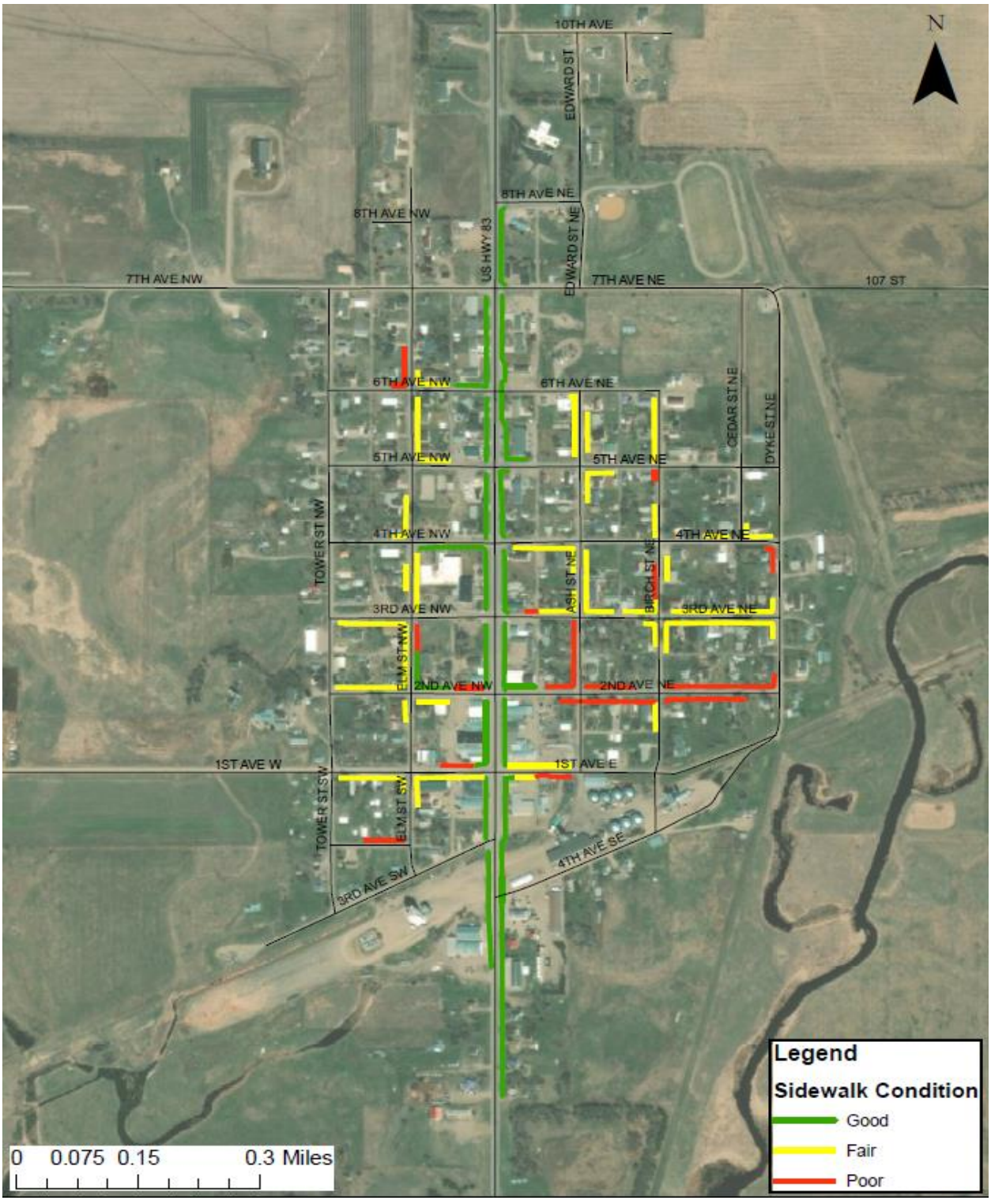



*Figure 16. Sidewalk Condition Map*

The map displayed in Figure 16 shows the very limited network of sidewalk in Herreid, as not all neighborhood streets are equipped with sidewalks. The sidewalk network was observed to be erratic and random. Some sidewalks were maintained, some were not, and some were destroyed/unusable. It should be noted for purposes of this study that the City of Herreid has ordinances that state sidewalks are the responsibility of the property owner to maintain and that the City has the power to request that property owners without sidewalks build them. These requirements are found in Chapter 12 sections 1 through 5 of the City Code Book for Herreid. In addition to ordinances related to the construction of sidewalks, ordinances related to obstructions limiting the free use of sidewalks in Herreid exist but are seemingly unenforced.

The sidewalks were rated to three levels:

1) **Good (33%)-** Appears to be in compliance with or is close to standards set by the Americans with Disabilities Act (ADA). All panels are in new or slightly worn conditions. Easily traversable.

**Good Sidewalk Quality**

2) **Fair (46%)-** Some maintenance required to meet ADA standards. Some panels are starting to distress, crack, or heave. Maintenance issues are not enough to prevent most people from using sidewalk, albeit with some extra effort.

**Fair Sidewalk Quality**

3) **Poor (21%)-** Does not comply with ADA standards in almost any category. Many panels are severely distressed, cracked, or heaved. The best maintenance option will likely be replacement of the much of or the entire sidewalk. Many people may not be able to traverse pass the disruptions in the pavement.

**Poor Sidewalk Quality**

The sidewalk system in Herreid is poorly connected and does not provide citywide access. The connectivity has been compromised in certain regions of the City by the deletion or failure to maintain existing sidewalk, which results in spots where there either is no sidewalk, or the sidewalk is in very poor condition. Additionally, sidewalk connectivity was found to be obstructed by objects within the sidewalk on certain properties, blocking the ability for sidewalk users to freely traverse within them. See the images noting examples of these obstructions.

**Vegetation overgrowth on sidewalk**

**Objects blocking sidewalk path**

**Vegetation blocking sidewalk**

**Vegetation overgrowth on sidewalk**

In addition to the obstructions within the sidewalks, many of the sidewalks start and stop abruptly. This is observed at many of the intersections within City streets where sidewalks stop just before the road, providing no ramp access. This forces the pedestrian to leave the sidewalk to continue walking and could be construed as a violation of the American with Disabilities Act (ADA) given the City's recent street work. This is evident in the following images.


**Sidewalk ending before intersection**

**Sidewalk ending into pipe culvert**

# Drainage System

The drainage system in Herreid is responsible for efficiently handling stormwater flows and keeping sitting water off the transportation system. Along US Route 83 there is a curb and gutter storm sewer system. It was observed that some portions of this curb and gutter system have been damaged by contact with vehicles.

The curb and gutter system is not present throughout the entire City, especially in the neighborhood streets. In the neighborhoods, the current stormwater system is comprised of stormwater ditches and culverts that function to control surface run-off. Most of the residential properties in Herreid were observed to have these culvert ditch systems, with some having improvised drainage systems unsimilar to the rest. During our field visits, we observed cases where the culverts were exposed to potential vehicle traffic and/or damaged. The location of the exposed culverts within such close proximity to the turning areas for traffic is an observable hazard that should be addressed. The SDDOT drainage manual states that culverts should be located to achieve the minimum hazard possible for traffic and people. The erratic quality of the overall drainage system in Herreid is an issue that could eventually lead to street problems, high maintenance needs, and flooding in the future.

**Exposed pipe culvert near intersection**

**Damaged pipe culvert**

# Parking and Access Control

Based on survey results and from data collection in the field, the parking pattern along US Route 83 was found to create safety concerns for both drivers and pedestrians. Due to the cars parking in a diagonal scheme and being located near intersections, vehicles entering the highway from neighborhood roads are forced to roll substantially out into the roadway to establish a clear line of sight for maneuvering safely. Likewise, since the vehicles are parked close to the intersections, pedestrians can be hidden when entering the crosswalk (especially smaller people or children) from vehicles traveling on the highway until they are in the roadway and in the line of sight of the drivers.

**Children crossing 4th Ave West with vehicles parked close to intersection**

While the parking scheme could be dangerous to pedestrians crossing the street and vehicles entering or crossing US Route 83, the diagonal parking can also make backing out of spots into the highway hazardous. When parked next to other vehicles, the motorists of these vehicles can have their sight obscured while backing out into traffic.

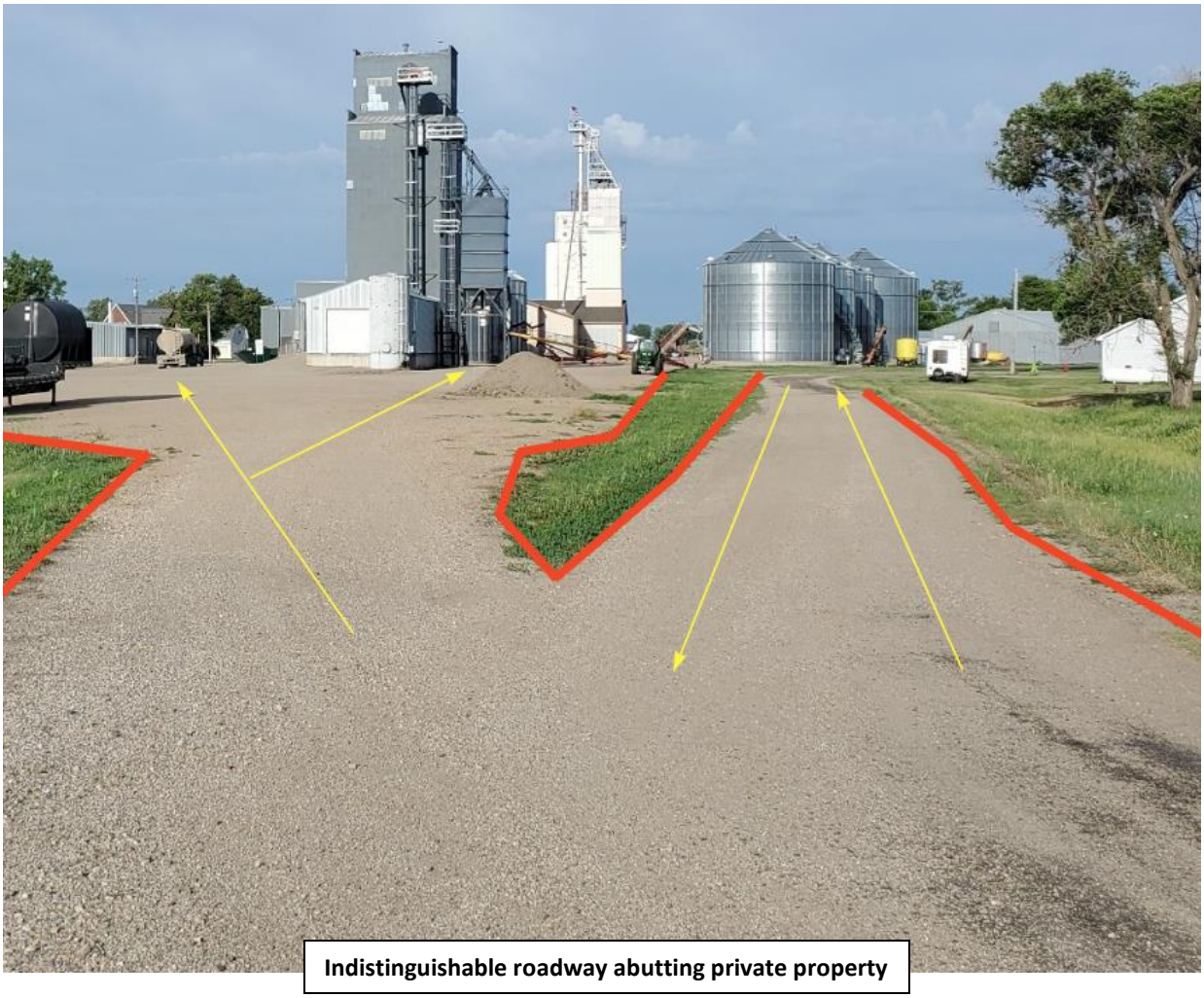
Vehicle at the Herreid School backing out into US Route 83 with traffic

This is particularly true for traffic on US Route 83 because close to a third of the vehicles traveling on this road are large semi-trucks that will have a harder time stopping if a vehicle does not see them while backing out.

Access control was also an observed issue in multiple circumstances in Herreid. There was a pattern of unclear delineation of where the roadway is and where property lines are. To a non-local, these access control issues present both a safety issue and a wayfinding issue, as it makes it difficult to find the street in some areas. In addition to creating safety and wayfinding issues, access control issues that go unaddressed can lead to the spread of similar problems in a more widespread manner, since they will begin to create a pattern of development that causes the access issues. This is common especially in rural areas growing or developing around a highway, just like Herreid. In these areas, it is common for businesses to build properties abutting the highway right of way for ease of access for business purposes. While access is improved, access to lots located deeper within the same block is compromised by their development.

A particular site within Herreid that was observed to have distinct access management related issues was the property abutting US Route 83 that is a series of grain and feed loading

stations. This property abuts listed local roads that are indistinguishable from the adjoining property, as they are gravel and the entire property is gravel.



**Indistinguishable roadway abutting private property**

There are multiple access points for this particular lot that make navigating the roads going through and around it even more difficult and hazardous. This is illustrated in the access map (Figure 17).

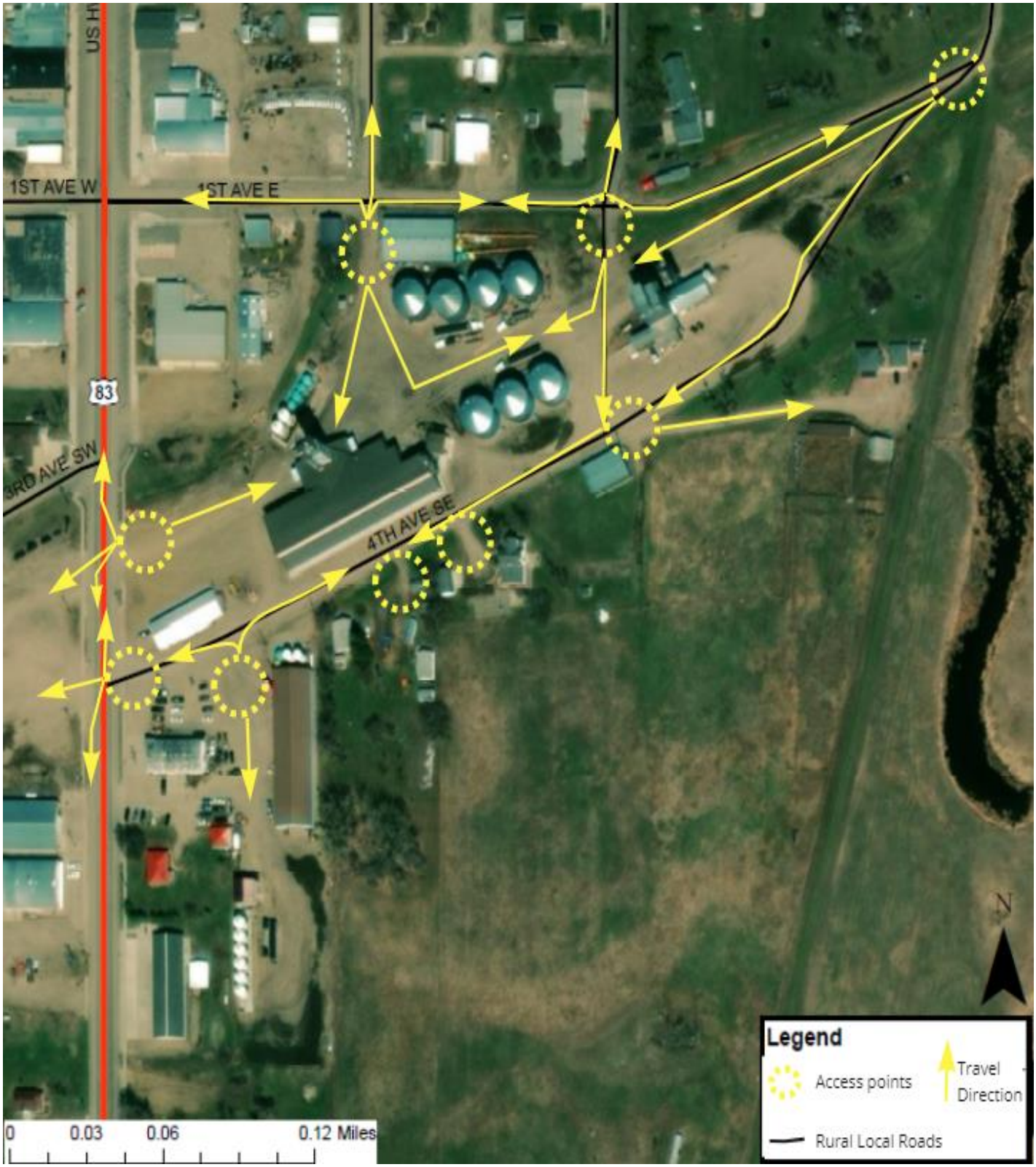



*Figure 17. Access Management Map*

# Signage

Signs are an important aspect of municipal transportation systems, as they contribute heavily to how the transportation system is interpreted and operated within. Signs are equally as important to the usual operators of the transportation as they are to travelers moving through the area. The Manual of Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration (FHWA), is the American standard for the specifications regarding signage, signals, and other traffic control devices. These specifications include height, distance from roadway and intersection, size, color, light reflectivity and more. It is important that all roadways follow the same specifications so that motorists are more readily aware of their surroundings and can make safer traffic decisions.

An integral part of this study was an inventory and analysis of the current signage in Herreid. This was done by walking and driving through the City and marking locations on a map showing what signs are where. See the signage map in Figure 18.

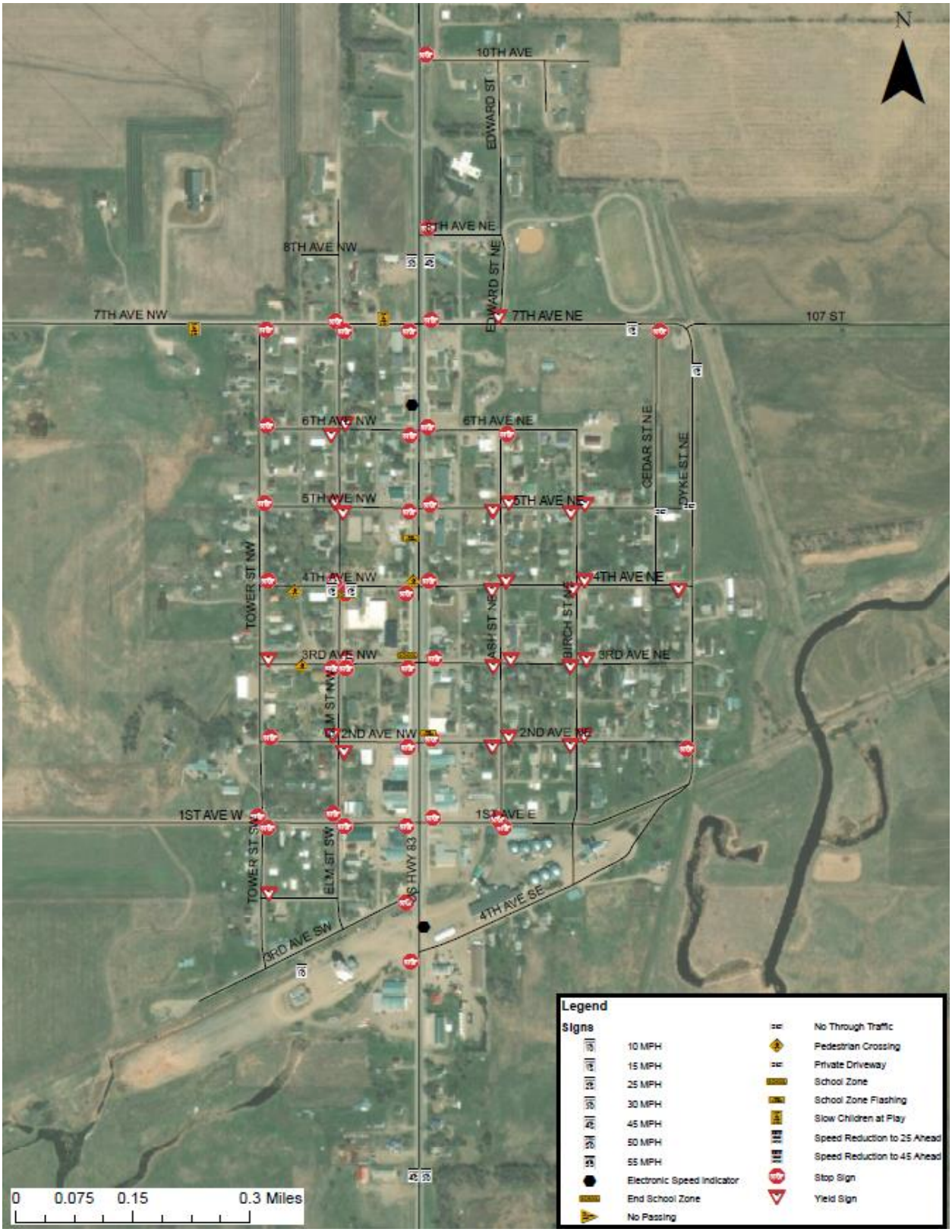



*Figure 18. Current Signage Map*

While the majority of Herreid is adequately signed, there were reported circumstances from the survey and public meeting where the decision to use particular signs was confusing to motorists. A popularly cited example were the intersections on Elm Street behind the Herreid school where there are two 4-way intersections comprised of 3 stop signs and one unsigned yield.


**3 way stop with an unsigned yield on Elm Street and 3rd Ave West**

Additionally, there are cases where signs are not up to MUTCD standards in terms of height and/or placement, as seen with this speed limit sign on Railway Ave West.


**Uncompliant signage on Railway Ave West**

The pattern of signage in Herreid needs organization and consistency, as there is an erratic placement of sign types across the City. In particular, there is a clear difference in the

types of signs used at intersections between the East and West portions of the City as split by US Route 83. The East side of the City utilizes more stop signs at intersections whereas the West side uses yield signs at similar intersections. These differing approaches to intersections around the City create different driving patterns across the system, instead of having one consistent and uniform pattern throughout.

# Herreid Airport Condition

The Herreid airport is a small rural airport that is not routinely utilized by any aircraft. This is due to the current quality of the runway, lack of supporting facilities, and the runway's size which limits the specific type of aircraft that can use it. Currently, the City of Herreid maintains the land of the airport by keeping up with general landscaping responsibilities. As the airport goes unused, the costs spent maintaining the grounds currently appear to some in the community as creating no benefit to the City.

**Herreid Airport Runway**

The runway is 2,230 feet long and has a 30-foot center section that was paved with asphalt many years ago and has since degraded to such a point that it warrants major reconstruction for continued use. The runway quality is so poor that repairs and maintenance do little to make the runway useable. Due to the short runway length, the airport is not eligible is for federal aid to reconstruct the runway's pavement. The land that the airport occupies represents attractive property for potential redevelopment in Herreid, as it is a large swath of land abutted by US Route 83. Overall, the City has multiple options for what they could do with the airport land and the airport itself which will be discussed in the recommendations section of this report.

# Public Transit

Public transportation is an amenity to any city, as this resource provides various transportation services to people that need them. Herreid currently has a rural transportation service through Campbell County Community Transit that provides rides to neighboring cities for Herreid residents. The transit service travels to Bismarck and Aberdeen on a rotating schedule. The transit service is also available by appointment for other trips as requested by any public, government and/or church group on days not routinely scheduled. The transit service does not provide in-town rides for local residents, limiting the service solely to out-of-town rides. This rural transportation service is helpful for rural communities because it provides access to larger cities for local residents that do not have the means to drive themselves.


**Community Transit bus for Campbell County**

# Public Participation

When undergoing a study like this one, engaging with the public and developing a set of stakeholders who can provide valuable information about the City is vital. The community knows the roads best, and they experience them every day. To engage with the public and collect information about Herreid's transportation system from their point of view, we held an open house and created an online questionnaire. The open house was a public meeting that gave members of the community the opportunity to both be introduced to the project and to voice their concerns with the transportation system. This public meeting was used as a source to identify pinpoint issues within the transportation system. By utilizing a large map where the community present could mark where they have experienced issues or have concerns. This map is available in Part 2 of the Appendix. Any community members that were not able to voice their concerns at the public meetings or had more to say had access to a comment form that they could mail into the study team. At the first public meeting, issues brought into discussion by members of the public were categorized into 3 major topics: Line of sight, pedestrian infrastructure, and traffic safety.

Line of sight was a major topic brought up consistently as a major issue with the transportation system. The features causing the line of sight issues reveal simple and effective opportunities for eliminating this problem, in addition to fitting the scope of this project. First, many members of the public identified that residents have items or planted vegetation so close to road intersections that it blocks the motorist's view of the intersecting roadway. These line of sight issues were found at intersections that contained objects at the vertex or close to the vertex

of where the roads meet, causing traffic to be unable to see other vehicles until they cleared the vertex.

On City streets, these obstructions were vegetation arranged too close to the roadways and vehicles or equipment parked on the shoulder of properties. An example of a publicly identified issue on City roads is seen on Tower Street facing north, to the intersection of Tower Street and 5th Ave West. The vegetation on the property makes it extremely difficult for traffic at the intersection to see vehicles going north on Tower Street.

**Line of sight issue at intersection of Tower Street and 5th Ave West**

In addition to City roads, intersections with US Route 83 were also major concerns of the public when it comes to line of sight issues due to the diagonal parking schemes. Residents find it hard to see traffic moving north and south on US Route 83 as they are entering the roadways.

All the locations with line of sight issues reported during the meeting and survey can be seen in Figure 19.


*Figure 19. Line of Sight Issue Map*

Another topic that separated itself during the public meeting as a major transportation issue was traffic safety. The speed limit along US Route 83 was frequently stated as being too high for the busy downtown area. Currently the speed limit is 30 miles per hour, and residents have expressed that they would feel better if the speed was reduced to 25 miles per hour. Residents state that the combination of the line of sight issues along US Route 83 and the speed limit have created a dangerous transportation environment in that area (this area is shown in Figure 20). To add to that, there is an established school zone with a flashing beacon that blinks during school hours. During summer months the school zone is not active but there are still a lot of children in the vicinity of the school. These children take advantage of the pool and park north of the school, but residents at the public meeting stated that during the summer the cars drive especially fast along US Route 83 which in turn makes it dangerous for the children to cross the street and hangout at these sites.


*Figure 20. Speed Zone Map*

Multimodal infrastructure was the third topic that was consistently cited during the first public meeting. There was a good amount of concern over the availability of a sidewalk network in the City that was connected. As previously discussed, the current sidewalk system in Herreid is sporadic and not connected. There is a collective desire for a devoted pedestrian sidewalk network that could provide Herreid residents adequate access to walk to major amenities within town by foot on a sidewalk. In addition to sidewalks, the integration of bike-lanes to City streets was another multimodal transportation element brought up by the public as an important feature currently missing in Herreid. Concerns over bicyclists' safety with the current lack of bike-lanes was pointed to as a major reason for the desire to integrate these within the City streets.

The results of the survey are detailed in the next section. The survey was created and provided online on the Herreid Master Transportation Plan webpage which was on the SDDOT's website during the project. The survey asked a series of questions asking how citizens travelled in Herreid and looked for feedback and impressions of the transportation system. A total of 10 unique responses were received from Herreid area residents during the period. The study team recognizes that this is not a statistically significant sampling of the entire Herreid population, but rather it provides an additional means of gathering input from Herreid citizens. The rest of this section summarizes survey responses. Some questions were written response only and most of the multiple-choice questions gave the option to provide comments. These comments and written answer responses are compiled in Part 2 of the Appendix.

# Survey Results

## Means of Transportation

Figure 21 shows percentages of respondents' means of transportation. Multiple answers were allowed; thus, the percentages total over 100% but reveal what people use most.

*What methods of transportation do you currently use in Herreid at any time? (pick all that apply)*

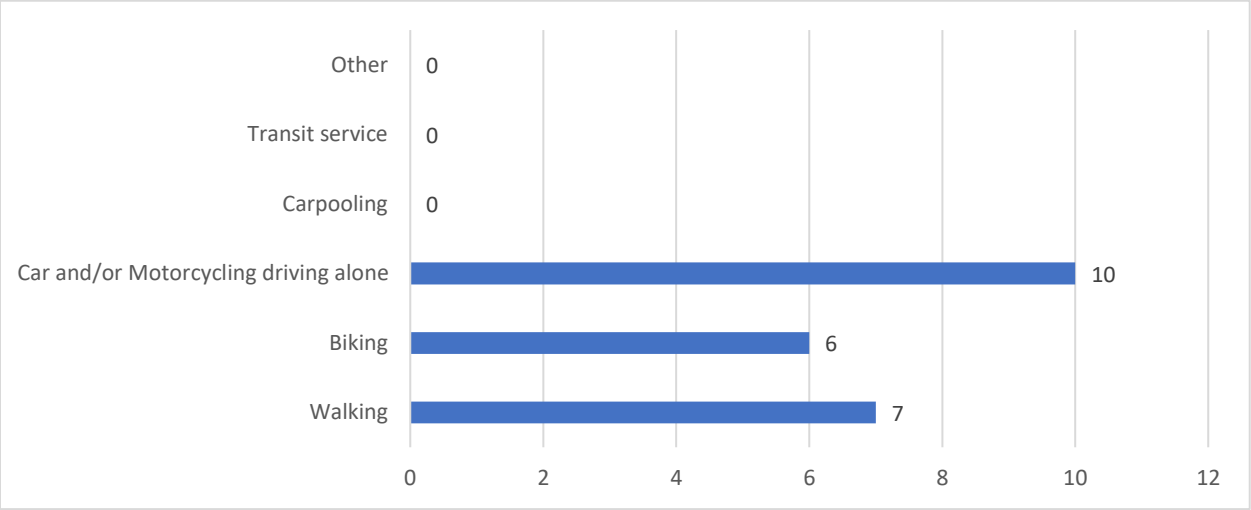



*Figure 21. Means of Transportation Survey Result*

Figure 21 shows that the majority of people drive alone, although there is a sizable amount of people proportionally that bike and walk.

## Views of Existing Issues

Figure 22 shows how residents in Herreid feel about traffic safety currently in Herreid.

*How would you rate traffic safety in Herreid? If there are particular issues, please describe them below.*

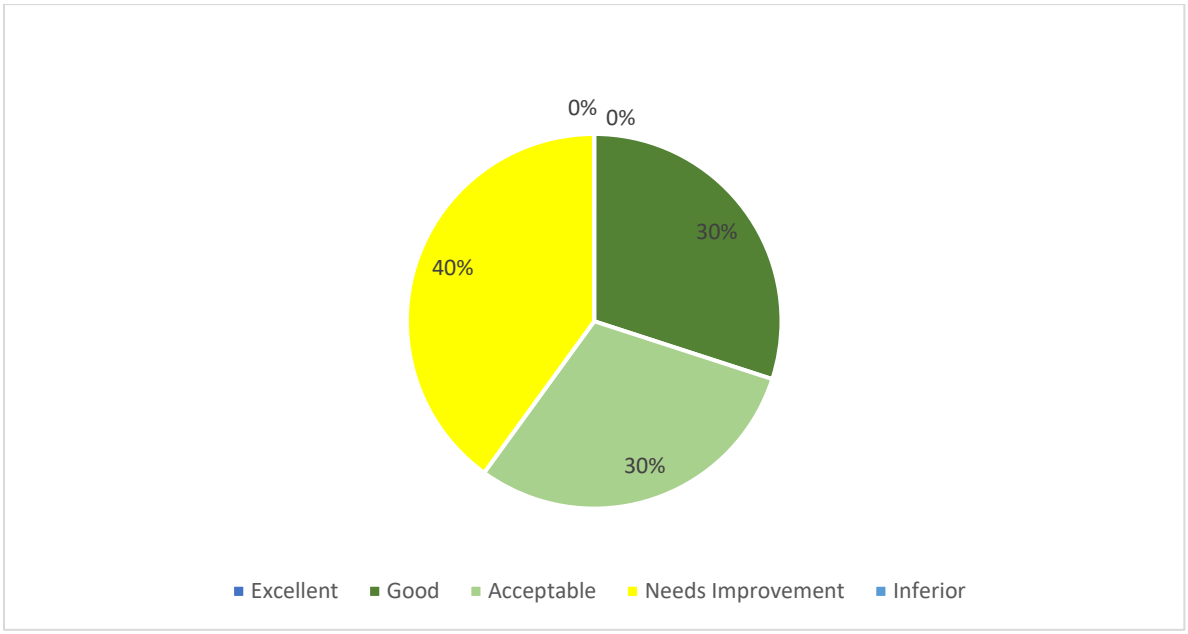



*Figure 22. Views on Existing Issues Survey Result*

The results of this question reveal that the majority of survey respondents from Herreid feel that traffic safety in Herreid needs improvement. However, a high amount of people feel that the traffic safety is good or acceptable.

**Evaluation of multimodal infrastructure**

Figure 23 shows how survey respondents rated the availability and quality of safe walking and bike facilities in Herreid.

*How would you rate the availability of safe walking and bike facilities (EX. Sidewalks, Pedestrians Crosswalks, Bikepaths, etc)? If there are particular issues please describe them below.*

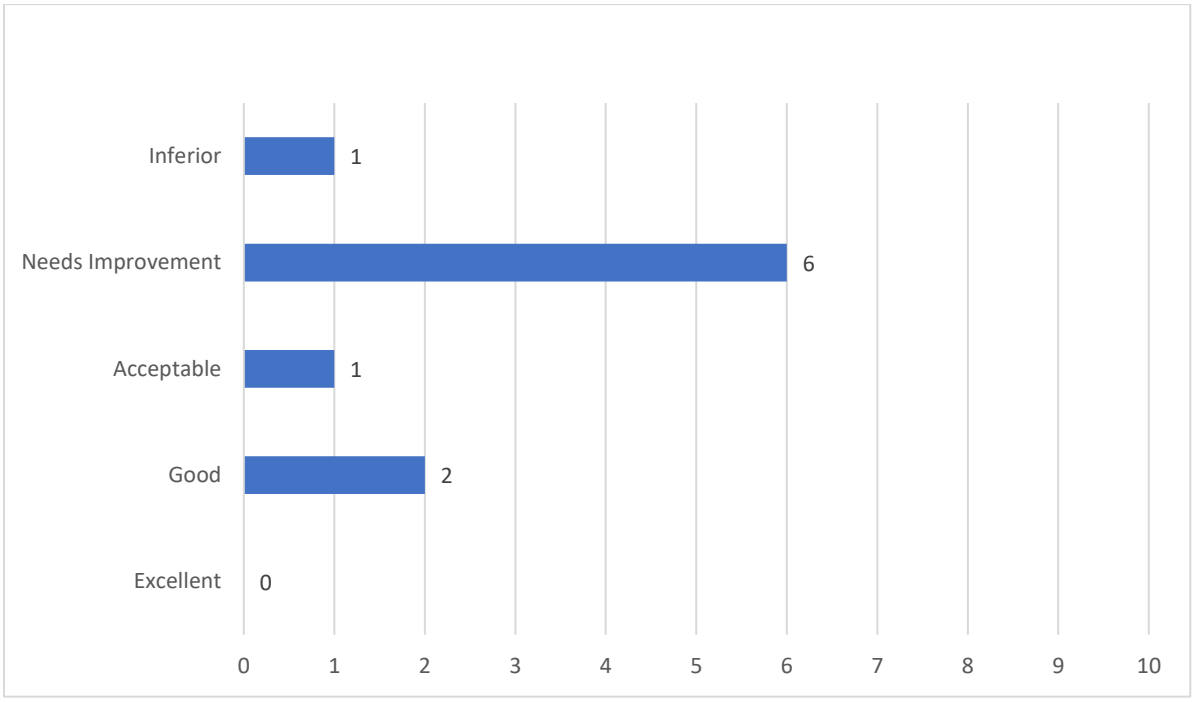



*Figure 23. Evaluation of Multimodal Infrastructure Survey Results*

The results from this question show that most of the survey respondents feel that the multimodal infrastructure in Herreid needs improvement.

**Most important transportation priorities to address**

Figure 24 shows survey results depicting issues that survey respondents feel are most important for the City of Herreid to address. These issues were rated on a scale of 1 to 5, 1 being very important and 5 being unimportant.

*Rate the following options to reflect how important they are to you. 1 = very important, 5 = not important.*

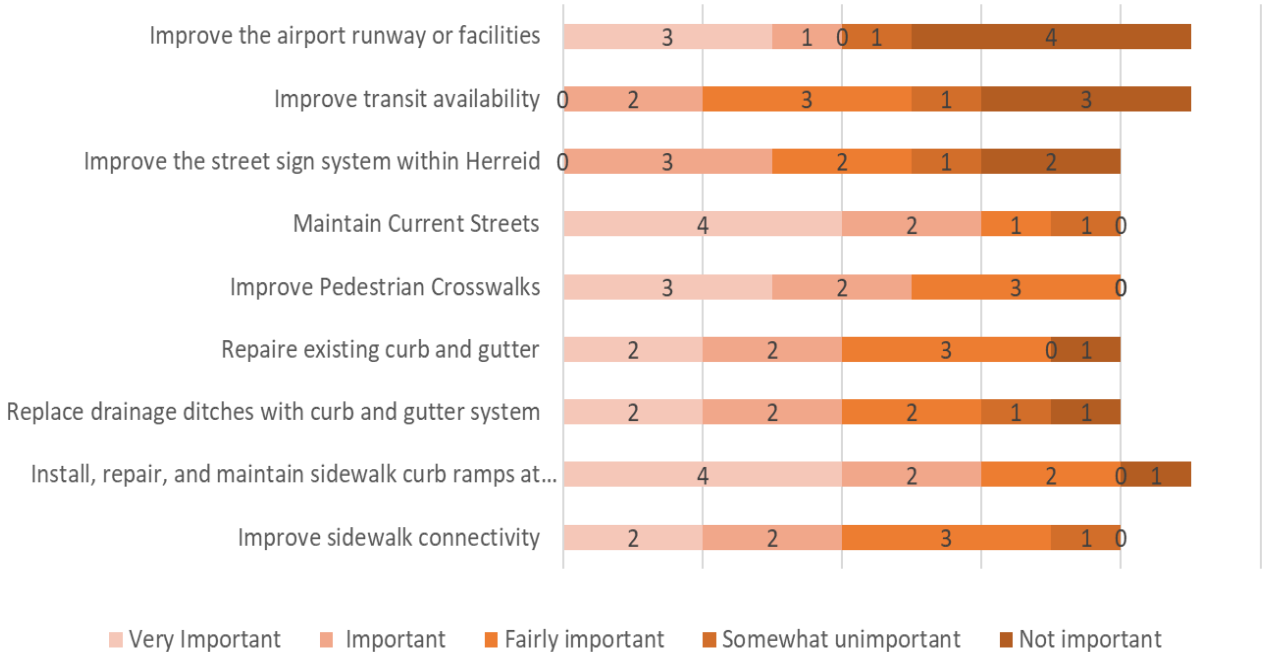



*Figure 24. Most Important Issues Survey Results*

Figure 24 shows that the survey respondents put a very low level of importance on improving the transit availability, while putting a high level of importance on maintaining current streets, improving pedestrian crosswalks, and installing, repairing/maintaining sidewalk curb ramps at intersections. There was a clear split between the importance of addressing the airport, with 44% saying it is important and 55% saying it is not. This results also reveal that survey respondents feel that sidewalk connectivity improvements, repairing curb and gutter, and replacing drainage ditches with curb and gutter systems are also important issues to them in Herreid.

# Future Conditions

In order to create a list of relevant recommendations, the future conditions of Herreid were taken into account when making conclusions on recommendations. Current population projections for Herreid show that the population is slightly decreasing, and that overall, Campbell county's population is on a subtle decline. The population of Herreid is anticipated to be relatively steady, given the current age demographics that make up the City. The City is also making improvements to amenities and transportation infrastructure that in theory could attract more families to the area.

Currently, the most traveled road in Herreid is US Route 83, which sees around 910 vehicles every day. Over the next 20 years, the number of vehicles traveling on this road is projected to increase to around 1600 vehicles every day. This change in the volume of daily traffic will have an effect on Herreid's transportation system and will likely bring more people to Herreid. There is a definite need for Herreid to establish a future land use plan and overall comprehensive plan to help the City grow smoothly. This report took the future conditions of Herreid into serious consideration when creating transportation alternatives and recommendations for the City.

# Recommended System Projects and Alternatives

Proposed alternatives in this section have been organized first by major category and then by area of effect and suggested time of completion. Cost estimates and funding of these alternatives are covered in sections following the recommendations.

## Transportation Safety Improvements

The following projects are proposed to improve the overall safety of the transportation system. An option that is possible but is not recommended in this section is taking "No Action". This is not recommended due to the number of safety issues that would go unaddressed and likely grow with time.

- **Short-Term (0 to 5 years)**
    - **Project 1A:** Enforce City-wide ordinances related to City street line of sight and sidewalk obstruction. This will ensure that all intersections have a clear line of sight established for motorists coming from all directions, increasing the overall safety of City streets. In addition to line of sight, enforcement of existing sidewalk ordinances will provide a clear, unobstructed walkway for pedestrians. See existing ordinances found in the City Code Book: Chapter 16- Sections 3 and 21. Imperative to the success of **Project 1A** is the robust enforcement of existing ordinances within City code.


**Radar Feedback Sign on US Route 83**

- **Project 1B:** Request that the SDDOT reduce the speed limit on US Route 83 between the Herreid Fire Department to 7th Ave from 30MPH to 25MPH. Public opinion holds that the current speed limit is unsafe to motorists parking downtown and pedestrians crossing the street. Reducing the speed limit to 25MPH will slow traffic down in the concentrated downtown area. All changes to the Speed Limit or Signage on US Route 83 must be done with regional SDDOT approval and support. Instructions on the process for changing the Speed Limit is detailed further in Part 4 of the Appendix. **Note: Changing the Speed Limit will not be effective if there is insufficient enforcement of the established Speed Limit*.

- **Project 1C:** Request that the SDDOT move one pedestrian crosswalk from the east side of the school to US Route 83 and 5th Ave. Locating a pedestrian crosswalk here while maintaining one existing crosswalk at the school will

provide safer access to a wider region in Herreid. A pedestrian crossing located on 5th Ave would provide access for pedestrians crossing US Route 83 to go to the sports fields, the pool and park, and the Pebble Drive In year round. These were observed as popular City amenities.

- **Project 1D:** Improve the line of sight for vehicles entering the highway from City streets. The project could aim to eliminate one diagonal parking spot at every intersection with US Route 83, removing 15 spots in total. This will help prevent motorists from having to roll out into the intersection to establish a line of sight with traffic. This will also increase the visibility of pedestrians trying to cross the street, as cars will not be parked so close to intersections where they obstruct the view of pedestrians.
- **Project 1E:** Clearly delineate City roadways adjacent to property. Roads that exist adjacent to private property and provide access to neighboring homes need to be clearly identifiable. This can be done by identifying the City right of way within the property and clearly marking it so that the roadway is visible for motorists to safely travel on.
- **Project 1F:** Request that SDDOT move the radar speed feedback signs on US Route 83 farther from the center of town. From public feedback, there is an idea that the current placement of the signs is too close to the center of town and does not do enough to reduce speeds to the posted limit. Residents have expressed interest in moving the signs farther from the center of town so that it will encourage a reduction in speed sooner. Details for this process is in Part 4 of the Appendix.

# Pedestrian Infrastructure

- **Short-Term (0 to 5 years)**
    - **Project 2A:** Implement a school education program for teachers, parents and students on pedestrian safety. This is a low-cost solution to increasing the pedestrian safety of children in Herreid. During field visits to Herreid, members of the SAT were able to observe children leaving school and not using crosswalks or crossing City streets without looking for vehicles. Funding for this project would be eligible from the SDDOT Transportation Alternatives program, which will be included as a resource in Part 3 of the Appendix.


**Children playing at the Herreid school after dismissal**

    - **Project 2B**: Implement a required parent pick up/drop off area for parents/guardians dropping children off in the mornings and picking them up after dismissal. This is a low-cost solution to bring order to the school zone during peak traffic times, which was observed to have no set or established pick up or drop off area.


*Figure 25. Map for Proposed School Pick-up/Drop-off System*

- **Project 2C:** Develop a shared bike lane network throughout the Herreid transportation system (excluding on US Route 83). A shared bike lane network is not a dedicated bike lane. A shared bike lane network is ideal for low volume residential streets like the ones in Herreid and utilizes painted roadway symbols to show shared laneways for bicyclists. This is low cost alternative to dedicated bike

lanes, which require significant space on the roadway. Shared bike lanes increase bicyclist safety by informing motorists to expect bicyclists within the roadway and they could also be used to incorporate a way-finding path network for bicyclists to get to City amenities. Shared bike lane resources are provided in Part 5 of the Appendix.

Children bicycling on Elm Street

- **Project 2D:** Create a safe pedestrian travel corridor throughout Herreid. This pedestrian corridor should receive high priority for future projects relating to pedestrian safety and connectivity. The route for the corridor focuses on connecting major amenities within Herreid with each other and to major residential areas. A recommended safe-route system is shown in Figure 26.

- **Midterm (5 to 10 years)**
  - **Project 2E:** Prioritize repairing and creating sidewalk along the safe pedestrian travel corridor identified in **Project 2D.** Utilization of existing City ordinances

and/or creation of new sidewalk ordinances will provide the legal basis for funding.

- **Long-Term (10 to 20 years)**
    - **Project 2F:** Construct sidewalks on all City streets. This project will take considerable effort and resources from both the City and residents, but the benefit will dramatically improve the pedestrian safety in Herreid. In addition to improving pedestrian safety, a City-wide sidewalk system will significantly increase the appeal of Herreid to new residents and growing families.
    - **Project 2G**: Construct a multi-use trail connecting the School Sports Park to the City Park on the south side of town. See Figure 26. Residents have expressed their interest in a safe, multi-use trail for walking and/or biking in the town that is off City streets. A prospective location for this trail, that will require the City to acquire private land, is following the Dike from the north to south. Funding for this project would be eligible from the SDDOT Transportation Alternatives or the SD Game, Fish, & Parks Recreational Trails program, which are included as resources in Part 3 of the Appendix.

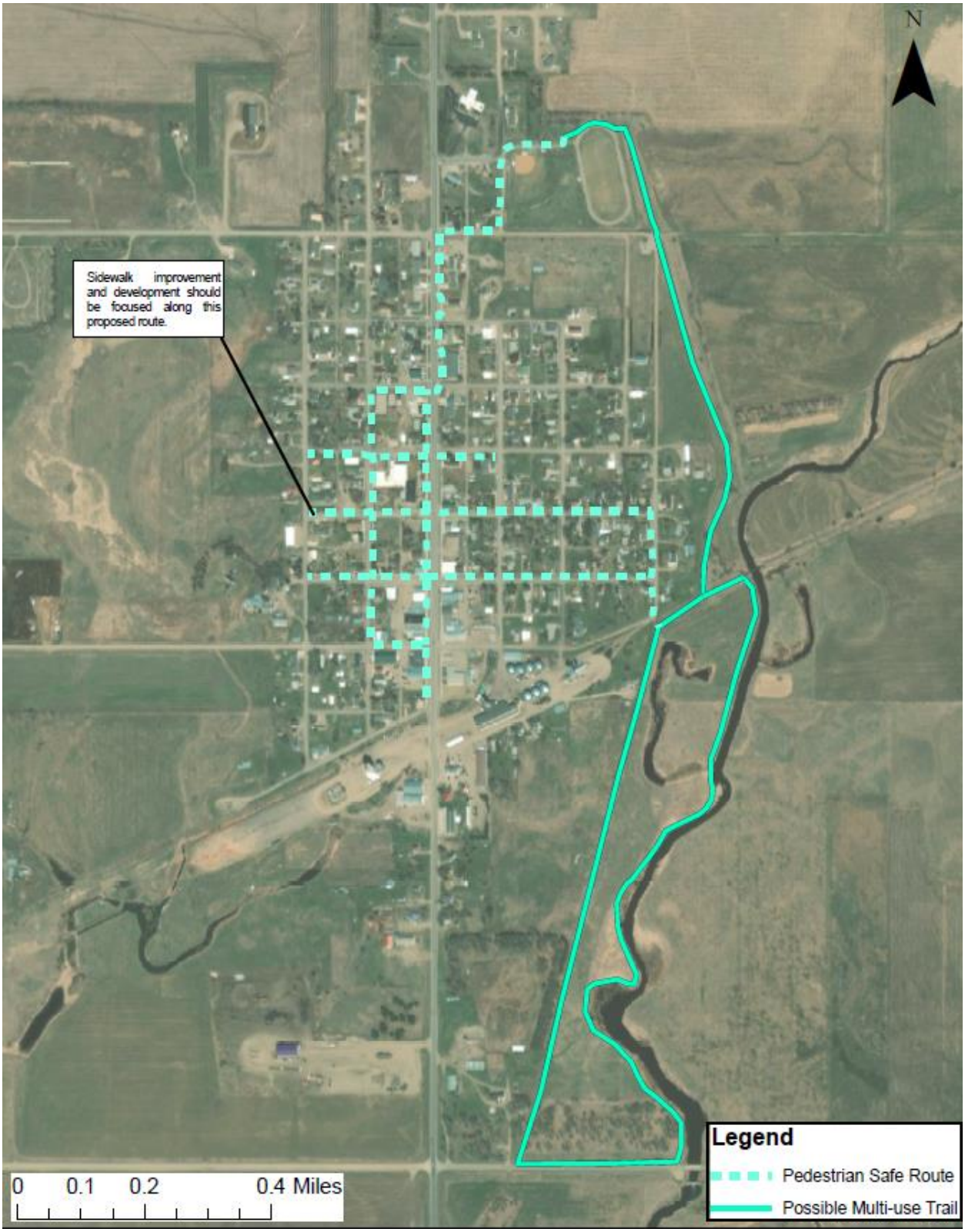



*Figure 26. Multi-use Trail and Pedestrian Safe Route*

# Airport Alternatives

As discussed in the Airport section earlier in the report, the Herreid Airport is currently not being utilized and is performing no beneficial functions to the City. Listed below, instead of projects, are possible alternatives for the course of action for the airport. An alternative that is not listed and not recommended is that the City of Herreid could chose to do nothing with the airport as it currently is, and thus continue to maintain the land as is.

- **Alternative 3A:** Make the current airport operationally attractive to regional aircraft by removing the current degraded asphalt surface and revert the entire runway to completely turf surfaced runway. This would cost less than repaving the entire runway with asphalt and could potentially bring regional air traffic back to Herreid. Should the City choose to do this, it is highly recommended that they work with SDDOT to determine a more in-depth course of action for repairing the runway and transforming it to turf. If the City of Herreid chooses to do this, it is also recommended that they consider the benefit of also providing on-call transportation options for travelers coming to Herreid by air. Currently, if aircrafts land at Herreid's airport, there is no sidewalk or transportation option available for them to get into town unless someone was waiting to pick them up.
- **Alternative 3B**: The City of Herreid could close the airport down (after going through the applicable process and following state issued guidelines) and ultimately choose to do something else with the land to get more benefit out the space and resources required to maintain it. To do this correctly following the necessary guidelines, the City of Herreid must advertise and host a public meeting informing possible airport users that they intend to close the airport. After this meeting, and assuming that City wishes to continue with this plan, the City should inform the Federal Aviation Administration office for Herreid's

region, which falls under the Great Lakes Region, and ultimately file a 7480-1 form with the office to deactivate their airport. In addition to filing the 7480-1 with the Federal Aviation Administration, the City of Herreid should also inform SDDOT and the South Dakota Aeronautics Commission that they are moving forward with airport closure. These are the big pictures steps that are necessary for the City of Herreid to take, but there could be other steps involved. It is highly recommended that the City contacts the SDDOT Aeronautics Office to figure out the exact game-plan for closing the airport and work with them through the process to make sure that all state and federal guidelines are properly followed. A copy of the 7480-1 form will be provided in Part 4 of the Appendix with additional contact information.

# Signage

- **Short-Term (0 to 5 years)**
    - **Project 4A:** Develop a unified and consistent signage plan for all City streets. Developing this plan will increase the legibility and improve the overall safety of the transportation system in Herreid. Currently, the use of signs is non-uniform in consistency across the City. Eliminating unusual sign layouts particularly at intersections will increase overall safety and performance. A recommended sign plan is shown in Figure 27.

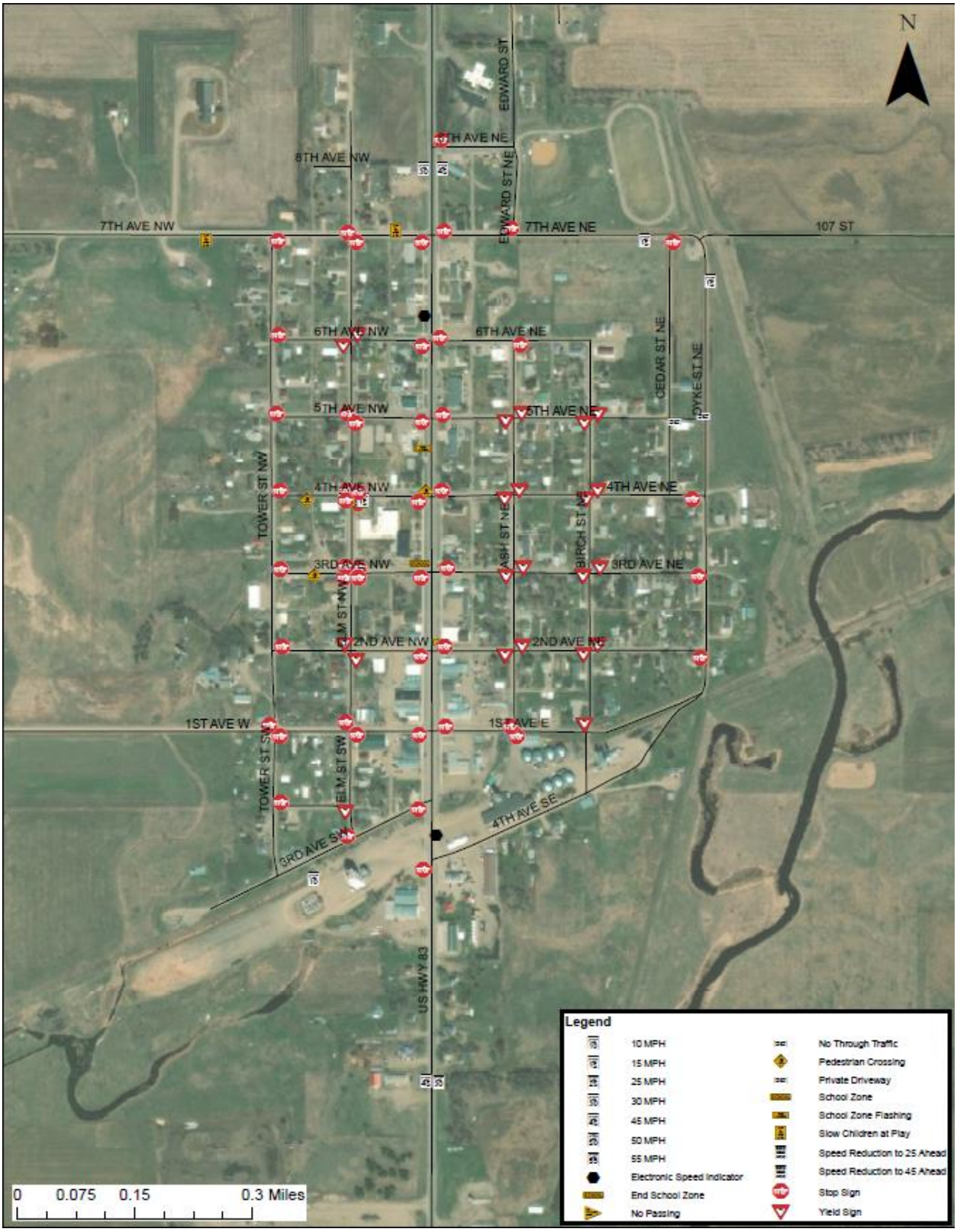



*Figure 27. Proposed Signage Plan*

- **Mid-Term (5 to 10 years)**
    - **Project 4B**: Change signage to match established signage plan from **Project 4A** following MUTCD for all new signs. This can be done incrementally, as the budget allows.
    - **Project 4C**: Move to replace and fix all signs not compliant with MUTCD standards. MUTCD standards are established as major contributors to both traffic safety and efficiency. Completing this project can be done incrementally as the City's budget allows. As it is done, it will dramatically improve the City's transportation system in the long run. MUTCD guidance resources are provided in Part 6 of the Appendix.

# Street Expansion

Street expansion is important as a City grows and develops, as expansion of the network of travel for City residents encourages new levels of growth. Herreid's need for new roads is not immediate, and for this category the alternative to simply do nothing at the moment is recommended. However, in the future as traffic on US Route 83 increases, it is likely that residents would prefer more options to travel around town without relying on the highway. The following long-term roadway project is a possible recommendation.

- **Long-Term (10 to 20 years)**
    - Expand Ash Street to Edward Street and 7th Avenue, creating a parallel route east of US Route 83 that provides increased access to the sports fields. See Figure 28.

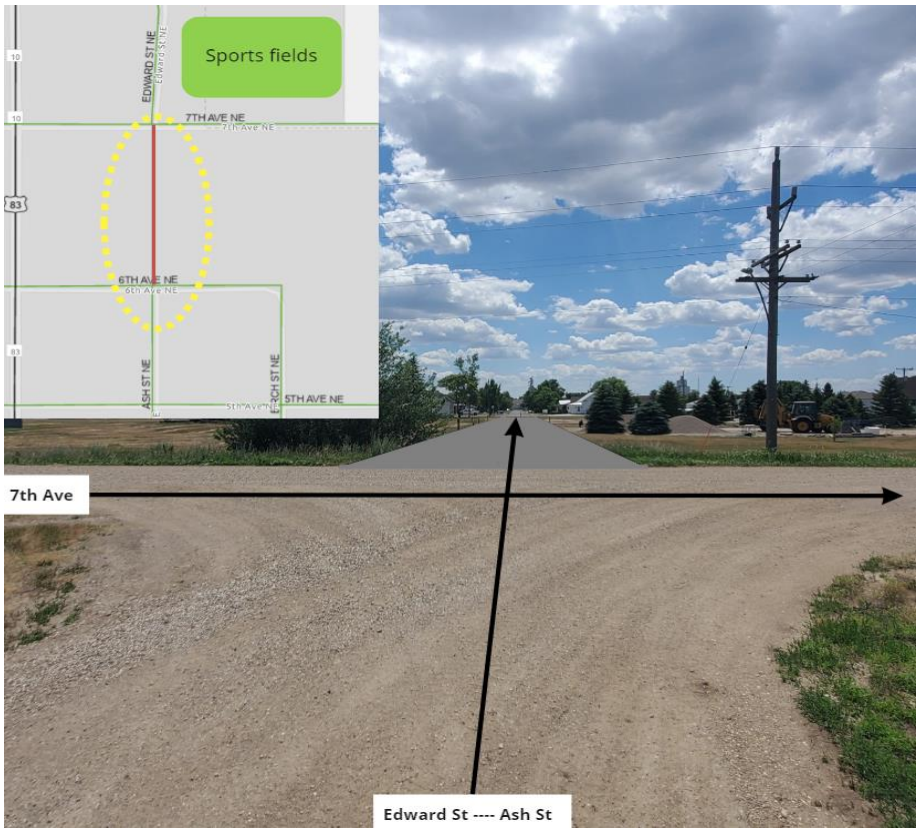



*Figure 28. Road Expansion Example*

# Drainage

There were no public comments or complaints over the current drainage system in Herreid, but there were observable issues with many of the culverts on City roadways. Many culverts were damaged, and some were located very close to roadway, potentially creating a hazard for road users. The following project describes a way that the City can move to address these issues.

- **Mid-Term (5 to 10 years)**
    - It is recommended that Herreid hires a consultant to do a comprehensive drainage study on the current system within Herreid. This will provide insight into how well the system currently performs during weather events and spring thaw, how it can improve, and any major deficiencies that may exist. The study should also provide Herreid with alternatives and projects to address any issues or flaws.

# Electric Vehicle Charging Station

During public meetings, the installation of an electric vehicle charging station (EVCS) in Herreid was discussed as a project that the City is interested in pursuing. There are state and federal funding opportunities available for the City of Herreid to utilize in implementing this project and it would help connect the City to other electric vehicle charging stations in the region. The installation of an electric vehicle charging station would serve as an attractive amenity for electric vehicle users in the region who would otherwise have to travel to larger cities for access to an electric vehicle charging station.

- **Mid-Term (5 to 10 years)**
    - Install an electric vehicle charging station within Herreid, utilizing available City property to mitigate costs. There are multiple types of electric vehicle charging stations available for Herreid to pursue installing and these are detailed by their cost and effectiveness in the cost estimates section.

# Cost Estimates for Recommended Projects

Table 2 shown below, details cost estimates for each project recommended in the plan. The figures show total costs and, depending on the project, are not necessarily intended to be entirely completed immediately or all at one time. Additionally, the costs are capital improvement costs only and many not necessarily represent a total cost estimate. Other expenses such as engineering consultation or design fees, utilities and right of way may increase the total cost to the City. However, the City may be able to lessen expenses by using an area specific cost with the ability to implement the projects at lower rates than SDDOT statewide estimates.

***Projects with an asterisk (*) indicate that there are funding programs available.***

## Short-Term (0 to 5 years)

*Table 2. Short-Term Recommendations*

| Description | Treatment | Estimated Cost |
|---|---|---|
| **Project 1A:** Enforce and update City-wide ordinances related to City street line of sight and sidewalk obstruction. | Documentation and Enforcement | 0 |
| **Project 1B:** Request that the SDDOT reduce speed limit on US Route 83 between the Herreid Fire Department to 7th Ave from 30MPH to 25MPH. | Documentation and Enforcement | 0 |
| **Project 1C:** Request that the SDDOT move one pedestrian crosswalk from the east side of the school to US Route 83 and 5th Ave. | Documentation | 0 |
| **Project 1D:** Improve the line | Remove 1 parking spot at | 0 |

| | | |
|---|---|---|
| of sight for vehicles entering the highway from City streets. | every City intersection with US Route 83 | |
| **Project 1E:** Clearly delineate City roadways adjacent to property. | Utilize records to identify the City right of way in relation to private property and clearly mark it so that the roadway is visible | Cost varies, depends on procedures used to delineate roadways. |
| **Project 1F:** Request that SDDOT move the radar speed feedback signs on US Route 83 farther from the center of town. | Documentation | 0 |
| **Project 2A*:** Implement a school education program for teachers, parents, and students on pedestrian safety. | Documentation | Cost varies – Funding opportunity available |
| **Project 2B:** Implement a required parent pick up/drop off area for Herreid residents dropping children off in the mornings and picking them up after dismissal. | Documentation and Enforcement | 0 |
| **Project 2C:** Develop a shared bike lane network throughout the Herreid transportation system (excluding on US Route 83) | Apply Shared Bike Lanes on all City streets. Follow MUTCD standards, 2 symbols at least every 250 feet. ~100 symbols total. | ~$330 per symbol, ~$33,000 to do the entire City (excluding US83). |
| **Project 2D:** Create a safe pedestrian travel corridor throughout Herreid. | Documentation | 0 |
| **Airport Alternative 3B:** Close the airport down following proper procedures. | Documentation | 0 |
| **Project 4A:** Develop a unified and consistent signage plan for all City streets | Documentation | 0 |

# Mid-Term 5 to 10 years

*Table 3. Mid-Term Recommendations*

| Description | Treatment | Estimated Cost |
|---|---|---|
| **Project 2E:** Prioritize repairing and creating sidewalk along the safe pedestrian travel corridor identified in **Project 2D** | Repair existing sidewalk and create new sidewalk. ~11,800' of sidewalk, ~30 ADA curb ramps | ~$1,050,000 |
| **Alternative 3A:** Make the current airport operationally attractive to regional aircraft | Removing the current degraded asphalt surface and revert the entire runway to turf completely. | No cost estimate available. |
| **Project 4B**: Change signage to match established signage plan from **Project 4A** following MUTCD for all new signs. | Change out and replace signage not consistent with plan. | ~$6,000 |
| **Project 4C**: Move to replace and fix all signs not compliant with MUTCD standards. | Fix all signs non-compliant with MUTCD standards. | Cost varies, ~$500 per sign |
| **Water Drainage Study** | Get an evaluation of drainage systems' ability to handle stormwater flows and surface water. | Cost varies, dependent on who the City hires |
| **Electric Vehicle Charging Station (EVCS)*** | Install a EVCS within the downtown area, utilizing available City property. | Level 2 charger (4-10 hour charge time) = $15,000-$25,000<br><br>Level 3 Fast charger (~ 1 hour charge time) w/ additional Level 2 charger = ~$80,000<br><br>Level 3 350kw Fast charger (less than 20 minute charge time) = $150,000-$300,000 |

# Long-Term 10 to 20 years

*Table 4. Long-Term Recommendations*

| Project Description | Treatment | Estimated Cost |
|---|---|---|
| **Project 2F*:** Construct sidewalks on all City streets and improve overall accessibility. | Construct and/or repair sidewalks on all City streets and add ADA Curb Ramps where missing.<br>25,600' of new sidewalk, ~70 ADA curb ramps | ~$2,230,000 |
| **Project 2G***: Construct a multi-use trail connecting the School Sports Park to the City Park on the south side of town. | Construct a multi-use trail.<br>~17,000' of paved 10' wide trail. | ~$2,500,000 |
| **Street Expansion:** Expand Ash Street north to meet Edward Street. | Acquire necessary right of way and construct a paved road. | ~$155,000 (dependent on cost of land to acquire) |

# Funding Availability

Financial planning is a vital component of the Transportation Plan. The availability of funding, designation of funds and future financial planning will often be the elements that make or break the implementation of the projects identified in this Plan. Therefore, it is just as important to identify the financial needs for the future as it is to identify the transportation needs of the community. South Dakota transportation projects are generally funded with Federal, State or Local funds. Funding for transportation may come from federal and state fuel tax, local general funds, wheel tax, vehicle registration fees or property tax. SDDOT has special programs for community access, industrial park roads and transportation alternatives or non-motorized transportation networks. Other programs from multiple agencies exist within South Dakota that have programs for electric vehicle charging stations, recreational trails, and a wide variety of helpful studies.

As the City budgets for transportation projects, it is important to know the priorities of the community. Although these priorities should be evaluated from time to time, the long term goals of the community will develop the long range plan needed to budget for large projects in the distant future as well as small, annual transportation projects that either maintain the existing system or accomplish a large scale project built in a series of phases.

Potential local funding sources for City transportation network projects may include:

- Sales tax funds
- Property tax funds
- Assessment of adjacent property owners
- Funds raised through local fundraising efforts, including private or corporate donations

In addition, the City may apply for a variety of grant or special program funding administered by the State of South Dakota. These sources may include:

- Transportation Alternatives Program funds for non-motorized transportation projects including safe routes to school, safe routes for non-drivers, shared use paths and others. (SDDOT)
- Community Access Road Grant funds, for cities less than 5,000 in population, for the construction or reconstruction of major streets, such as roads to the school or elevator. (SDDOT)
- Recreational Trails Grants for the development and maintenance of non-motorized and motorized trails for recreational purposes. (SDGF&P)
- Walking Audit Grants, Active Transportation, and other healthy lifestyle related grants for the development of transportation networks supporting walking, biking and other active transportation facilities. South Dakota Department of Health (SDDOH).
- Safety Funds for safety improvement projects. (SDDOT)

  Federal Bicycle and Pedestrian Funding Opportunities for multi-modal transportation related projects.
- Bicycle and Pedestrian Grants for bike and pedestrian transportation related projects. Many are available, competitive, and fund projects at various levels.
- EVCS through the South Dakota Department of Agriculture and Natural Resources (DANR) as part of the Volkswagen EVCS program, Round 2 funding will begin tentatively in 2021. Non-state funding opportunities also exist for EVCS. Federal funding opportunities are included in the Part 3 of the Appendix.