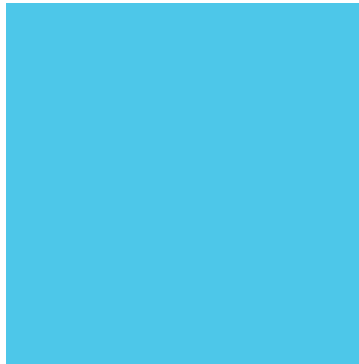


Final Report and Feasibility Study Shell Rock, Iowa



Program Partners:
Iowa Department of Transportation
Trees Forever
Iowa State University



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About RITLAND+KUIPER Landscape Architects

RITLAND+KUIPER Landscape Architects is a full-service landscape architectural firm with LEED accredited and CLARB and state of Iowa registered Landscape Architects. The firm consists of three full-time Landscape Architects with over 80 years of combined experience. Through teamwork, experience, research and careful assessment of specific project requirements, we are passionate about meeting individual client needs while providing creative and cost-effective solutions.

Craig Ritland originally founded the firm as Craig Ritland Landscape Architect in 1970 in Waterloo. Since developing the master plan for George Wyth Memorial State Park in the early 1970s, RKLA has participated in many of the important public improvements that have added to the quantity and quality of open space in Iowa. Throughout our history, RITLAND+KUIPER Landscape Architects has provided park and recreation master planning and detailed design and construction services for a diverse array of city, county, and state recreation areas.

We enjoy utilizing a highly interactive process with our clients, often through the facilitation of public input. One example of this is our annual work over the past 20 years with the Iowa Living Roadway's Community Visioning Program with Iowa State University and Trees Forever. We have guided the public input in over 40 different communities and have helped them develop actionable plans that, in many cases, have led to successful community enhancements.

RITLAND+KUIPER has extensive experience working within complex community frameworks where stakeholders from a City, County, and the larger community need to be brought together to create ownership and consensus in successful design of public improvements. We have been very successful in helping clients successfully phase projects and procure funding from a wide variety of sources.



RITLAND+KUIPER
LANDSCAPE ARCHITECTS

Program Overview

Shell Rock is one of 10 communities selected to participate in the 2021 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 Shell Rock visioning committee identified a number of goals and priority areas during the visioning process, which are included below:

- **Sidewalks + Connectivity:** The steering committee would like to enhance pedestrian connections to popular destinations within the community by creating sidewalks and trails for walkers, runners, and bicyclists.
- **Trails:** A connection from the community to Rolling Prairie Trail is a priority for Shell Rock and for Butler County. The steering committee sees the value in connecting the trail to Shell Rock and continuing Rolling Prairie Trail to connect to Waverly.
- **McCague Memorial Park Enhancements:** The creation of a sidewalk throughout the park connecting the existing and new features was very important to the community and the steering committee. Adding playground equipment for younger children and equipment that is more inclusive is another goal for the committee.
- **Downtown Gathering Space:** The steering committee would like to create an outdoor gathering space downtown for community events.



Program Overview

The city of Shell Rock is one of 10 communities selected to participate in the 2022 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:

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

Bioregional Assessment

Historical Settlement Patterns

This board 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.) and 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.

Shell Rock 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/nrgislib/>.

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

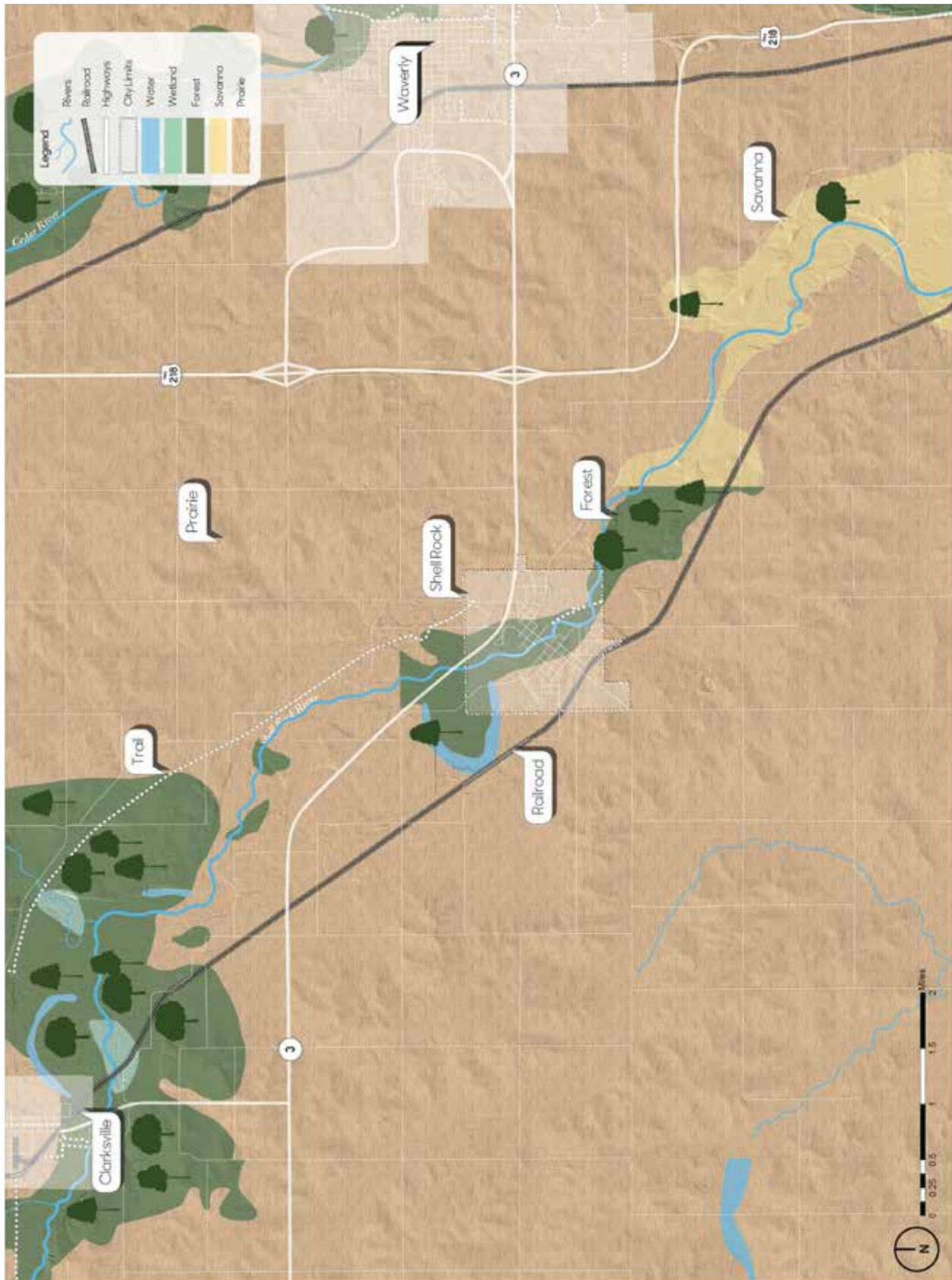
The names of plant communities mapped by the GLO surveyors varied. The original terminology used by the surveyors who made maps has been preserved in the original data, but we have re-named these types on this map to reflect names used to describe contemporary ecological vegetation communities.

Not all communities will have all vegetation types, because various conditions that effect vegetation- such as geology, exposure to wind, seasonally high water or ground water, and frequency of fire- differ from place to place.

The following types have been mapped :

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

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.



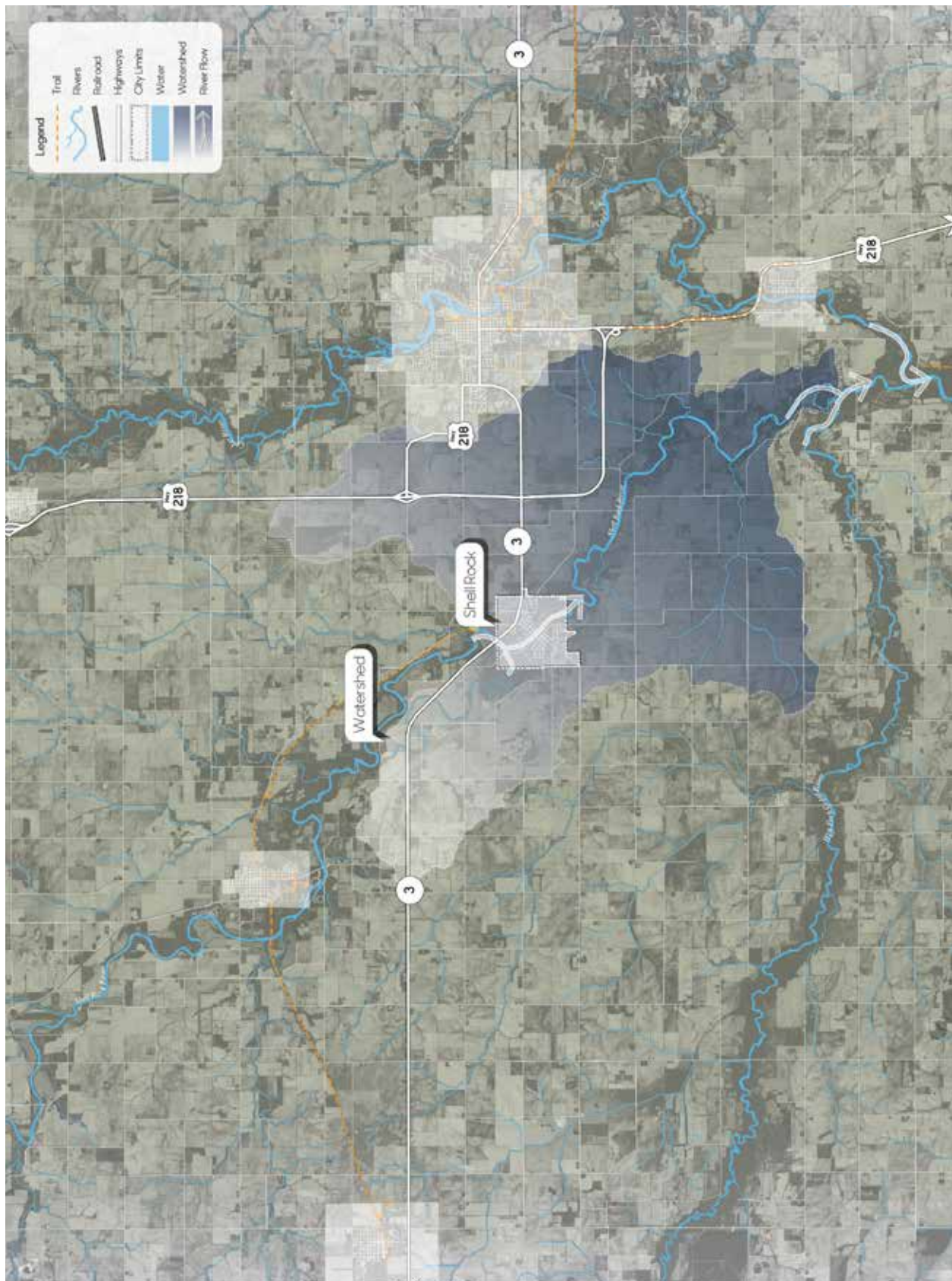
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.igsb.uiowa.edu/nrgislib/>.

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.



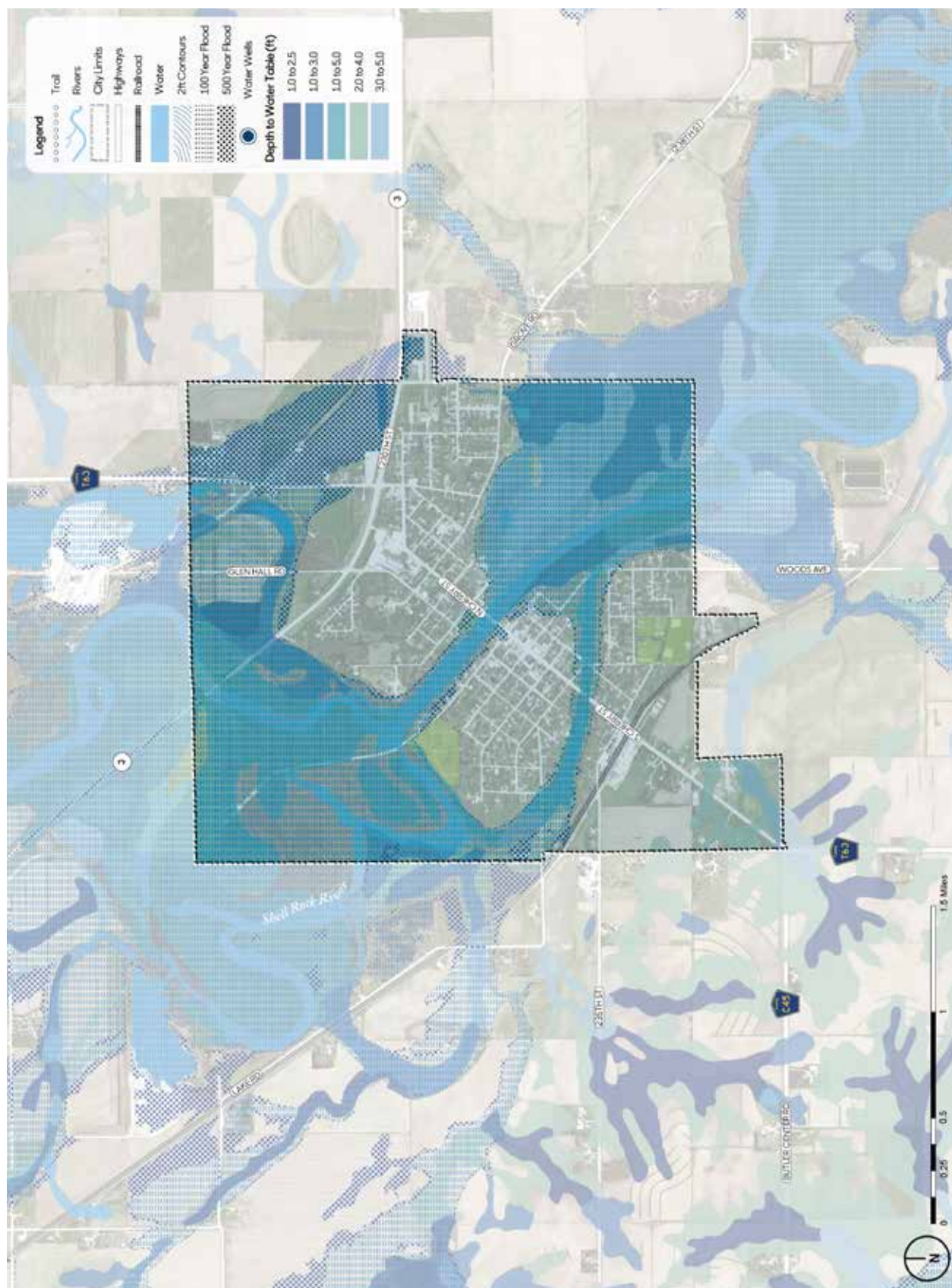
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.igsb.uiowa.edu/nrgislibx/>.

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.



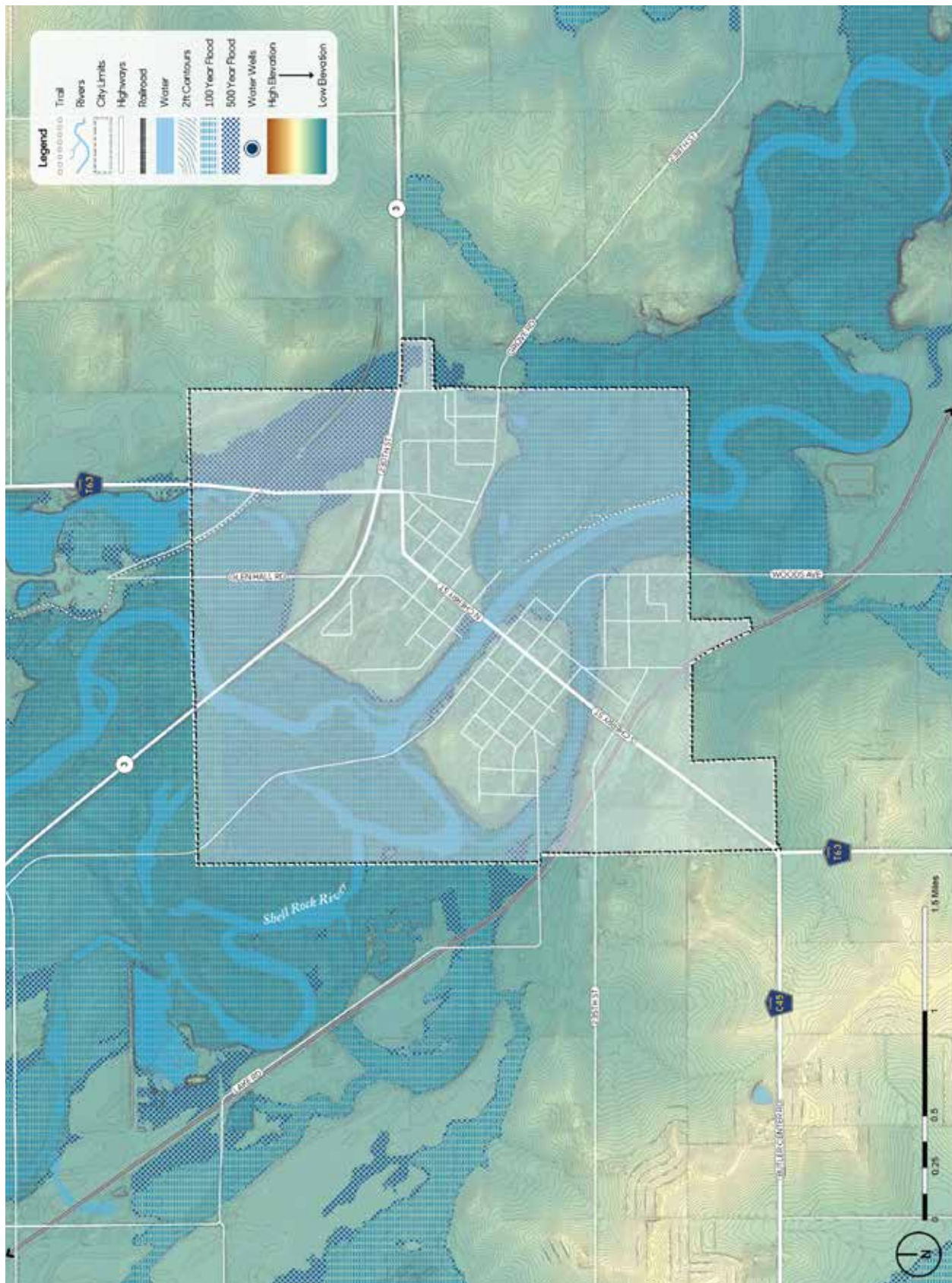
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.igsb.uiowa.edu/nrgislib/>.

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.



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

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.

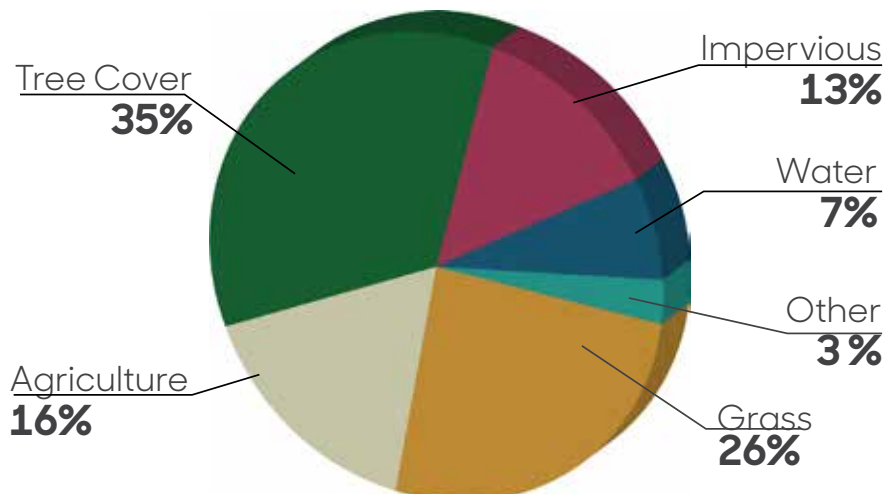
What do you observe about the dominant landcover types in your community?

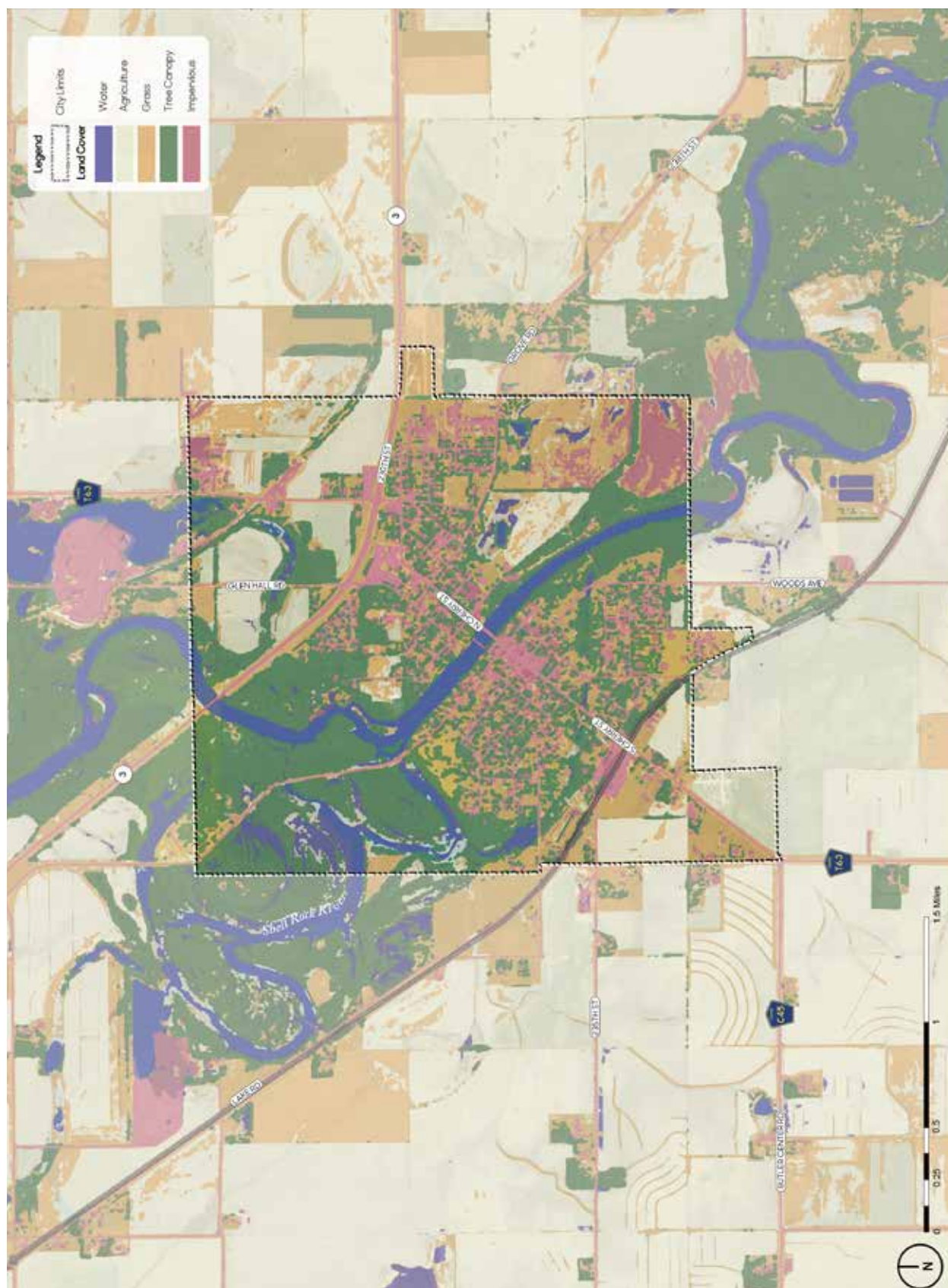
Where is the tree canopy most concentrated?

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





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

Landscape Change Over Time

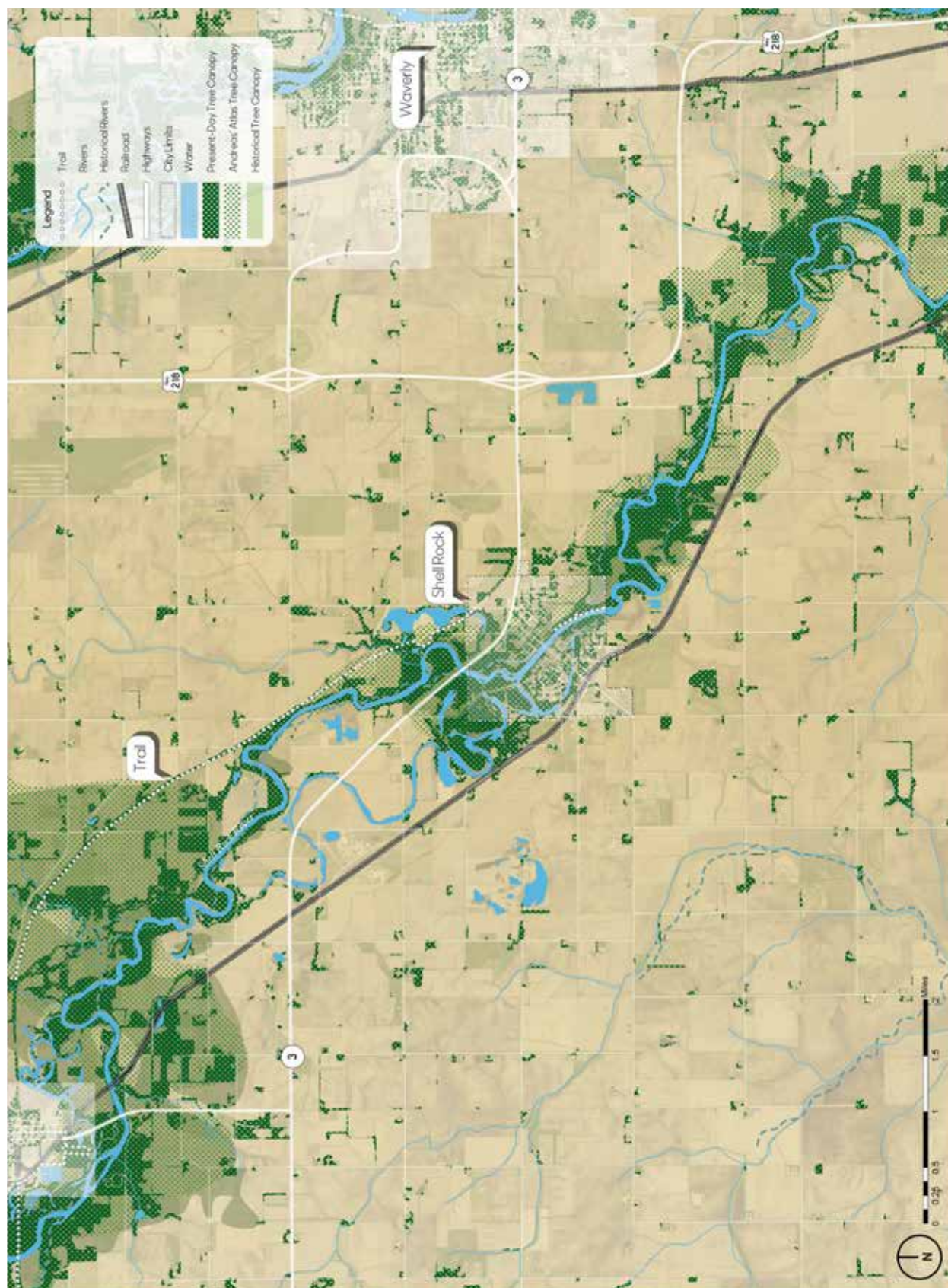
The map on this page shows how the landscape has changed over time, with an emphasis on vegetation and drainageways. The map is helpful for understanding how landscapes change and considering how these changes might affect how well the landscape works to support human and ecological needs.

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?

The following 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.



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

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 Shell Rock, 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 Shell Rock'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 Shell Rock residents with different transportation needs to participate in focus groups. A total of 47 residents attended Shell Rock's workshop. Participants were separated into five user groups and the Shell Rock 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.



The new bike repair station and shelter have been great additions to the trail.



Sidewalks along Cherry Street between Adair and Grove Streets are in poor condition or incomplete, and snow removal is inconsistent.



Cherry Street Bridge has wide, accessible sidewalks for pedestrians and cyclists. It is a great way to connect to the river and historic mill.



Fast-moving vehicles along Highway 3 make it difficult for pedestrians and motorists attempting to cross or turn.

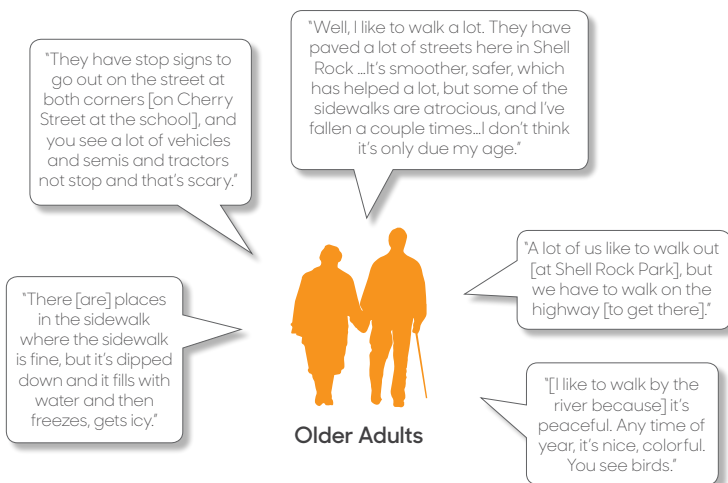
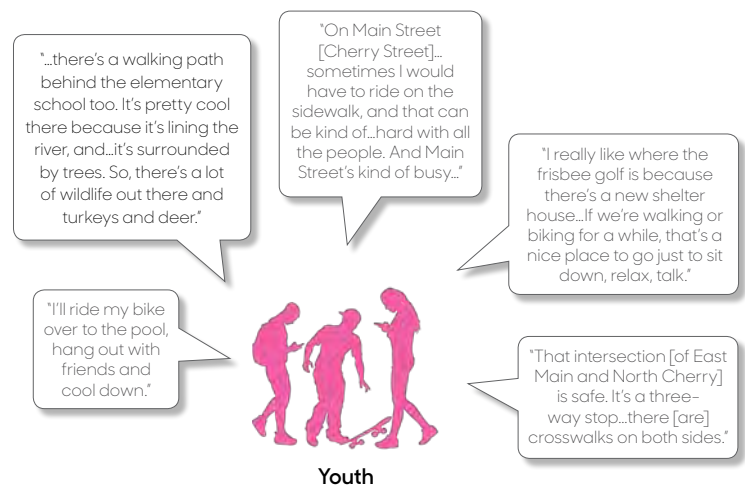


Rolling Prairie Trail offers a safe route with scenic views for walkers, runners, and bicyclists and connects residents with neighboring communities.



On-street parking downtown impedes visibility for pedestrians crossing Cherry Street.

What People Said





Parents

"[At] the corner at Cherry and Main Streets [it's] hard to see...and nobody stops at the stop sign going through town, for one. Second, when I want to turn left... you can't see over the bridge [really] well with the rail."

"...during school hours...they do put out a temporary stop sign... on the corner of West Adair...but I think partially because they're temporary just during those hours, people don't stop at them. I feel they don't see them."

"[The trail is] buggy [and it's] torn up. It's just not well-kept because it gets flooded so easily... It's literally right next to the river. There's nothing you can do to stop the flooding."

"Pushing a stroller [on the sidewalks] is super hard...[You] can't ride a bike in training wheels... Then, you have to walk on the street, because if you're not watching, you're going to trip over the sidewalk."

"My children are very excited to walk to the park a lot this summer. And the pool. They're excited about the pool."



Mobility Challenged

"My [child] has a wheelchair, so some places [downtown], we have to pick up [their] wheelchair to take [them] in...because there's no ramp. A lot of [businesses] have stairs to go into them."

"[Rasmussen Park Trail is] one of our favorite places to go because it's shaded...It's right by the river so it's so pretty and relaxing. It's a very short loop, so we can go down there...walk around, come back home...It's so convenient...but we can't get back there [because of the gravel entrance]."

"We had to avoid a lot of places...for lack of sidewalks because [my child's] wheelchair does not go over grass very well...We couldn't go down a lot of streets."

"When it's four of us [walking], we're usually in a line and you can't talk to anybody and that's frustrating too... you can't walk beside [a wheelchair] because [it] takes up almost the whole entire [sidewalk]."

"You can park [at City Hall], but you have to ride out [to the bike trail]...Then, you're on the road and there are... hundreds of semis..."



Steering Committee

"...coming in on Highway 3...lots of cars turn [left onto Center Street]. If you're driving a truck, that takes longer to stop...and it's kind of a blind curve...They may have their turn signal on, but...you can't see the signal. There [have] been a lot of close calls there."

"We have lots of kiddos [who] walk to the pool. We have a nice sidewalk and...crossing for when they go over the railroad tracks, but when they turn the corner by the co-op to go to the pool, there's no sidewalks on either side [of E Railroad and S James Streets]."

"It would be really handy if you could...walk all the way from one end of town to the other on the same side of the street."

"...my cause for concern [is] crossing Highway 3 [at the intersection with T63] to the bike trail as a family... [a] pedestrian overpass [would help]."

"You wouldn't have to worry about the traffic on North Public Road on either side of Highway 3 if you had a separate, designated path for the bikes and the walkers [from City Hall to the bike trail]."

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 drive, bike, and walk around town. They use Shell Rock Park and Rasmussen Trail for recreation and exercise. Actives are pet friendly and enjoy the wildlife hosted by the river. The group wants to see improvements to the sidewalk and trail system.

Mobility-challenged individuals move around Shell Rock via car, golf cart, bike and on foot. The group enjoys smooth, safe trails that highlight Shell Rock's wildlife. They would like Rasmussen Park revitalized as well as increased accessibility to other parks.

Older adults use golf carts and bikes. They also walk on the trails and at the cemetery. Most of the locations they go to are reachable on foot. They appreciate sidewalk improvements made downtown.

Youth walk, bike, and travel by car when going to school and neighboring towns. The group values the amenities and activities in town to keep them busy. They would like to see improvements to the sidewalk system.

Parents walk, bike, drive, and use golf carts in town. They stay active by making use of the Rolling Prairie Trail, Rasmussen Park Trail, biking along T63, and running on the sidewalks. Parents love the convenience of taking their kids to the parks and playground spaces.

Steering committee travels around by car, golf cart, biking, and walking. They utilize the trails and Shell Rock Park to stay in shape. The steering committee wants a safer connection to Rolling Prairie Bike Trail and a downtown gathering space.

[illegible]

Transportation Inventory and Analysis

Knowledge of the transportation systems in and around a community is critical for sustainable transportation enhancement planning. Shell Rock's transportation system includes roadways, sidewalks, and an active railroad.

The Shell Rock visioning design team met with the local officials to identify existing, past, and future transportation system capital improvements, maintenance activities and issues, and other transportation-related constraints and opportunities in the area.

Shell Rock, population 1,268, is located at the intersection of Highway 3 and County Roads T-63 and C-45, in eastern Butler County, roughly two miles west of U.S. 218.

Highway 3 and North Public Road is an intimidating intersection for bicyclists and pedestrians trying to utilize the Rolling Prairie Trail and limits trail users from entering town. The community would like a pedestrian-friendly crossing over/under Highway 3 and a designated pathway on North Public Road to create a greater sense of safety and provide a connection to the existing trail. Residents mentioned using Grove Street/238th Street to create a connection with other existing bike trails in nearby communities. These trail expansions would give Shell Rock residents safer bicycle and pedestrian routes throughout the community.

Shell Rock Elementary School is part of the Waverly-Shell Rock School District. During the visioning process, community members expressed interest in a more specific drop-off location at Shell Rock Elementary to reduce congestion before and after school. A clearly identified drop-off location would ease vehicular traffic and create a safer environment for parents and students traveling through the area.

The intersection of Cherry and Washington Street has heavy vehicular and pedestrian traffic because it is in the heart of downtown Shell Rock. This traffic causes visibility issues at the intersection, primarily for those crossing or turning onto Cherry Street from Washington Street.



Areas of Concern



(A) Cherry Street and Washington Intersection



(B) Looking west on Highway 3



(C) South Cherry Street bridge



(D) Cherry Street near Shell Rock Elementary

Transportation Inventory & Analysis

4
2022

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Shell Rock Transportation Inventory

RITLAND+KUIPER Landscape Architects
Landscape Architects: Craig Ritland, FALSA & Samantha Price, ASLA
Intern: Amber Pearce
Iowa State University | Tree Forever | Iowa Department of Transportation



Community Concept Plan

During the Design Workshop, residents had an opportunity to come visit with the design team to learn about the Community Visioning process and potential community projects. Residents were encouraged to review the analysis boards created by Iowa State University and asked to leave feedback on the projects chosen by the Shell Rock visioning committee.

Residents would like better pedestrian circulation routes in Shell Rock. During the open house, residents had the opportunity to highlight key routes they use or would like to use to walk or bike. Based on this public input, the design team was able to identify priority routes and analyze the current connectivity of the routes and the desired destinations. This analysis determined the priority sidewalk and trail routes for walkers, runners, and bicyclists to use to connect to popular destinations in town, as shown on the Sidewalk + Connectivity, board 6.

Trail accessibility is an issue because pedestrians have to cross Highway 3 to get to Rolling Prairie Trailhead. A pedestrian underpass or crosswalk would offer a safer route between the trailhead and the community. Creating a pedestrian crossing and extending Rolling Prairie Trail to Waverly would benefit Shell Rock and nearby communities by connecting them and a longer bike route for people to enjoy.

McCague Memorial Park Enhancements are focused on providing accessibility and circulation throughout the park. The proposed sidewalks in the park create a smooth, paved surface that gives residents better access to the park features such as the playground, shelter, and restrooms.

The downtown gathering space would create a permanent outdoor location where the community can come together and hold events, such as a holiday celebration or concert. The proposed gathering space provides seating, lighting, and shade for residents to enjoy on a daily basis.

Concept Overview

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Shell Rock Concept Overview



Sidewalks + Connectivity, board 6



McCague Memorial Park Enhancements, board 8



Trail Connections Plan, board 7



Downtown Gathering Space, board 9

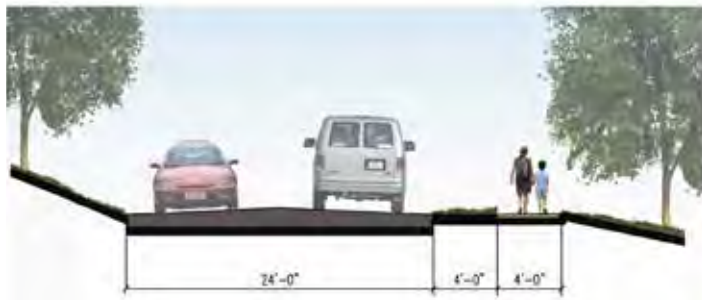
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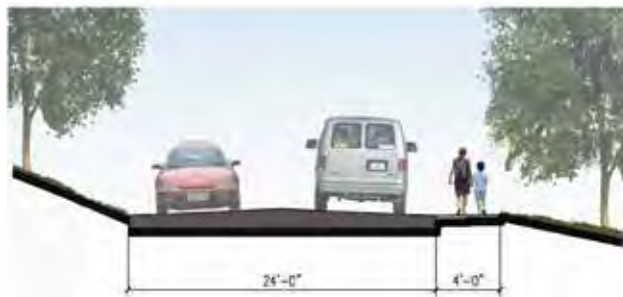
Sidewalks + Connectivity

The steering committee is proud of all the improvements Shell Rock has made throughout the community. The updated city hall building boasts a picnic shelter, public restrooms, and a bike repair station to accommodate the Rolling Prairie Trailhead to the north; a new aquatic center was just built; and the community has a new housing division to the south. The community would now like to see sidewalks and trails connecting all these features, so the residents can walk or bike to their destinations.

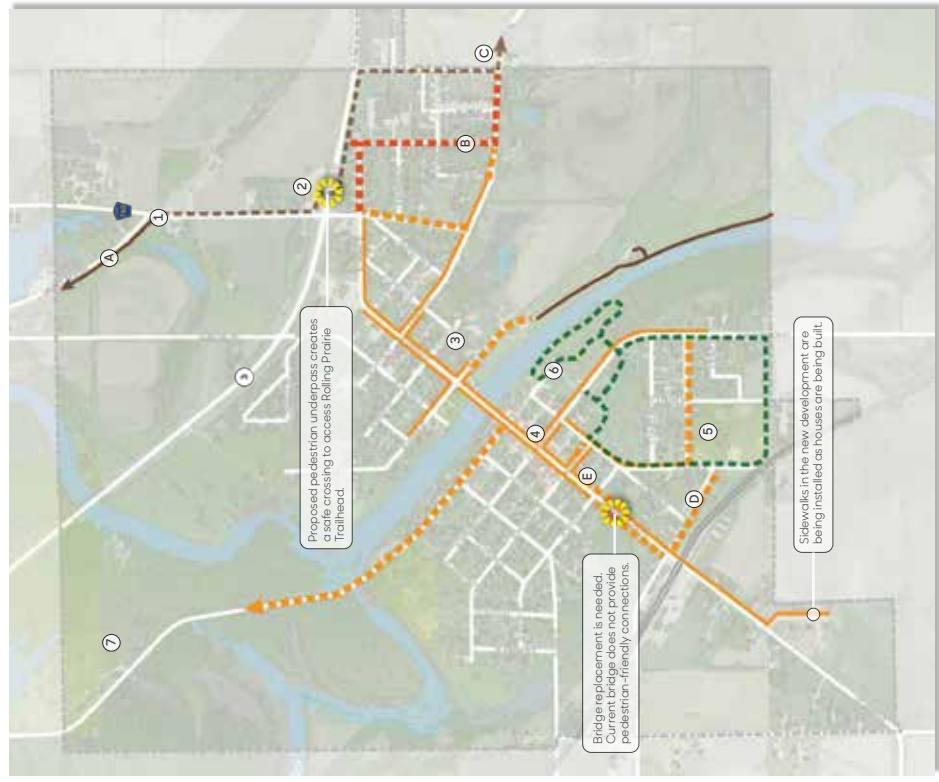
The design team recommends several approaches to connectivity based on the safest and most feasible options for existing conditions. Preferred walking routes identified during the design workshop established where the design team focused their attention. Continuing sidewalks throughout the community would greatly benefit those wanting to walk to destinations centrally located such as the downtown, the library, or the school. Shell Rock has a lot of public land near the Shell Rock River and in other areas that are prone to flooding due to FEMA buyouts that could be utilized to create a walking trail within the community. Share-the-road routes for cyclists and sidewalks adjacent to the roadway could be used for areas where traditional sidewalks or a trail are not feasible.



Typical Sidewalk Cross-section



Sidewalk adjacent to the Roadway



Sidewalks + Connectivity

The steering committee is proud of all the improvements Shell Rock has made throughout the community. The updated city hall building boasts a picnic shelter, public restrooms, and a bike repair station to accommodate the Rolling Prairie Trailhead to the north; a new aquatic center was just built; and the community has a new housing division to the south. The community would now like to see sidewalks and trails connecting all these features so the residents can walk or bike to their destinations.

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Cross Sections



- Legend**
- Existing Sidewalk
 - Proposed Sidewalk
 - Share-the-Road Trail
 - Walking Trail
 - Existing Trail
 - Proposed Trail
 - Proposed Pedestrian Enhancements
- Shell Rock Destinations**
- 1 Existing Rolling Prairie Trailhead
 - 2 Shell Rock City Hall
 - 3 Shell Rock Elementary
 - 4 Downtown
 - 5 Shell Rock Aquatic Center & McCague Memorial Park
 - 6 Proposed Walking Trail Parking
 - 7 Shell Rock Park Campground

Shell Rock
Sidewalks + Connectivity

RITLAND+KUIPER Landscape Architects
Landscape Architects: Craig Ritland, FASLA, & Samantha Price, ASLA
Intern: Amber Pearce
Iowa State University | Trees Forever | Iowa Department of Transportation



Sidewalks + Connectivity - Opinion of Probable Cost

The following cost opinion is based on estimated material quantities and contracted installation prices. Project costs can decrease with donated materials, reduced cost materials, and volunteer labor. All quantities are estimated and a site survey should be conducted prior to implementation to verify quantities shown in the cost opinion. The design team suggests pricing equipment from several sources to ensure you get competitive pricing.

The visioning committee can use this estimate as a tool to determine what our option would be for estimated costs. Additional items to budget for include a percentage of the overall project costs and are as follows: 20% contingency, 15% mobilization and 15% design and engineering fees.

Abbreviations used in the following cost opinion include:

CY = cubic yard SF= square feet EA = each LS = Lump Sum

TBD = to be determined SY= square yard

Sidewalks + Connectivity	QTY	Unit	Unit Cost	Subtotal
General Requirements				
Traffic Control	1	TBD		
Temporary Erosion Control	1	TBD		
Site Grading	1	TBD		
Pavement Removal for 100 LF				
Sidewalk, 100 LF, 4" depth, 4' wide	44	SY	\$15.00	\$660.00
Curb & Gutter, 100 LF	100	LF	\$15.00	\$1,500.00
Sidewalk or Trail Installation per 100 LF				
Granular 10' Trail (Crushed Limestone 6" Thick)	1,000	SF	\$1.40	\$1,400.00
4' Sidewalk	400	SF	\$8.50	\$3,400.00
6' Sidewalk	600	SF	\$8.50	\$5,100.00
8' Trail	800	SF	\$8.50	\$6,800.00
10' Trail	1,000	SF	\$8.50	\$8,500.00
Pavement Markings for Share-the-road	100	LF	\$1.00	\$100.00
ADA Curb Ramps with Warning Panels	1	EA	\$950.00	\$950.00
Highly-Visible Crosswalk	1	EA	\$500.00	\$500.00
Share-the-road Signage	1	EA	\$150.00	\$150.00
Plantings				
Shade Trees	1	EA	\$400.00	\$400.00
Amenities				
Signage	1	EA	\$500.00	\$500.00
Benches	1	EA	\$2,000.00	\$2,000.00

Design Expertise Recommended

Projects may require help beyond the capability of the Shell Rock Visioning Committee or available city staff. For this improvement project, the visioning committee should expect to engage the services of a landscape architect, surveyor, or civil engineer.

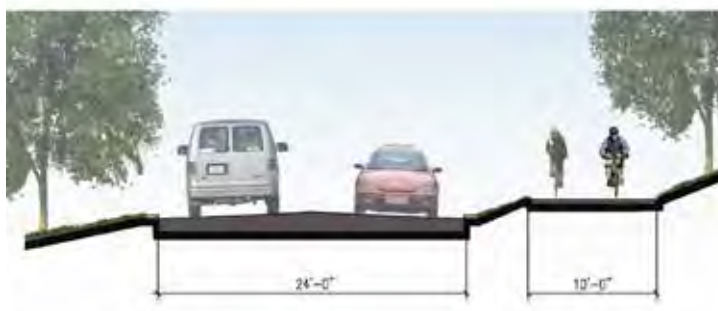
Sidewalks and Trails Cost Considerations

To lower the overall costs, 4' to 8' sidewalks could be implemented in lieu of a 10' trail. This approach cuts down on grant opportunities but could be implemented in areas where a 4' sidewalk would work, and local funding can be used.

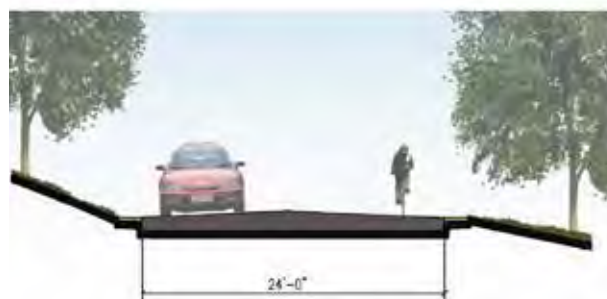
Without a site survey, it is challenging to consider all costs that could be associated with this project. The design team has broken down the costs associated with 100 linear feet of 4' to 10' pavement, including removal costs and other associated costs. Alternative materials could be used such as crushed limestone or asphalt. An asphalt trail would not significantly reduce the costs but may be the preferred material for the community.



Walking and Bicycle Trail



Off-Road Trail in the Right-of-Way



Share-The-Road Trail

Trail Connection Plan

Shell Rock residents strongly desire a safe way to cross Highway 3 to access the trailhead for Rolling Prairie Trail. One focus-group participant said, "My cause for concern [is] crossing Highway 3 [at the intersection with T63] to the bike trail as a family... [a] pedestrian overpass [would help]," (reference board 3b, What People Said). During the transportation inventory and analysis meeting, a story about a neighboring community that was successful in building an underpass thanks to their involvement with Community Visioning was discussed and a new idea was sparked. "Love the idea of an underpass," "underpass is good to avoid traffic," "this is feasible!" and "safest to go under the highway" were all comments left on the images shown by the design team of an underpass during the design workshop.

The safe connection from the community of Shell Rock to the Rolling Prairie Trailhead and the continuation of the trail to the east to connect to Waverly are high priorities for the community and also for Butler and Bremer Counties. The steering committee expressed its desire to draw trail users into Shell Rock, in response, the design team is suggesting creating share-the-road routes to popular destinations and updating the existing signage to include signage along the proposed future trail.

Rolling Prairie Trail primarily follows the former railroad right-of-way and connects Shell Rock, Clarksville, Allison, Bristow, and Dumont, all in Butler County. The preferred route to connect the trail to Waverly is on Grove Road/238th Street, a gravel road on the southeast side of Shell Rock. If this route was used, the road would be paved and a trail would be established in the right-of-way. The connection through Shell Rock from the Rolling Prairie Trailhead needs to be further explored but the design team is suggesting an underpass close to the Shell Rock City Hall and utilizing public land on the south side of Highway 3 to N Kelly Street, where the trail would share-the-road for three blocks before connecting to Grove Road and continuing on to Waverly. Center Street could be another possible route if a trail could be established in the right-of-way. However, many residents noted that Center Street has a lot of traffic and should be avoided as a potential share-the-road route. Once the connection was made to the Butler/Bremer County line from Shell Rock, Bremer County would be responsible for continuing the connection to Waverly, where the trail can connect to the existing Waverly Rail Trail, which extends to the communities of Denver and Readlyn.

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Shell Rock Trail Connection Plan



① Existing view from Shell Rock City Hall parking lot looking south to Highway 3



② Proposed pedestrian underpass below Highway 3 connects the Rolling Prairie Trail to the north with Shell Rock to the south



The graphic, to the left courtesy of Iowa Northland Regional Council of Governments, shows the existing and planned routes for the Rolling Prairie Trail. The planned route from Shell Rock to Waverly utilizes the paved shoulder on Highway 3, which is considered unsafe by most.

- Legend
- Existing Paved Trail
 - Existing Route on Road
 - Planned Trail
 - Arterial Road
 - Other Road

RITLAND•KUIPER Landscape Architects
Landscape Architects: Craig Ritland, FASLA & Samantha Price, ASLA
Intern: Amber Pearce
Iowa State University | Trees Forever | Iowa Department of Transportation



Trail Connection Plan – Opinion of Probable Cost

The following cost opinion is based on estimated material quantities and contracted installation prices. Project costs can decrease with donated materials, reduced cost materials, and volunteer labor. All quantities are estimated and a site survey should be conducted prior to implementation to verify quantities shown in the cost opinion. The design team suggests pricing equipment from several sources to ensure you get competitive pricing.

Abbreviations used in the following cost opinion include:

CY = cubic yard SF= square feet EA = each LS = Lump Sum

Trail Connection Plan	QTY	Unit	Unit Cost	Subtotal
General Requirements				
Traffic Control	1	LS	\$60,000.00	\$60,000.00
Temporary Erosion Control	1	LS	\$25,000.00	\$25,000.00
Site Grading	452	CY	\$30.00	\$13,560.00
Underpass				
Retaining Wall	380	SF	\$250.00	\$95,000.00
Railing	380	LF	\$75.00	\$28,500.00
Underpass & Road Repair	1	LS	\$1,000,000.00	\$1,000,000.00
Site Utility Allowance	1	LS	\$300,000.00	\$300,000.00
Pavement				
4" Concrete Trail (10' wide)	121,260	SF	\$8.50	\$1,030,710.00
Pavement Markings for Shared Road Trail	2,500	LF	\$1.00	\$2,500.00
Lawn/Seed Mix & Prep (2' each side)	24,252	SF	\$0.15	\$3,637.80
ADA Curb Ramps with Warning Panels	1	EA	\$950.00	\$950.00
Highly-Visible Crosswalk	1	EA	\$500.00	\$500.00
Share-the-road Signage	4	EA	\$150.00	\$600.00
Plantings				
Shade Trees	20	EA	\$400.00	\$8,000.00
Amenities				
Signage	4	EA	\$500.00	\$2,000.00
Benches	10	EA	\$2,000.00	\$20,000.00
			Subtotal	\$2,590,957.80
			Contingency (10%)	\$259,095.78
			Mobilization (15%)	\$388,643.67
			Design/Engineering (15%)	\$388,643.67
			TOTAL	\$3,627,340.92

Design Expertise Recommended

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Existing view from Shell Rock City Hall parking lot looking south to Highway 3



Proposed pedestrian underpass below Highway 3 connects the Rolling Prairie Trail to the north with Shell Rock to the south

Memorial Park Enhancements

McCague Memorial Park is located on the south side of town, adjacent to the Shell Rock Aquatic Center and ball diamonds. The park has existing features in good condition, such as a playground, shelter, restrooms, and ball courts, but lacks sidewalk connectivity and accessibility. In addition, residents expressed the need for another shelter and parking spaces to serve this popular destination.

For residents who drive to the park, pull-in parking would be located between the tennis courts and Pearl Street. The proposed sidewalks would extend from the existing roadways into the park for easy pedestrian-friendly access, connect to existing park amenities, and create routes for those who enjoy walking in the park.

The proposed sidewalk loop around the exterior of the playground would allow parents and guardians to be mobile while supervising their children on the equipment and provides locations for benches. Additionally, the playground area has been increased to allow for new play equipment, because residents expressed the need for inclusive equipment and equipment for younger children. By introducing new equipment, more children will be able to enjoy the playground. The design team recommends resurfacing the playground with ADA-compliant surfacing material, such as engineered wood-fiber mulch, synthetic turf, or pour-in-place safety surfacing.

McCague Memorial Park Enhancements

8
2022

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Photo Credit: Landscape Structures, www.playlife.com



Molded Bucket Seat, ages 2-5 years old



OmniSpin Spinner, ages 2-12 years old



Oodles Swing, ages 5-12 years old



Nook and Loft, ages 6 months-5 years old
Inclusive playground equipment photos courtesy of Landscape Structures and were found at www.playlife.com.



Legend

- 1 Proposed Sidewalks
- 2 Proposed Shelter
- 3 Existing Playground Equipment and Proposed Playground Equipment Additions
- 4 Proposed Bench (Typical)
- 5 Existing Shelter
- 6 Existing Basketball Court
- 7 Existing Sand Volleyball Court
- 8 Existing Restrooms
- 9 Existing Ball Diamonds
- 10 Existing Tennis Courts
- 11 Existing Batting Cage
- 12 Proposed Parking

Shell Rock Memorial Park Enhancements

RITLAND+KUIPER Landscape Architects

Landscape Architects: Craig Ritland, FASLA, & Samantha Price, ASLA
Intern: Amber Pearce
Iowa State University | Trees Forever | Iowa Department of Transportation



Memorial Park Enhancements – Opinion of Probable Cost

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Abbreviations used in the following cost opinion include:

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LS = Lump Sum

Memorial Park Enhancements	QTY	Unit	Unit Cost	Subtotal
6' Sidewalk				
Excavation	350	CY	\$14.00	\$4,900.00
4" PCC w/ 6" gravel	11,350	SF	\$8.50	\$96,475.00
Lawn/Seed Mix & Prep (2' each side)	7,600	SF	\$0.15	\$1,140.00
Playground				
Engineered wood-fiber mulch	8,600	SF	\$2	\$17,200
New Playground Equipment	TBD	TBD		
Parking Lot				
Excavation	120	CY	\$14.00	\$1,680.00
4" PCC w/ 6" gravel	3800	SF	\$8.50	\$32,300.00
Lawn/Seed Mix & Prep (2')	1	LS	\$250.00	\$250.00
Handicap Parking Only Sign	1	LS	\$500.00	\$500.00
Shelter				
Park Shelter	1	LS	\$50,000.00	\$50,000.00
Amenities				
Park Sign	1	LS	\$1,500.00	\$1,500.00
Bench Pads	72	SF	\$8.50	\$612.00
Bench	4	EA	\$1,500.00	\$6,000.00
Tree Plantings	TBD	EA	\$350.00	
ADA Curb Ramps & Warning Panels	2	EA	\$950.00	\$1,900.00
Pedestrian Lighting*	TBD	EA	\$3,000	
*The spacing of the pedestrian lighting depends on the height of the lighting that is chosen, therefore the quantity is to be determined.			Subtotal	\$214,457.00
			Contingency (10%)	\$21,445.70
			Mobilization (5%)	\$10,722.85
			Design/Engineering (15%)	\$32,168.55
			TOTAL	\$278,794.10

Design Expertise Recommended

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Legend

- ①

Proposed Sidewalks
- ②

Proposed Shelter
- ③

Existing Playground Equipment and Proposed Playground Equipment Additions
- ④

Proposed Bench (Typical)
- ⑤

Existing Shelter
- ⑥

Existing Basketball Court
- ⑦

Existing Sand Volleyball Court
- ⑧

Existing Restrooms
- ⑨

Existing Ball Diamonds
- ⑩

Existing Tennis Courts
- ⑪

Existing Batting Cage
- ⑫

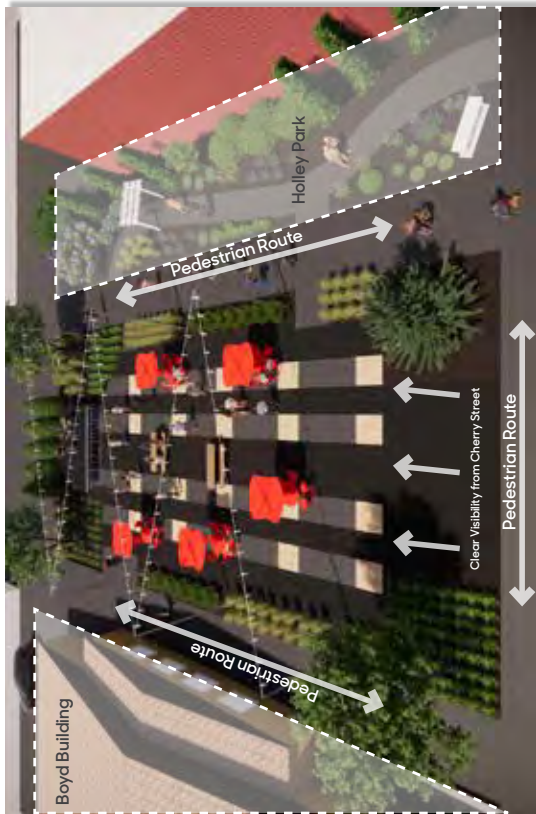
Proposed Parking



Downtown Gathering Space

Shell Rock boasts an impressive lineup of community activities throughout the year. Currently, part of Washington Street is blocked off periodically for local seasonal festivals, including Shell Rock's annual 4th of July festival. This section of the street is also the site of the Christmas tree and village in the winter. The steering committee expressed interest in permanently closing a half block of Washington Street between Holley Park and the Boyd Building. Alley access and driveways on the west side of Washington Street would remain accessible. Permanent closure would mean designing the space for year-round activities with space for a stage, outdoor seating, festoon lighting, and even a permanent location to plant an evergreen tree for the Christmas tree lighting. Pathways have been created to connect with the existing sidewalk in Holley Park, as well as to the north facing entrance to the Boyd Building. These pathways to and from the gathering space provide pedestrian-friendly circulation to the existing infrastructure. Existing pedestrian routes along Cherry Street and Washington Street are maintained and not impacted by the public gathering space.

The closure of this street was a hot topic during the design workshop with many residents opposed to this change. All the participants loved the idea of an outdoor community gathering space but the location was the issue. Some residents did not like the idea of having to use an alternative route either one block north or one block south of Washington Street to reach their destinations. Parking was also a concern. The closure would eliminate several parking locations close to the Boyd Building rear entrance. The design team is recommending ensuring there are designated handicapped accessible stalls at the front entrance and marking the parking spaces available at the rear of the building.



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Shell Rock

Downtown Gathering Space

- Boyd Building
- Proposed Exterior Seating
- Permanent Christmas Tree
- Proposed Festoon Lighting
- Proposed Stage Location
- Proposed Shade Trees & Planting Beds
- Holley Park



View from Cherry Street toward Holley Park and Boyd Building



The street closure is shown in red in the above graphic



Proposed gathering space could include a permanent or portable stage with a variety of seating options

RITLAND+KUIPER Landscape Architects

Landscape Architects: Craig Ritland, FASLA, & Samantha Price, ASLA

Intern: Amber Pearce

Iowa State University | Trees Forever | Iowa Department of Transportation



Downtown Gathering Space – Opinion of Probable Cost

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Abbreviations used in the following cost opinion include:

CY = cubic yard SF= square feet TBD = to be determined EA = each
LS = Lump Sum AL= allotment

Downtown Gathering Space	QTY	Unit	Unit Cost	Subtotal
Pavement				
Demolition	1	LS	\$20,000.00	\$20,000.00
Excavation	904	CY	\$14.00	\$12,656.00
Clean Fill (6" depth)	452	CY	\$10.00	\$4,520.00
4" PCC w/ 6" gravel (Sidewalks)	3,060	SF	\$8.50	\$26,010.00
4" Colored Concrete	3,672	SF	\$20.00	\$73,440.00
6" Concrete Curb	146	LF	\$18.00	\$2,628.00
ADA Curb Ramps & Warning Panels	2	EA	\$950.00	\$1,900.00
Site Utilities				
Electrical	1	TBD		
Water Hook Up & Irrigation	1	TBD		
Plantings				
Amended Top Soil	208	CY	\$20.00	\$4,168.89
Shade Trees	4	EA	\$400.00	\$1,600.00
Evergreen Trees	7	EA	\$350.00	\$2,450.00
Shrub & Perennial Plantings	1	AL	\$10,000.00	\$10,000.00
Mulch (3" Depth)	1,876	SF	\$1.00	\$1,876.00
Water Hook Up & Irrigation	1	TBD		
Amenities				
Picnic Tables with Umbrellas	5	EA	\$3,000.00	\$15,000.00
Picnic Tables	3	SF	\$2,500.00	\$7,500.00
Portable Stage	1	EA	\$15,000.00	\$15,000.00
Bicycle Rack	1	EA	\$500.00	\$500.00
Festoon Lighting	1	LS	\$15,000.00	\$15,000.00
			Subtotal	\$214,248.89
			Contingency (10%)	\$21,424.89
			Mobilization (15%)	\$32,137.33
			Design/Engineering (15%)	\$32,137.33
			TOTAL	\$299,948.44

Design Expertise Recommended

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View from Cherry Street toward Holley Park and Boyd Building



Proposed gathering space could include a permanent or portable stage with a variety of seating options

Implementation Strategies

The Visioning Program is just the beginning of the planning process for implementation of projects that will contribute to an enhanced quality of life in Shell Rock. Although there is much value in data gathering, analysis, conclusions and recommendations, the greatest value is providing the residents of Shell Rock 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 of community resources. It is recommended that projects be approached individually, keeping in mind some may occur at the same time or may require phasing to be completed. Short term projects are those that can be more easily accomplished or address safety issues. Long range projects will need to be implemented based on available funds and agreements with private landowners. Based on the strategy that early success builds momentum, we recommend the first projects be those that can be more easily accomplished and be highly visible.

Trail Connection: The design team is recommending starting the conversation with the stakeholders regarding the Rolling Prairie Trail connection to Waverly's leg of the trail. The Iowa Department of Transportation, the City of Shell Rock, INRCOG, and Butler County Conservation should all be involved. The concept shows several potential routes and more analysis and planning will be needed to fully implement this project.

Sidewalks + Connectivity: New sidewalks throughout the community can be phased as time and resources allow. The important routes shown to popular destinations could be phased projects as time and resources allow. The city of Shell Rock is fortunate to have public land where trails could be added easily as funding allows. The Cherry Street bridge replacement should be a top project as it will allow safer routes for pedestrians to get to all of the popular destinations in Shell Rock, including the school and the park. The design team suggests fundraising begins immediately for that project and a plan be in place to include new sidewalks that would connect to existing sidewalks along Cherry Street.

McCague Memorial Park: The design team recommends fundraising begins immediately for this project. Several circulation routes could be implemented without impacting potential future playground equipment installation. An assessment of existing playground equipment should be completed and a phasing out plan be in place. Implementation of new equipment can be done as older equipment is replaced.

Downtown Gathering Space: Community support is needed for this project to be successful. The design team suggests conducting public meetings regarding this project as first steps to implementation. Blocking the street and installing temporary features is another easy first step the committee could accomplish as the project develops.

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

- 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)

Appendix A

Refer to the full Community Project Funding Guide at:
TreesForever.org/Community-Project-Funding-Guide

Trees Forever Community Project Funding Guide

The following shows what categories are in the table of contents. Refer to the online guide which includes specific grants available for each category of the table of contents.

Table of Contents

- Downtown Streetscape
- Historic Preservation, Ecological Restoration & Education
- Park/Open Space Acquisition
- Trees & Plants
- Trails

Appendix B

Refer to the full IDOT funding guide at: http://www.iowadot.gov/pol_leg_services/funding-guide.pdf

Included in this appendix is the list of programs available, more information is located at the link above.

Guide to Transportation Funding Programs of interest to local governments and others

In this document you will find information regarding state and federal programs that provide transportation project funding of interest to local governments and other entities. This information is intended to serve as a guide for preliminary funding searches. For more detail, we encourage you to contact the Iowa Department of Transportation (DOT) bureau listed for each program. (In some cases, the DOT district office or a Regional Planning Affiliation/Metropolitan Planning Organization is the recommended contact – maps and information for your area can be found beginning on page 73.)

As always, to help you find as many potential funding sources as possible, we have included some programs under more than one heading.

Notes:

- “Annual funding” or “available” amounts *exclude* any supplemental funding.
- Much of the program information herein will change due to the recently enacted Infrastructure Improvement and Jobs Act. As implementation details are released, those changes will be reflected in this guide.

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District Transportation Planners' Areas of Responsibility

Metropolitan Planning Organizations and Regional Planning Affiliations

