Final Report and Feasibility Study

Glidden, Iowa

Program Partners:

Iowa Department of Transportation
Trees Forever
Iowa State University

Iowa's Living Roadways community visioning

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About Bolton & Menk

In 1949, two hard working Midwesterners – John Bolton and Martin Menk – saw people in their surrounding communities with dreams of a bright future, a desire to grow, and a common challenge of aging infrastructure. Their goal: to help communities make progress by listening to what people want, finding the best solutions for their needs, and treating them right. The legacy of John and Martin lives on. We still want to help, we work hard every day, and we always remember what got us here – we're people helping people. Today, Bolton & Menk, Inc. has more than 400 employees including a professional staff of over 150 engineers, planners, landscape architects, and surveyors.

Bolton & Menk specializes in providing public infrastructure solutions. We want to take care of our clients by providing the best services and solutions for them. From advocating for our communities, to designing their dreams, to finding funding; we take pride in our work throughout the Upper Midwest. Because we live here too. We believe in the power of face-to-face meetings, friendly conversations, and a collaborative decision making process to keep your projects on schedule, within budget, and focused on real, workable solutions.

Beyond our technical experience and skills, our service is also based on management and product delivery strategies we have developed over time:
Listen to the client's needs and wants
Learn the characteristics and personality of each client
Communicate proactively with staff, stakeholders, and the public
Develop **effective solutions** through consensus building
Achieve the **client's vision**
Foster **long-term relationships**

We promise every client two things: we'll work hard for you and we'll do a good job. We take a personal interest in the work being done around us. And at the end of the day, we're **Real People** offering **Real Solutions**.

Riverfront Renaissance Improvements | Hastings, MN

Program Overview

The city of Glidden is one of 10 communities selected to participate in the 2018 Iowa's Living Roadways Community Visioning Program. The program, which selects communities through a competitive application process, provides professional planning and design assistance along transportation corridors to small Iowa communities (populations of fewer than 10,000).

Goals for the Visioning Program include:

- Developing a conceptual plan and implementation strategies with local communities
- Enhancing the natural, cultural, and visual resources of communities
- Assisting local communities in using external funds as leverage for transportation corridor enhancement

Each visioning community works through a planning process consisting of four phases of concept development:

1. Program initiation
2. Needs assessment and goal setting
3. Development of a concept plan
4. Implementation and sustained action

Each visioning community is represented by a steering committee of local residents and stakeholders who take part in a series of meetings that are facilitated by field coordinators from Trees Forever. Iowa State University organizes design teams of professional landscape architects, design interns, and ISU faculty and staff. The program is sponsored by the Iowa Department of Transportation.

Community Goals

The Glidden visioning committee identified a number of goals and priority areas during the visioning process, which are included below:

- Enhance Northland Park into a recreational area supporting camping and fishing
- Improve safety along the Highway 30 corridor
- Improve pedestrian connections and opportunities (sidewalks & trails) throughout Glidden
- Develop a plan to pave the Aquatic Center parking lot

Capturing the Glidden Vision

Based on the needs and desires of the local residents, as well as a detailed inventory of community resources, the design team developed concepts for community sidewalk improvements, safety enhancements along Highway 30, Northland Park, and the Aquatic Center parking lot. This plan, as well as the inventory information, is illustrated in the following set of presentation boards.

01. Program Overview
02. Bioregional Context
03. Transportation Assets and Barriers Assessments
04. Transportation Behavior and Needs Survey
05. Transportation Inventory
06. Goal Setting
07. Concept Overview
08. Sidewalk Improvement Plan
09. Hwy 30 Enhancements
10. Aquatic Center Parking
11. Northland Park Plan

Transportation Meeting

Goal Setting Meeting

Community Design Workshop

Northland Park

Hwy 30 Viewing East

Aquatic Center Parking Lot

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- Improve pedestrian connections by establishing cohesive routes through new sidewalks and trail connections throughout Glidden
- Improve the funtionality, use, and aesthetics of the Aquatic Center Parking lot by paving it
- Strengthen Northland Park by creating more recreational opportunities, improving aesthetics and opportunity for shade through tree plantings, and establish better connectivity throughout park
- Impliment safety features along Highway 30

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Glidden
Program Overview

Design Team
LA:Josh Shields, PLA/Shannon Gapp
Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Bioregional Assessment

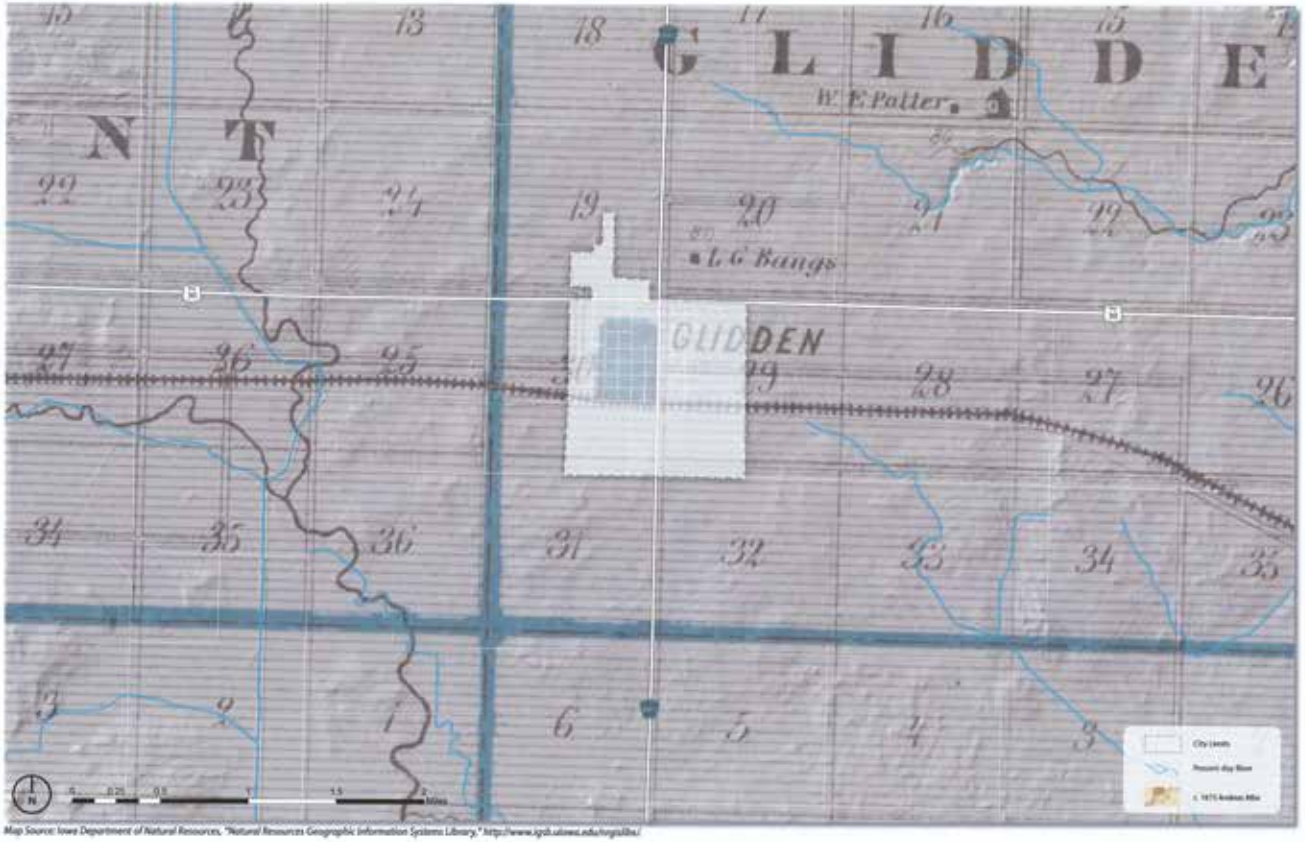
Settlement Patterns

This board uses maps from A.T. Andreas' *Illustrated Historical Atlas of the State of Iowa, 1875* overlaid with present-day town boundaries and water bodies. Published in 1875, Andreas' Atlas is an extraordinary resource showing the post-Civil War landscape of Iowa including settlement features (towns and villages, churches, schools, roads, railroads, etc.) and landscape features (water bodies, vegetated patches such as "timber" and "swamp," and major topographic features.) High-quality scans of the Atlas have been arranged to correspond closely with present-day maps revealing major landscape changes as well as features that have persisted, such as railroad rights-of-way and in some cases remnant vegetation patches.

Glidden in Context

Compare the 1875 boundaries of your town to the current boundaries. How much has your town grown?

Compare the course of the rivers in 1875 to their current course. Are there major changes in alignment or location? Are there vegetation patches shown in the 1875 map still in existence?



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/

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Glidden
Settlement Patterns

Bioregional Context

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Iowa's Living Roadways community visioning

Historical Vegetation

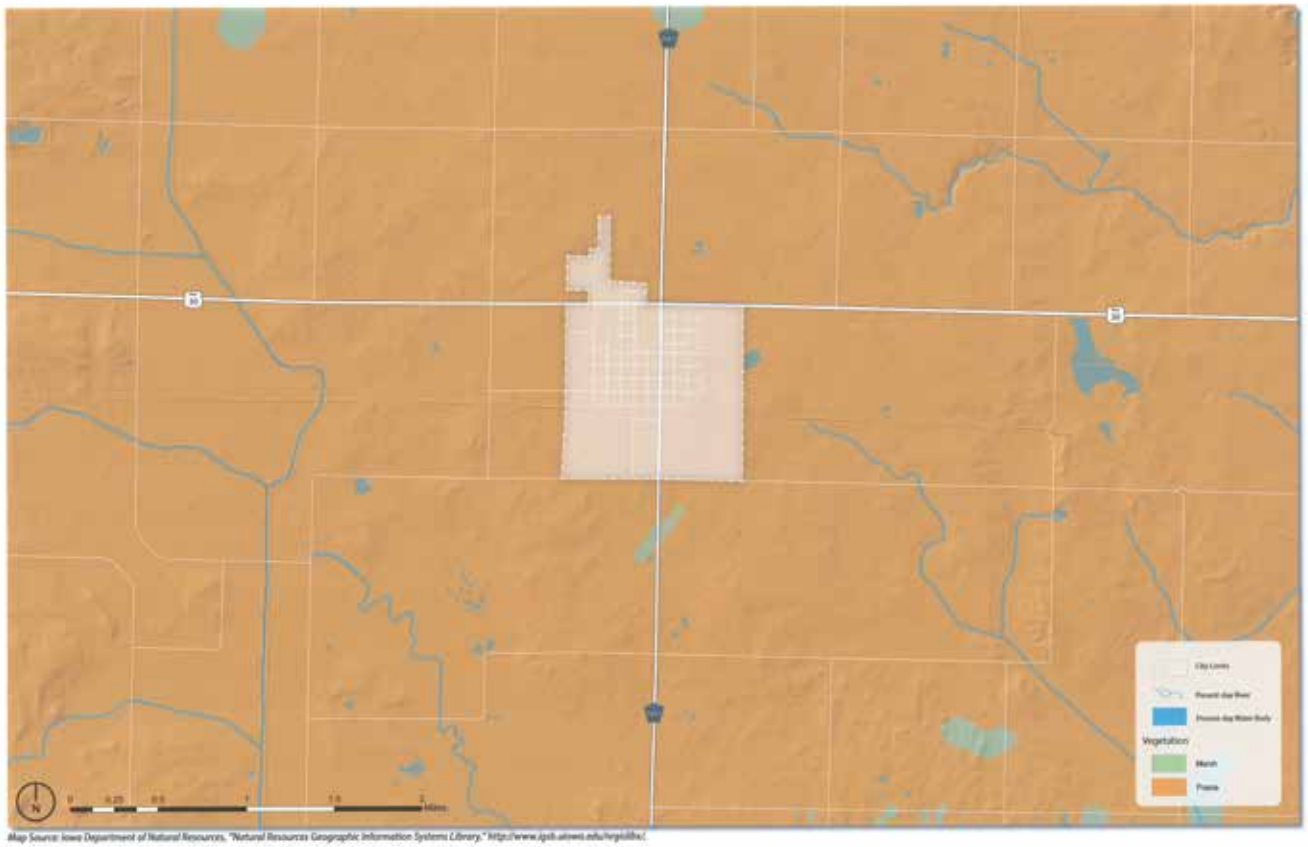
The vegetation information shown here is derived from township maps made by the General Land Office (GLO) surveys beginning in 1836 through 1859. The vegetation information was digitized in 1996 as a resource for natural resource management and is useful "...for the study of long term ecological processes and as baseline data for the study of present day communities."[1]

The names of plant communities mapped by the GLO surveyors varied. The original terminology used by the surveyors who made maps has been preserved in the original data, but we have renamed these types on this map to reflect names used to describe contemporary ecological vegetation communities.

Not all communities will have all vegetation types, because various conditions that affect vegetation—such as geology, exposure to wind, seasonally high water or groundwater, and frequency of fire—differ from place to place. The following types have been mapped:

1. Forest: Tree dominated, with a mostly closed canopy. Ground vegetation shade tolerant. Developed under infrequent fire.
2. Savanna: Scattered trees, with an open canopy and prairie below. Fire dominated.
3. Marsh: Perennial non-woody plants, water and fire dominated.
4. Prairie: Perennial non-woody plants, fire dominated.
5. Field: Cultivated lands of early pioneers or Native Americans.

1 J.E. Ebinger, "Presettlement Vegetation of Coles County, Illinois," *Transactions of the Illinois Academy of Science* (1987): 15-24, quoted in Michael Charles Miller, "Analysis of historic vegetation patterns in Iowa using Government Land Office surveys and a Geographic Information System" (master's thesis, Iowa State University, 1995), 8.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.gis.iastate.edu/nrgislibx/

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Not all communities will show all vegetation types., in part because the people making the maps in the 1800's did not understand and record the subtleties of different plant communities. In addition, landscape conditions that effect vegetation change from place to place. These factors include geology, exposure to wind, seasonal flooding or high ground water, and fire frequency.

The vegetationincluded in the map may include the following:

1. Forest: Trees with mainly closed canopy; ground vegetation shade tolererant. Infrequent fire disturbance.
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Historical Vegetation

Bioregional Context
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Iowa's Living Roadways community visioning

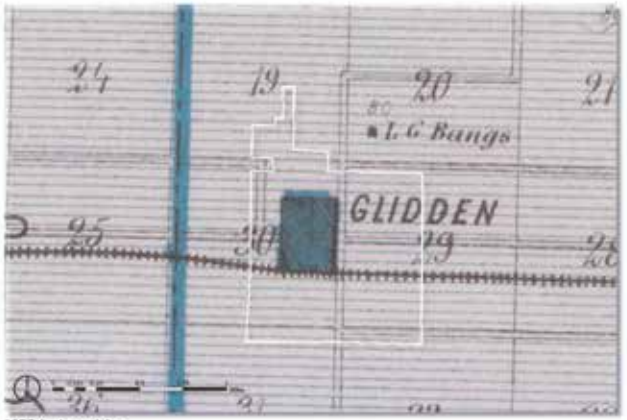
Change Over Time

In the images to the right, you can observe how land use has changed over time from the observed landscape patterns in the 1800s Andreas Atlas to the present day. By looking at landscape development patterns over time, one can begin to understand how technology, infrastructure, economic forces, and desired lifestyles have interacted with landform, climate, and processes to create present-day development patterns.

For example, consider how agricultural land use has changed land cover patterns. In general, one can see impacts of technology in larger field sizes, the reduction in wetlands and sloughs, and the elimination of fence lines as diverse farm crops and livestock production has given way to monoculture field-crop production.

New roads have been developed, usually cutting across the landscape topography on compacted roadbeds. Highways usually have low slopes and more gentle curves to facilitate high-speed movement, while roads targeted to more localized traffic can have steeper slopes and tighter curves. The result of these differences can be seen in the earthwork used to flatten the roadbeds near highways and the creation of "borrow pits" that sometimes appear as geometric ponds alongside highways.

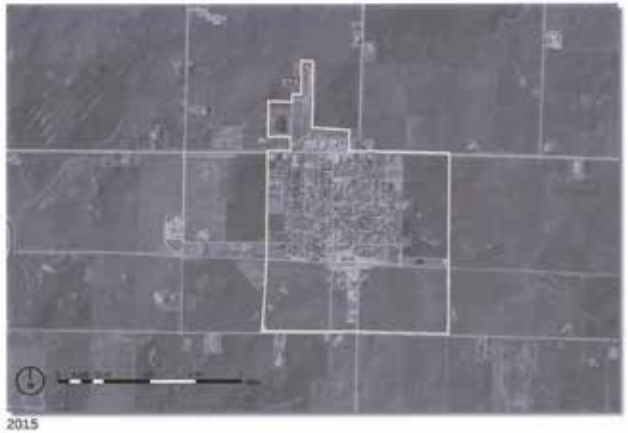
Other observable changes are development that responds to floodplains. In many cases, development will avoid floodplains because of the risks of property damage. Between the 1940s and 1960s, development was placed in floodplains with the protection of levees. These earthworks are less effective with today's intense summer rainfall patterns, and in the most recent image, this floodplain development may have moved as a result.



1875 Andreas Atlas


1930s


1970s


2015

Map Source: ISU GIS Facility, "Iowa Geographic Map Server," http://www. http://ortho.gis.iastate.edu/.

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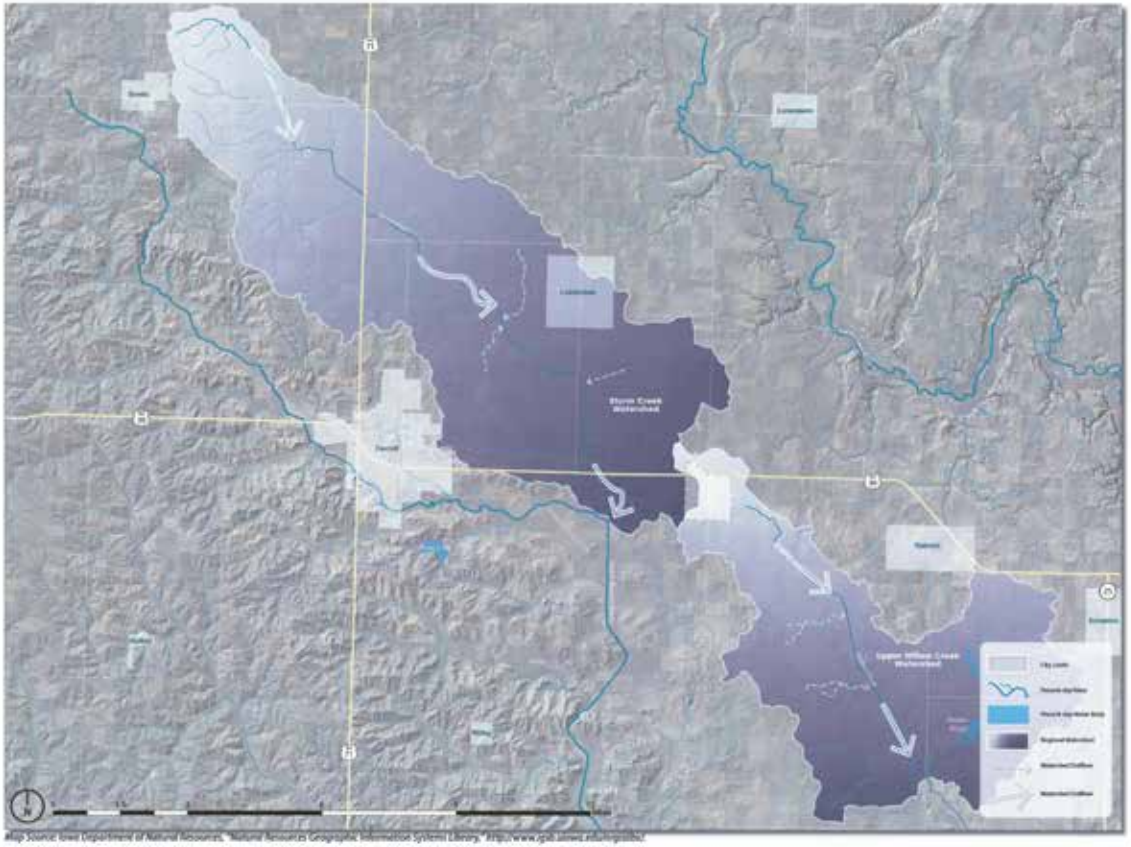
Iowa's Living Roadways community visioning

Regional Watershed

A watershed is a defined area or ridge of land with a boundary that separates waters flowing to different rivers, creeks, or basins. Watershed boundaries show the extent of a drainage area flowing to a single outlet point, and determine whether precipitation is directed into one watershed or an adjacent watershed.

It is important to note that there are multiple levels of watersheds; for instance the Iowa River watershed is composed of a dozen smaller watersheds, and the Iowa River watershed is a sub-basin of the Mississippi River watershed.

Where a community is located in relation to its surrounding watershed(s) determines its capacity to manage regional watershed issues such as flooding. For example, a community located near the end of a watershed (close to the outlet point) will have little capacity to reduce the amount of water draining toward it from upland areas.



Map Source: Iowa Department of Natural Resources. "Natural Resources Geographic Information System Library." http://www.gis.iowa.edu/maplibrary/

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Depth to Water Table

The water table is defined as the level below which the ground is saturated with water. Depth to water table is represented as a range because it varies due to seasonal changes and precipitation volumes. For example, following a spring snowmelt, an area with a depth to water table ranging from one foot to three feet is likely to be at or near one-foot depth.

The map shows how close to the surface groundwater can be. Pavement and foundations are affected by groundwater near the surface. Freezing and thawing and upward pressure of rising groundwater can cause cracks or "frost boils" in pavement. Foundations can be wet and require "dewatering," which can be expensive.

Where the value is less than 0 feet, water can well up out of the ground. This causes localized flooding, even if there is no surface water draining to the area.

Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/

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Elevation and Flow

The map to the right displays topographic differences in elevation using a combination of contour lines and the color gradient depicted in the legend. The high points and low points have also been located.

Note the relationship of your community to the surrounding elevation; is it located in a valley or on high ground, or is it split between the two?

If your community lies within or near a floodplain or floodway, the map will reflect these features. Not all communities will have these elements; their absence on this map indicates that none are present.

Flood risk is correlated to low-lying land. This map also shows your community's flood risk as defined by the Federal Emergency Management Agency (FEMA) Flood Map Service Center. If your community has these features, this map will show the two most important flood zones, the Base Flood and the Regulatory Floodway (consult legend). Base Flood is the zone having a one percent chance of being equaled or exceeded in any given year, also referred to as the "100-year floodplain." The Regulatory Floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of objects so that the floodwater can move freely, keeping the base flood elevation from rising.

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Iowa's Living Roadways community visioning

Present Day Land Cover

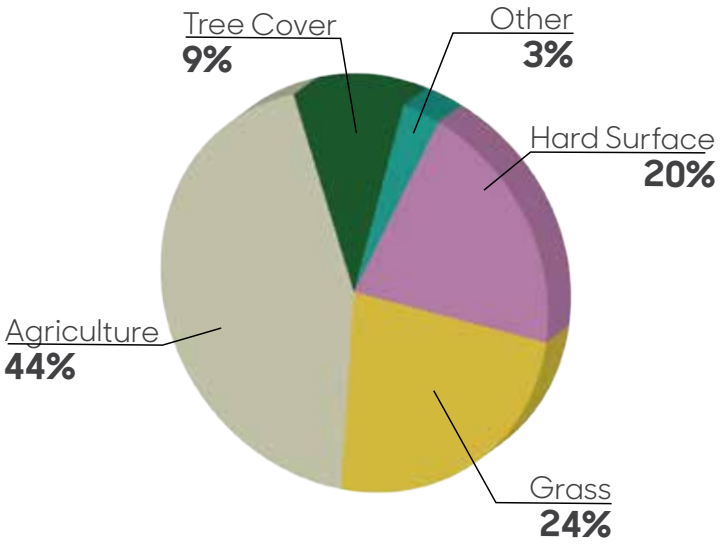
The land cover map depicts both natural and man-made land cover types with aerial imagery. The Iowa DNR created 15 unique classes for this dataset to differentiate land covers. Refer to the legend for a breakdown of land cover types within your community boundaries.

What do you observe about the dominant land cover types in your community? Where is the tree canopy most concentrated?

Compare the amount of impervious surfaces (e.g., parking lots, roads, buildings) to the other surfaces (e.g, water, grass, and agriculture.) What does this mean for surface water movement?

Tree cover affects microclimate. Are places surrounded by canopy more pleasant in the summer? How do these places feel in the winter?

Percent Land Cover Type



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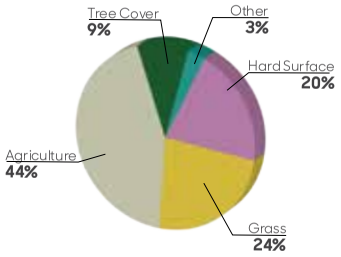

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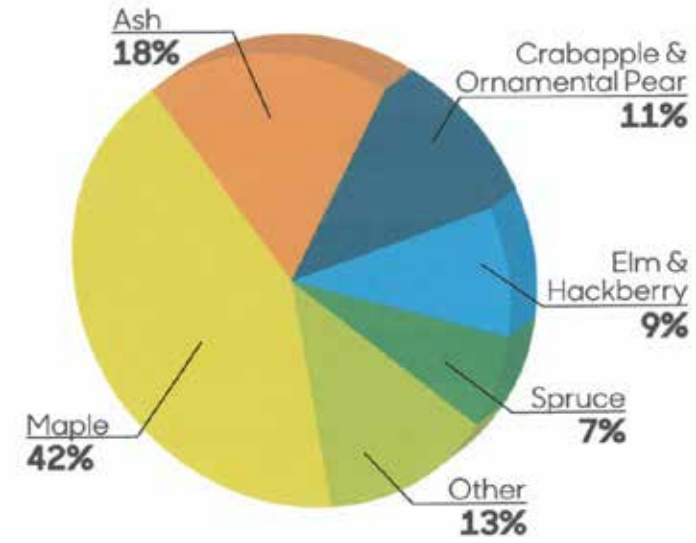
Iowa's Living Roadways community visioning

The Urban Forest

The map on the right depicts public right-of-way trees that have been surveyed by the Iowa Department of Natural Resources (Iowa DNR).[1] The trees are divided into three categories: healthy trees, hazard trees, and ash trees.

Hazard trees are distinguished with a yellow triangle symbol. The hazard designation reflects tree condition using the Iowa DNR's priority rating. Trees highlighted on this map are "dangerous, dead, or dying, and no amount of maintenance will increase longevity or safety," or are infected by "insects, pathogens, or parasites."

Ash trees are distinguished with a purple cross. They are under imminent threat from the Emerald Ash Borer (EAB),* an invasive highly destructive beetle that has already killed tens of millions of ash trees in North America.[2] EAB was first discovered in Iowa in 2010 and was confirmed in 30 Iowa counties as of 2016.[3]



The graphic above shows how many of the city's trees are of the same species. There is a strong possibility that 18% (Ash trees) of Glidden's city owned trees will die once EAB is carried to the area. With proper planning and management, the city's canopy can be improved by planting suitable trees that can gradually replace hazard trees and Ash trees. Improving species diversity will create a more resilient urban forest.

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1 Iowa Department of Natural Resources Community Tree Inventories, http://www.iowadnr.gov/Conservation/Forestry/Urban-Forestry/Community-Tree-Inventories

2 EAB is a significant threat to our urban, suburban, and rural forests because it kills stressed and healthy ash trees. EAB is so aggressive that ash trees may die within two or three years after they become infested. Ash trees are as important ecologically as they are economically in the forests of the eastern United States. Emerald Ash Borer the Green Menace, USDA Program Aid No. 1769, 2008, https://www.aphis.usda.gov publications/plant_health/content/printable_version/EAB-GreenMenace-reprint June09.pdf.

3 "Iowa Tree Pests website," Entomology and Plant Science Bureau of the Iowa Department of Agriculture and Land Stewardship (IDALS), last updated February 9, 2016, http://www.iowatreepests.com/eab_home.html.

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Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/

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Urban Forest

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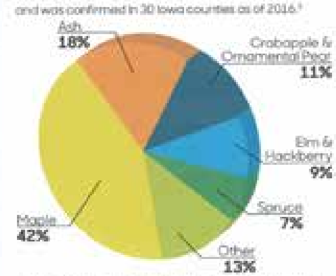
The map on the left depicts city owned trees that have been surveyed by the Iowa Department of Natural Resources (Iowa DNR).[1] The trees are divided into three categories: healthy trees, hazard trees, and ash trees.

"Hazard" trees are distinguished with a yellow triangle symbol. The hazard designation reflects tree condition using the Iowa DNR's priority rating. Trees highlighted on this map are "dangerous, dead, or dying, and no amount of maintenance will increase longevity or safety" or are infected by "insects, pathogens, or parasites."

"Ash" trees are distinguished with a purple cross. They are under imminent threat from the Emerald Ash Borer (EAB),* an invasive beetle that disrupts circulation in the tree resulting in the loss of tens of millions of ash trees in North America.[2] EAB was first discovered in Iowa in 2010 and was confirmed in 30 Iowa counties as of 2016.[3]



The graphic above shows how many of the city's trees are of the same species. There is a strong possibility that 18% (Ash trees) of Glidden's city owned trees will die once EAB is carried to the area. With proper planning and management, the city's canopy can be improved by planting suitable trees that can gradually replace hazard trees and Ash trees. Improving species diversity will create a more resilient urban forest.

1. Iowa Department of Natural Resources Community Tree Inventories, [illegible]
2. EAB is a significant threat to our urban, suburban, and rural forests [illegible]
3. "Iowa Tree Pests website," Entomology and Plant Science Bureau of the Iowa Department of Agriculture and Land Stewardship (IDALS) [illegible]

Iowa's Living Roadways
community visioning

Transportation Assets and Barriers

Overview

Transportation is integral to small-town life and a vibrant economy. In the context of the Community Visioning Program, we recognize walking, biking, and driving as quintessential modes of travel to various destinations important to residents and visitors. Access to these destinations is crucial for many everyday activities—getting to work and school, participating in community events, and providing for basic needs such as food, health care, and healthy activity.

In this participatory assessment, we want to find out which factors and conditions affect transportation use in Glidden, where these factors and conditions are most prevalent, and how they influence route and transportation choices locally. Because residents have the best knowledge of how Glidden's transportation system works, we use focused, small-group conversations, mapping, and photos of the best and worst places taken by residents to understand local transportation.

Different Users = Different Needs

To capture insights about transportation from a variety of perspectives, we invited Glidden residents with different transportation needs to participate in focus groups. A total of 44 residents attended Glidden's workshop. Participants were separated into five user groups and the Glidden steering committee.

Actives

This user group represents those in the community who engage in outdoor recreation, including cycling, walking, running, swimming, skiing, etc. The availability of multiple venues for outdoor recreation matters to this group.

Mobility Impaired

This user group is directly affected by accessibility barriers such as high curbing and uneven sidewalks that make it difficult to operate mobility-aiding equipment effectively. Handicapped parking, curb ramps, and smooth surfaces are critical transportation features.

Older Adults

Accessibility—both in terms of physical access and proximity—is a major concern for this user group. Because some people in this user group do not or are unable to drive, having goods and services within walking distance is important.

Youth

This group uses primarily non-motorized modes of transportation, so pedestrian- and bike-friendly streets and sidewalks are important. These users value the ability to get to destinations on foot or via bicycle and having goods and services within walking distance.

Parents

Safety of their children is a primary concern of this user group. Access to safe and easy routes to school activities is another significant factor to this group. Parents of young children desire smooth, wide surfaces for strollers.

Steering Committee

The common denominator for this user group is that their observations are influenced by special knowledge of the transportation system acquired during the Community Visioning assessment process. As a result, this group is more representative of decision makers.

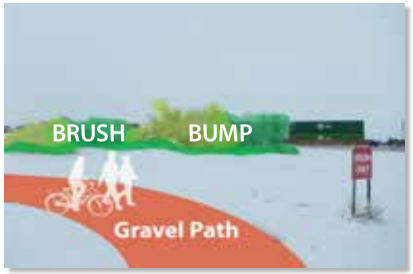
Asset : Glidden sign captures visitors' eyes on the Highway 30.

Barrier: Busy traffic at Highway 30 and Idaho Street.

Asset: Northland Park and its trail attract walkers and joggers.

Barrier: The corner of Arizona Street is on the floodplain. The corner is very sharp and parked trucks can block the view. Also, the sidewalk is not continuous.

Asset: Main Street buildings are well maintained. The handrails are very helpful.



Barrier: The "Brush Bump" is popular destination with kids and teenagers of Glidden. The rough gravel path is a barrier.

What Factors Affect Transportation in Glidden?

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Actives — **(8 participants):** This user group represents those in the community who engage in outdoor recreation, including cycling, walking, running, swimming, skiing, etc. The availability of multiple venues for outdoor recreation matters to this group.

Mobility Impaired — **(5 participants):** This user group is directly affected by accessibility barriers such as high curbing and uneven sidewalks that make it difficult to operate mobility-aiding equipment effectively. Handicapped parking, curb ramps, and smooth surfaces are critical transportation features.

Older Adults — **(13 participants):** Accessibility—both in terms of physical access and proximity—is a major concern for this user group. Because some people in this user group do not or are unable to drive, having goods and services within walking distance is important.

Youth — **(6 participants):** This group uses primarily non-motorized modes of transportation, so pedestrian- and bike-friendly streets and sidewalks are important. These users value the ability to get to destinations on foot or via bicycle and having goods and services within walking distance.

Parents — **(9 participants):** Safety of their children is a primary concern of this user group. Access to safe and easy routes to school activities is another significant factor to this group. Parents of young children desire smooth, wide surfaces for strollers.

Steering Committee — **(3 participants):** The common denominator for this user group is that their observations are influenced by special knowledge of the transportation system acquired during the Community Visioning assessment process. As a result, this group is more representative of decision makers.

Glidden

Overview

Transportation Assets and Barriers
Julia Badenhope, Sandra Oberbroeckling, Hatvany Gomez- Concepcion, Saina Shayanjoo, Emma Georgeff, Mengtian Huang
Iowa State University | Trees Forever | Iowa Department of Transportation

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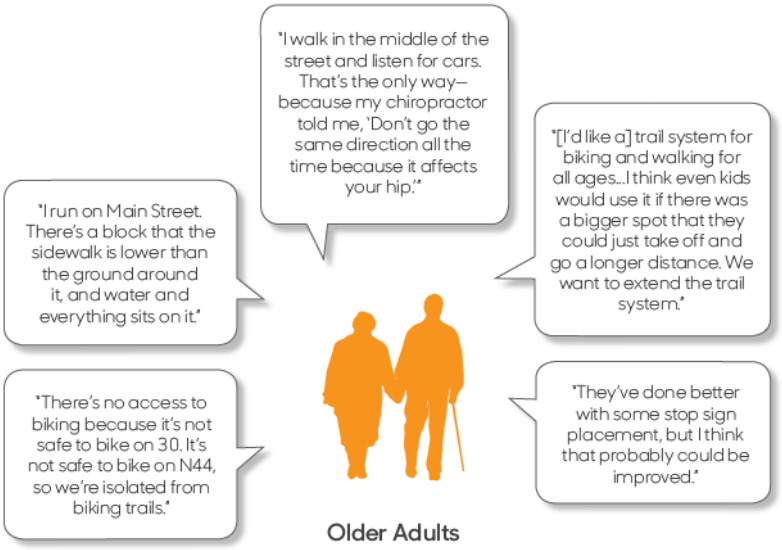
What People Said



"Some of the roads are also domed, so it makes it unsafe for them to...ride on the side of the road that they are supposed to ride on...and then they drop off in the gutter...so my kids ride towards the middle because it is safer for them to ride there."

"We have to walk in the street with the stroller because either the sidewalk's in bad condition or they just stop, and then you are trying to find a way to get to the street."

"That's our biggest battle, that highway [Highway 30]."

From north to south of Glidden or vice versa, "You're either crossing a railroad track with no sidewalk or you're crossing the highway with no stoppage."

"When we get wet, heavy rains, every street is flooded."

Parents

"I think that trail is pretty nice to walk because you can see wildlife out there sometimes. They do have benches along it and it is paved, so its, smooth, so you can ride your bike and do multiple stuff."

"You can walk in the street without cars bothering you very often. That is kind of nice."

"By the park, there [are] all rocks, and whenever I'm riding my bike, it makes my bike turn a little."

"There is no stop sign at either one...Minnesota [or] Second."

"Cars...walking across highways, there [are] a lot of cars, and we can't always see them because of the hill."

Youth

"Highway 30 is a big barrier...to go across to the trail and if you're walking, the traffic [is] coming into town...from 55 [mph] to 45, and it doesn't hit the 35 [mph] speed limit until another block past [the trail], so the speed there is an issue."

"I guess, the positive thing... is we offer recreation. We offer places to walk, but sometimes getting to these places can be an issue."

"When it rains, there are some streets in town... down by the co-op... water will sit there."

"I would like to see us get more trails....if we could connect to the Sauk Rail Trail, that would be awesome, a way to get to Carroll."

"We've had numerous accidents there too [intersection of Colorado and Highway 30]."

Steering Committee

Emerging Themes

Discovering themes and consistencies among user groups helps the steering committee to identify solutions to address the needs of all. The chart on the opposite page displays each user group's collective thoughts on particular issues in comparison with the other user groups in the community.

Actives: Actives walk, drive, and bike regularly, either as part of a daily commute or as recreational/sports training. Their major concerns are lack of traffic signage, lighting, and bad sidewalk condition.

Mobility-impaired individuals: Mobility-impaired individuals often rely on motorized scooters and wheelchairs to get around. Therefore, smooth, wide surfaces are important. The lack of lighting and bad sidewalks in many places makes it challenging to get around town. They desire to see better access to butterfly garden.

Older adults: Older adults like biking and walking around the town, but they are concerned about poor and disconnected sidewalks. They noted that large trees and bushes block the traffic views in some areas.

Youth: Youth mainly walk, bike, and drive golf carts and ATVs to get around the community. Some ride with their parents, and older youth drive. Sidewalk conditions affect their ability to walk, bike, and ride scooters. Crossings are the major safety issue for them.

Parents: Parents drive, walk, and run. They are concerned about their children's safety as they travel throughout town. Of particular concern is lack of consistent sidewalks and safe crossings. Although they are glad Highway 30 brings people to town, it is a major safety concern.

Steering committee: Steering committee members walk, drive, bike, and drive golf carts or UTVs. Their main concern is the lack of sidewalks and connectivity in town. Traffic on Colorado and Idaho Streets is another concern for this group.


User Types
Destinations and Activities
Desirable Qualities and Features
Undesirable Qualities and Features
Most Desired Improvements and Activities
Northland Park
The Aquatic Park
The Wellness Center
Local Services
Recreation Facilities
Sense of Community
Inconsistent Sidewalks
Highway 30 Crossing
Heavy Traffic
Flooding
Poor Lighting
Sidewalks Improvements
Safe Crossing on Highway 30
Traffic Control
Trail System Improvements
Actives
Mobility Impaired
Older Adults
Youth
Parents
Steering Committee
Northland Park is a preferred destination for all user groups. It is used for biking, walking and watching wildlife. Provided amenities such as the smooth trail surface and benches makes it a destination for walkers.
The aquatic park is an important amenity for most of the user groups, especially during the spring.
All user groups like the wellness center as an indoor recreation destination, particularly during the winter.
Residents value the wide range of services to which they have access, such as Dairy Mart, grocery stores, churches, banks, schools, the fitness center, the gas station, the post office, hair salons, and the library.
All user types appreciate the outdoor recreation venues available to them in Gilsden, including the walking path at Northland Park, the swimming pool, the cemetery, and the ball fields.
Residents appreciate Gilsden as a small, friendly, quiet, and safe town. Everything is located within walking distance.
Incomplete, narrow, inaccessible, broken, and missing sidewalks are major concerns for all groups. Users explained the lack of connectivity and maintenance on the sidewalk system makes it difficult to get around town.
Highway 30 is a major barrier to connecting the north and south parts of the town. The speed limit, lack of signage, and high curbs are the major issues related to Highway 30.
All users mentioned heavy traffic on several streets, including Colorado, specifically at the 3rd, 4th, and 5th street intersections. Idaho and Utah are also busy. Poor visibility, poor surface conditions, lack of traffic signs, and the speed limit are the other issues related to streets.
Flooding on Navarro, Colorado, Idaho, 3rd, and 4th Streets, as well as the south portion of Adams, is a concern among several user groups in Gilsden.
Mobility-impaired users and parents identified the lack of lighting in town, especially in Northland Park as a barrier to late night and early morning walking.
All Gilsden residents would appreciate a connected, accessible, complete, and better maintained sidewalk system.
Controlling the speed limit, building an over / underpass to connect the north and south parts of town, and traffic signage would make users feel safer crossing Highway 30.
All user groups desire better traffic control on many streets, especially Idaho, Minnesota, 2nd, and Colorado. Stoplights, pedestrian crossings, warning lights, and traffic signage are the other desired improvements.
Several user groups would like a connected and extended trail system. A safe biking and walking trail connecting the north and south parts of town would provide better access to several recreation facilities.
Actives walk, drive, and bike regularly, either as part of a daily commute or as recreational/sports training. Their major concerns are lack of traffic signage, lighting, and bad sidewalk condition.
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Steering committee members walk, drive, bike, and drive golf carts or UTVs. Their main concern is the lack of sidewalks and connectivity in town. Traffic on Colorado and Idaho Streets is another concern for this group.

Transportation Behaviors and Needs

Overview

The survey gives the visioning steering committee objective, representative information for the goal-setting phase of community visioning. The quantitative data collected from survey responses complements the qualitative information gathered from the focus groups at the transportation assets and barriers workshop.

The modes of transportation that residents use and the routes they take suggest suitable types of transportation enhancements in these areas. Having a sense for people's willingness to help either financially or with their time is important because many transportation enhancements are funded from multiple sources, including grants, private donations, in-kind contributions, and volunteers. Understanding what types of improvements are important to residents gives the committee insight into how to prioritize projects.

With assistance from Iowa State University's Survey Research Services staff in the Center for Survey Statistics and Methodology (CSSM-SRS), ISU visioning program staff conducted a survey to better understand the transportation patterns and behaviors, needs and desires of Glidden residents. Surveys were mailed to 400 randomly selected residents living in Glidden and the surrounding area. To increase the response rate, the study was publicized through the local media and follow-up packets were mailed to nonrespondents. With adjustments for ineligible respondents (e.g., incorrect addresses, no longer living in the community), the final sample size was 249. A total of 134 people returned surveys, for a response rate of 53.8%. (A response rate of 20% is considered valid.)

We asked survey recipients what routes they used most often for going to work, walking, and biking. We also asked whether or not residents would like a recreation trail and where they think it should be. We also discovered what residents think is most important in terms of transportation enhancements that address issues such as accessibility, mobility, and safety. Finally, we learned whether or not residents are willing to contribute their time or their financial resources to making enhancements to Glidden. This series of boards summarizes the results of the survey as follows:

Willingness to Help
Enhancement Priorities
Commuting Routes
Walking Routes
Biking Routes
Desired Trail Routes

Why Do A Survey?

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How Is It Done?

With assistance from Iowa State University's Survey Research Services staff in the Center for Survey Statistics and Methodology (CSSM-SRS), ISU visioning program staff conducted a survey to better understand the transportation patterns and behaviors, needs and desires of Glidden residents. Surveys were mailed to 300 randomly selected residents living in Glidden and the surrounding area. To increase the response rate, the study was publicized through the local media and follow-up packets were mailed to nonrespondents. With adjustments for ineligible respondents (e.g., incorrect addresses, no longer living in the community), the final sample size was 249. A total of 134 people returned surveys, for a response rate of 53.8%. (A response rate of 20% is considered valid.)

What Did We Find Out?

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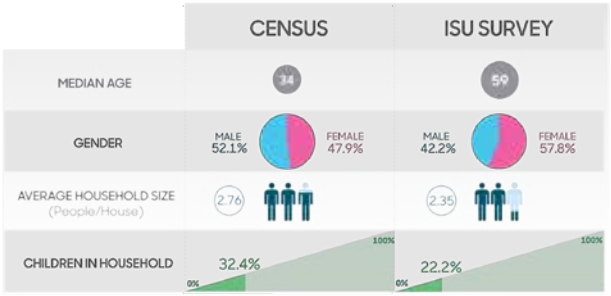
- Enhancement Priorities
- Commuting Routes
- Walking Routes
- Biking Routes
- Desired Trail Routes

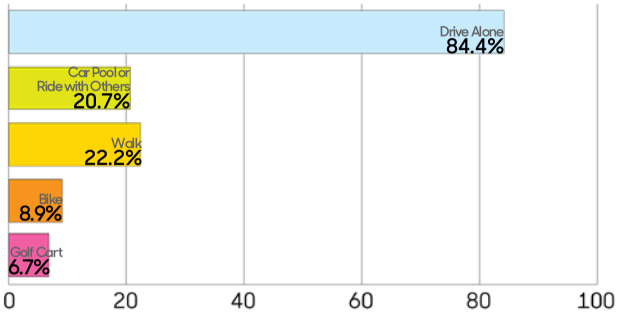
How Did We Do?

The demographics of the respondents are somewhat different from those obtained from the 2016 American Community Survey Five-Year Estimate. For example, the survey respondents median age of 59 is significantly older than the 2016 estimated average age for Glidden residents of 34. In terms of gender, average household size, and number of children in the household, survey respondents' demographics differ from the 2016 estimates.



How Do Glidden Residents Travel?

Most survey respondents drive to important destinations such as the convenience store, the post office, school, and church (84.4%). More than 20% car pool or ride with someone else and 22% walk. More than 6% get around on golf carts.



*Please note that some respondents indicated that they use more than one mode of transportation to get to work; therefore, percentages add up to more than 100%.

Glidden

Overview

Transportation Behavior and Needs Survey

Julia Badenhope, Sandra Oberbroeckling, Emma Lorenz, Dominick Florer

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Willingness to Help

Willingness to implement change

Most survey participants who answered this question are willing to contribute their time and talent to community improvements (70.4%), while just over 24% would contribute both time and talent and financial help. Nearly 6% of respondents indicated that they would be willing to contribute financially.

Compared to other small towns in Iowa, Glidden residents are more willing to become involved in improving their community. In 2014, on average, 43% of residents in small, rural towns volunteered to help with a community project.1 Glidden exceeds this average by 3%

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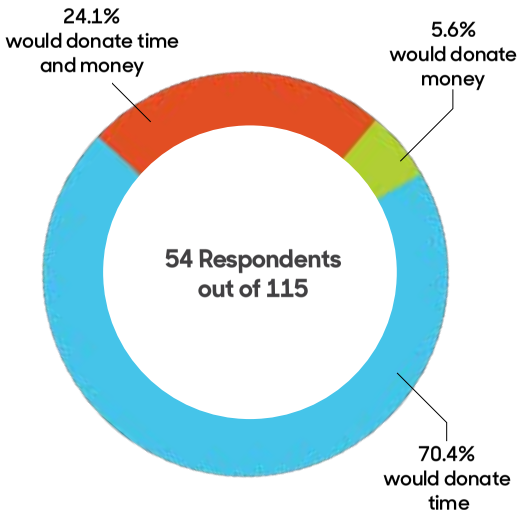
In 2014, the most common reason residents in small-town Iowa said they didn't become involved in community projects is that no one asked them (34%). Twenty-eight percent on average said that they don't have time, which is significantly lower than the 2004 average of 59%. Sixteen percent indicated that they didn't know how to become involved, and 7% said that no community project needed volunteers.[1] These results indicate that the best ways to get people involved in community projects is to simply ask, along with advertising opportunities through traditional and social media outlets.

1 *Sigma: A Profile of Iowa Small Towns 1994 to 2014* (Ames, IA: Iowa State University College of Agriculture and Life Sciences, 2015).

ARE PEOPLE WILLING TO HELP?

More than 46% said YES!



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WHAT DID PEOPLE SAY?

Survey Participants Said...

"Getting to the trail, [you] must cross Highway 30. It needs a flashing light or pedestrian crossing signage. The trail needs lighting around it."

"Many elderly don't drive and have to wait for family to have the time to take them places for groceries and perhaps meds."

"Access across Highway 30 from the north is needed for children/walkers."

HOW DO YOU GET PEOPLE TO HELP?

Ask, Show, and Advertise Opportunities

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Glidden

Willingness to Help

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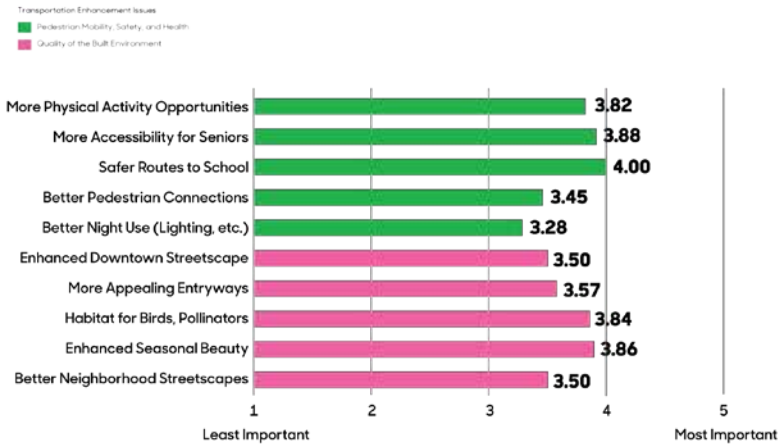
Priorities

Importance of transportation enhancement by type (108 responses)

On a scale of 1 to 5, with 5 being the most important, participants in Glidden rankedcreating safer routes to school as most important, with a mean value of 4.00. Other transportation enhancements that address pedestrian mobility, health, and safety are also considered important. Environmental and aesthetic issues are also important among respondents, with mean values ranging from 3.50 to 3.86. These findings are consistent with the views expressed by focus group participants during the Transportation Assets and Barriers workshop held in March 2018.

WHAT TYPES OF ENHANCEMENTS ARE IMPORTANT?

Mobility, Safety, and Health!



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WHAT DID THEY SAY?

Survey Participants Said...

"I would love, love, love, a trail from Glidden to Swan Lake for bicycles. At this time, I have to load my bicycle in my vehicle to ride or store it in town somewhere."

"There need to be benches uptown, so people can rest/visit with others. More benches/sitting at the park when celebrations are going on."

"Safety around the school should be upgraded. Many young children walk to and from school."

"Adding more walking trails from Northland Park to around Glidden would be good for everyone!"

Glidden Priorities

Transportation Behavior and Needs Survey

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Commuting Routes

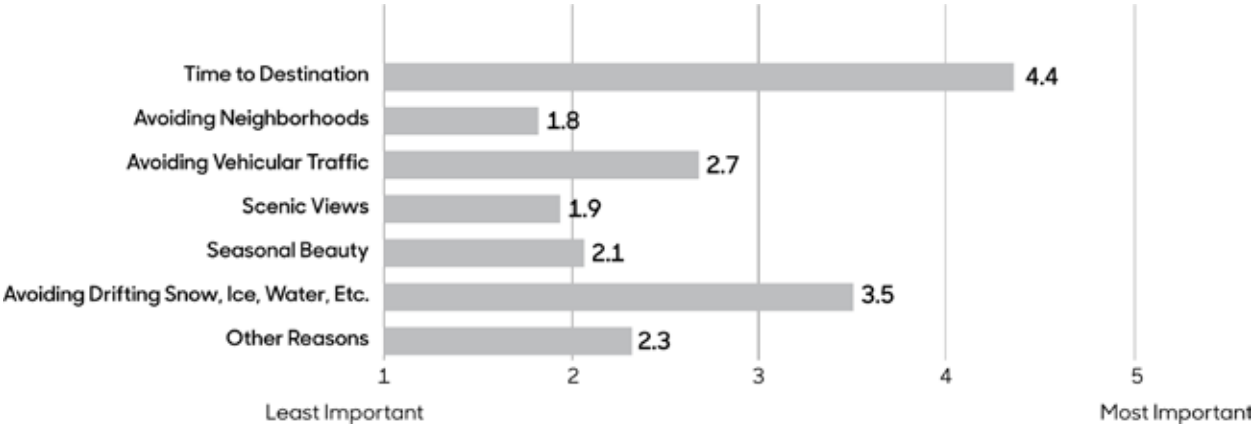
How They Get There

This map shows the commuting routes identified by 82 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. The primary commuting corridor in Glidden is Highway 30 to the west. Some people also go east on Highway 30 and travel on County Road N41. In town, Colorado and Arizona Streets are the most heavily traveled.

The circulation patterns that emerge when routes for biking, walking, and commuting are overlaid suggest suitable types of transportation enhancements. For example, where pedestrian and vehicular traffic intersect, such improvements could include creating better visibility, defining crossing points, or improving signage.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that factored into their choice of commuting route. Among Glidden participants, time to destination is clearly the most important factor, with a mean value of 4.4. Avoiding weather-related issues such as snow and ice is also considered important, with a mean value of 3.5. Avoiding neighborhoods, scenic views, and seasonal beauty are not critical factors in determining commuting routes. Some of the other reasons, which have a mean value of 2.3, include location of work site and the ability to walk the dog on the way to work.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/.

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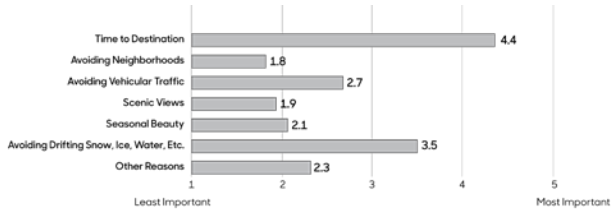

Glidden
Commuting Routes

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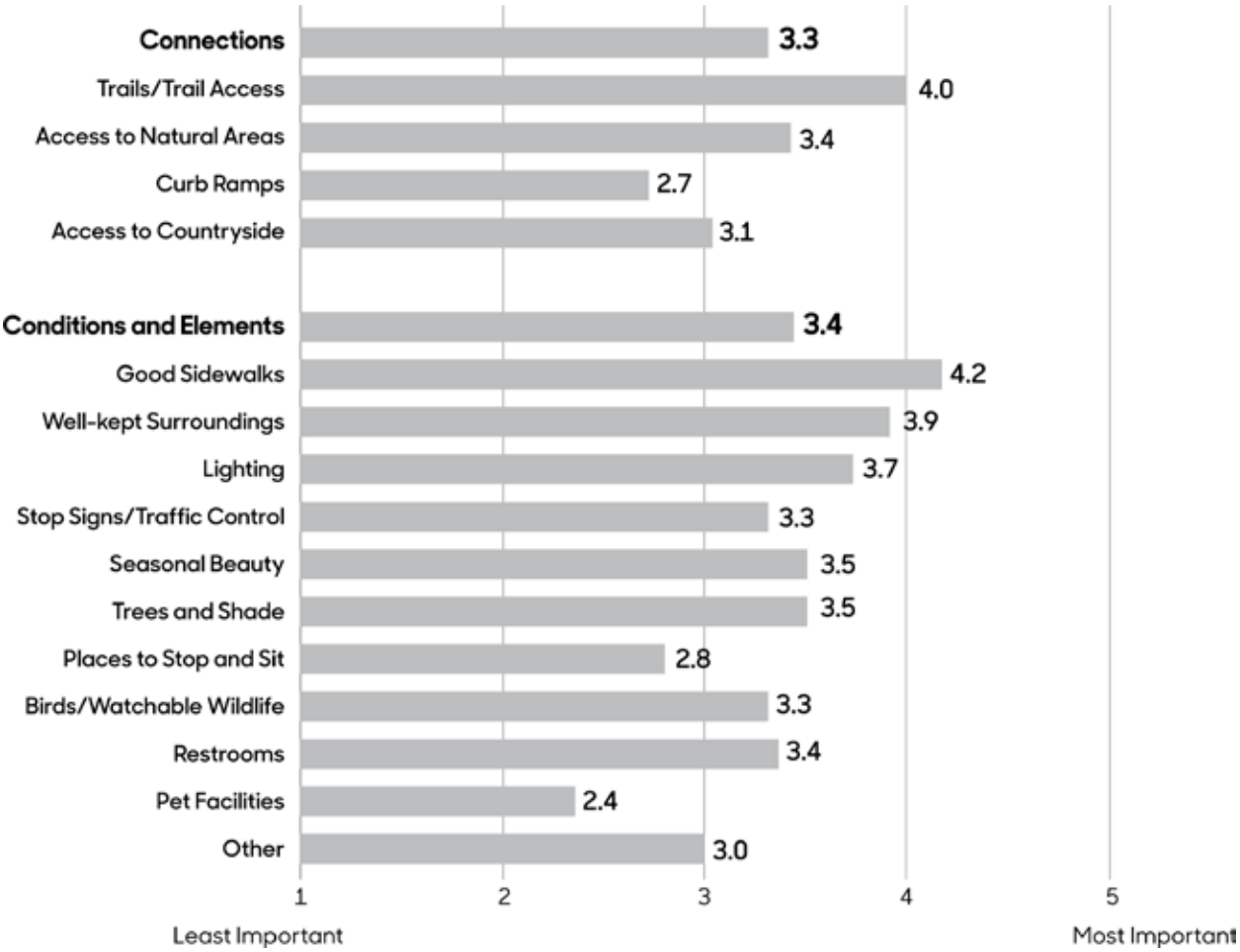
Walking Routes

How They Get There

This map shows the walking routes identified by 74 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. The trail in Northland Park is the most popular place for walking. People also walk the streets in town, most frequently Utah, 1st, and Arizona Streets. A few people walk along Highway 30, and some walk a loop consisting of South Idaho Street, 210th Street, Sycamore Avenue, and 205th Street.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their walking experience better. These features are categorized as either "connections" or "conditions and elements." Among Glidden participants, connections and conditions/elements are of similar importance, with mean values of 3.3 and 3.4, respectively. In terms of connections, access to trails is most important with a mean value of 4.0. Good sidewalks (4.2) and well-kept surroundings (3.9)are the most important elements to walkers, followed by lighting (3.7). Other factors include hills, good road surfaces, and low traffic.



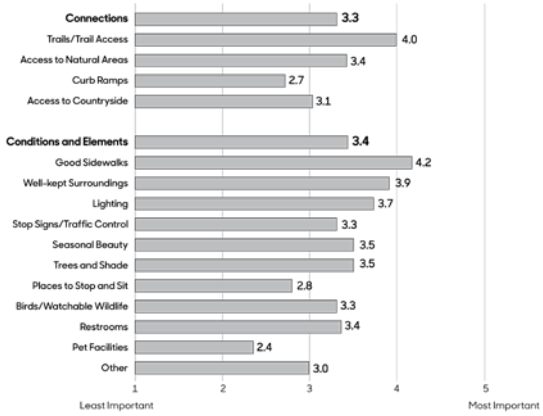
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/.

How They Get There

This map shows the walking routes identified by 74 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. The trail in Northland Park is the most popular place for walking. People also walk the streets in town, most frequently Utah, 1st, and Arizona Streets. A few people walk along Highway 30, and some walk a loop consisting of South Idaho Street, 210th Street, Sycamore Avenue, and 205th Street.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their walking experience better. These features are categorized as either "connections" or "conditions and elements." Among Glidden participants, connections and conditions/elements are of similar importance, with mean values of 3.3 and 3.4, respectively. In terms of connections, access to trails is most important with a mean value of 4.0. Good sidewalks (4.2) and well-kept surroundings (3.9)are the most important elements to walkers, followed by lighting (3.7). Other factors include hills, good road surfaces, and low traffic.



Glidden
Walking Routes

Transportation Behavior and Needs Survey
Julia Badenhope, Sandra Oberbroeckling, Emma Lorenz, Dominick Florer
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

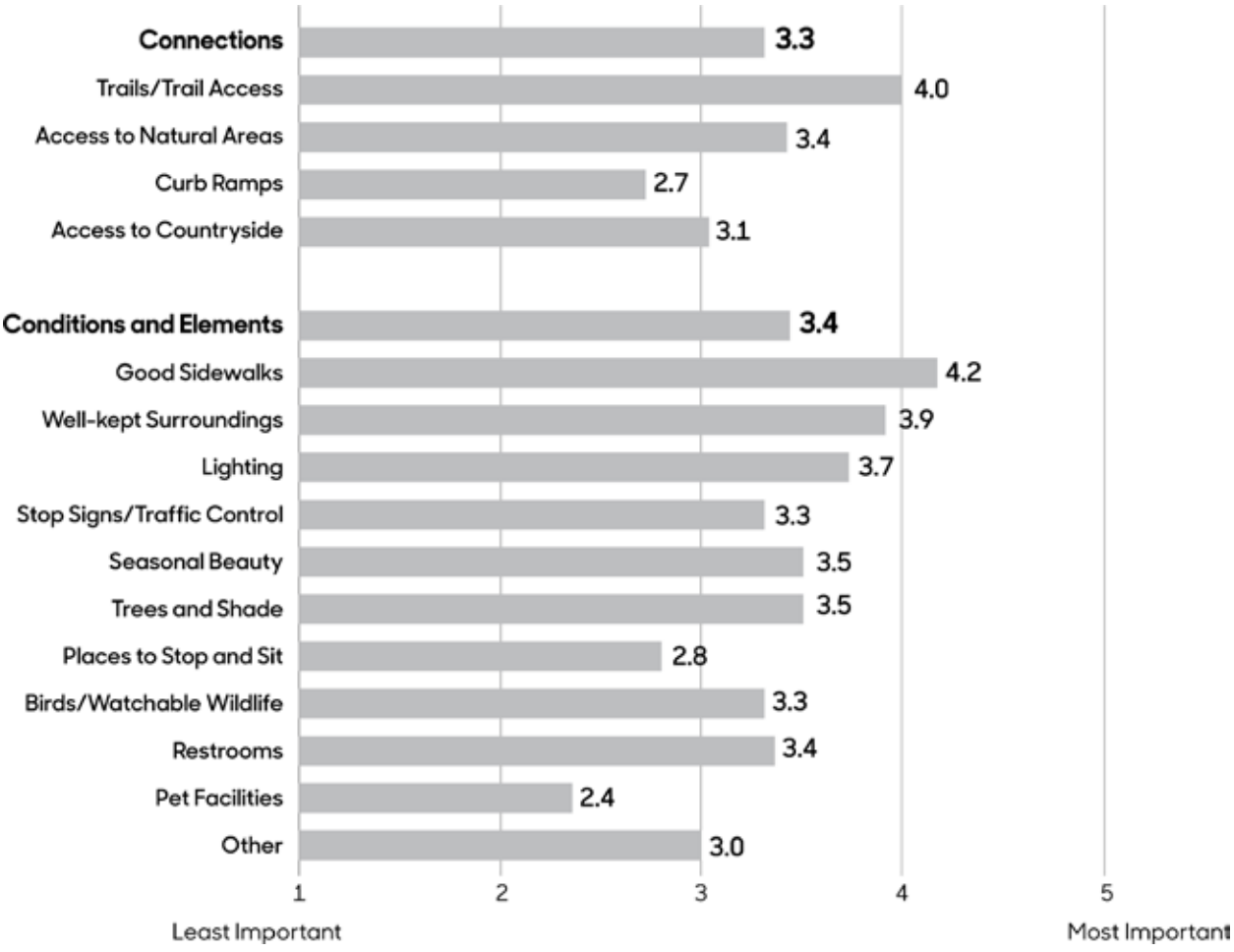
Biking Routes

How They Get There

This map shows the biking routes identified by 41 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. Like the walkers, bikers most frequently use the trail in Northland Park. Cyclists also ride the streets in town, most frequently 1st, and Arizona Streets. A few people bike along Highway 30, and some ride on County Road N4 and 210th Street.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their biking experience better. These features are categorized as either "connections" or "conditions and elements." Among Glidden participants, connections are more important than conditions/elements, with mean values of 3.4 and 3.1, respectively. In terms of connections, access to trails is most important with a mean value of 4.4. Well-kept surroundings (3.7) are the most important element to bikers, followed by stop signs and traffic control (3.6). Other factors include season, smooth surfaces, and low traffic.



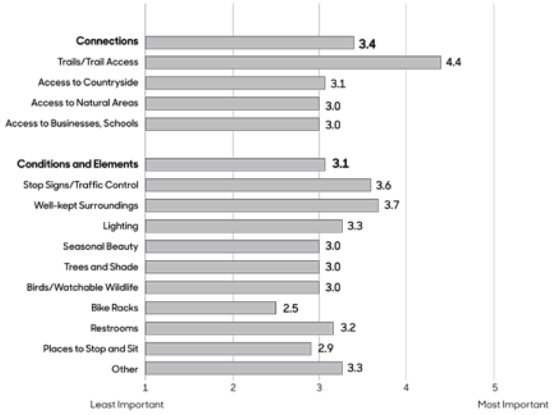
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/.

How They Get There

This map shows the biking routes identified by 41 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. Like the walkers, bikers most frequently use the trail in Northland Park. Cyclists also ride the streets in town, most frequently 1st, and Arizona Streets. A few people bike along Highway 30, and some ride on County Road N4 and 210th Street.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their biking experience better. These features are categorized as either "connections" or "conditions and elements." Among Glidden participants, connections are more important than conditions/elements, with mean values of 3.4 and 3.1, respectively. In terms of connections, access to trails is most important with a mean value of 4.4. Well-kept surroundings (3.7) are the most important element to bikers, followed by stop signs and traffic control (3.6). Other factors include season, smooth surfaces, and low traffic.



Glidden
Biking Routes

Transportation Behavior and Needs Survey

Julia Badenhope, Sandra Oberbroeckling, Emma Lorenz, Dominick Florer

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

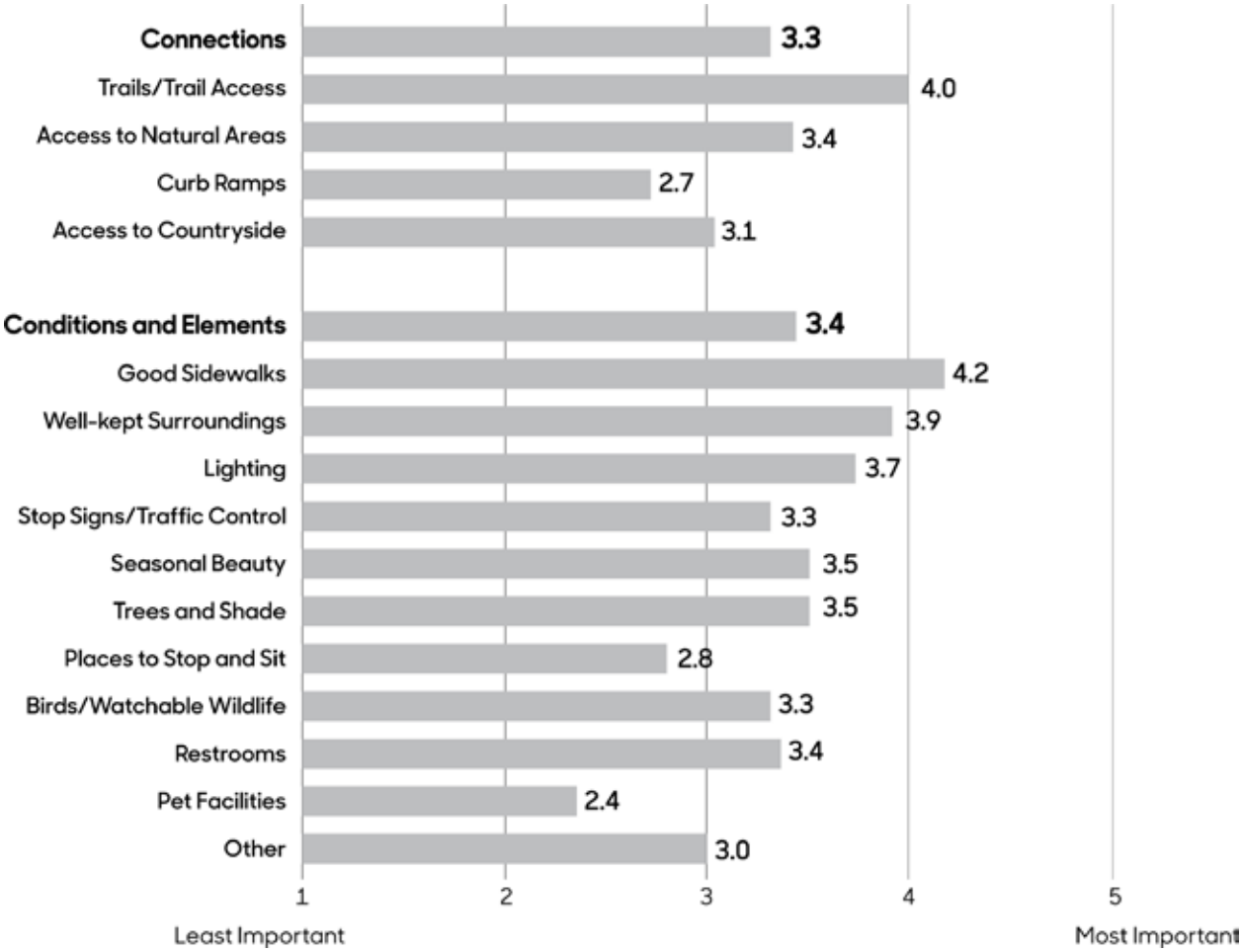
Desired Trail Routes

Where People Want Trails

This map shows the desired trail routes identified by 33 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. Most respondents would like a trail along the western city limits, as well as along East 4th Street by City Park. A trail connection between the Aquatic Center and the Northland Park trail is also desired, along with a trail loop around town. A few people want to a trail connection between Northland Park and the cemetery, and some want a trail along the rail line.

What Trail Features Are Important

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their trail experience better. These features are categorized as either "connections" or "conditions and elements." Among Glidden participants, conditions/elements are more important than connections, with mean values of 3.8 and 3.2, respectively. In terms of connections, access to natural areas is most important with a mean value of 3.7. Well-kept surroundings (4.1) are the most important element, followed byrestrooms (4.0). Other factors include snow removal and safe highway crossing.



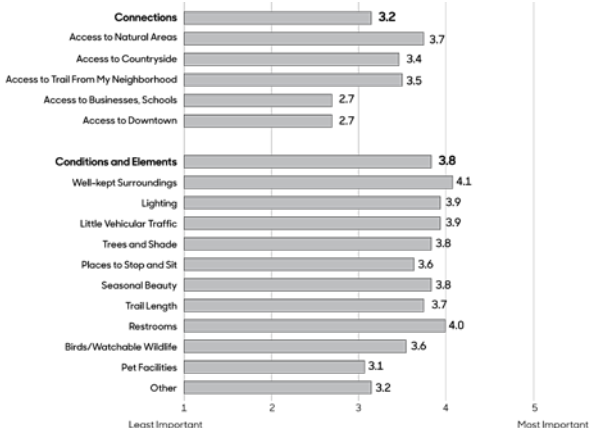
Where People Want Trails

This map shows the desired trail routes identified by 33 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. Most respondents would like a trail along the western city limits, as well as along East 4th Street by City Park. A trail connection between the Aquatic Center and the Northland Park trail is also desired, along with a trail loop around town. A few people want to a trail connection between Northland Park and the cemetery, and some want a trail along the rail line.

Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," http://www.igsb.uiowa.edu/nrgislibx/.

Important Trail Features

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their trail experience better. These features are categorized as either "connections" or "conditions and elements." Among Glidden participants, conditions/elements are more important than connections, with mean values of 3.8 and 3.2, respectively. In terms of connections, access to natural areas is most important with a mean value of 3.7. Well-kept surroundings (4.1) are the most important element, followed byrestrooms (4.0). Other factors include snow removal and safe highway crossing.



Glidden

Desired Trail Routes

Transportation Behavior and Needs Survey
Julia Badenhope, Sandra Oberbroeckling, Emma Lorenz, Dominick Florer
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Transportation Inventory and Analysis

Transportation is an essential component in the overall safety and economic well-being of a community. Providing safe, accessible routes to walk, bike or drive to various destinations is an important indicator for quality of life. Residents of Glidden expressed a desire to improve sidewalk and trail connections to community amenities; including the Glidden-Ralston Jr-Sr School Facility, Northland Park, City Park, the Aquatic Center, the Fitness Center and area stores and restaurants. The community also highlighted Highway 30 as a barrier inhibiting pedestrian access. The design team used this information to explore opportunities for improving connectivity, safety and cohesiveness through the community.

Transportation Mapping

Transportation is an essential component in the overall safety and economic well-being of a community. Providing safe, accessible routes to walk, bike, or drive to various destinations is an important indicator of quality of life. Glidden residents expressed a desire to improve walkability among community destinations through participation in surveys and assessment workshops (see boards 3a & 3b). They also identified Highway 30 as a barrier inhibiting pedestrian access. The design team used this information to explore opportunities for improving connectivity, safety and cohesiveness throughout the community.

Trail Loop Around Northland Park

Area Where Vehicles Park Along Highway

No Pedestrian Crossing at Highway 30 & Arizona

Lack of Sidewalk Infrastructure in Community

Glidden
Transportation Inventory

Design Team
LA: Josh Shields, PLA; Shannon Gapp
Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Goal Setting

Economic Development
- Homes for assisted living
- New business attraction
- Improve main street aesthetics
- Improve church signage
- Welcome signage on Highway 30

Art & Cultural/Community Pride
- New landscape in Downtown area
- Warm welcome signs
- Improve street corner appeal
- Day care center

Safety
- Sidewalks along Highway 30
- Improve lighting throughout town
- Sidewalks around the high school
- Repair damaged sidewalks
- Crossing areas for Highway 30
- Turning lanes on Highway 30
- Improve Casey's semi parking

Connectivity
- Connect trails, ball park, and West Side Cemetery
- Connect Highway 30 and Northland Park
- Connect soccer fields to Northland Park
- Connect Northland Park to West Side Cemetery

Recreational Opportunities
- Northland Park fishing & camping
- Include trees and perennials along current trails and new trails

Natural Resources
- Fix flow of water on streets
- Remove dead trees
- Plant more trees
- Implement solar energy to power lights for Northland Park and trails
- Have a pond to fish in, area to camp, and a dog park

GOAL SETTING: ASSESSING AND PROGRAMMING COMMUNITY NEEDS

Community Values/Themes	Broad-Based Outcomes/Goals	Why Change Anything?	What Exactly and Where?
 **Economic Development**	• Homes for assisted living • New business attraction • Improve mainstreet aesthetics • Improve church signage • Welcome signage on highway 30	• Increase population of town • To maintain current businesses and help them grow • Encourage new businesses • Draw people to the town	• Expand businesses in the downtown area • Online advertising to reach more people • Tax incentives • Welcome signs on both entrances of the town on highway 30
 **Art & Culture/Community Pride**	• New landscape in Downtown area • Warm welcome signs • Improve street corner appeal • Day care center	• Attract new businesses • Attract younger families • Will help the longevity of the school	• Signage on Highway 30 • Plantings for welcome signs • Plantings for main entrances into Glidden
 **Safety**	• Sidewalks along highway 30 • Improve lighting throughout town • Sidewalks around the high school • Repair damaged sidewalks • Crossing areas for highway 30 • Fix potholes in the street • Turning lanes on highway 30 • Improve Casey's semi parking	• A lot of children travel on the roadway • Highway 30 limits the community's ability to enjoy certain areas of the town • To improve children's safety to school • To improve the aesthetics and ease of use on the streets	• Lower speed limit on Highway 30, Arizona Street, and Colorado Street • Impliment traffic control signals on Highway 30 • Redesign Casey's parking lot to get rid of blind spots • Crosswalk on Highway 30 from the Aquatic Center to Northland Park
 **Connectivity**	• Connect trails, ball park, and West Side Cemetery • Connect highway 30 and Northland Park • Connect soccer fields to Northland Park • Connect Northland Park to West Side Cemetery	• Currently there is no way to get to the Aquatic Center safely • No consistant way to get to the school • Damaged sidewalks are difficult for people to utilize • Prevent people from getting injured while traveling on sidewalk • Attrave active people	• Northland Park to West Side Cemetery to the Ball Park on south side of town • Aquatic Center to Northland Park • Bike lane from Arizona Street to Northland Park • Sidewalk on east side of High School for safe connection
 **Recreational Opportunities**	• Design a Recreational Center • Improve existing facilities • Different types of trails for walking, biking, etc. • Bike lane on Arizona Street • Design a basketball court and pickleball court	• To prevent local community going elsewhere for recreation • To give local community members something to do • To help attract other people to the community	• Northland Park • Include trees and perennials along current trails and new trails
 **Natural Resources**	• Fix flow of water on streets • Remove dead trees • Plant more trees • Implement solar energy to power lights for Northland Park and trails • Have a pond to fish in, area to camp, and a dog park	• To help in improving overall aesthetics • Provide safety and security • Will help in providing recreational opportunities for everyone	• Redirect stormwater on the west and south central side of town • Trees and perennials on First Street and Colorado • Planting beds for welcome signs

Glidden

Program & Performance

Design Team
LA: Josh Shields, PLA; Shannon Gapp
Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Concept Overview

The Glidden Steering Committee discussed numerous goals which they hope to achieve through implementation of improvements developed through the Community Visioning Process. This discussion included identification of potential projects, along with realizations of the impact that these projects could have on the community. At conclusion of the Performance Objectives Meeting, the Steering Committee decided to focus on the following projects which most aligned with the community's betterment goals:

- Enhance Northland Park into a recreational area supporting camping and fishing
- Improve safety along the Highway 30 corridor
- Improve pedestrian connections and opportunities (sidewalks & trails) throughout Glidden
- Develop a plan to pave the Aquatic Center parking lot

Concept and Inventory Mapping

The Glidden steering committee discussed numerous goals that they hope to achieve through implementation of improvements developed through the Community Visioning process. This discussion included identification of potential projects, along with the impacts these projects may have on the community. At conclusion of the performance objectives meeting, the steering committee decided to focus on the following projects that most aligned with the community's betterment goals:

- Improve pedestrian connections and opportunities (sidewalks & trails) throughout Glidden
- Improve safety along the Highway 30 corridor
- Develop a plan to pave the Aquatic Center parking lot
- Enhance Northland Park into a recreational area supporting camping and fishing

Proposed Northland Park Enhancements

Highway 30 Corridor Enhancements

Proposed Aquatic Center Parking Lot

Sidewalk Improvement Plan

Glidden

Concept Overview

Design Team
LA: Josh Shields, PLA; Shannon Gapp
Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Sidewalk Improvement Plan

The community desired that sidewalk and trail opportunities be reviewed as part of the overall community plan, in response to concern over safety with existing sidewalks or lack of any sidewalk infrastructure. The following plan was developed in order to help the community make decisions prioritizing investments in walkable infrastructure. This plan integrates survey responses from residents indicating their preferred walking and biking routes, along with identified popular community destinations. Though each situation will be different based on available right-of-way, existing vegetation and drainage patterns, the community should plan to implement a minimum 5' sidewalk or 8' trail section separated from adjacent roadways to provide a dedicated pedestrian space within the community.

Key Concept Components

- Create safe opportunities for the community to navigate around Glidden
- Improve mobility and efficiency

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape architect, planner, and transportation/civil engineer. The committee should also expect to coordinate design efforts with the District DOT Office.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on current Iowa bid pricing. Donated or at-cost materials and volunteer labor, when appropriate, could reduce overall project costs. Additional investigation may be needed to determine the impact trail construction might have on existing utilities, which can be resolved in a subsequent design phase. Additional design/engineering costs are not included in the cost opinion. Coordination with land owners, setting up easements, and/or purchasing land, will also be necessary to complete some trail connections and are not represented in the cost opinion.

	UNIT	QUANTITY	UNIT COST	TOTAL
SIDEWALK IMPROVEMENTS				
Mobilization (Includes all phases)	LS	1	$79,500	$79,500
Excavation (Includes all phases)	CY	4,370	$10	$43,700
1st Priority				
Sidewalk, Conc. (5" Thick)	SY	4,034	$55	$221,870
ADA Detectable Warning Panels	SF	224	$40	$8,960
2nd Priority				
Sidewalk, Conc. (5" Thick)	SY	5,537	$55	$304,535
Detectable Warning Panels	SF	320	$40	$12,800
3rd Priority				
Sidewalk, Conc. (5" Thick)	SY	2,431	$55	$133,705
Detectable Warning Panels	SF	152	$40	$6,080
4th Priority				
Sidewalk, Conc. (5" Thick)	SY	478	$55	$26,290
Detectable Warning Panels	SF	40	$40	$1,600
5th Priority				
Sidewalk, Conc. (5" Thick)	SY	638	$55	$35,090
Detectable Warning Panels	SF	32	$40	$1,280
			IMPROVEMENTS SUBTOTAL	$875,410
			CONTINGENCY (20%)	$175,082
			DESIGN/ENGINEERING FEES (15%)	$131,312
			IMPROVEMENTS TOTAL	**$1,181,804**

ANITCIPATED COST RANGE **$880,000 - $1.2 Mil**

Sidewalk Improvement Priorities

Residents who participated in community survey and mapping exercises voiced concern over incomplete, broken, narrow, inaccessible or missing sections of sidewalk (see board 3c). This lack of connectivity or delayed maintenance makes it difficult for pedestrians to safely access community amenities and has forced many residents to walk on neighborhood streets.

The design team used the walking, biking and desired trail routes shown in the Transportation Behavior and Needs Survey (see boards 4e, 4f, 4g) to identify sidewalk and trail improvements that would yield walking and biking routes providing recreational opportunities for residents and safe routes to school for the community's youth.

This sidewalk plan was developed to assist the community with prioritizing walkable infrastructure investments. Though each proposed sidewalk/trail improvement will be unique based on many factors – available right-of-way, existing vegetation, drainage patterns, etc. – this plan will guide the community with implementation of a walkable network. In order to align with accessibility guidelines, this plan recommends construction of a 5' - wide sidewalk (min.) or 8' - wide trail (min.). Separation of infrastructure from adjacent streets with a 4' - wide bufferstrip is also recommended to provide a safe, dedicated pedestrian corridor within the community.

Colorado Street Sidewalk Near City Park

Glidden
Sidewalk Improvement Plan

Design Team
LA: Josh Shields, PLA; Shannon Gapp
Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

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Highway 30 Proposed Enhancements

Through survey input and community discussions, residents identified the connectivity barrier that Highway 30 presents to the community. To that end, there was a desire to explore improvements which would promote safer pedestrian crossings and more streamlined motorist flow through Glidden. Pedestrian crosswalks at Arizona Street and Montana Street would greatly enhance connectivity between residences and amenities on the north and south side of Highway 30 by providing dedicated access points on identified popular biking and walking routes through community surveys.

Safety and visibility were also considerations with adding a turn lane on eastbound Highway 30 at Idaho Street. Current vehicular traffic illegally parks on the shoulder of 30 and decreases sight lines for motorists trying to pull onto Hwy 30. Parked cars also limit motorist's ability to notice the Idaho Street turn, as there are no remarkable visual cues indicating this intersection. The turn lane will not only provide better visibility for both Casey's and Idaho Street, it will also provide for development of a small median capable of providing some softening and visual cues to the otherwise highly paved section of the this Highway 30 corridor.

Key Concept Components

- Provide safe opportunities for pedestrians crossing highway through designated crosswalk areas
- Bring awareness and caution to drivers through road signs
- Provide designated turning lane to improve overall safety
- Enhanced landscaping at the proposed right turn lane

Design Expertise Recommended

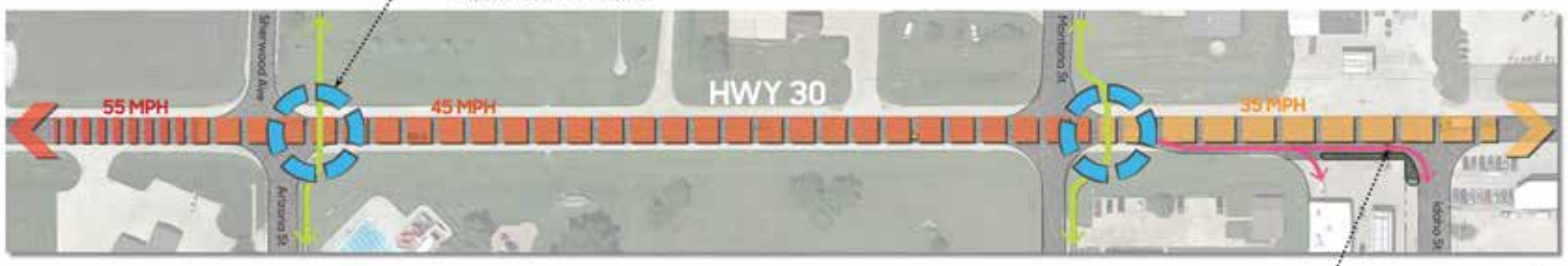
Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape architect, civil engineer, transportation engineer, and sign fabricator. The committee should also expect to coordinate design efforts with the district DOT office.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on current Iowa bid pricing. Donated or at-cost materials and volunteer labor, when appropriate, could reduce overall project costs.

	UNIT	QUANTITY	UNIT COST	TOTAL
HIGHWAY 30				
Mobilization	LS	1	$8,000	$8,000
Excavation	CY	201	$10	$2,010
Traffic Control	LS	1	$5,000	$5,000
Turn Lane, Conc. (8" Thick)	SY	402	$60	$24,120
Turn Lane Median Curb & Gutter	LF	249	$40	$9,960
Sidewalk, Conc. (7" Thick)	SY	19	$60	$1,140
Turn Lane Median Planter Bed [Includes plantings, mulch, and amended soil]	SY	626	$20	$12,520
Crosswalk Signage w/ Flashing Beacons	EA	4	$5,500	$22,000
Pavement Markings & Painted Pavement Symbols	STA	12	$100	$1,200
ADA Detectable Warning Panels	SF	32	$40	$1,280
			IMPROVEMENTS SUBTOTAL	$87,230
			CONTINGENCY (20%)	$17,446
			DESIGN/ENGINEERING FEES (15%)	$13,085
			SITE IMPROVEMENTS TOTAL	**$117,761**
			ANTICIPATED COST RANGE	**$90,000 - $120,000**

Proposed Pedestrian Crosswalk



Safety Concerns

Through survey input and community discussions, residents identified Highway 30 as a safety concern and connectivity barrier for the community (see board 3c). Corridor improvements promoting safer pedestrian crossings and more streamlined motorist flow were explored through the Community Visioning process. Adding official pedestrian crosswalks at the intersections of Arizona and Montana Streets will greatly enhance connectivity for residents on either side of Highway 30. Aligning these crossings on existing walking and biking routes (see boards 4e and 4f) will focus pedestrian behavior while providing visual cues to motorists of pedestrian presence.

Concern with decreased sight lines resulting from vehicles illegally parked along Highway 30 was also a topic of discussion during community workshops. With no remarkable visual cues for non-resident motorists, parked cars also limit the visibility of the Idaho Street intersection. Constructing a turn lane will provide better visibility for motorists both pulling onto and off Highway 30. The addition of a small median separating the turn lane from Casey's will soften the pavement at this highly paved section of the Highway 30 corridor.

Proposed Right-Turn Lane

Glidden

Hwy 30 Enhancements

Design Team
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Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

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Aquatic Center Parking

The Glidden Aquatic Center is an important community amenity, especially during summer months. The current parking is unpaved and lacks directional parking striping. It also includes a donor wall near the parking entry with front end parking that is not well defined. With construction of a new shelter east of this parking lot, the community desires a plan which would bring attention to the donor wall while providing more organization to parking for events year round; both at the Aquatic Center as well as the new shelter.

The proposed plan maximizes parking within the current footprint by using a combination of diagonal and pull-in stalls. It also provides space for trees and plantings to shade the new paved lot and highlight the donor wall. These plantings could also use stormwater runoff from the lot; both cleaning pollutants, cooling the runoff and reducing the amount of stormwater ultimately entering the storm sewer system.

Key Concept Components

- Incorporate green infrastructure through permeable biocells and vegetated medians
- Enhance parking lot with new pavement, designated parking spaces, sidewalks, biocell, street trees and plantings, and monument or statue

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape architect and civil engineer. Depending on incorporation of stormwater BMP's, the committee may also need to involve: structural engineer and a water resource engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on current Iowa bid pricing. Donated or at-cost materials and volunteer labor, when appropriate, could reduce overall project costs. Additional investigation will be necessary to determine the condition of and impact to existing utilities, which can be resolved in a subsequent design phase. As a result, not all utility costs are included in the cost opinion.

	UNIT	QUANTITY	UNIT COST	TOTAL
AQUATIC CENTER PARKING LOT				
Mobilization	LS	1	$19,000	$19,000
Pavement Removals	SY	1,973	$9	$17,757
Excavation & Surface Preparation	CY	1,036	$10	$10,360
Parking Lot Surfacing, Conc. (7" Thick)	SY	1,973	$55	$108,515
Curb & Gutter	LF	774	$40	$30,960
Sidewalk, Conc. (5" Thick)	SY	145	$55	$7,975
Pavement Markings	STA	10.9	$100	$1,090
Overstory Tree	EA	10	$550	$5,500
Ornamental Tree	EA	3	$400	$1,200
Biocell/Rain Garden	SY	43	$25	$1,075
Entry Monument	LS	1	$5,000	$5,000

IMPROVEMENTS SUBTOTAL	$208,432
CONTINGENCY (20%)	$41,686
DESIGN/ENGINEERING FEES (15%)	$31,265
IMPROVEMENTS TOTAL	**$281,383**

ANTICIPATED COST RANGE **$210,000 - $300,000**

Existing Conditions

Parking Lot Improvements

The Glidden Aquatic Center is an important community amenity, especially during summer months. The current aggregate parking lot lacks stall striping and predates construction of the Albert Kruger Sr. Shelter. A donor wall is located near the parking lot entry. The community desired a paving plan for the parking lot that would accommodate year-round events while brining attention to the existing donor wall.

The proposed plan maximizes parking by using a combination of diagonal and pull-in stalls. Additional pedestrian routes are being proposed to provide access to the donor wall, Aquatic Center and new shelter. The plan also provides space for trees and landscape plantings to shade new pavement while providing treatment for stormwater runoff. These plantings could clean pollutants and cool runoff while reducing the amount of stormwater entering the storm sewer system.

Rain Garden Captures Runoff From Parking

Glidden
Aquatic Center Parking

Design Team
LA: Josh Shields, PLA; Shannon Gapp
Intern: Jesse Beil
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

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Northland Park Plan

Residents highlighted Northland Park as a major destination for recreation. The park already has trails and provides scenic views, but the community would like to expand the park's use. Proposed enhancements include deepening the west pond and adding a dock to accommodate fishing, adding camping opportunities for RVs and tent campers, providing a trail connection to the Merle Hay Memorial Cemetery and adding trail segments to increase connectivity within the park while promoting educational opportunities.

Residents highlighted Northland Park as a major destination for recreation. The park already has trails and provides scenic views, but the community would like to expand the park's use. Proposed enhancements include deepening the west pond and adding a dock to accommodate fishing, adding camping opportunities for RVs and tent campers, providing a trail connection to the Merle Hay Memorial Cemetery and adding trail segments to increase connectivity within the park while promoting educational opportunities.

Key Concept Components

- Improve recreation opportunities through fishing pond, docks, boardwalks, trails, tent camping, and RV parking
- Provide opportunities for shade and improved aesthetics through overstory and ornamental tree plantings
- Provide opportunities for education through interpretive signage

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape architect, civil engineer, water resource engineer, structural engineer, and sign fabricator.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on current Iowa bid pricing. Donated or at-cost materials and volunteer labor, when appropriate, could reduce overall project costs.

	UNIT	QUANTITY	UNIT COST	TOTAL
NORTHLAND PARK				
Mobilization	LS	1	$77,000	$77,000
Excavation, Class 13	CY	1,830	$10	$18,300
Pond Dredging & Grading	CY	18,388	$15	$275,820
RV Camping Drive and Stalls, Conc. (7" Thick)	SY	2,432	$60	$145,920
8' Wide Trail Extension, Conc. (5" Thick)	SY	1,591	$55	$87,505
Crushed Limestone Trail (4" Depth)	CY	56	$60	$3,360
Pavement Markings	LS	1	$500	$500
Boardwalk w/ Helical Anchors	SF	1,373	$50	$68,650
Fishing Pier w/ Railing	SF	1,517	$35	$53,095
Site Furnishings (Benches)	EA	3	$1,750	$5,250
Educational/Interpretive Sign	EA	2	$3,000	$6,000
Overstory Trees	EA	54	$550	$29,700
Evergreen Trees	EA	25	$600	$15,000
Ornamental Trees	EA	18	$400	$7,200
Prairie Restoration Seeding	AC	3.44	$4,500	$15,480
Wetland Restoration Seeding	AC	8	$4,000	$31,080
Optional Improvements				
Electrical Services	LS	1	$5,000	$5,000
Dump Station & Sanitary Sewer	LS	1	$35,000	$35,000
Water Services	LS	1	$10,000	$10,000
			IMPROVEMENTS SUBTOTAL	$889,860.00
			CONTINGENCY (20%)	$177,972.00
			DESIGN/ENGINEERING FEES (15%)	$133,479.00
			SITE IMPROVEMENTS TOTAL	**$1,201,311.00**
			ANTICIPATED COST RANGE	**$850,000 - $1.2 Mil**

Proposed Fishing Pier

Northland Park Summary

The Transportation Behavior and Needs Survey revealed Northland Park as a major destination for recreation. (see board 4c). The park currently contains created wetland and prairie areas, as well as trails. The community would like to expand the park's use to include fishing and camping. Proposed park enhancements include deepening the west pond to add an accessible fishing pier and adding camping opportunities for RV and tent campers. Additionally, the community would like to explore a trail connection to the Merle Hay Memorial Cemetery and additional trail loops to increase connectivity while promoting educational opportunities through access to wetland and prairie areas.

Proposed RV Parking

Proposed Boardwalk Over Wetland

Glidden
Northland Park Plan

Design Team
LA: Josh Shields, PLA; Shannon Gapp
Intern: Jesse Bell
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

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Implementation Strategies- Glidden

The Visioning Program is the beginning of the planning process for implementation of projects that will contribute to an enhanced quality of life in Glidden. Despite the tremendous value in data gathering, analysis, conclusions, and recommendations; the greatest value is providing residents of Glidden with the opportunity to look at their community from different perspectives and to motivate future positive change. It is the design team's intent to provide the community with a framework for significant future development and enhancement to community resources.

Recommendations

Project implementation should be determined based on the priority given it by the community and also with the realization of available funding sources. These funding sources may be through grants and private donations, but may also be in the form of volunteer labor, donated materials, or donated services.

The projects have been developed with a variety of different scales in mind, allowing some to be more easily realized than others. By reviewing the available resources and developing an implementation plan, the community can move forward towards realizing the fruits of its vision.

The primary goal of the community as it moves forward should be planning for successful projects. Successful implementation of a project allows for public support and interest to grow and can quickly lead to availability of additional and more diverse implementation resources - a community with a history of successful projects and involvement is more appealing to funding agencies. Therefore, a smaller project that fits the following criteria is generally recommended as a starting project for the community to undertake:

1. Is highly visible
2. Has a good chance of receiving a grant or funding assistance
3. Can use volunteers
4. Is not overly complicated

Because the information depicted on each board is conceptual in nature, the edits, sketches, and other deliverables are not intended for use as final design/construction documents. They need to be further developed with the help of professionals during a "design phase." During a design phase, concepts will be refined and developed to determine the actual character, size, and essentials that will become part of the final project. The final products from this phase may retain the general concepts depicted on the boards, but may look vastly different because of constraints or opportunities unknown during the visioning process. However, the design that emerges from final design may also look very similar to that developed during the Visioning Program.

Available Resources

There are many creative ways that communities can raise the resources necessary to fund and implement projects. The following list is a compilation of various sources and opportunities for funding the projects conceptualized during the visioning process. This list is not all-inclusive; it is meant to serve as a tool to assist in brainstorming ideas.

Funding Opportunities

- Grants
- Partnerships (private and public)
- Trusts and endowments
- Fund-raising and donations
- Memorials
- Volunteer labor
- Low-interest loans
- Implementation of project in phases

Funding Sources

- Iowa Department of Transportation
- Iowa Department of Natural Resources
- Iowa Department of Education
- Iowa Department of Economic Development
- Utility companies
- Trees Forever

Grant Programs

- Alliant Energy and Trees Forever Branching Out Program
- Federal Surface Transportation Program (STP)
- Iowa Clean Air Attainment Program (ICAAP)
- Iowa DOT/DNR Fund Iowa
- Iowa DOT Iowa's Living Roadways Projects Program
- Iowa DOT Living Roadways Trust Fund Program
- Iowa DOT Pedestrian Curb Ramp Construction Program
- Iowa DOT Statewide Transportation Enhancement Funding
- Iowa DNR Recreation Infrastructure Program
- Land and Water Conservation Fund
- National Recreational Trails Program
- Pheasants Forever
- Revitalization Assistance for Community Improvement (RACI) Grant Program
- State Recreational Trails Program
- Transportation Alternatives Program (TAP)