

Final Report and Feasibility Study Glenwood, Iowa



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Trees Forever
Iowa State University



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About HDR

Architecture & Design

1917

year established

104

years in business

10,706

global employees

2,414

architecture and building
engineering staff

761

sustainable
accredited professionals

225

global office locations

38

architecture design studios
Australia
Canada
China
Germany
Middle East
United States

We Design to Unite People and Elevate the Human Spirit

We are an integrated, multidisciplinary design practice dedicated to creating places and spaces that elevate the human spirit and inspire human endeavors. We are inspired to design buildings and evolve space typologies to provide solutions to societal challenges and create stronger, more vibrant communities.

Expertise

80 million SF

of sustainable projects

40+ AIA Awards

over the past 5 years

Finalist

in the 2020 Fast Company
World Changing Company of
the Year

Services

Architecture
Architectural Engineering
Branding
Data-Driven Design
Experience Design
Interiors
Landscape & Site Design
Lighting Design
Planning & Consulting
Product Design
Signage & Way-finding
Sustainability & Resiliency
Urban Design & Development

Notable Rankings

No. 1

Science and Health
Building Design
World Architecture 100 Survey,
2021

No. 2

Architecture/Engineering
Firms
Building Design+Construction, 2021

No. 3

Top 100 Global Design Firms
Building Design
World Architecture 100 Survey,
2021

No. 3

Top 300 Architecture Firms
Architectural Record, 2021

No. 4

Top 50 Firms in Sustainability
Architect 50, 2019

No. 1

Winner-Collaboration
Architizer A+ Firm Awards, 2021

Program Overview

Glenwood is one of 10 communities selected to participate in the 2023 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 steering committee identified a number of goals and priority areas during the visioning process. These goals and priorities were reflective of what residents identified during their participation in the TAB workshops and the random-sample survey. The community goals focused on four main initiatives:

- Improved pedestrian connectivity and accessibility
- Trail connectivity and access to regional networks
- Improved community amenities to provide opportunities for social connections and physical activities
- Improved safety and accessibility in the community
- Refer to board 6, "What, Where, & Why," for further details related to the main community goals summarized above

Capturing the Glenwood Vision

Based on the needs and desires of the local residents, as well as a detailed inventory of community resources, the design team developed a conceptual transportation enhancement plan. This plan, as well as the inventory information, is illustrated in the following set of presentation boards:

1. Program Overview
2. Bioregional Assessments
3. Transportation Assets & Barriers
4. Transportation Behaviors & Needs
5. Transportation Inventory & Analysis
6. What, Where, & Why
7. Concept Plan Overview
8. Way-finding
9. Community Connection
10. Intersection and Plaza Enhancements
11. Town Square Street Enhancements

1



Place a sticker on the elements you would like to see in the HOV21!

Place a sticker on the elements you would like to see in the HOV21!

Community Input from the Design Workshop

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HDR Inc.

L.A. Alex Robinson
Intern: Coaley Reade and Alex Aramas
Iowa State University | Trees For Ever | Iowa Department of Transportation



Bioregional Assessment

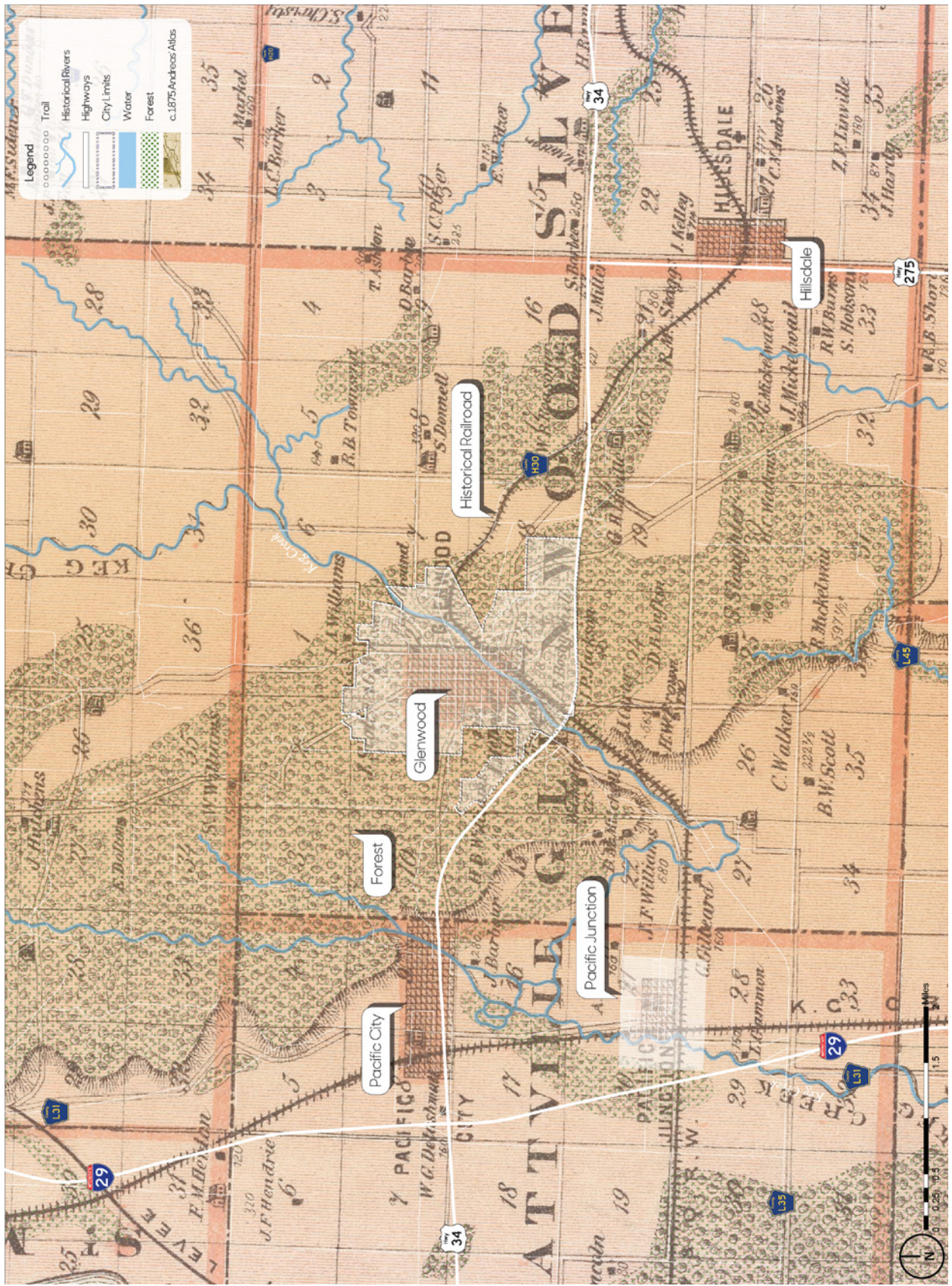
Historical Settlement Patterns

This page uses a map 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.) landscape features (water bodies, vegetated patches such as timber and swamp, and major topographic features). A high-quality scan of the Atlas has been arranged to correspond closely with present-day map, revealing major landscape changes as well as features that have persisted, such as railroad rights-of-way and in some cases remnant vegetation patches.

Glenwood 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?



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. This 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

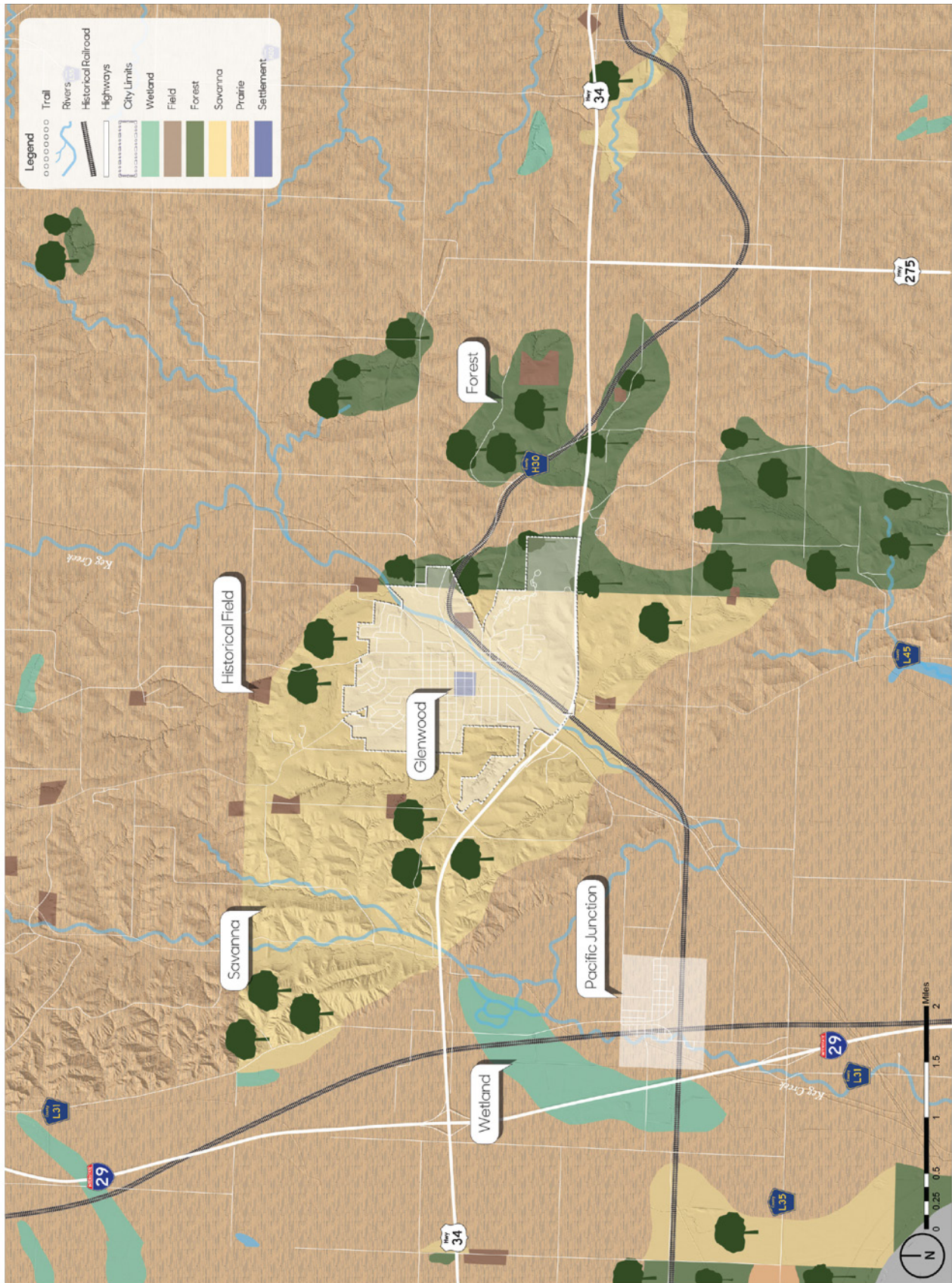
The plant community names mapped by the GLO surveyors varied. The original terminology they used has been preserved in the original data, but we have renamed them on this map to reflect names used to describe contemporary vegetation communities.

Not all communities will have all vegetation types, because various conditions that affect vegetation—such as geology, wind exposure, seasonally high water or groundwater, and frequency of fire—differ from place to place. Early land surveyors mapped the following vegetation types, some of which may not be present in the vicinity of your community:

The vegetation types are defined¹:

1. Forest: Tree dominated, with a mostly closed canopy. Ground vegetation shade tolerant. developed under infrequent fire.
2. Prairie: Perennial non-woody plants; fire dominated.
3. Savanna: Scattered trees, with an open canopy, and prairie below. Fire dominated.
4. Wetland: Perennial non-woody plants, water and 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.

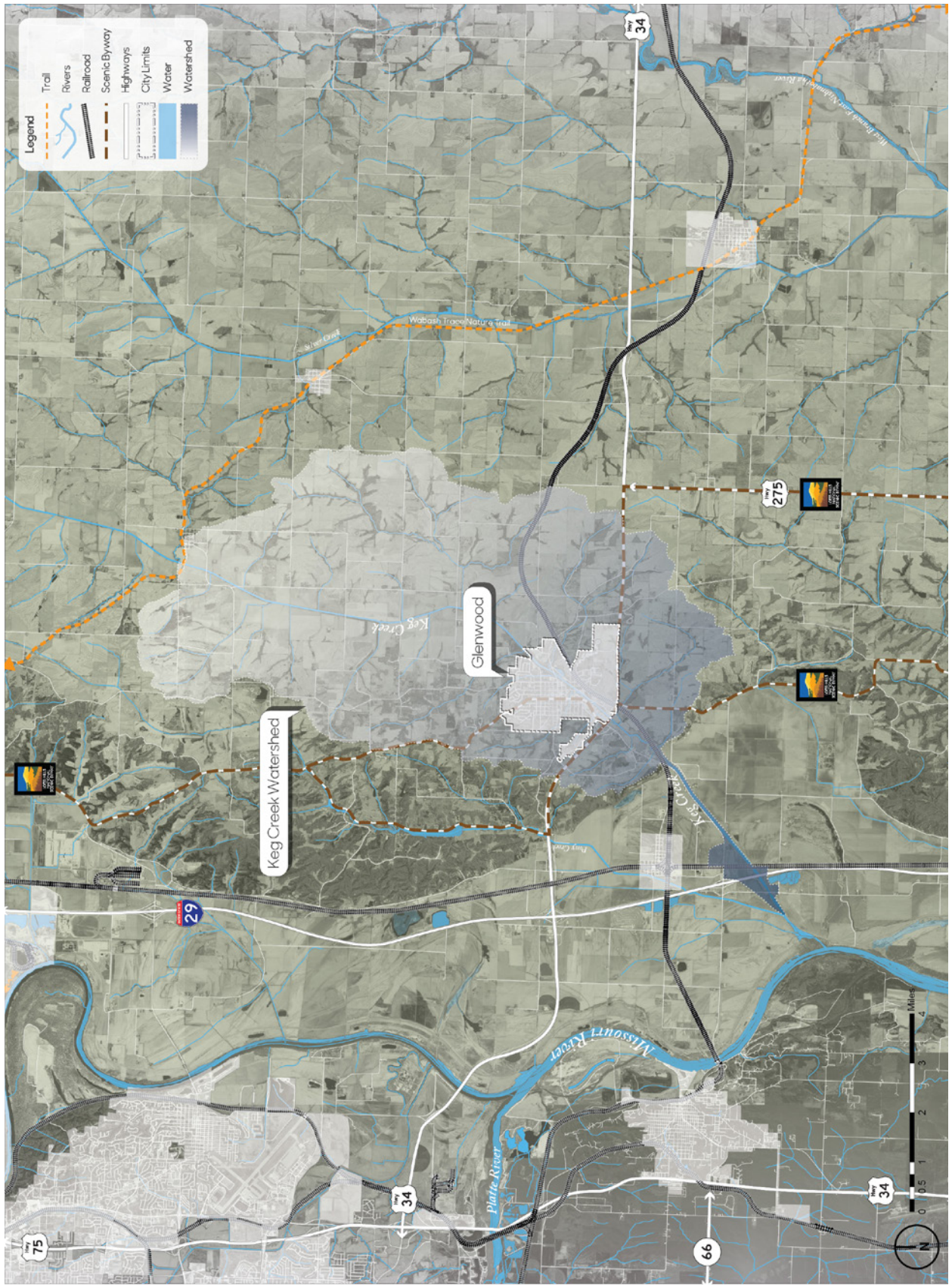


Regional Watershed

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.

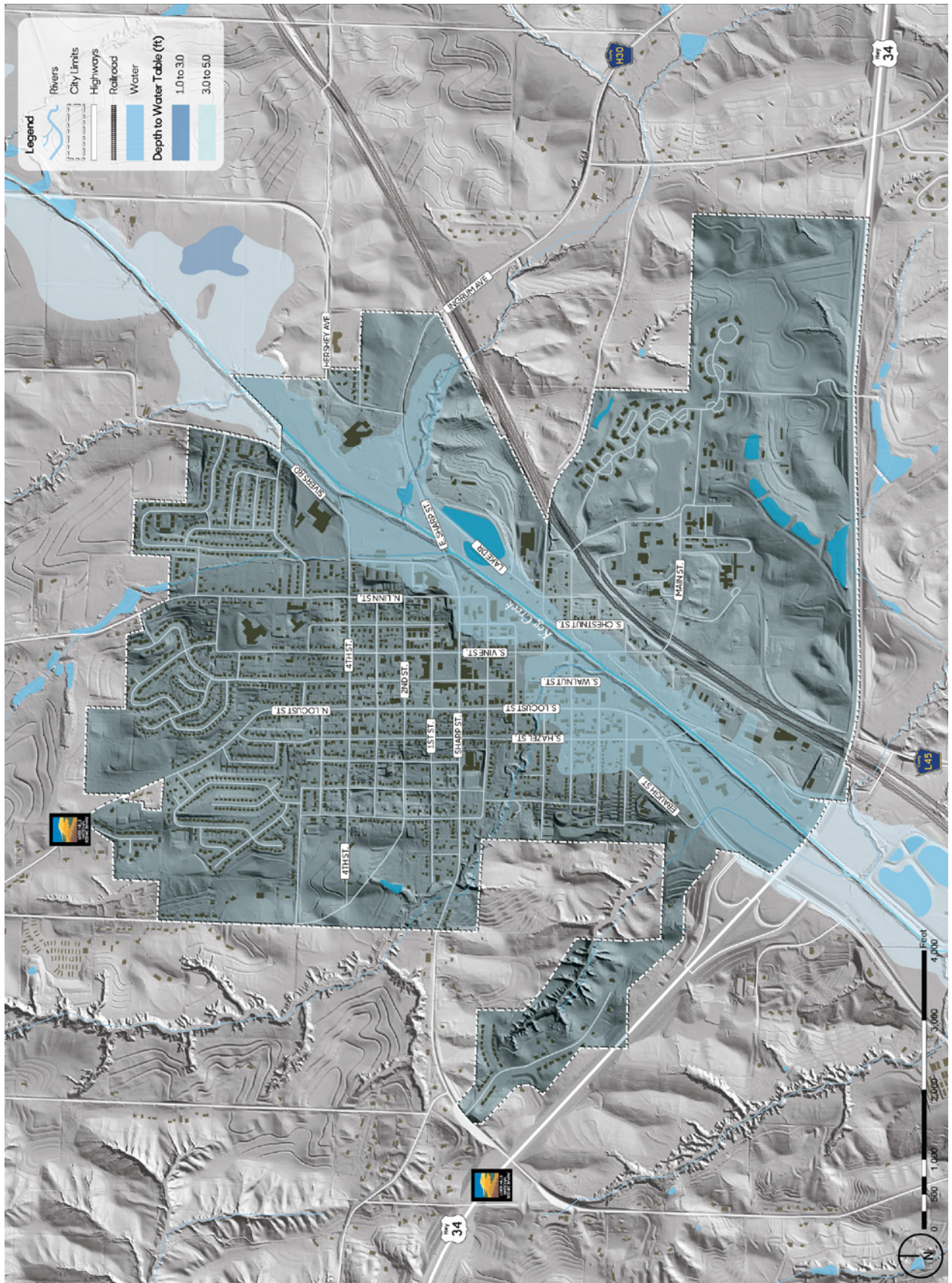


Depth to Water Table

The water table is defined as the distance below the surface at 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 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 zero feet, water can well up out of the ground. This causes localized flooding, even if there is no surface water draining to the area.

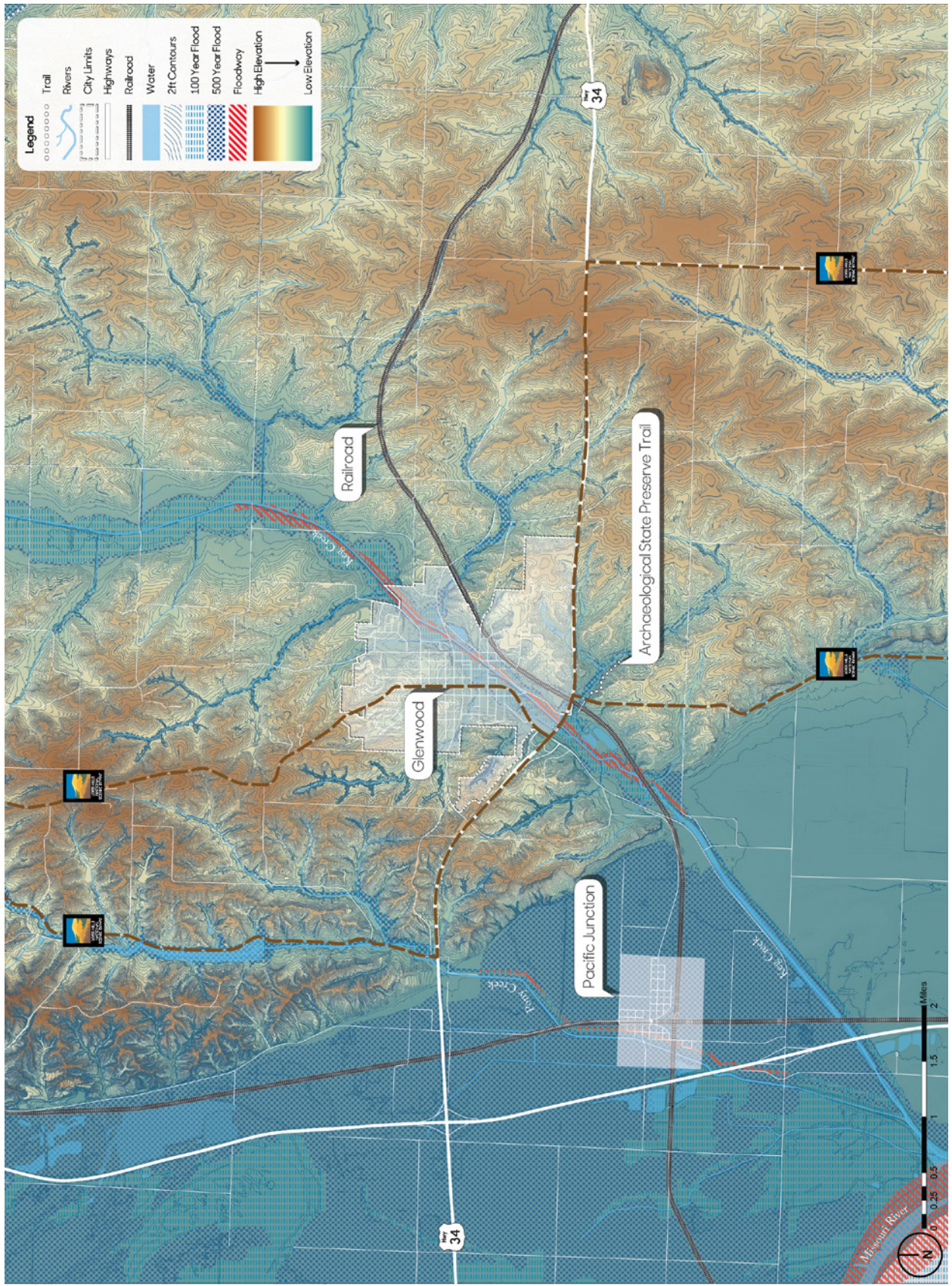


Elevation and Flow

This map displays topographic differences in elevation using a combination of contour lines and the color gradient depicted in the legend. The high 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 reflects these features. Not all communities will have these elements; if they are absent on this map, none are present.

Flood risk is correlated to low-lying land. This map shows your community's flood risk as defined by the Federal Emergency Management Agency (FEMA) Flood Map Service Center. The map shows the two most important flood zones if present: the Base Flood and the Regulatory Floodway (consult legend). Base Flood is the zone having a 1% 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 encroachment so that the 1% flood discharge can be accommodated without increasing the base flood elevation.



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.

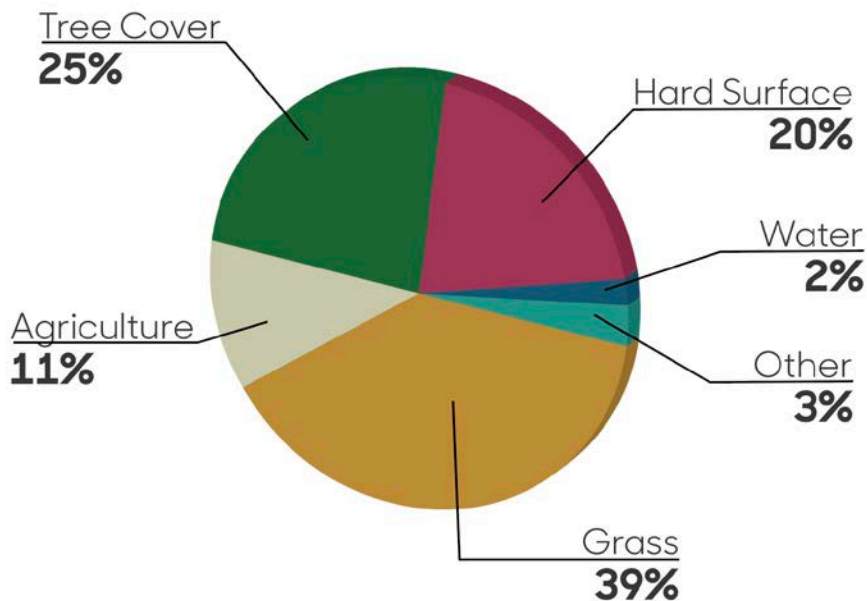
What do you observe about the dominant landcover types in your community?

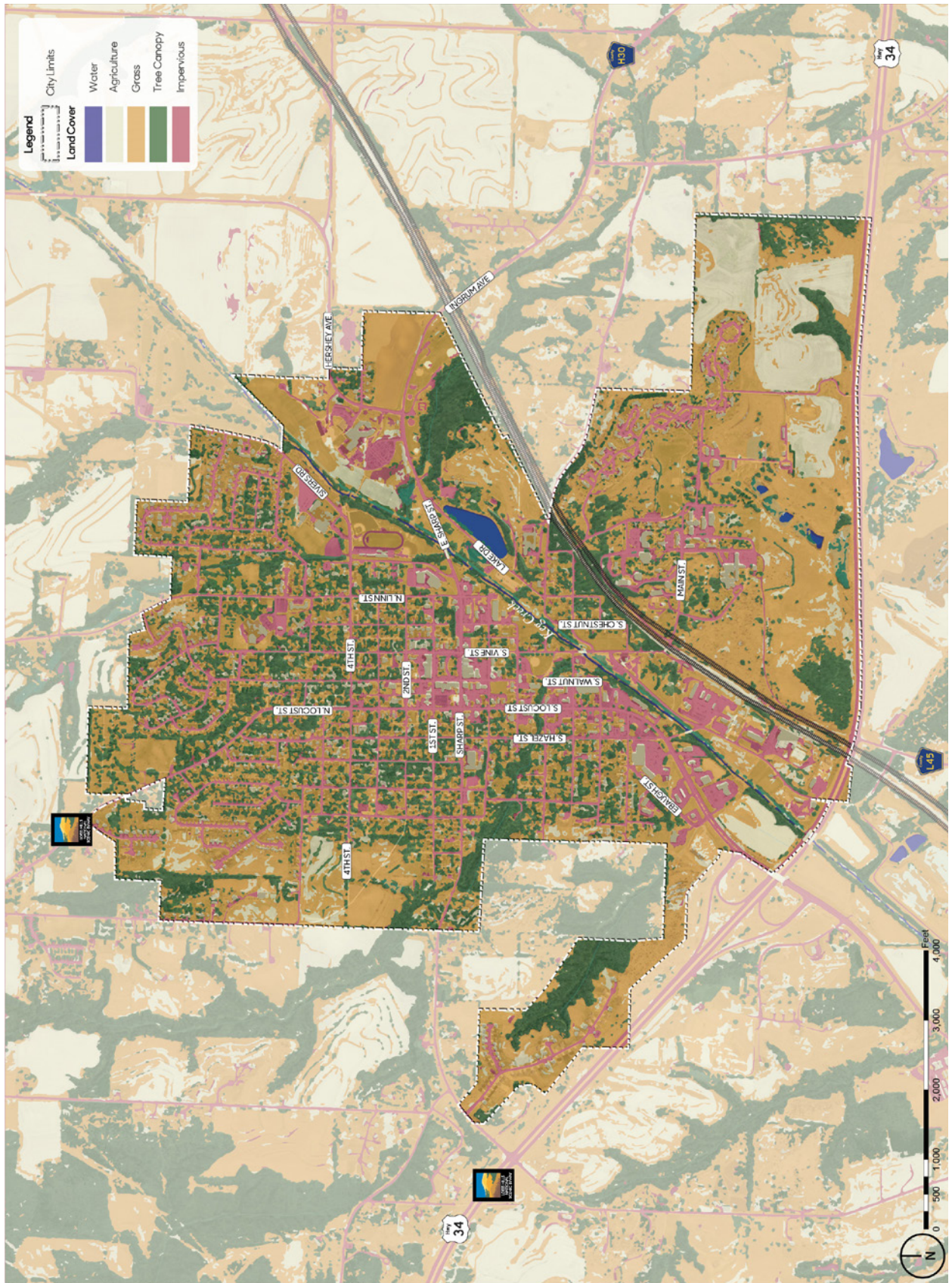
Where is the tree canopy most concentrated?

Look at how much of your community consists of impervious surfaces (e.g., parking lots, roads, buildings) compared 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





Landscape Change Over Time

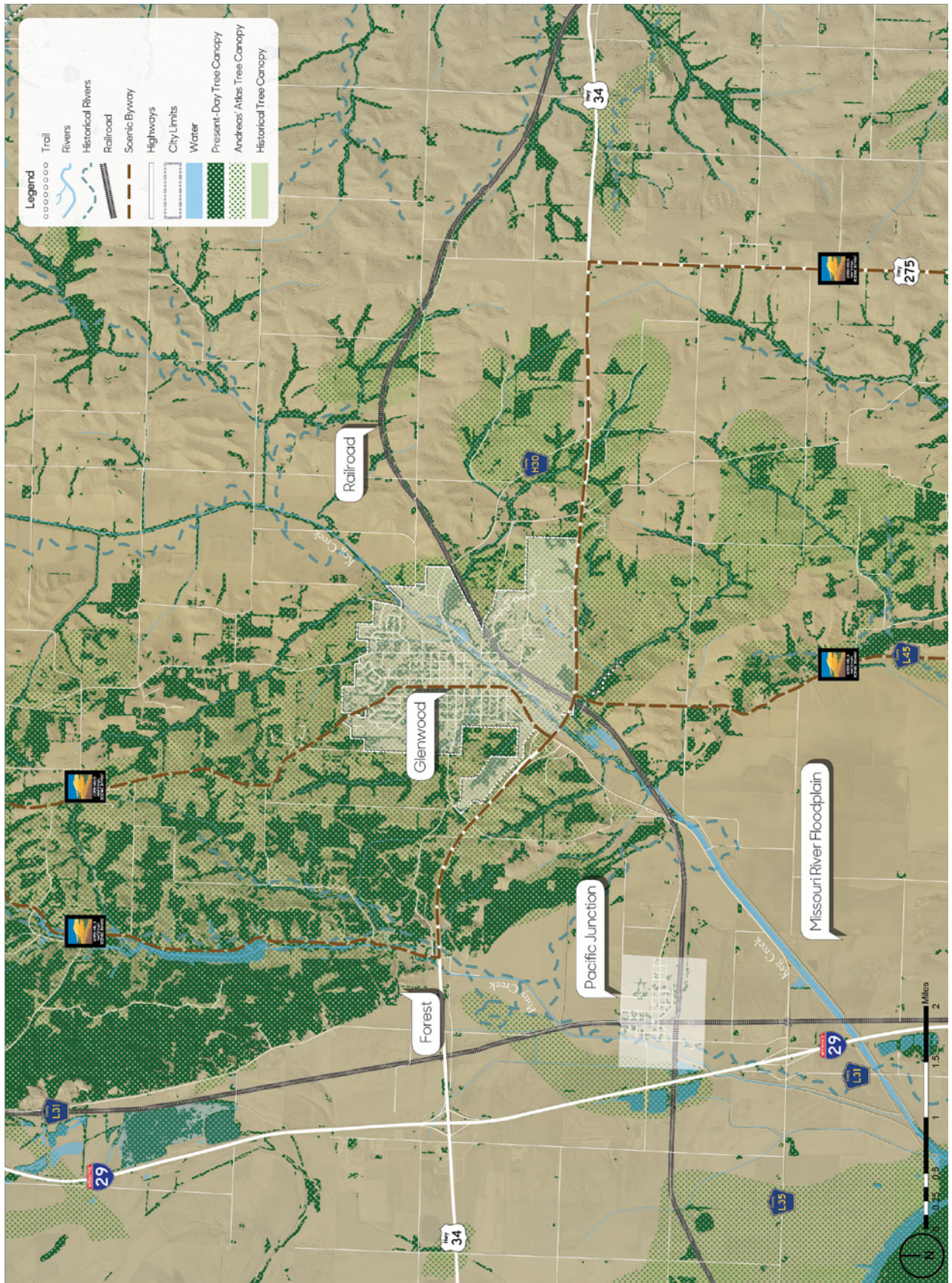
The map on this page shows how the landscape has changed over time, with an emphasis on vegetation and drainageways.¹ The map is helpful for understanding how landscapes change and considering how these changes might affect how well the landscape works to support human and ecological needs.

Trees are invaluable. They clean the air, create shade, and cool the atmosphere. They intercept rainfall and consume groundwater, which helps mitigate stormwater runoff. Carefully chosen and placed trees provide communities identity and residents with a sense of home. In Iowa, a prairie state, we increased tree cover to create shade and a sense of enclosure within rural towns. Lack of natural fires and burning has also generally increased tree cover along rivers and floodplains. Other areas of trees have diminished due to clearing for roads, agriculture, or other purposes.

What changes do you see to the tree canopy surrounding your community? Where has the tree canopy decreased? Where might the tree canopy have increased? Consider what changes to the landscape might have led to the increase or decrease of trees in the region (e.g., farming practices, community development, establishing homesteads and windbreaks, preservation of natural resources).

This map also shows current and historical stream and river corridors. Alterations to waterways such as channelization have been made to increase drainage, but can lead to increased erosion, sediment movement, and flooding where the straightened portion ends. Storm sewers also affect streams and waterways where outfalls drop urban runoff into the corridor, which can dramatically decrease water quality. How have streams and rivers changed? Do these changes appear to be man-made or natural?

¹ This map shows the difference between the present day tree canopy gathered from the DNR's Land Cover data and past landscape cover, as defined in the General Land Office (GLO) surveys from 1836 through 1859 and the *A.T. Andreas' Illustrated Historical Atlas of the State of Iowa from 1875*.



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 Glenwood, 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 Glenwood's transportation system works, we use focused, small-group conversations, mapping, and photos of the best and worst to understand local transportation.

Different Users = Different Needs

To capture insights about transportation from a variety of perspectives, we invited Glenwood residents with different transportation needs to participate in focus groups. A total of 53 residents attended Glenwood's workshop. Participants were separated into five user groups and the Glenwood 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
Challenged

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.



Residents enjoy walking and biking on the wide and well-maintained trail at Glenwood Lake Park, which is peaceful and has many amenities.



A lack of sidewalks, road shoulder, and marked crosswalks creates intimidating conditions for pedestrians and cyclists accessing Sivers Road.



Glenwood's town square is a social hub, with ample open space and seating for people to gather. The inviting streetscape features wide sidewalks and accessible curb bump-outs.



The steep incline from the road create challenges for some to access the sidewalks on Myrtle Street. Walkers and cyclists often go into adjacent yards when meeting someone on the sidewalk because it is too narrow.



The new activities complex supports youth athletics, and community members appreciate the clean and well-lit facility as a safe and comfortable place to walk.



Residents traveling along Sharp Street are faced with sidewalk that end abruptly and highly-congested roads when going to and from school and Glenwood Lake Park.

What People Said

"...we can't fix all of the sidewalks...so we [should] focus on some main areas where we can make one nice, big loop around...the outskirts [of Glenwood]...then connect that out to the Wabash [Trace] so...we have a place to walk."

"...when I was little... you couldn't ride a skateboard down [the sidewalks on Timber Lane] because you'd wreck. Everything was so uneven, and I don't think it's been fixed since then."

"... anywhere I go in Glenwood, I walk. It's less than a mile [or] two...I think a lot more people would [walk] if they had [safe] places to do it."



Parents

"I would almost prefer a trail versus a bike lane [to] have that little bit of distance between myself and someone doing 55 miles [an hour]."

"...[the] stoplight [at the intersection of Locust and Sharp Streets] is just congested with school traffic because you've got West [Elementary] right there."

"The square is kind of chaotic too because there [are] no stop signs for anybody...[at] the two northern corners, [which] are kind of unsafe...if you're out of town, you don't know that, so it's kind of scary your first time."

"The [downtown] square is good for walking...if you're staying on one side and if you just want to keep going around and around and around...there [are] nice, wide sidewalks, and they're usually taken care of."

"I would love better walkability from [Linn St] to Glenwood Lake Park.."



Actives

"The new part of Timberline has really nice sidewalks...you don't have to watch where you're walking to see if you're going to...trip...you can look around you instead of at your feet."

"...most people avoid [the] hill [on Linn Street] when...there's any [snow or ice]...because it's so steep...and...that adds a lot of...traffic on some...other streets that [normally] don't get a lot of traffic."

"...[on] the rare occasion that I'm biking to the high school [on Sharp Street]...there is no place for anything but cars, so I either have to go on the grass or just wait until there are no cars...I wish there were bike lanes; that'd be nice."

"...when I leave school there [are] a ton of people walking on the side of [Sharp Street] but there's no sidewalk there... There's [just]...a 10-foot gravel shoulder."


"Glenwood Lake Park...[is nice] because there's a sidewalk around the lake and people walk on it all the time. There's not a lot of traffic there either."

"I don't think it would be possible to connect [Glenwood to the Wabash Trace Nature Trail], but that would be sick."



Youth

"There [are] a lot of plants [at Glenwood Lake Park] to look at... and then there's the lake that you can go run around..."



Older Adults

"I do try to walk once in a while, but the sidewalks are so bad that...I'm afraid I'm going to fall."

"...we've had a lot of semi traffic down Locust [Street], which is the main artery into the town, and that road has really become...bad, and [when you're driving, it] feel[s] like you have a flat tire."

"...around the high school there is a loop out to the soccer fields...but our sidewalks really need to be wider for more of a trail than a sidewalk because we've got people...with baby strollers."

"...bike riders are not welcome [along E Sharp Street]. We've been flipped off and honked at because there's really no safe place to ride."

"...I walk two miles a day, but I have to drive to [Glenwood Lake Park] to do that safely."



Steering Committee


"...for cyclists, there is no shoulder [on Locust Street]... When [there is a] truck... [having] to manage both... oncoming traffic and [a bike] being on the side of the road, that truck [driver thinks] '...Let's hope and pray that neither of us swerve too much because I can't get over...'"

"...a dream of ours for 11 years [has been] to get a connector to the Wabash Trace [Nature Trail] and...have it continue all the way across so that we can utilize the new [Highway] 34 bridge to get into the Omaha trail system."

"...there [are] a lot of [walking trails] just close outside of town...but there's no way to get to them unless you drive..."

"...my [spouse] is very reticent to [let] the kids ride their bike to school, even though...they totally could physically...it's just [that] there's no shoulder [along Locust Street]."

"The sidewalks...[are] choppy. There might be sidewalk for a few houses and then nothing after that, so the only way you can...really run or walk or...skateboard or whatever... is...in the street."



Mobility Challenged

"The parking in front of the high school, it's all completely level. There is no curb at all, so [from] every one of those parking spaces you can just roll right in front...you don't have to worry about any curbs. I love parking there."

"[The] big thing around here is the curbs; there [are] only some...that are accommodating. On the [downtown] square they've done [curb ramps] at those intersections, but there [are] a lot of [curbs] that are just super high..."

"If I wanted to walk between the schools, that would be impossible... the sidewalks are always interrupted in some way."

"Hiley Park [is] a cute little park in a neighborhood, and actually Kiwanis is working on... making the parking lot and everything accessible."

"...I want interconnectivity [of sidewalks and trails]...I want to live in a place that essentially, I could function without a car if I wanted to..."

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 walk and bike for exercise and/or recreation. This group enjoys walking their dogs and would like a dog park. Actives also want a trail connection between Glenwood Lake Park and the state preserve, and would like Keg Creek to be cleaned up.

Mobility-challenged individuals walk, drive, and take the SWITA bus. This group would like a convenient transportation service that doesn't require a 24-hour notice. They would like more handicapped-accessible parking spaces in the downtown square.

Older adults walk, bike, and drive vehicles, golf carts, and ATV/UTVs to get around. This group would like a horse trail in the foothills at the state preserve and an ATV park with trails. For older adults, having a destination is an important factor when walking.

Youth walk, bike, and ride the bus to their destinations. Older youth also drive. This group enjoys in-line skating and hoverboarding. They would like to have candy along walkways. Youth are also interested in having electric car charging stations.

Parents walk, bike, run, drive, and take the SWITA bus. They are primarily concerned with the safety of their children. Parents enjoy biking at the Glenwood Resource Center because of the scenery and lack of traffic. This group wants a city bus.

Steering committee members walk, bike, and drive vehicles, golf carts, and ATV/UTVs. This group would like to have signage at significant locations and on buildings that explain local history. Committee members also think native vegetation and bioswales would be beneficial to the community.

Transportation Behaviors and Needs

Overview

The survey provides the visioning steering committee with 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.

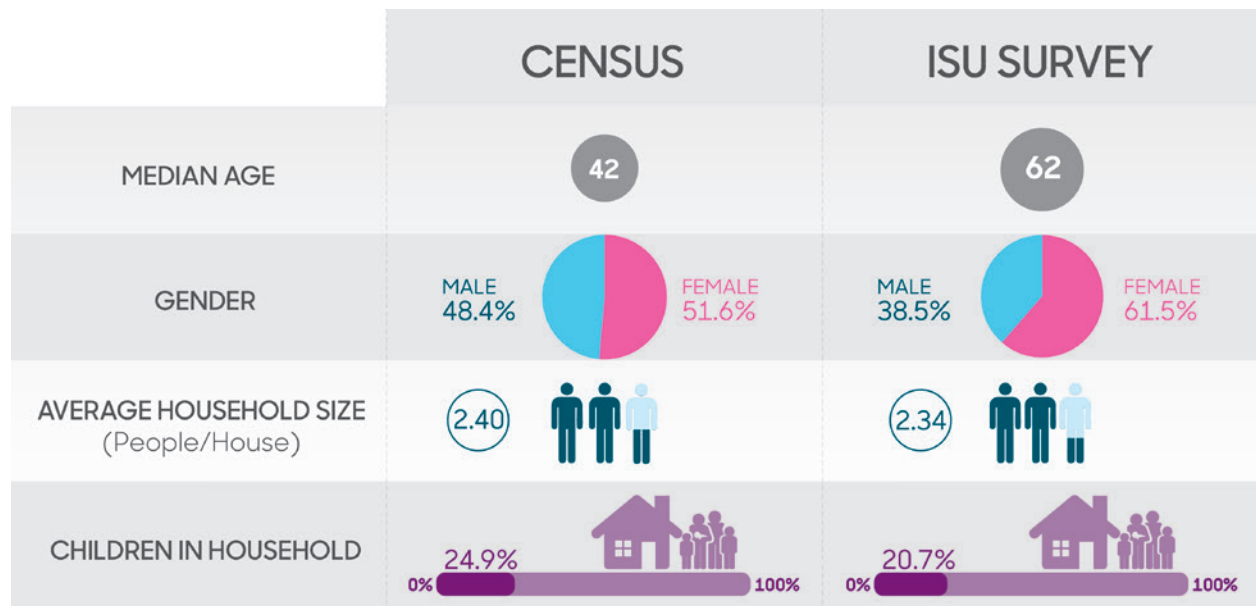
With assistance from Iowa State University's Survey Research Services staff in the Center for Survey Statistics and Methodology (CSSM-SRS), ISU visioning program staff conducted a survey to better understand the transportation patterns, behaviors, needs, and desires of Glenwood residents. Surveys were mailed to 500 randomly selected residents living in Glenwood 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 445. A total of 138 people returned surveys, for a response rate of 31%. (A response rate of 20% is considered valid.)

We asked survey recipients what routes they use most often for going to work, walking, and biking. In addition, we asked what qualities and features are important to trail users. 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 Glenwood. 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 Features

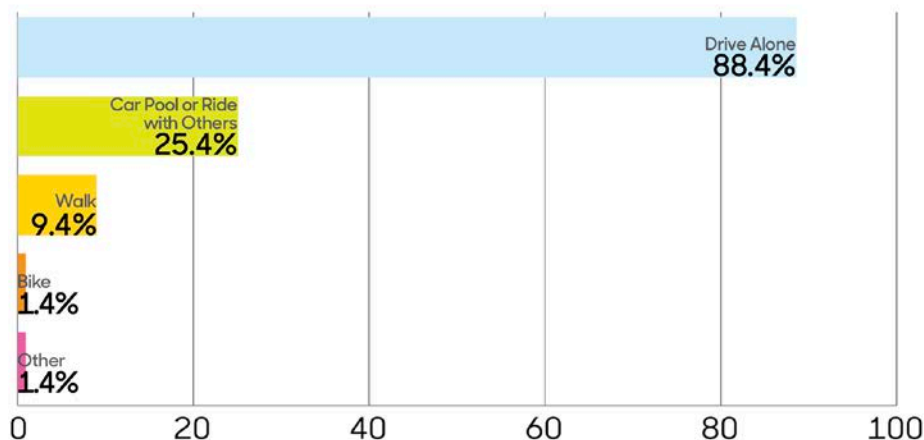
How We Did

The demographics of the respondents are somewhat different from those obtained from the 2021 American Community Survey (ACS). For example, the survey respondents median age of 62 is significantly older than the ACS estimated average age for Glenwood residents of 42. In terms of gender, females are significantly over-represented at 61.5% of respondents compared to the ACS estimate of 51.6%. Average household size and the percentage of households with children among survey respondents are somewhat lower than the 2021 ACS estimates.



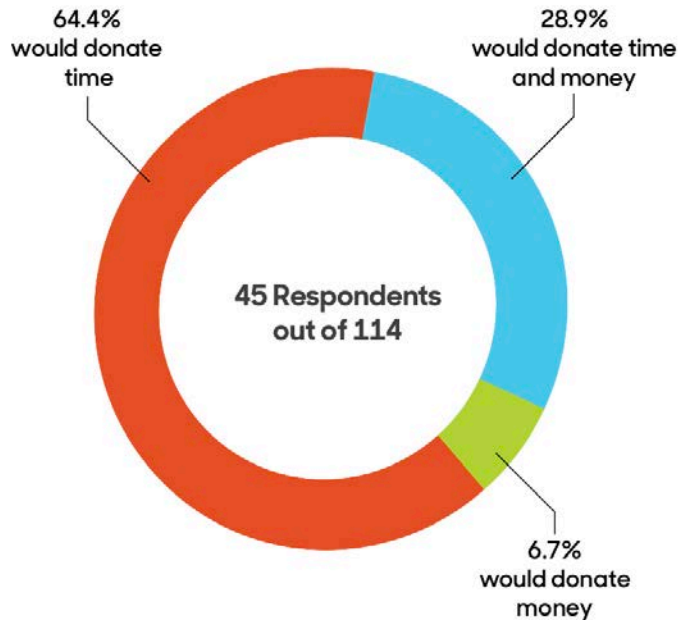
How Glenwood Residents Travel

Most survey respondents drive to important destinations such as the convenience store, the post office, school, and church (88.4%). More than 35% car pool or ride with someone else. Some people indicated that they walk (9.4%) and/or bike (1.4%), but the primary mode of transportation in Glenwood is by vehicle.



*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%.

Willingness to Help



Most survey participants who answered "Yes" to this question are willing to contribute their time to community improvements (64.4%), while 28.9% would help financially and contribute their time. More than 6% of respondents indicated that they would be willing to contribute financially.

Compared to other small towns in Iowa, Glenwood residents are somewhat less 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 The percentage of Glenwood residents willing to be involved is 4% lower than this average.

How Do You Get People to Help?

Ask, Show, and Advertise Opportunities

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).

Survey Participants Said...



"[There needs to be] construction of a biking overpass on Highway 34."

"[We] need more public transportation; [there is] only one bus available and 75% of the time it is being used by schools."



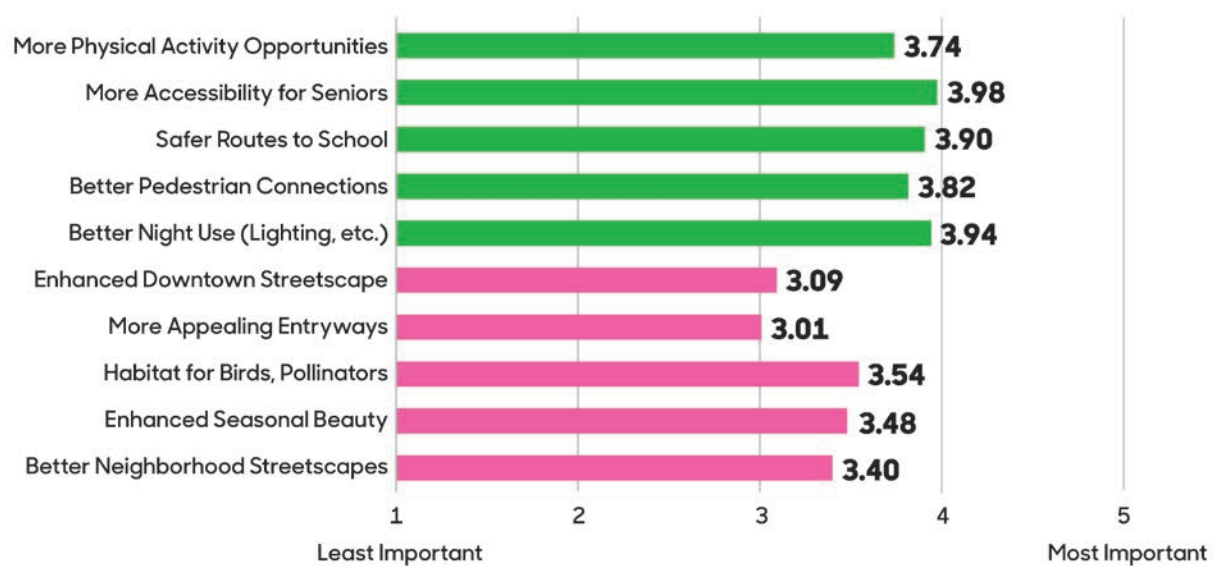
"There aren't many roads connecting [the north part of town] with highways or other parts of town. A route or routes that would connect highways to schools would especially be beneficial."

Priorities

On a scale of 1 to 5, with 5 being the most important, participants in Glenwood ranked improving accessibility for seniors as most important, with a mean value of 3.98. Other types of transportation enhancements that address pedestrian mobility, health, and safety are also considered important, such as better lighting for night use (3.94), developing safer routes to school (3.90), and creating better pedestrian connections (3.82). In terms of quality of the built environment, survey respondents consider creating habitat for birds and pollinators as most important (3.54), followed by enhanced seasonal beauty (3.48) and enhancing neighborhood streetscapes (3.40). These findings are consistent with the views expressed by focus-group participants during the Transportation Assets and Barriers workshop held in March 2023.

Transportation Enhancement Issues

- Pedestrian Mobility, Safety, and Health
- Quality of the Built Environment



Survey Participants Said...



"[We need to] create better sidewalks for walking and biking in the entire city."

"At night Glenwood streets are not well lit. There is also not sidewalk on Linn St by our homes connecting to sidewalks to Northeast Elementary."



"Glenwood desperately needs a sidewalk along Sivers Road from Timber Lane to the Activities complex... Many children use this route to get to school and also to get to the many functions at the Activities Complex. There is not enough room for busy two-lane traffic and pedestrians."

"We have two children, so we go for walks often. This town has terrible sidewalks or lacks sidewalks on most of our routes. [There is] also [a] lack of curb ramps for strollers."



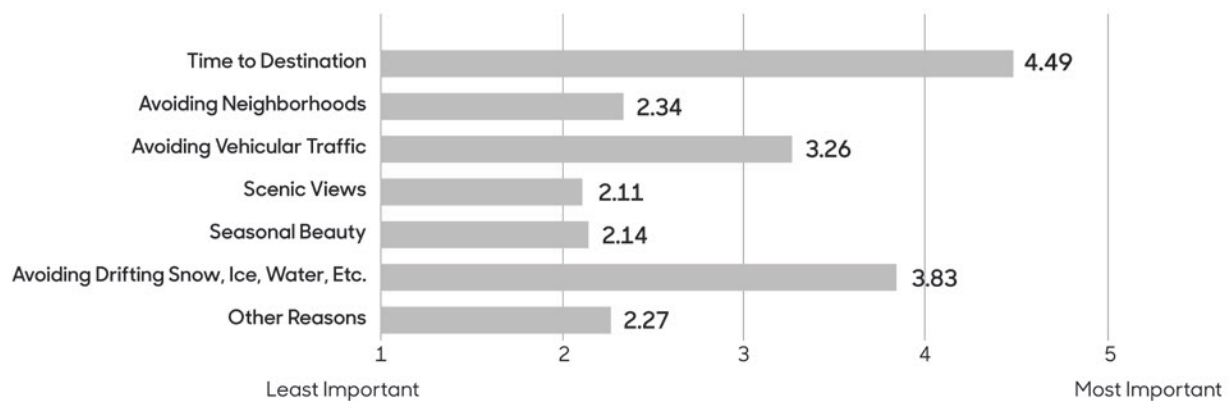
Commuting Routes

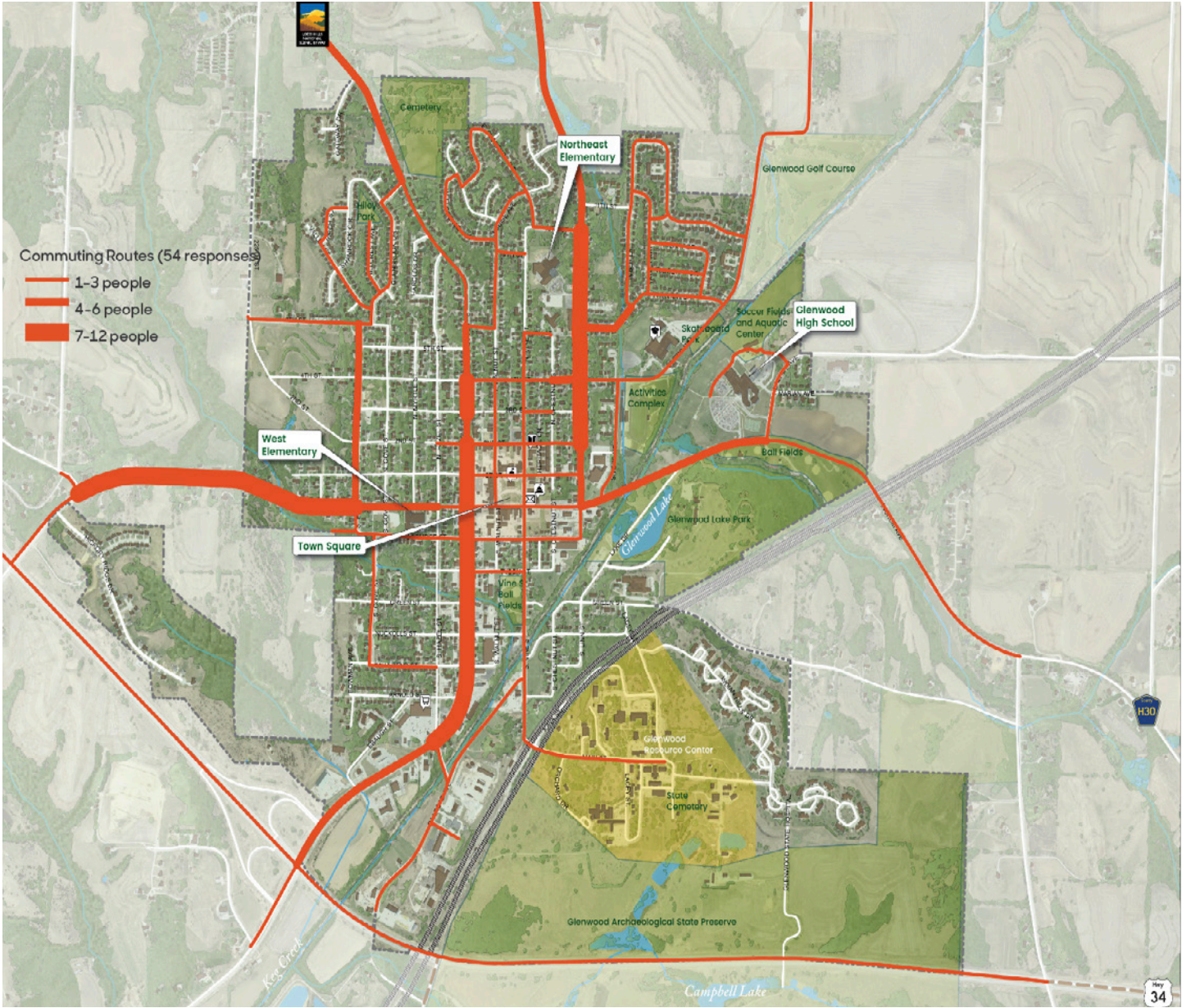
This map shows the commuting routes identified by 54 survey respondents. The frequency that the routes are used is depicted by their width, with most frequently used routes being the thickest. The primary north-south commuting corridors into and out of Glenwood are the Loess Hills Scenic Byway/Locust Street and 230th Street/Linn Street. The major east-west route is Hillman Road/Sharp Street. These routes are also the most heavily used corridors in town.

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 Glenwood participants, time to destination is the most important factor in determining commuting routes, with a mean value of 4.49. Avoiding weather-related issues such as snow and ice is also somewhat important (3.83), as well as avoiding vehicular traffic (3.26). Scenic views, seasonal beauty, and avoiding neighborhoods are not critical factors in determining commuting routes.





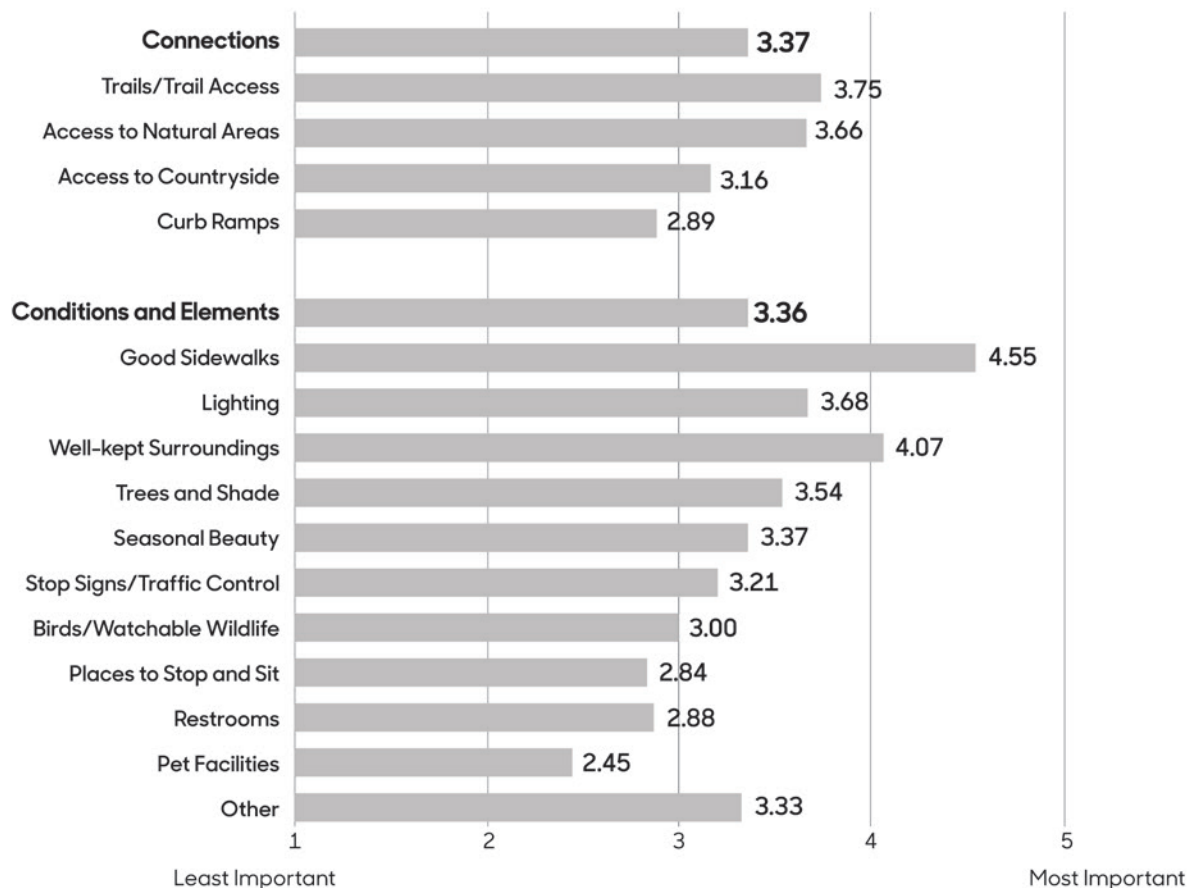
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.igsb.uiowa.edu/nrgislib/>.

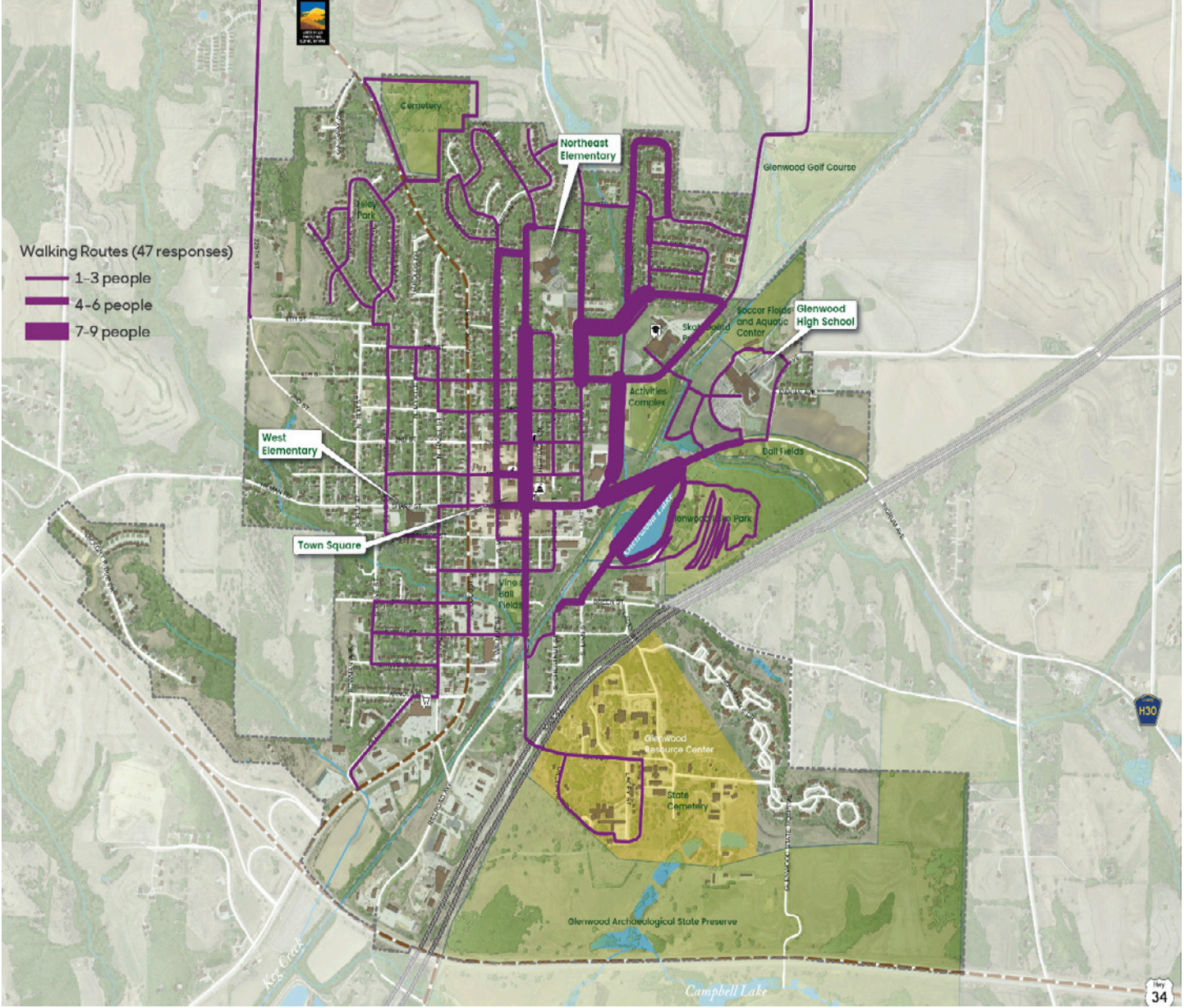
Walking Routes

This map shows the walking routes identified by 47 survey respondents. The frequency that the routes are used is depicted by their width, with most frequently used routes being the thickest. The Glenwood Lake Park is the most popular walking venue among survey respondents. People also walk in the vicinity of the Activities Complex, along Sivers Road, 4th Street, Linn Street, and Fairview Drive. N Vine Street between 6th and E Sharp Streets is another frequently used route.

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." Glenwood participants consider connections and conditions/elements nearly equally important, with mean values of 3.37 and 3.36, respectively. In terms of connections, access to trails is most important with a mean value of 3.75. Good sidewalks (4.55) are the most important condition/element to walkers, followed by well-kept surroundings (4.07) and lighting (3.68). Other significant factors include trees and shade (3.54) and seasonal beauty (3.37).





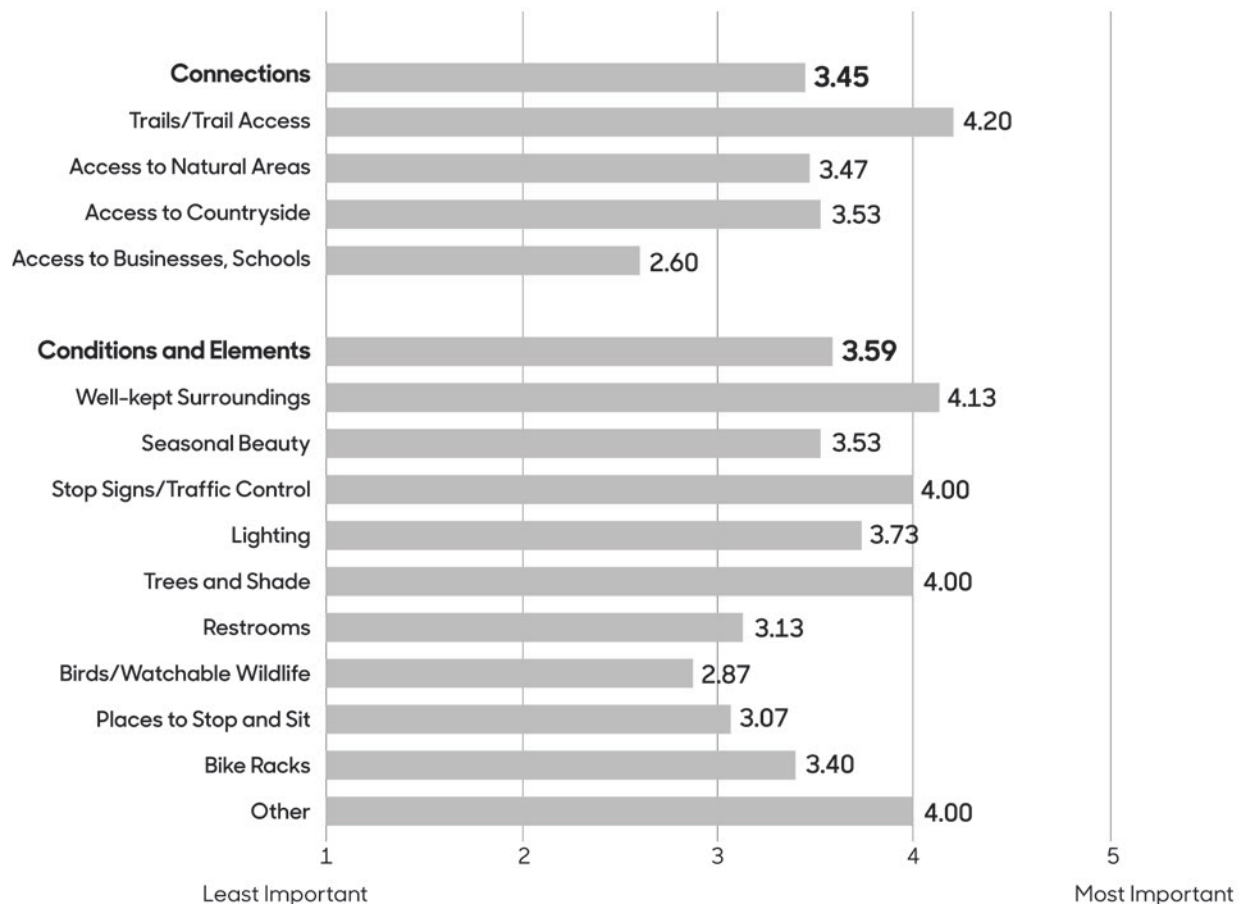
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.igsb.uiowa.edu/nrgislib/>.

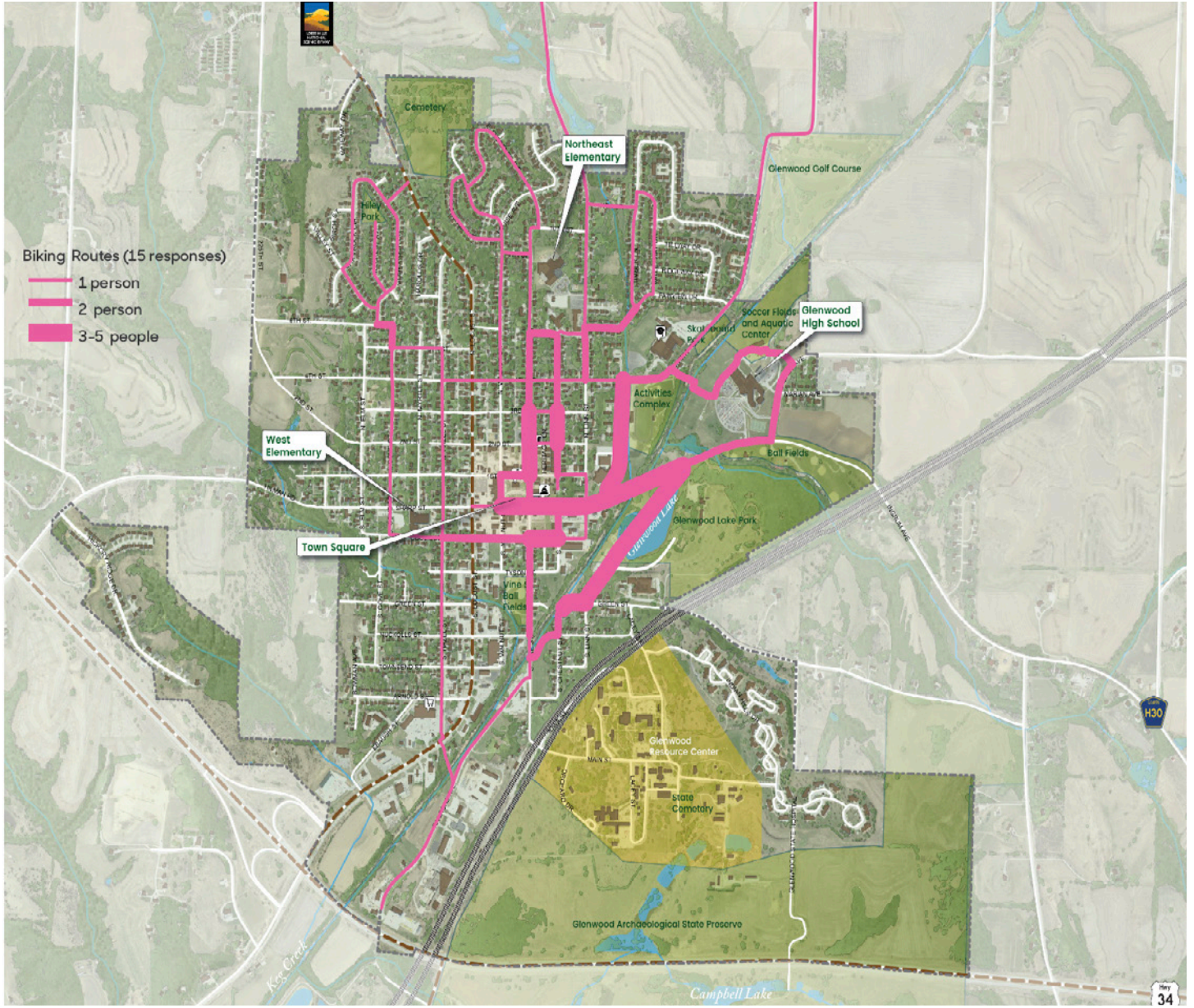
Biking Routes

This map shows the biking routes identified by 15 survey respondents. The frequency that the routes are used is depicted by their width, with most frequently used routes being the thickest. Like walkers, bikers also frequently go to the Glenwood Lake Park. The streets adjacent to the park—including Lake Drive, Sivers Road, E Sharp Street, and portions of Greene and Coolidge Streets—are also heavily traveled. Some people also bike in the area of the high school and the aquatic center.

Why They Go That Way

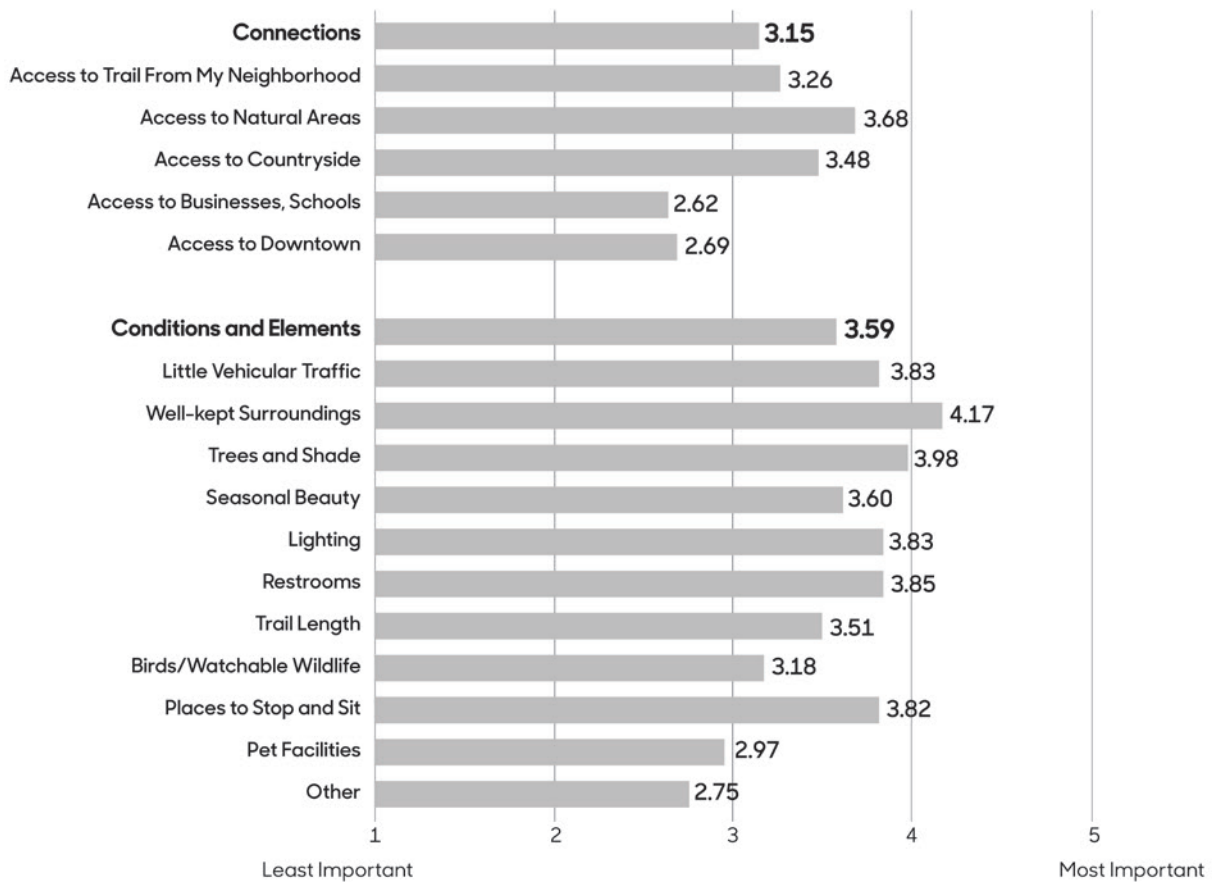
On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their biking experience better. These features are categorized as either "connections" or "conditions and elements." Glenwood participants consider conditions/elements more important than connections, with mean values of 3.59 and 3.45, respectively. Access to trails is most important connection to survey respondents with a mean value of 4.20. In terms of conditions/elements, well-kept surrounding (4.13) are the most important among bikers, followed by stop signs/traffic control, trees and shade, and other factors such as well-maintained trails (all at 4.00).





Desired Trail Features

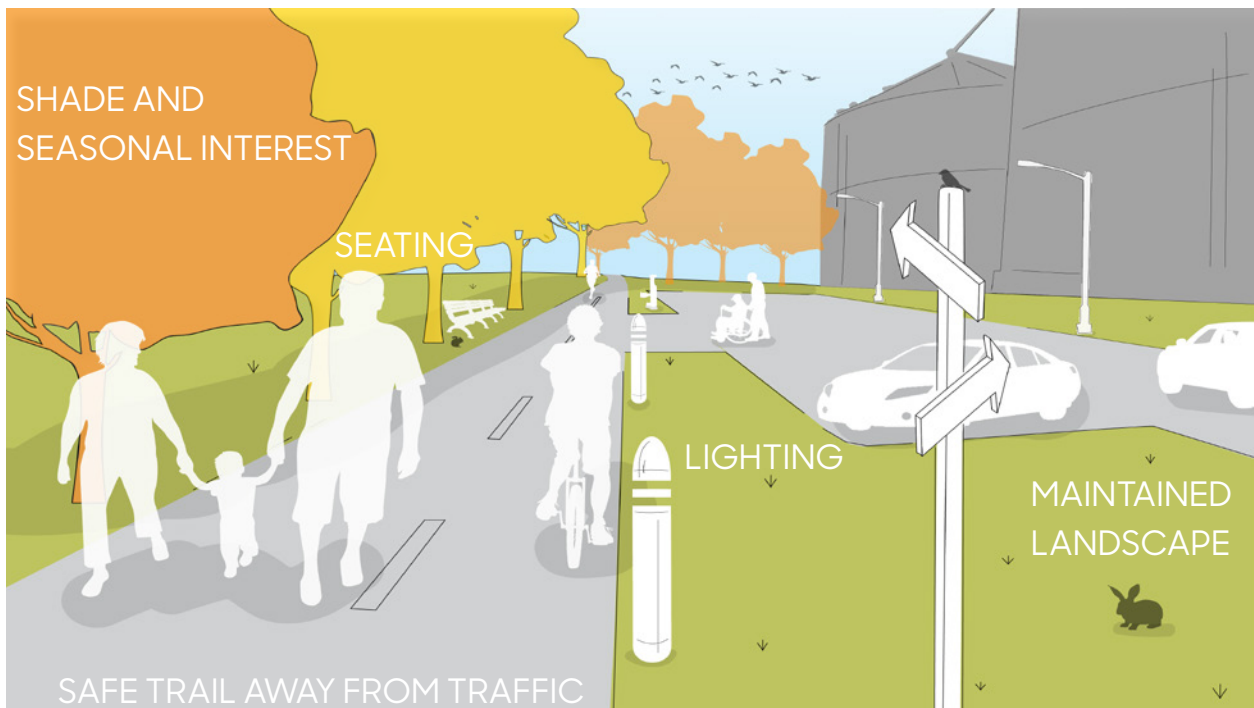
Trails are off-street paths that are paved or unpaved and can be used by pedestrians and cyclists. On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their trail experience better. Like the bike route features, they are categorized as either “connections” or “conditions and elements.” Conditions/elements are more important to Glenwood trail users than connections, with mean values of 3.59 and 3.15, respectively. Access to natural areas is the most important connection among trail users, with a mean value of 3.68. In terms of conditions/elements, well-kept surroundings (4.17) is most important, followed by trees and shade (3.98). Availability of restroom (3.85), little vehicular traffic and lighting (both at 3.83), and places to stop and sit (3.82) are also valued by trail users.





"[I] would like to see a trail connect from downtown Glenwood to the Wabash [Trace], maybe at Mineola."

"[I] would love to see biking/hiking/walking trails more easily accessible in this community."



Transportation Inventory and Analysis

A solid understanding of a community's transportation system is vital for developing a multi-modal network through planned enhancements. Glenwood's transportation network includes paved roadways, sidewalks, and multi-purpose trails.

The Iowa Department of Transportation (IDOT), the city of Glenwood, Mills County, and various community groups have several projects planned.

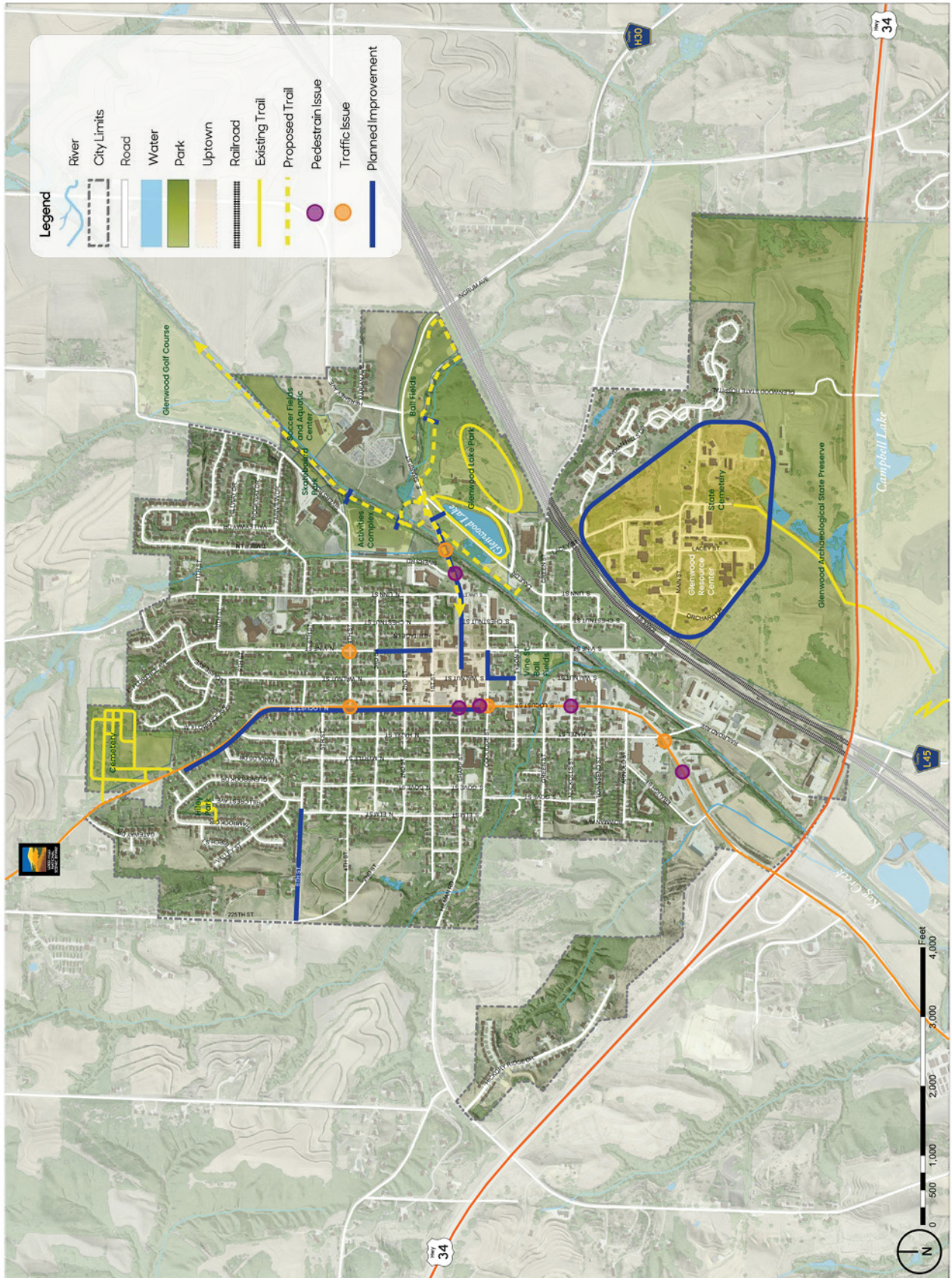
A trail is planned to connect Glenwood High School to town through Glenwood Lake Park. A trailhead will be near the entrance of the park and utilized for trail and park access. A series of bridges are also included in this proposed trail plan and will be funded by the city and county. Transportation Alternative Program (TAP) funding will pay for construction. The city plans to make sidewalk connections to the trailhead on Sharp and Vine Streets. A future goal of this trail plan is to connect to the greater Wabash Trace trail system.

Glenwood High School is also updating the Keg Creek pedestrian bridge decking and approach. The city is in the process of approving the easement, and work will start soon. This creek crossing will eventually connect to the proposed trail system as well.

The city of Glenwood has several mill and resurfacing projects forecasted for this year:

- Locust Street: north of Sharp Street
- Coolidge Street: Walnut Street to Vine Street
- Walnut Street: Coolidge Street to Tyson Street
- Vine Street: 1st Street to 3rd Street
- 1st Street: Walnut Street to Locust Street

The state is currently assessing the Glenwood Resource Center for future development.



What, Where, & Why

Programming Process

The What, Where, & Why meeting is a critical component in the development of a successful project. Setting and prioritizing goals allows us to focus our efforts and resources more effectively to help the community develop a vision for Glenwood.

The design team and Trees Forever facilitators met with the Glenwood visioning committee to discuss its goals. The steering committee presented its takeaways from previous discussions about the transportation assets and barriers, focus group findings, survey results, transportation analysis, and bioregional information.

The visioning committee considered the information provided as well as their own knowledge and opinions of Glenwood to reach a consensus of priorities to focus on for design improvements.





The chart on the following page reflects these major themes and potential project locations as expressed throughout the goal-setting process. The charts moves through the key themes identified, what the large outcomes or big dreams would be, reasoning for identifying these components, and finally how the design team implemented these goals into the final designs.



Town square businesses



Community members providing input at the design workshop

Themes	Broad-based Outcomes/Goals	Why Change Anything?	What Exactly & Where?
<p>Pedestrian Amenities</p> 	<ul style="list-style-type: none"> • Promote healthy lifestyles • Connectivity through town • Recreation 	<ul style="list-style-type: none"> • Increase access to amenities and community events • Improve quality of life • Lessen the need to drive and park at events 	<ul style="list-style-type: none"> • Improved intersections with crosswalks and HAWK beacon signals • Buffered shared-use paths along Sharp and Locust Streets • Improved sidewalks along 4th Street, Sivers Road, and the Town Square • Added lighting and vegetation
<p>Gathering Spaces</p> 	<ul style="list-style-type: none"> • Event spaces • Meeting spaces with pedestrian access • Attract events 	<ul style="list-style-type: none"> • Activate businesses • Opportunity for economic development • Fills a community need for activity and social interaction 	<ul style="list-style-type: none"> • Plaza at the intersection of Sharp and Locust Streets • Shared-space Street on 1st Street, between Walnut and Vine Streets in the town square • Improved access to existing gathering spaces
<p>Safety and Accessibility</p> 	<ul style="list-style-type: none"> • Safe routes to school • Fix broken sidewalk, add missing pieces • Improved lighting 	<ul style="list-style-type: none"> • Improve access to public amenities for everyone to enjoy • Provides safety for children walking to school • Increase ability to live a multi-modal lifestyle 	<ul style="list-style-type: none"> • Improve sidewalk conditions along 4th Street, Sivers Road, and the town square • Added lighting along 4th Street, Sivers Road, and in new gathering spaces • Improved intersections with crosswalks and HAWK beacon signals
<p>Way-finding</p> 	<ul style="list-style-type: none"> • Create a sense of identity • Consistent aesthetics • Improved navigation 	<ul style="list-style-type: none"> • Create an authentic sense of place • Improve navigation for visitors • Beautify the community 	<ul style="list-style-type: none"> • Way-finding sign package • Entrance sign improvements • Public art in gathering spaces • Iconic, identifiable features in gathering spaces

Community Concept Plan

Concept Plan Overview

The committee was pragmatic in creating goals on which they could build a strong foundation and implement through phasing based on community size and funding available.

The committee gathered additional feedback during a workshop at the Glenwood Area Farmers Market where many individuals from the community commented on pedestrian connections, style of pedestrian amenities, style and color themes for way-finding signage, and style for entrance sign enhancements. Workshop attendees also participated in an activity to layout their preferred elements for gathering spaces. The design team created a digital survey for distribution online, soliciting several additional responses pertaining to the design features listed above.

The concept headings on the bottom of the page, were created to reflect these major themes as expressed throughout the project priority-setting process. The committee prioritized project areas based on the What, Where, & Why findings and focused on projects that achieved goals from multiple themes. The images below each concept heading are examples of one element from each focus area. The map shows the location of each of these concept designs. Lastly, the major themes are shown below with icons.

Themes identified by the committee include:



Pedestrian Amenities



Safety and Accessibility



Gathering Spaces



Way-Finding

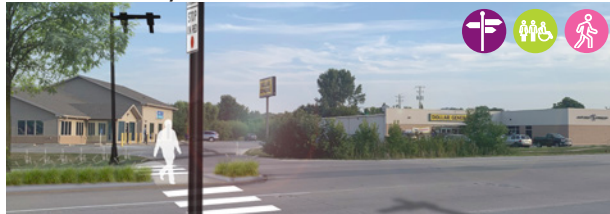
A Way-Finding



C Intersection and Plaza Enhancements



B Community Connections



D Town Square Street Enhancements



Concept Design Locator



Way-finding

Entrance Signage

The existing entrance sign to Glenwood on Locust Street is easy to miss. The proposed entrance sign is stately and well lit, and takes inspiration from colors and styles around the community to blend the new contemporary sign with future projects without obtruding on existing designs in the community. The sign is surrounded by colorful perennials and native grasses to bring life and variety all year. Additional landscape elements are proposed for the median as well to create a grand, welcoming entrance as you drive into town. The trees added to the median will promote traffic calming and reduce vehicles speeds. The new entrance to Glenwood is bold and proud and a great way to welcome visitors with a strong sense of place.

Way-finding Signage

The city of Glenwood has an impressive list of amenities, but visitors and residents have trouble locating and directing to them. The way-finding signage package on the next page is intended to improve navigation to key areas of Glenwood. There are many design projects in the works with a wide range of color palettes and styles. This design package is intended to be contemporary in nature with neutral colors that complement contemporaneous design initiatives around town, blends well with existing color palettes used at schools, and can serve as a template for future design initiatives.

The rendering below the way-finding signage package shows an idea of what the way-finding signage could look like in reality. It could be integrated within the existing landscape and enhanced with additional plantings. The location of the signage can always be modified or expanded upon in the future. The overall goal is to have a cohesive set of way-finding signs that bring people through the city smoothly and effectively while creating a firm identity and sense of place for the city of Glenwood that can be expanded upon and increased as the city and amenities grow.

Existing | Entrance Sign



Proposed | Improved Sign and Landscaping



Proposed | Way-finding in Glenwood



Template | Way-finding Sign



Opinion of Probable Cost | Way-finding Signage

Description	Quantity	Unit	Unit Cost	Extended Amount
General Requirements				
Temporary Utilities	1	LS	\$ 1,000.00	\$ 1,000.00
Demolition				
General Site Demo	1	LS	\$ 1,000.00	\$ 1,000.00
Earthwork				
General Site Preparation	1	LS	\$ 1,000.00	\$ 1,000.00
Rough Grading	1	LS	\$ 500.00	\$ 500.00
Utilities				
Electrical Service	1	LS	\$ 5,000.00	\$ 5,000.00
Sign Uplight Features	1	EA	\$ 2,500.00	\$ 2,500.00
Hardscape				
42" Deep Sign Post Foundation	10	EA	\$ 2,000.00	\$ 20,000.00
Landscape				
Prepare Subgrade	5	EA	\$ 400.00	\$ 2,000.00
Landscape Enhancements	5	EA	\$ 1,000.00	\$ 5,000.00
Amenities				
Way-finding Sign	5	EA	\$ 7,500.00	\$ 37,500.00
Banners for Site Light Poles	10	EA	\$ 650.00	\$ 6,500.00
Subtotal - Base Bid				\$ 82,000.00
Mobilization /General Conditions - 5%				\$ 4,100.00
Contingency - 20%				\$ 16,400.00
Design / Engineering Services - 12%				\$ 11,808.00
Construction Cost				\$ 114,308.00
Additional Notes				
1. EA = Each, LS = Lump Sum				
2. Assuming 5 wayfinding signs and 10 light pole banners.				

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A number of assumptions were made as to actual conditions that will be encountered on site; the specific decisions of other design professionals engaged; the means and methods of construction the contractor will employ; the cost and extent of labor, equipment, and materials the contractor will employ; the contractor's techniques in determining prices and market conditions at the time, and other factors over which HDR, Iowa State University, and Trees Forever has no control.

Given the assumptions which must be made, HDR, Iowa State University, and Trees Forever cannot guarantee the accuracy of its opinions of cost, and in recognition of that fact, the city of Glenwood waives any claim against HDR, Iowa State University, and Trees Forever relative to the accuracy of the Opinion of Probable Cost.

Opinion of Probable Cost | Entrance Sign and Median Enhancements

Description	Quantity	Unit	Unit Cost	Extended Amount
General Requirements				
Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
Temporary Utilities	1	LS	\$ 2,000.00	\$ 2,000.00
Demolition				
General Site Demo	1	LS	\$ 2,000.00	\$ 2,000.00
Earthwork				
General Site Preparation / Grading	1	LS	\$ 2,500.00	\$ 2,500.00
Utilities				
Electrical Service	1	LS	\$ 5,000.00	\$ 5,000.00
Hardscape				
Foundation	1	LS	\$ 10,000.00	\$ 10,000.00
Landscape				
Understory Plantings in Mulch	1	LS	\$ 15,000.00	\$ 15,000.00
Trees - Ornamental	5	EA	\$ 250.00	\$ 1,250.00
Trees - Deciduous Shade - 2" Caliper	20	EA	\$ 400.00	\$ 8,000.00
Prepare Subgrade	10	EA	\$ 400.00	\$ 4,000.00
Amenities				
Entrance Sign	1	EA	\$ 25,000.00	\$ 25,000.00
Subtotal - Base Bid				\$ 79,750.00
Mobilization /General Conditions - 5%				\$ 3,987.50
Contingency - 20%				\$ 15,950.00
Design / Engineering Services - 12%				\$ 11,484.00
Construction Cost				\$ 111,171.50
Additional Notes				
1. EA = Each, LS = Lump Sum				
2. Assuming median landscape enhancements are included in this effort. Could be separated to reduce figure.				

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Community Connections

Pedestrian Intersection Improvements

The asterisks on the map (pg. 52) denote key areas where the pedestrian experience needs improvement. The rendering to the right (top row) shows the possibility of adding pedestrian refuge islands throughout the median on Locust Street. Locust Street is wide and challenging to cross; these refuge islands provide a protected place to stop if necessary with separation from vehicles. Adding trees to the median and a High Intensity Activated Crosswalk (HAWK) beacon signal will give pedestrians the right of way when crossing and help slow traffic speeds.

Improved Sidewalk Conditions

The sidewalks through neighborhoods are broken and rough in areas and missing in key locations that make walking to school challenging and unsafe. Addressing the sidewalk improvement locations called out on the map (pg. 52) would create safer routes to school and other key locations by connecting missing pieces of sidewalk, enhance the pedestrian experience with landscaping and shade, and increase safety with the addition of pedestrian lighting and concrete repairs.

Buffered Shared Use Path

The buffered sidewalks called out on the map (pg. 52) are located along Locust and Sharp Streets, which are key corridors through Glenwood. These streets have shoulders wide enough for shared-use paths with vegetated buffers to allow for multi-modal transportation adjacent to vehicular traffic. The vegetated buffer creates a barrier for the cyclists and pedestrians from vehicles while slowing traffic and beautifying the corridor.

Pedestrian and Intersection Improvements with a Buffered Path

The rendering to the left (bottom row) highlights another proposed enhancement along Sharp Street. The intersection of Sharp Street and Sivers Road is highly utilized during peak school hours because it is the main access to the YMCA and the sports complex, as well as a popular route to Glenwood Community Middle School. Improved walkways, a HAWK beacon signal, and a crosswalk will improve the pedestrian experience, increase pedestrian safety, and help moderate traffic flow during peak hours.

Existing Conditions (Locust Street)



Proposed | Pedestrian Intersection Improvements



Existing Conditions (4th Street)



Proposed | Improved Sidewalk Conditions



Existing Conditions (Sharp Street)



Proposed | Buffered Shared-Use Path



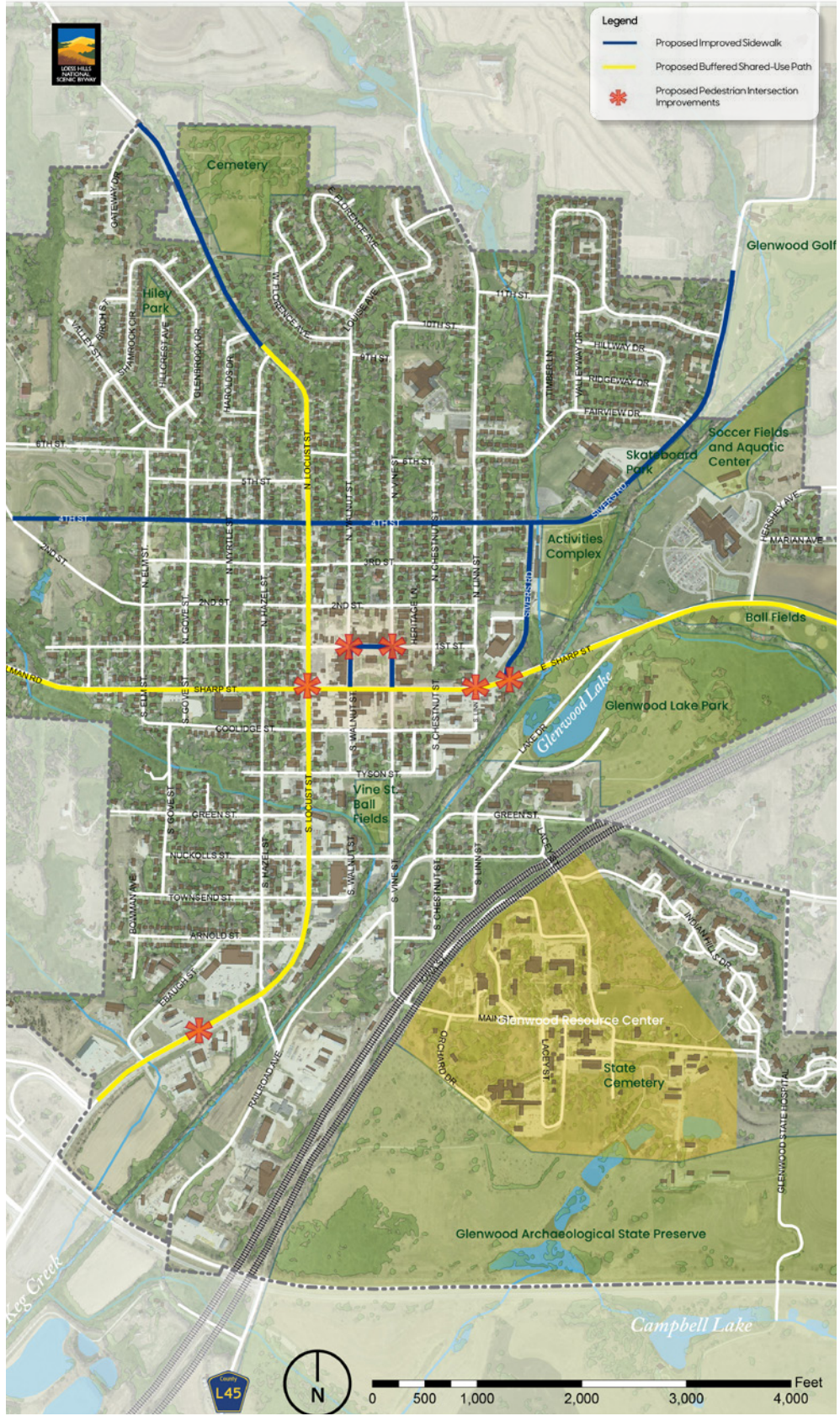
Existing Conditions (Sharp Street)



Proposed | Pedestrian Intersection Improvements & Buffered Shared-Use Path



Community Connection Map



Opinion of Probable Cost | Community Connections

Description	Quantity	Unit	Unit Cost	Extended Amount
General Requirements				
Traffic Control	1	LS	\$ 15,000.00	\$ 15,000.00
Temporary Erosion Control Measures	1	LS	\$ 10,000.00	\$ 10,000.00
Temporary Utilities	1	LS	\$ 8,000.00	\$ 8,000.00
Demolition				
General Site Preparation / Grading	1	LS	\$ 40,000.00	\$ 40,000.00
Remove Concrete Sidewalk	20,000	SF	\$ 6.00	\$ 120,000.00
Remove Concrete Curb and Gutter	150	LF	\$ 60.00	\$ 9,000.00
Mill Asphalt Overlay	75,000	SF	\$ 5.00	\$ 375,000.00
Pedestrian Refuge Median Demo	300	SF	\$ 6.00	\$ 1,800.00
Hardscape				
Construct Concrete Sidewalk	51,000	SF	\$ 8.00	\$ 408,000.00
Construct Concrete Shared -Use Path	177,000	SF	\$ 8.00	\$ 1,416,000.00
Crosswalk Painting	100	EA	\$ 100.00	\$ 10,000.00
Construct Detectable Warning Plates	160	SF	\$ 25.00	\$ 4,000.00
Construct Concrete Curb and Gutter	150	LF	\$ 60.00	\$ 9,000.00
Construct Concrete Curb Ramp	500	SF	\$ 15.00	\$ 7,500.00
Landscape				
Landscape Enhancements	6	LS / Mile	\$ 20,000.00	\$ 120,000.00
Site Amenities				
HAWK Beacon Signal - Main + Call	2	EA	\$ 150,000.00	\$ 300,000.00
Subtotal - Base Bid				\$ 2,853,300.00
Mobilization /General Conditions - 5%				\$ 142,665.00
Contingency - 20%				\$ 570,660.00
Design / Engineering Services - 12%				\$ 410,875.20
Construction Cost				\$ 3,977,500.20
Additional Notes				
1. EA = Each, LS = Lump Sum, LF = Linear Foot, SF = Square Foot				
2. Assuming entire sidewalk of corridor for Buffered Shared-Use Path is removed.				
3. Assuming existing sidewalk of corridor for Improved Sidewalk is retained. Field verify extents of sidewalk panel removal along corridor.				
4. See Intersection and Plaza Improvements OPC for costs associated with improvements at Sharp and Locust intersection.				
5. See Way-finding OPC for all costs associated with signage.				

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Intersection and Plaza Enhancements

Intersection and Plaza Enhancements

The intersection of Locust and Sharp Streets is the convergence of the two key spines in Glenwood and a major intersection residents and visitors pass through daily. Its high usage and its adjacency to the town square make it a critical gateway to downtown Glenwood. Unfortunately, this crucial intersection has limited pedestrian amenities and has been burdened by a vacant gas station. The proposed enhancements shown on the next two pages include bump-outs, improved sidewalks, and crosswalks to improve the pedestrian experience and a flexible plaza as a suggested use for the vacant gas station. Providing bump-outs calms traffic by narrowing the perceived traffic lane and shortens crosswalk lengths, limiting the time pedestrians are in the street. It also allows for street parking and sidewalks that improve access to adjacent businesses without lessening traffic flows. The plaza enhancements are designed to show the potential of the site and how this intersection could be transformed into a community hub with ease of access via all modes of transportation.

Plaza Design

The vacant gas station at the northeast corner of the intersection is the perfect location for an intimately sized community gathering space. The design shows the gas station building transformed into a small cafe or vendor with outdoor movable seating. The gas pump shade structure could remain and be integrated into the new design with aesthetic improvements. This will provide shade for the plaza and serve as a reminder of the site's history. The plaza design has planters intended to define the space and separate it from vehicular traffic, warm the space with vegetation, and create alcoves for smaller groups with seat walls as the planter edges. The design leaves room for a large, flexible space that could be used by the vendor or for programmed events. This space has overhead festival string lights to create a warm, safe atmosphere. In the northwest portion of the plaza, next to Locust Street, a water feature is proposed to help block the traffic noise and add to the calm atmosphere of the plaza. The pedestrian improvements will help people access the plaza with ease and lead to a successful community gathering place.

Plan of Intersection and Plaza Enhancements



Existing | Corner of Locust and Sharp Streets



Proposed | Revitalized Plaza Space



Opinion of Probable Cost | Intersection and Plaza Enhancements

Description	Quantity	Unit	Unit Cost	Extended Amount
General Requirements				
Temporary Erosion Control	1	LS	\$ 10,000.00	\$ 10,000.00
Temporary Utilities	1	LS	\$ 10,000.00	\$ 10,000.00
Traffic Control	1	LS	\$ 15,000.00	\$ 15,000.00
Demolition				
General Site Preparation / Grading	1	LS	\$ 30,000.00	\$ 30,000.00
Remove Concrete Sidewalk	8,175	SF	\$ 4.00	\$ 32,700.00
Remove Concrete Curb and Gutter	300	LF	\$ 60.00	\$ 18,000.00
Mill Asphalt Overlay	5,000	SF	\$ 5.00	\$ 25,000.00
Remove Concrete Curb Ramp	150	SF	\$ 12.00	\$ 1,800.00
Utilities				
Electrical Service	1	LS	\$ 30,000.00	\$ 30,000.00
Water Line Service	1	LS	\$ 10,000.00	\$ 10,000.00
Hardscape				
Plaza Pavers	5,100	SF	\$ 25.00	\$ 127,500.00
Construct Asphalt Overlay	5,000	SF	\$ 5.00	\$ 25,000.00
Construct Detectable Warning Plates	80	SF	\$ 25.00	\$ 2,000.00
Construct Concrete Curb and Gutter	300	LF	\$ 60.00	\$ 18,000.00
Construct Concrete Curb Ramp	300	SF	\$ 15.00	\$ 4,500.00
Construct Concrete Sidewalk	2,800	SF	\$ 8.00	\$ 22,400.00
On-Street Parking Striping	1	LS	\$ 2,500.00	\$ 2,500.00
Crosswalk Painting	25	EA	\$ 100.00	\$ 2,500.00
Architecture				
Shelter Paint Renovation	1	EA	\$ 5,000.00	\$ 5,000.00
Landscape				
Landscape Enhancements	1	LS	\$ 25,000.00	\$ 25,000.00
Trees - Ornamental	2	EA	\$ 300.00	\$ 600.00
Site Amenities				
Festival String Lights	1	LS	\$ 6,000.00	\$ 6,000.00
Bistro Chairs	40	EA	\$ 840.00	\$ 33,600.00
Bistro Tables	10	EA	\$ 2,400.00	\$ 24,000.00
Litter Receptacle	2	EA	\$ 960.00	\$ 1,920.00
18" Tall CIP Seat Walls	420	LF	\$ 20.00	\$ 8,400.00
Metal Seat Wall Back Rest	4	EA	\$ 5,000.00	\$ 20,000.00
Custom Water Feature	1	LS	\$ 250,000.00	\$ 250,000.00
Commissioned Art Mural on Buildings	1	EA	\$ 20,000.00	\$ 20,000.00
Subtotal - Base Bid				\$ 781,420.00
Mobilization /General Conditions - 5%				\$ 39,071.00
Contingency - 20%				\$ 156,284.00
Design / Engineering Services - 12%				\$ 112,524.48
Construction Cost				\$ 1,089,299.48
Additional Notes				
1. EA = Each, LS = Lump Sum, LF = Linear Foot, SF = Square Foot				
2. Assuming building renovation / future use is not part of plaza / intersection renovation project.				

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A number of assumptions were made as to actual conditions that will be encountered on site; the specific decisions of other design professionals engaged; the means and methods of construction the contractor will employ; the cost and extent of labor, equipment, and materials the contractor will employ; the contractor's techniques in determining prices and market conditions at the time, and other factors over which HDR, Iowa State University, and Trees Forever has no control.

Given the assumptions which must be made, HDR, Iowa State University, and Trees Forever cannot guarantee the accuracy of its opinions of cost, and in recognition of that fact, the city of Glenwood waives any claim against HDR, Iowa State University, and Trees Forever relative to the accuracy of the Opinion of Probable Cost.

Town Square Street Enhancements

The town square is the center of life and activity in Glenwood. The existing events that take place here and potential community activities would benefit from a large, flexible plaza space. The proposed design calls for the portion of 1st Street between Walnut Street and Vine Street to be converted into a shared-space street. This takes the emphasis away from the vehicles in a streetscape and creates a multi-modal zone for cars, pedestrians, and cyclists to share. The street has the potential to be shut down from vehicular traffic for special events with temporary bollards or fencing. This converts the street into a plaza space, as shown in the bottom image to the right. The daytime view shows the space in its typical use with cars and pedestrians sharing the street. The design proposes converting a few parking spaces into planting beds to bring in additional vegetation, break up the impervious surfaces, and calm traffic. The design retains all existing trees. The planting beds added to the east and west ends of the center parking lane will help direct traffic and slow speeds. The planting beds also define space on the north and south sides of the street for seating alcoves with seat walls and tables and chairs that can be utilized within the space when there are events. There is also the potential for public art that could highlight a local artist and become iconic for this area. Festival string lights will add a welcoming atmosphere at events and provide safety for pedestrians. The emphasis on pedestrians will activate businesses and bring life to the space year-round.

Plan of Proposed Town Square Shared Space Street



Existing | 1st Street



Proposed | Shared-Space Street Daytime View



Proposed | Shared-Space Street Nighttime Event View



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Opinion of Probable Cost | Town Square Street Enhancements

Description	Quantity	Unit	Unit Cost	Extended Amount
General Requirements				
Temporary Erosion Control	1	LS	\$ 10,000.00	\$ 10,000.00
Temporary Utilities	1	LS	\$ 10,000.00	\$ 10,000.00
Traffic Control	1	LS	\$ 15,000.00	\$ 15,000.00
Demolition				
General Site Preparation / Grading	1	LS	\$ 20,000.00	\$ 20,000.00
Remove Concrete Curb and Gutter	900	LF	\$ 60.00	\$ 54,000.00
Mill Asphalt Overlay	9,050	SF	\$ 5.00	\$ 45,250.00
Remove Concrete Curb Ramp	300	SF	\$ 12.00	\$ 3,600.00
Remove Concrete Sidewalk	5,800	SF	\$ 4.00	\$ 23,200.00
Full Pavement Removal	2,800	SF	\$ 12.00	\$ 33,600.00
Utilities				
Electrical Service	1	LS	\$ 30,000.00	\$ 30,000.00
Hardscape				
Clay Paver Type 1 - Parking Spaces	10,300	SF	\$ 25.00	\$ 257,500.00
Clay Paver Type 2 - Road	14,800	SF	\$ 25.00	\$ 370,000.00
Construct Asphalt Overlay	9,050	SF	\$ 5.00	\$ 45,250.00
Construct Detectable Warning Plates	80	SF	\$ 25.00	\$ 2,000.00
Construct Concrete Curb and Gutter	900	LF	\$ 60.00	\$ 54,000.00
Construct Concrete Curb Ramp	300	SF	\$ 15.00	\$ 4,500.00
Construct Concrete Sidewalk	7,850	SF	\$ 8.00	\$ 62,800.00
Landscape				
Landscape Enhancements	1	LS	\$ 45,000.00	\$ 45,000.00
Trees - Ornamental	3	EA	\$ 300.00	\$ 900.00
Trees - Shade	3	EA	\$ 450.00	\$ 1,350.00
Landscape Planter Curbs	630	LF	\$ 20.00	\$ 12,600.00
Site Amenities				
Festival String Lights	1	LS	\$ 20,000.00	\$ 20,000.00
Bistro Chairs	24	EA	\$ 840.00	\$ 20,160.00
Bistro Tables	6	EA	\$ 2,400.00	\$ 14,400.00
Litter Receptacle	2	EA	\$ 960.00	\$ 1,920.00
18" Tall CIP Seat Walls	170	LF	\$ 20.00	\$ 3,400.00
Commissioned Art	1	EA	\$ 50,000.00	\$ 50,000.00
Subtotal - Base Bid				\$ 1,210,430.00
Mobilization /General Conditions - 5%				\$ 60,521.50
Contingency - 20%				\$ 242,086.00
Design / Engineering Services - 12%				\$ 174,301.92
Construction Cost				\$ 1,687,339.42
Additional Notes				
1. EA = Each, LS = Lump Sum, LF = Linear Foot, SF = Square Foot				

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Implementation Strategies

The Visioning Program is just the first step of the planning process for the implementation of the projects that will contribute to an enhanced quality of life in Glenwood. It is the Design Team's intent to provide Glenwood with a framework for future enhancements to community development and resources. Although there is value in data gathering, analysis, conclusions, and recommendations, the greatest value is providing Glenwood residents with the opportunity to look at their community with new perspectives and to motivate future change within their community.

Based on economic return and increased quality of life, projects should be approached individually, keeping in mind that some may run concurrently and others may require additional phasing.

Way-finding | Improvements to way-finding throughout Glenwood will improve access to local businesses and attractions. This opportunity for commercial development and growth could entice a partnership with local business owners as well as volunteers with personal interest. Volunteers may also be interested in assisting with the entrance sign. An enhanced entrance experience into Glenwood will increase pride in the city. The residents of Glenwood are invested in the city's prosperity and aesthetic value and will likely be interested in adding to the aesthetics in the form of the entrance sign and landscape enhancements to the median on Locust Street. These way-finding features and entrance sign opportunities could get support from grant programs like the Iowa DOT Statewide Transportation Enhancement Funding Program. The median landscape enhancements could get support from the Alliant Energy and Trees Forever Branching Out Program. Local businesses with personal interest in the economic prosperity brought on from improved access and visibility with the addition of way-finding signage will be good resources for fundraising as well as the Iowa Economic Development Authority. These enhancements will improve aesthetics, navigation, and ease of access for Glenwood and many programs and groups will have interest in that growth.

Community Connection | Improvement of the pedestrian walkability and connectivity throughout Glenwood will improve safety, promote healthy lifestyle changes with increased activity, and provide better access to local businesses. Glenwood should look into grants and resources that focus on pedestrian safety, complete streets, and economic developments such as: Iowa DOT Statewide Transportation Enhancement Funding, Iowa DNR Recreation Infrastructure Program, Alliant Energy and Trees Forever Branching Out Program and more. Just like the way-finding enhancement, many people within the community have vested interest in these improvements and will be willing to help fundraise and volunteer time. Many of the routes of interest for improved sidewalks were selected because they are major routes to school; this could lead to a strong involvement from local schools and families. These enhancements can be phased based on funding and areas of most importance. Once the enhancements begin, the location

of crossings, HAWK beacons, and other amenities can be increased. The success of one project could lead to funding the next and so on. Phasing the implementation will also allow Glenwood to adapt these enhancements into whatever is most beneficial for the community, and time will be the indicator.

Intersection and Plaza Enhancements | The intersection of Locust and Sharp Streets is prominent in Glenwood and has been an eyesore for years. Many people in Glenwood have a personal interest in turning this vacant spot into a community amenity and gathering space. This enhancement will benefit from a public/private partnership because it is predominantly on private land and will be closely tied to whatever use takes over the existing building. The improvements within the right-of-way could get support from grants like the Iowa DOT Pedestrian Curb Ramp Construction Program and the Iowa DOT Statewide Transportation Enhancement Funding. Glenwood will also see economic development from this enhancement because it will connect the businesses on this block to town square by improving pedestrian access and providing street parking. These projects could be implemented in phases depending on the ownership of the private land and the proposed future use.

Town Square Street Enhancements | The shared-use space proposed for 1st Street in the town square improves access to local businesses, provides a plaza space with the ability to stop vehicular traffic for events, and enhanced aesthetics with art, vegetation, and improved lighting. These enhancements will benefit local businesses and provide a safe, unique, and memorable multi-modal experience. This project could also be implemented in phases depending on priorities of the public and donors. There are smaller features within this overall design that would be quicker to develop such as the enhanced landscape areas and public art opportunities. The public art opportunity is a great method of getting the community involved and interested by perhaps opening it to a local artist submittal and allowing residents to vote. There is the potential for a partnership with an event that is looking to use this shared-space street for certain events. Community investment, fundraising, and volunteers will influence which aspects of this project are able to happen first. There are grant programs that could help as well like Alliant Energy and Trees Forever Branching Out Program and the Iowa DOT Statewide Transportation Enhancement Funding.

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 Living Roadway 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
- State Recreational Trails Program
- Transportation Alternatives Program (TAP)



