Final Report and Feasibility Study

Adel, Iowa

gēnus

[landscape architects]

Program Partners:

Iowa Department of Transportation
Trees Forever
Iowa State University

Iowa's Living Roadways community visioning

Participants

Town Steering Committee

Amy Lucht
Bryce Smith
Dan Juffer
Deb Bengtson
Doug Pfeiffer
Elizabeth Holland
Jeremy Schwertfeger
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Fan-Kai Lin
Landscape Architecture Intern
Iowa State University

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About Genus Landscape Architects

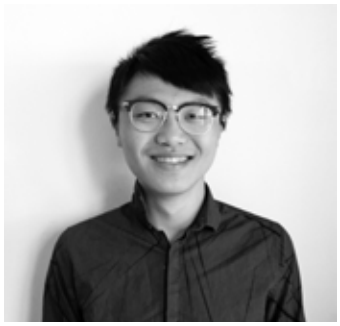
Located in the East Village of Des Moines, Iowa, gēnus is an award-winning professional consulting firm specializing in landscape architecture, planning, project management, and visual design services for clients throughout the Midwest. Our team has provided planning leadership and design excellence for Universities across the Midwest and East Coast.

Established in 2005, gēnus is focused on enhancing the quality of people's lives and the condition of the built environment through the discipline of landscape architecture. The foundation of our practice lies in the pursuit of creating artful landscapes that function: places which inspire lasting memories while meeting the needs of clients, user groups, and harmonizing with the larger ecological systems in which they exist. A commitment to innovative design, stakeholder involvement, and client satisfaction is demonstrated throughout our portfolio.

Eric Holt is the project manager for the Adel Visioning Project. He lead the team through the entire process, leading research, designs and managing tasks. Eric brings a level of experience and practicality to the project to deliver solid designs and concepts to the City of Adel.

Paige Hubbard is an Associate Landscape Architect working on the Adel Visioning Project. She was able to work with the Visioning Committee to help translate desires and needs in the community into the project designs to achieve the desired result.

Fan-Kai Lin is an intern with Genus and is a student at Iowa State University. He brought a great graphic hand and hardworking attitude to the team. He was primarily involved in the documentation and design.



Program Overview

Adel is one of 10 communities selected to participate in the 2017 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 Adel visioning committee identified a number of goals and priority areas during the visioning process, which are included below:

Goals:

- Improved Pedestrian Safety
- Enhanced Trail Connectivity & Accessibility
- Enhanced Community Wayfinding & Identity
- Improved Connection from "Old Adel" to New Development

Priority Areas:

- Raccoon River Valley Trail- Create safer crossings at major intersections along the trail, add trees and shrubs for beautification, create a new trailhead, and propose bridge improvements with lighting
- Gateway at South 169 - 2 New School Crossing at ADM School and sidewalks for safety.
- Gateway at East Highway 6- Create an eastern gateway to provide a visible entrance to Adel and a safe crossing to connect "Old Adel" to new development
- Explore alternative trail routes to better connect Island Park and the RRVT.

Capturing the Adel 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.

The Visioning Committee Brainstorms Goals at the Performance Objectives Meeting

Community Visioning Program Overview

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Visioning Committee members discuss goals for study in Adel

Design Workshop Site Assessment Along the Raccoon River Valley Trail

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1. Program Overview
2. Bioregional Assessment
3. Transportation Assets and Barriers Assessment
4. Transportation Behavior and Needs Assessment
5. Transportation Inventory and Analysis
6. Historical Resources
7. Concept Plan Overview
8. Raccoon River Valley Trail Improvements (9th St. - 7th St.)
9. Raccoon River Valley Trail Improvements (7th St. - River)
10. East Gateway
11. South Gateway + School Crossings
12. Dam Removal / Whitewater Park
13. Identity and Signage

Plan Map Identifying Adel Amenities and Connections

Adel

Program Overview

Genus Landscape Architects

LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA

Intern: Fan-Kai Lin

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Bioregional Assessment

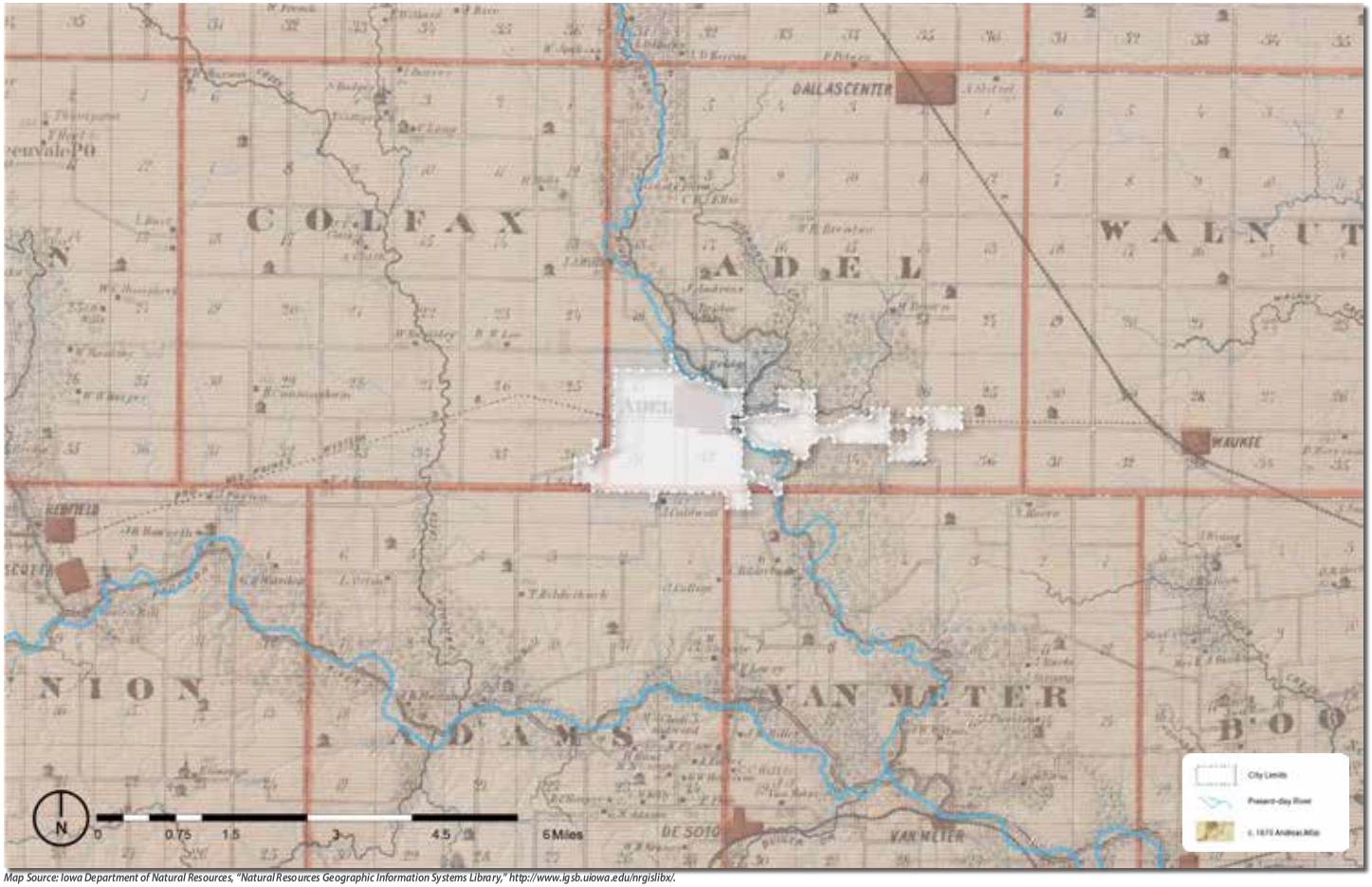
Settlement Patterns

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

Adel in Context

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

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



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

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Settlement Patterns

Bioregional Context
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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

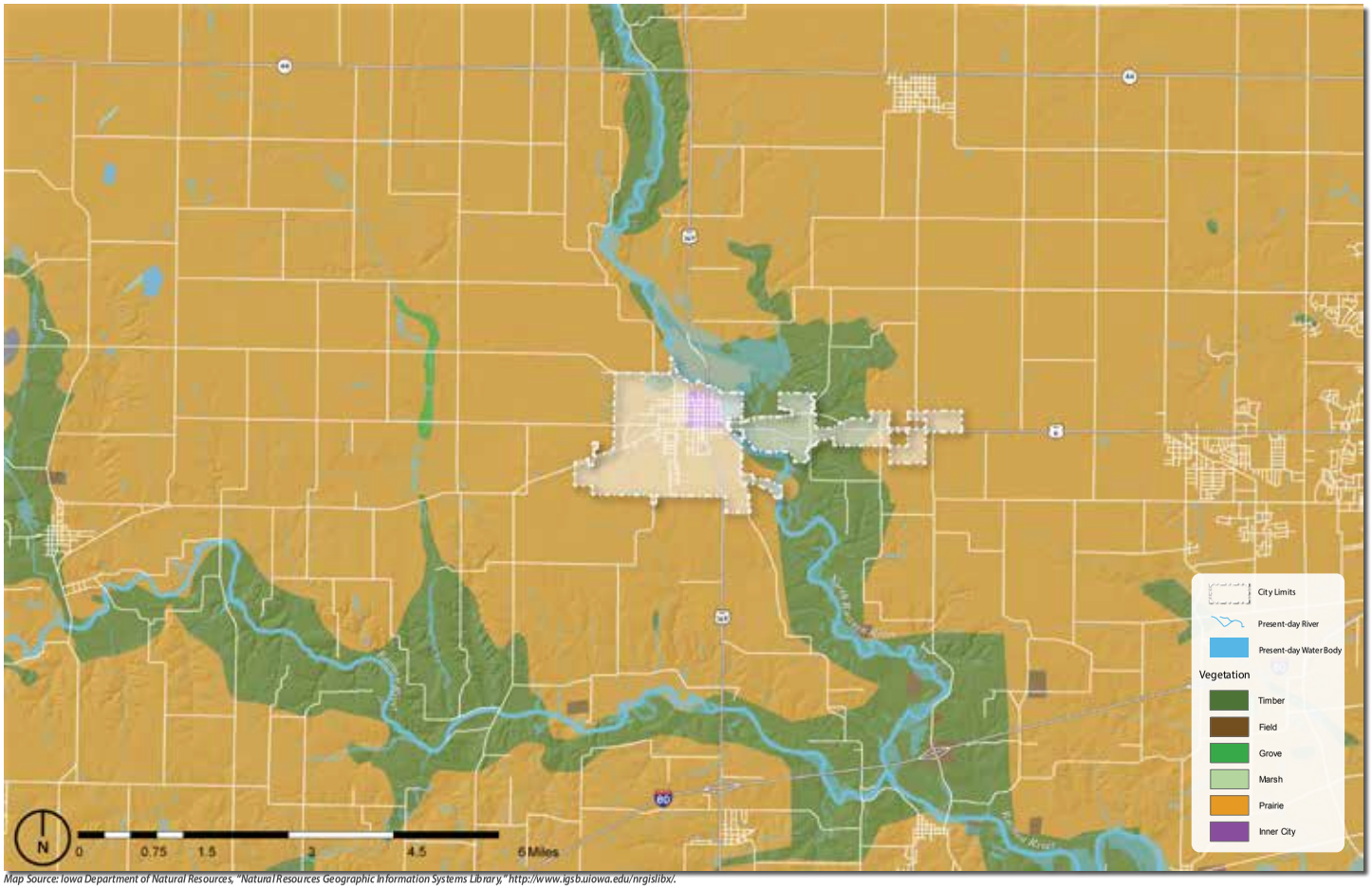
The plant communities mapped by the GLO surveyors varied in classification and the terminology from the original maps has been preserved.

The vegetation types are defined[2]:

1. Field: Cultivated lands of early pioneers.
2. Grove: Isolated dense young stand of trees.
3. Marsh: Perennial wetlands, basins of irregular shape.
4. Prairie: Dominated by prairie grasses with individual or few scattered trees.
5. Thicket: Impenetrable blocks of young trees, often thorny.
6. Timber: Contiguous blocks of trees extending to the horizon in at least one direction.
7. Slough: Like marsh but more linear in shape.

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.

2 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), 134-135.



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Historical Vegetation

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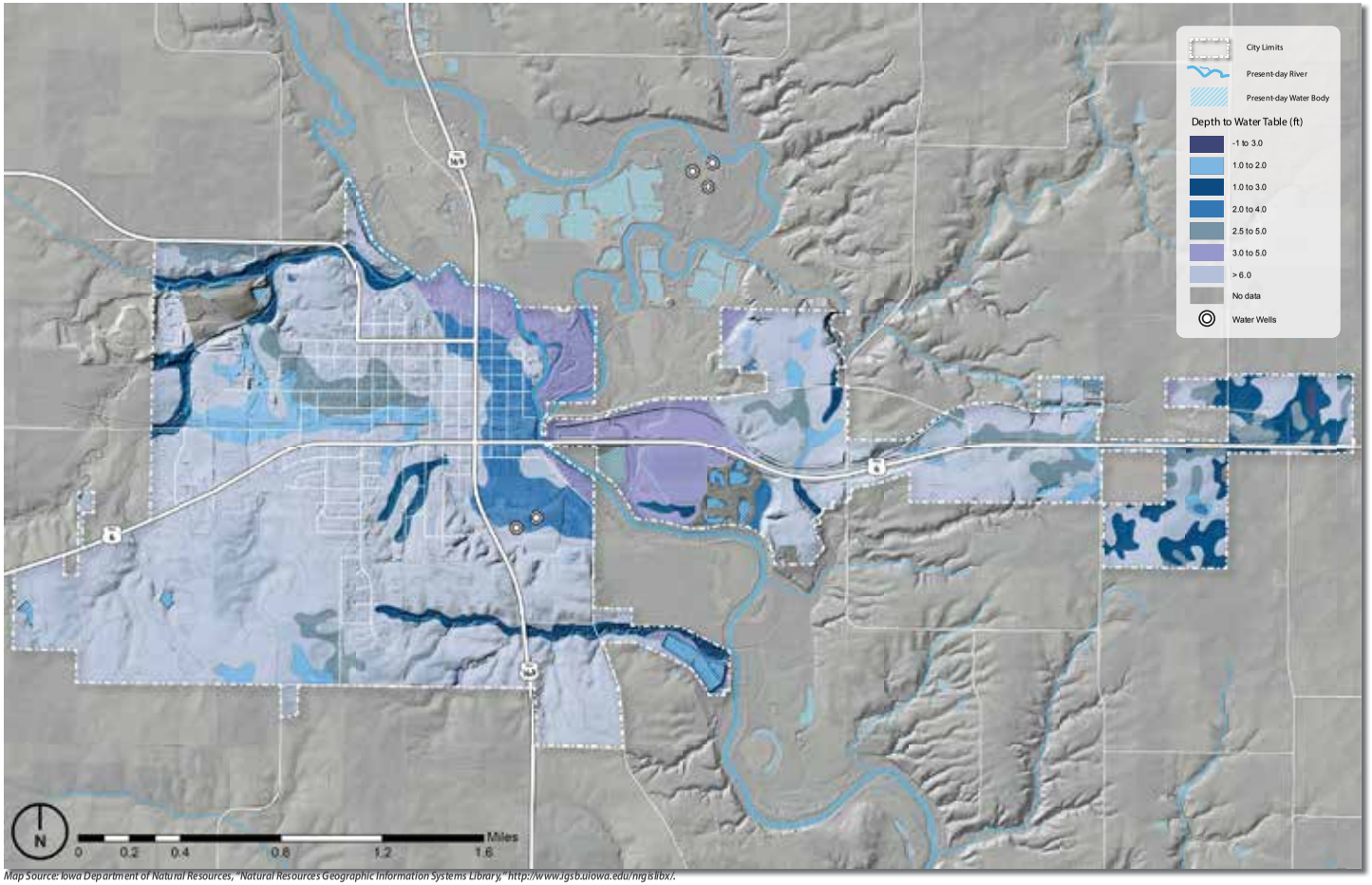
Depth to Water Table

The water table is defined as the level below which the ground is saturated with water. The water table generally mimics surface topography, but there are differences depending on localized conditions such as the permeability and porosity of soils and depth to bedrock. Depth to water table is represented as a range because it varies due to seasonal changes and precipitation volumes. For example, following spring snow-melt 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. Impermeable layers such as concrete also affect the depth to water table by preventing precipitation from infiltrating into the soil which could result in a lowered water table.



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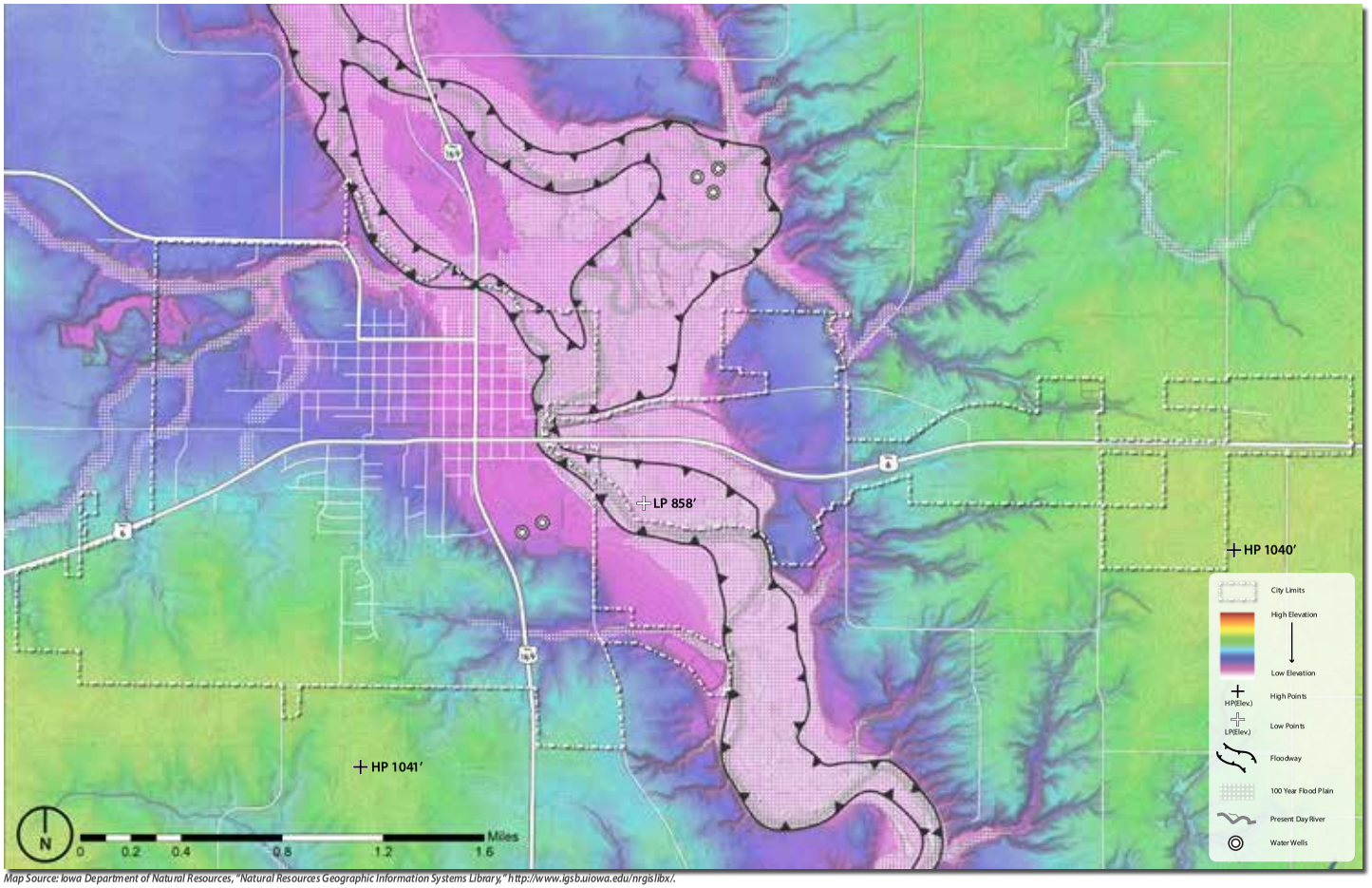
Elevation and Flood Risk

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

Note the relationship of Adel to the surrounding elevation; is it located in a valley or on high ground, or is it split between the two? Flood risk is correlated to low-lying land, this map also shows your community's flood risk as defined by the Federal Emergency Management Agency (FEMA) Flood Map Service Center. This map shows the two most important flood zones, the Base Flood and the Regulatory Floodway (consult legend.) Base Flood is the zone having a one percent chance of being equaled or exceeded in any given year, also referred to as the "100-year floodplain." The Regulatory Floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% flood discharge can be accommodated without increasing the base flood elevation.



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Elevation and Flood Hazard

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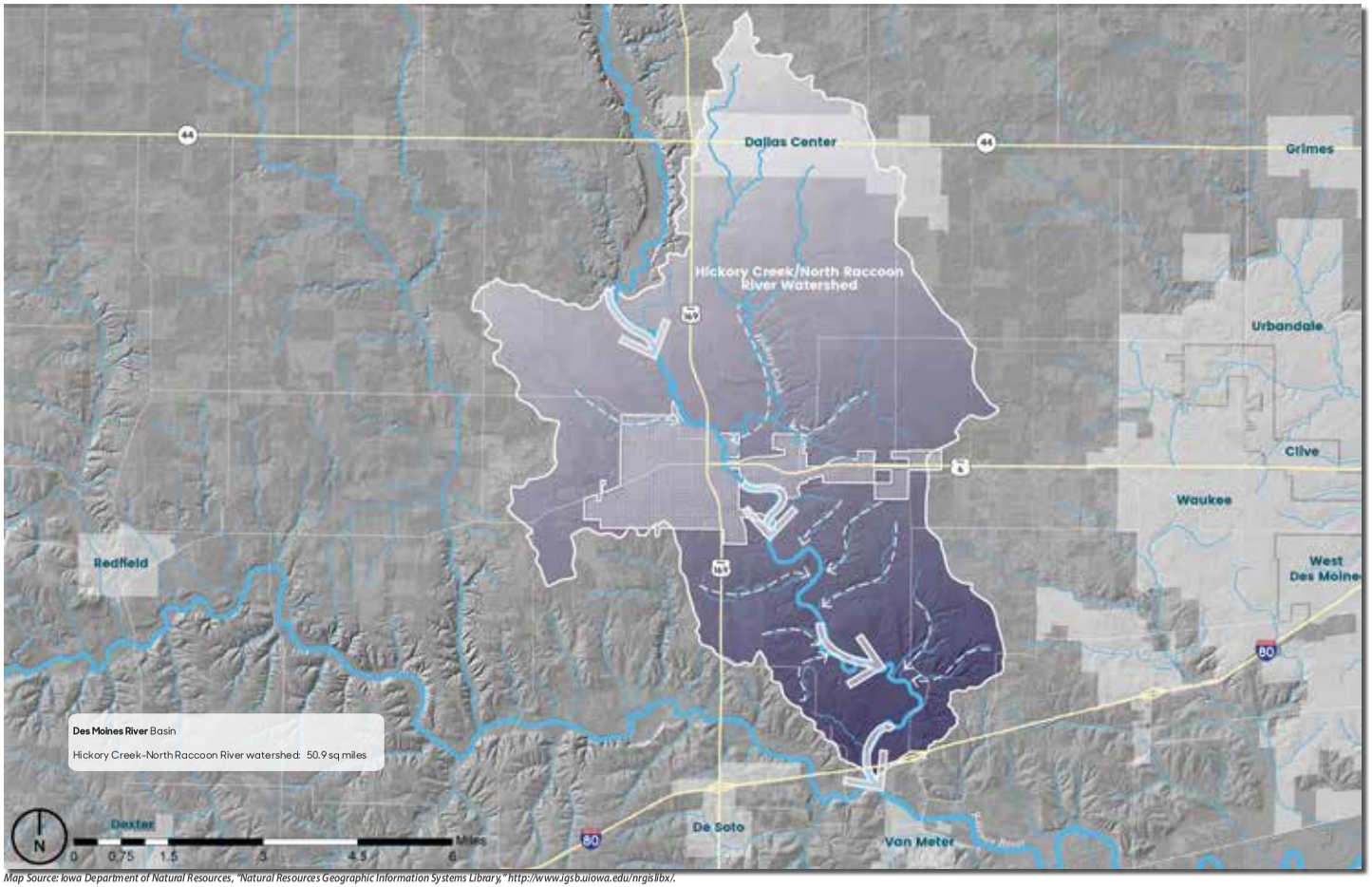
Regional Watershed

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 determines 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 has 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.



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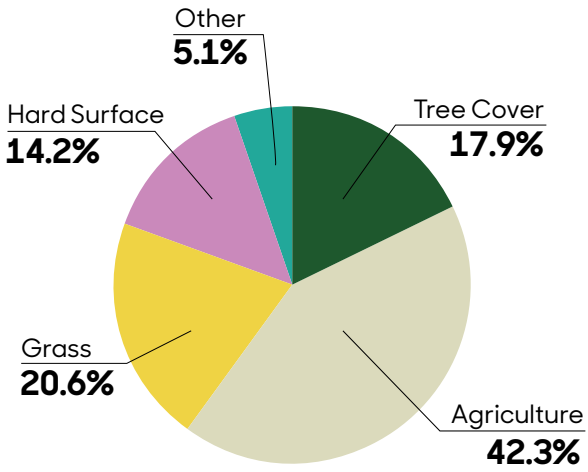
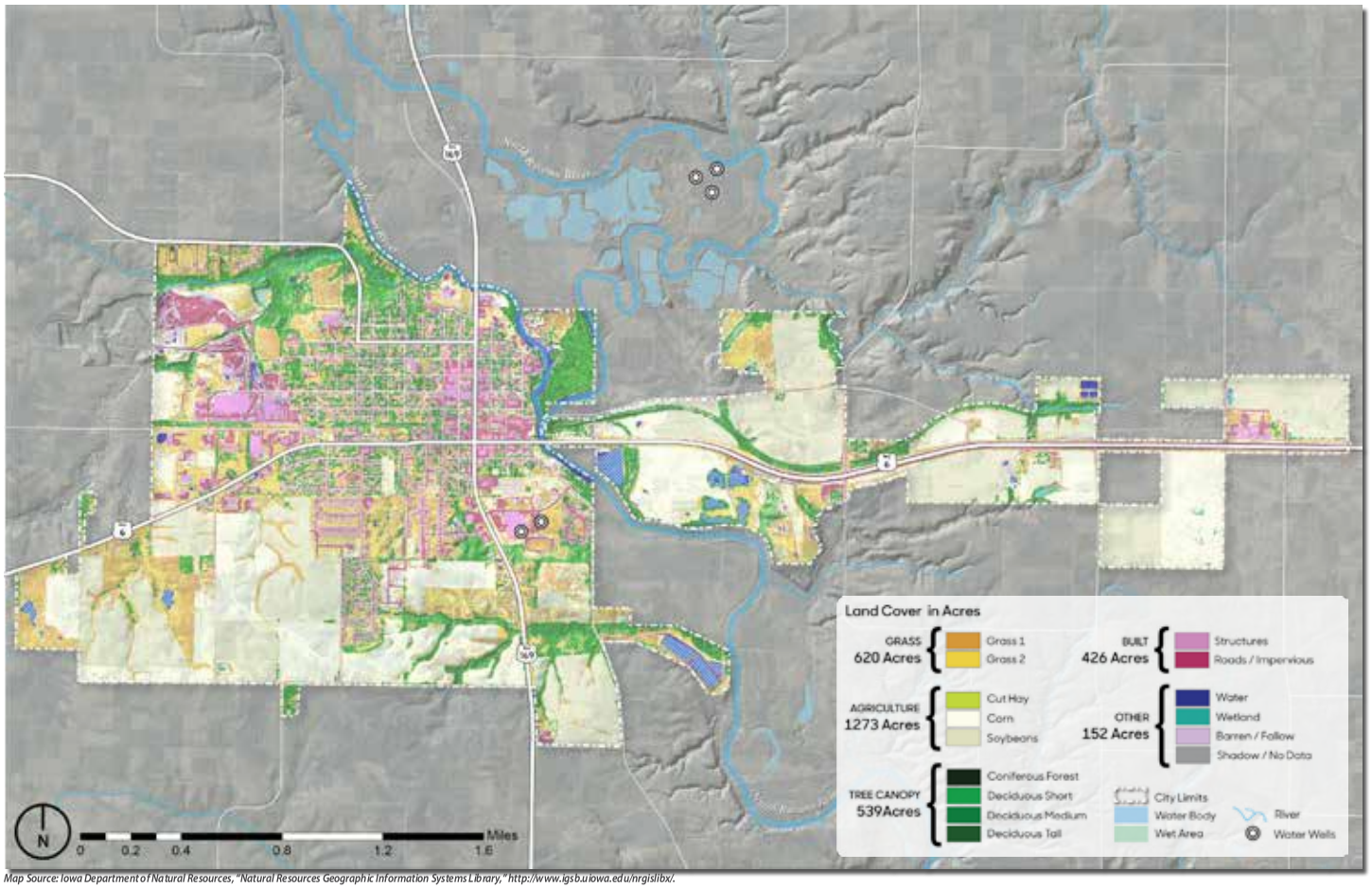
Present Day Land Cover

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.

What do you observe about the dominant land cover types in your community? Where is the tree canopy most concentrated? Compare the amount of impervious surfaces (e.g., parking lots, roads, buildings) to the other surfaces (e.g, water, grass, and agriculture.) What parts of town are covered with the most impervious surfaces and what patterns do you observe about these locations?

Percent Land Cover Type





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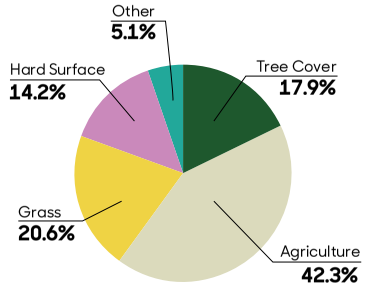

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Present Day Land Cover

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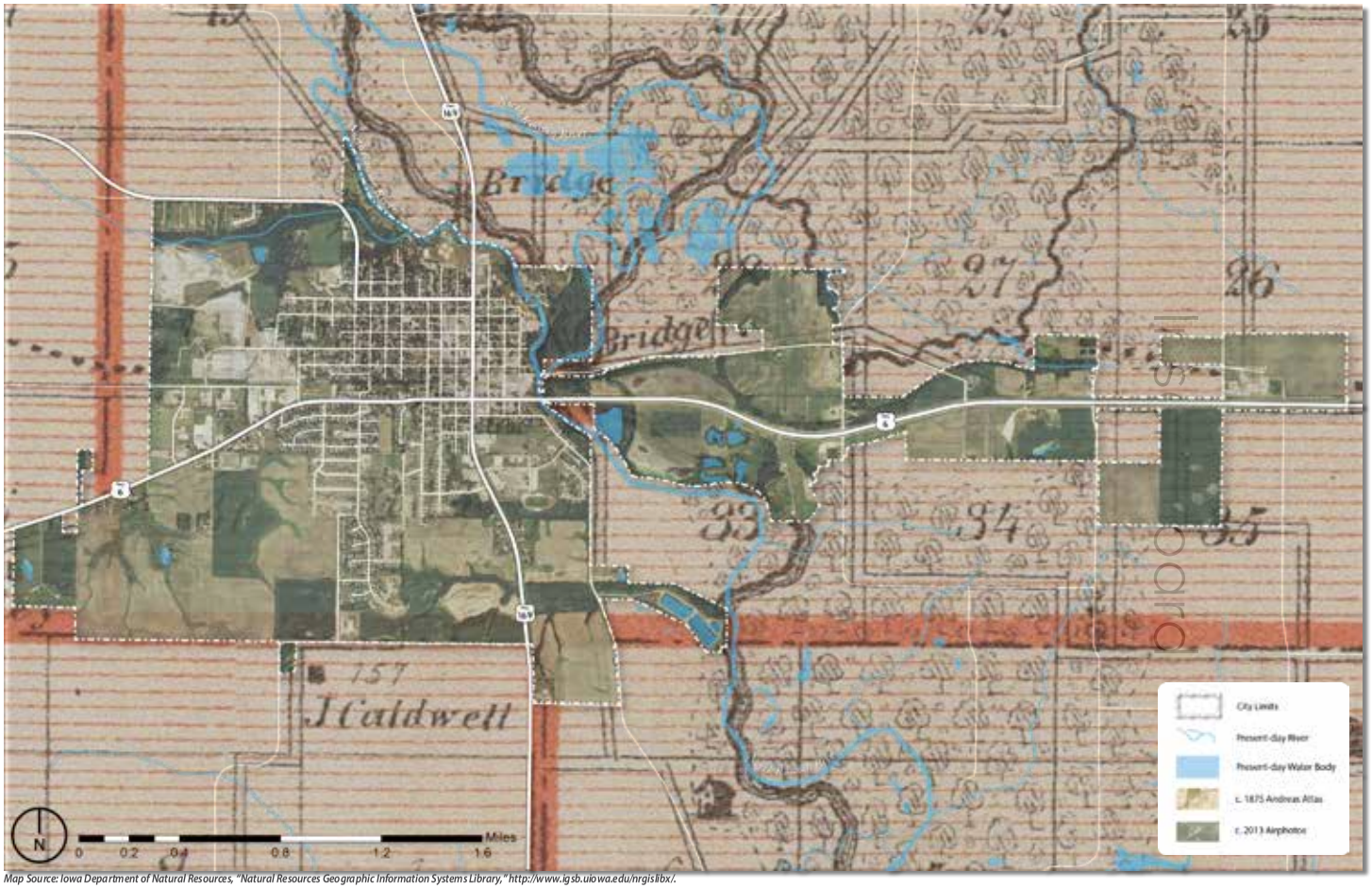
Present Day Vegetation

Overlaying a present-day aerial image on the historic, 1875 Andreas Atlas shows how management of the land over several decades has changed the locations of trees and other native vegetation in the landscape.



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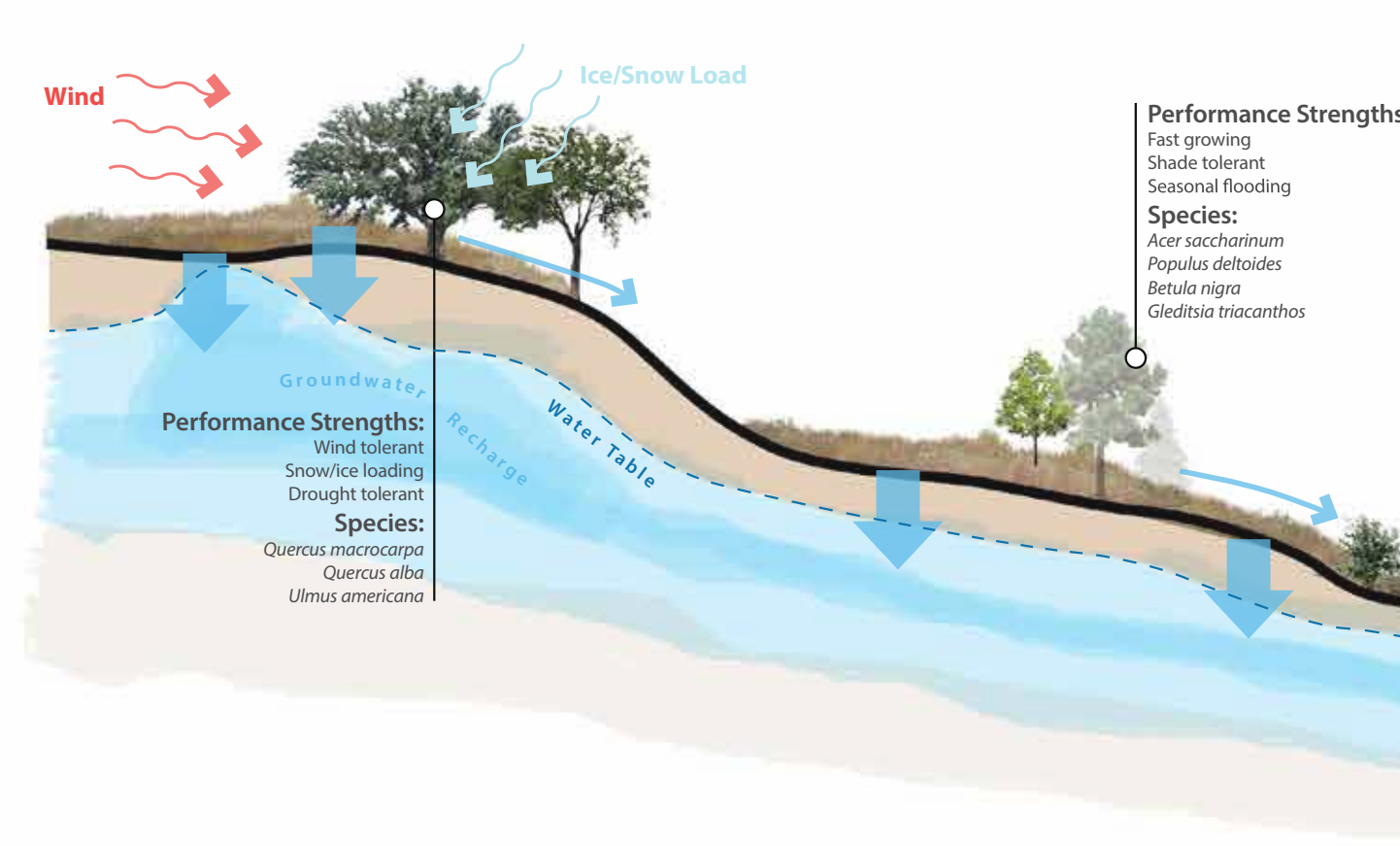
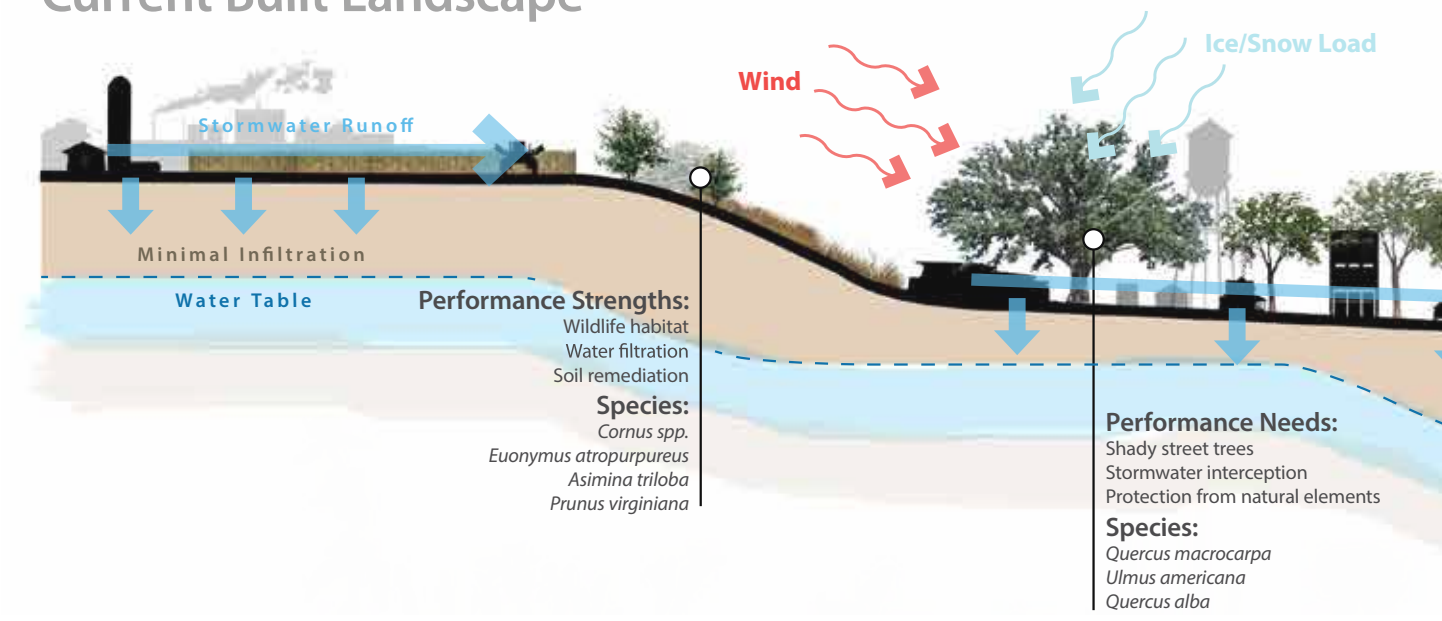
Using Native Plants



Current Built Landscape



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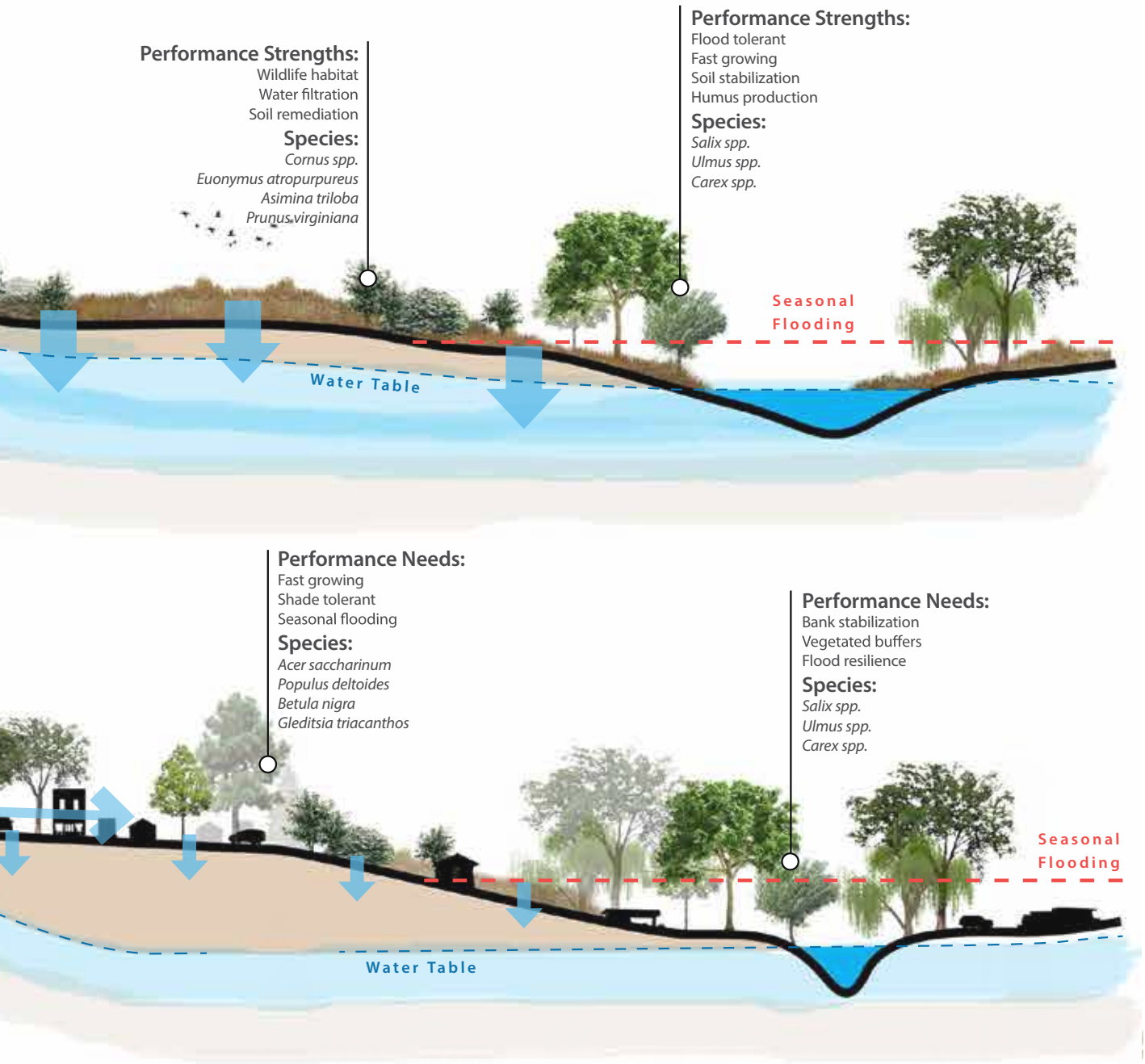
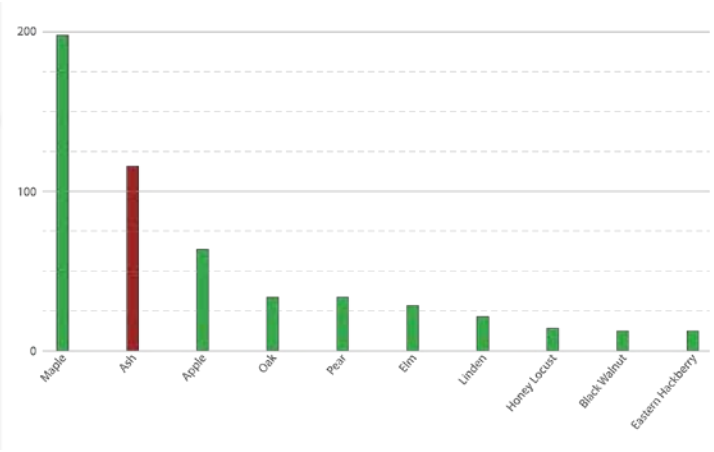
Pre-Settlement Landscape



The Urban Forest

The map on the left depicts public right-of-way trees that have been surveyed by the Iowa Department of Natural Resources (Iowa DNR).[1] The trees are divided into three categories: healthy trees, hazard trees, and ash trees. Hazard trees were determined using the Iowa DNR's priority rating. The ratings range from one to seven; trees with a rating of six or seven were classified as hazard trees.** A six rating is indicative of a tree that is "dangerous, dead, or dying, and no amount of maintenance will increase longevity or safety." A seven rating means there are "insects, pathogens, or parasites present and detrimental to tree longevity; treatment should be given to maintain longevity." Ash trees have been identified specifically due to imminent threats from the Emerald Ash Borer (EAB),* an invasive highly destructive beetle that has already killed tens of millions of ash trees in North America.[2] EAB was first discovered in Iowa in 2010 and has been confirmed in 30 Iowa counties and counting.[3]



The bar graph above depicts the breakdown of the tree species surveyed by the Iowa DNR . Take note of the high number of ash and maple trees. Increasing species diversity in the urban forest will make the urban forest more resilient should a new bug or plant disease emerge. There is a strong possibility that 21% (114 ash trees) of Adel's city owned trees will die once EAB becomes established in the community. With proper planning and management, the costs of removing dead and dying trees can be extended over years, mitigating public safety issues.

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

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

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

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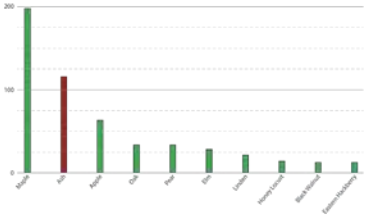

The bar graph above depicts the breakdown of the tree species surveyed by the Iowa DNR. Take note of the high number of ash and maple trees. Increasing species diversity in the urban forest will make the urban forest more resilient should a new bug or plant disease emerge. There is a strong possibility that 21% (114 ash trees) of Adel's city owned trees will die once EAB becomes established in the community. With proper planning and management, the costs of removing dead and dying trees can be extended over years, mitigating public safety issues.

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

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

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

Adel

Urban Forest Conditions

Bioregional Context
Julia Badenhope, Matthew Gordy, Colby Fangman, Sam Thompson
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Transportation Assets and Barriers

Overview

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

In this participatory assessment, we want to find out which factors and conditions affect transportation use in Adel, 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 Adel'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 Adel residents with different transportation needs to participate in focus groups. A total of 50 residents attended Adel's workshop. Participants were separated into five user groups and the Adel steering committee.

Actives

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

Mobility Impaired

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

Older Adults

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

Youth

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

Parents

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

Steering Committee

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

Asset : Evans Park

Barrier: No Sidewalks along Highway 169

Asset: Island Park

Barrier: Broken Sidewalks along 6th Street

Asset: Historical Brick Roads

Barrier: Historical Brick Roads

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.

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Actives

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

Mobility Impaired

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

Older Adults

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

Youth

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

Parents

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

Steering Committee

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

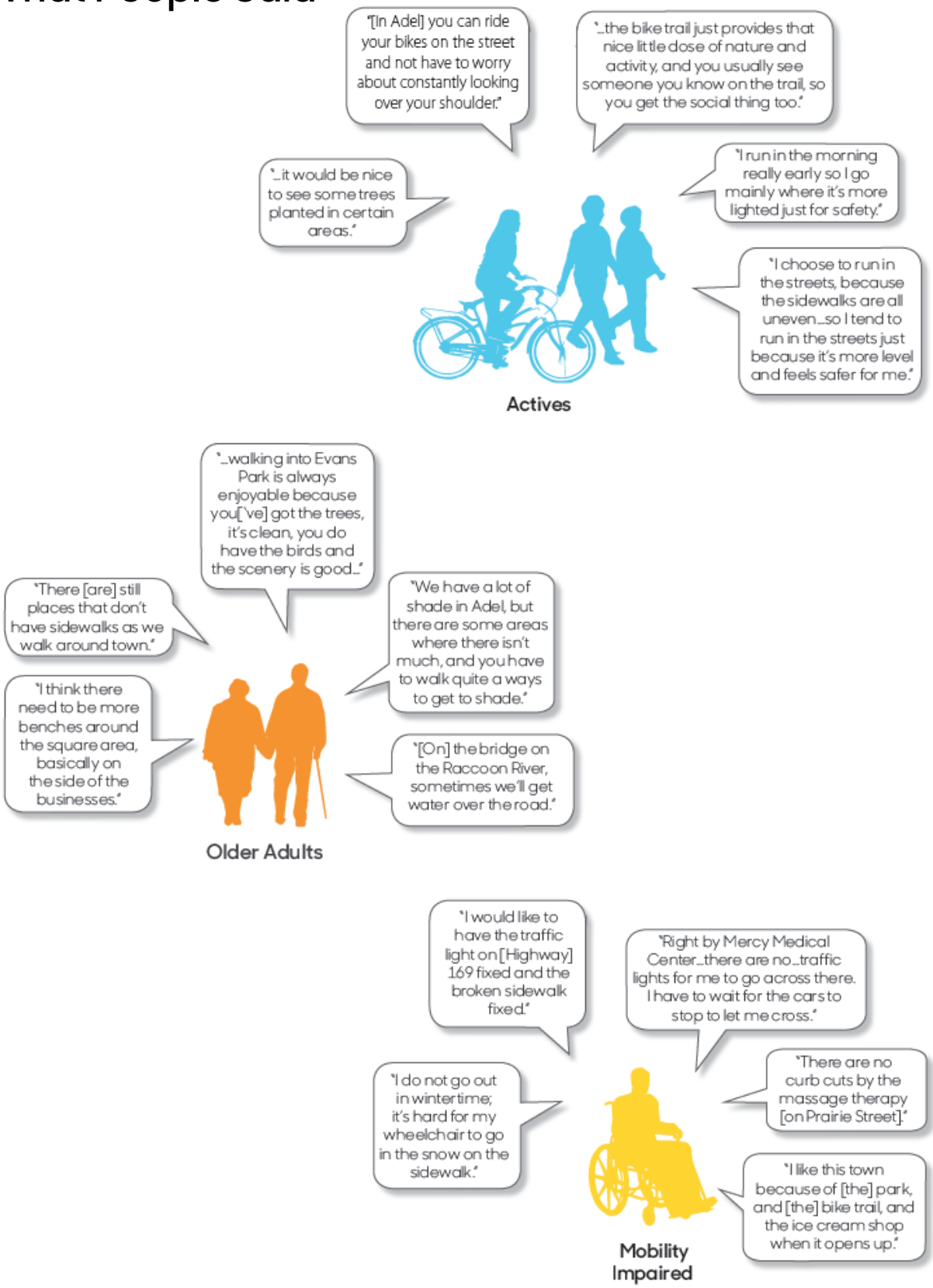
Adel

TAB Overview

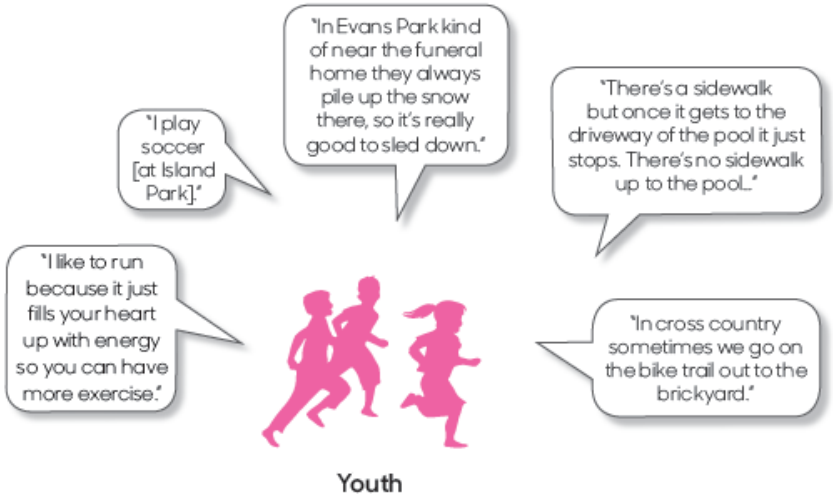
TAB
Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Miao Fangzhou
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

What People Said




"...two highways coming through town is really handy, but as Adel has grown, it's become a detriment to biking and walking."
"...the bike trail's great, but then there's not access to the bike trail from the [neighborhoods] around it."
"I would ride a bike more, but I don't feel safe riding a bike in Adel."
"There's no way for [kids] to safely get to the path [that leads to the high school]."
"[The walking trail in Kinnick Park] is a nice path."
Parents


"In Evans Park kind of near the funeral home they always pile up the snow there, so it's really good to sled down."
"I play soccer [at Island Park]."
"There's a sidewalk but once it gets to the driveway of the pool it just stops. There's no sidewalk up to the pool..."
"I like to run because it just fills your heart up with energy so you can have more exercise."
"In cross country sometimes we go on the bike trail out to the brickyard."
Youth


"In an ideal world it would be wonderful to have a bike lane on Greene Street and then on Highway 169 as well."
"If I'm going to walk through town, I'm going to try to get to the bike trail and use that as much as possible, because there's less traffic on it."
"[We need] connectivity from each quadrant of town."
"I won't walk [the trail] at night because I think it's scary."
"My favorite view is in the cemetery looking down at the river. The cemetery is some of the most beautiful land in Adel, I think."
Steering Committee

Emerging Themes

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

Actives walk, drive, and bike regularly, either as part of a daily commute or as recreational/sports training. This group also runs for exercise. Active users identified connectivity as important.

Mobility-impaired individuals often rely on motorized scooters and wheelchairs to get around. Therefore, smooth, wide surfaces that are accessible are important. Creating safe ways to cross the highway is this group's top priority.

Older adults primarily drive and walk to destinations. They also bike and occasionally ride the HRTA bus. This group enjoys the natural areas in and around Adel and would like to see them improved.

Youth mainly walk, bike, and run to get around the community. Some ride the bus to school This group is interested in having more outdoor recreation opportunities.

Parents drive, walk, bike, and run. They are concerned about their children's safety as they travel throughout town. Of particular concern is the lack of a safe way for pedestrians and cyclists to get to the high school.

Steering committee members walk, drive, and bike. This group is interested in making Adel a welcoming community by improving access from the trail to local amenities.

Destinations and Activities
Desirable Qualities and Features
Undesirable Qualities and Features
Most Desired Improvements and Activities
User Types
Active
Mobility Impaired
Older Adults
Youth
Parents
Steering Committee

Analysis of Barriers

The analysis of barriers synthesizes the feedback we received from the five transportation user groups. Although not shown on an individual map, input from the steering committee is incorporated into the map of all five user groups.

A significant seasonal barrier is the Raccoon River, which floods two to three times per year. All user types consider the disconnected sidewalk system as a permanent barrier. Adult user groups perceive Highways 169 and 6 through town as barriers because of fast traffic and a lack of complete sidewalks.

Actives

Active recreationists identified a number of barriers related to the Raccoon River Valley Trail, such as the lack of lighting and trees and the uninviting trailhead. The lack of connectivity between newer neighborhoods and the rest of the community is also a concern.

Mobility Impaired

Poor and disconnected sidewalks create problems for mobility-impaired individuals who navigate the community in wheelchairs or on motorized scooters. This group also pointed out that it is difficult to cross Highways 169 and 6.

Older Adults

Older adults are concerned about problems with the built environment such as insufficient parking, sewer issues, and dips on the brick streets. They also see the heavy traffic at the schools as problematic, particularly where there are no sidewalks.

Youth

Disconnected sidewalks are an issue among youth, who tend to walk and bike to most places. Youth also perceive a lack of amenities such as drinking fountains, updated play equipment, and benches at the parks as a barrier.

Parents

Parents are most concerned with perceived safety issues, such as speeding traffic on the highways as well as on South 14th Street. They also pointed out the lack of access to the trail from various neighborhoods.

Adel's Barriers: Common Factors

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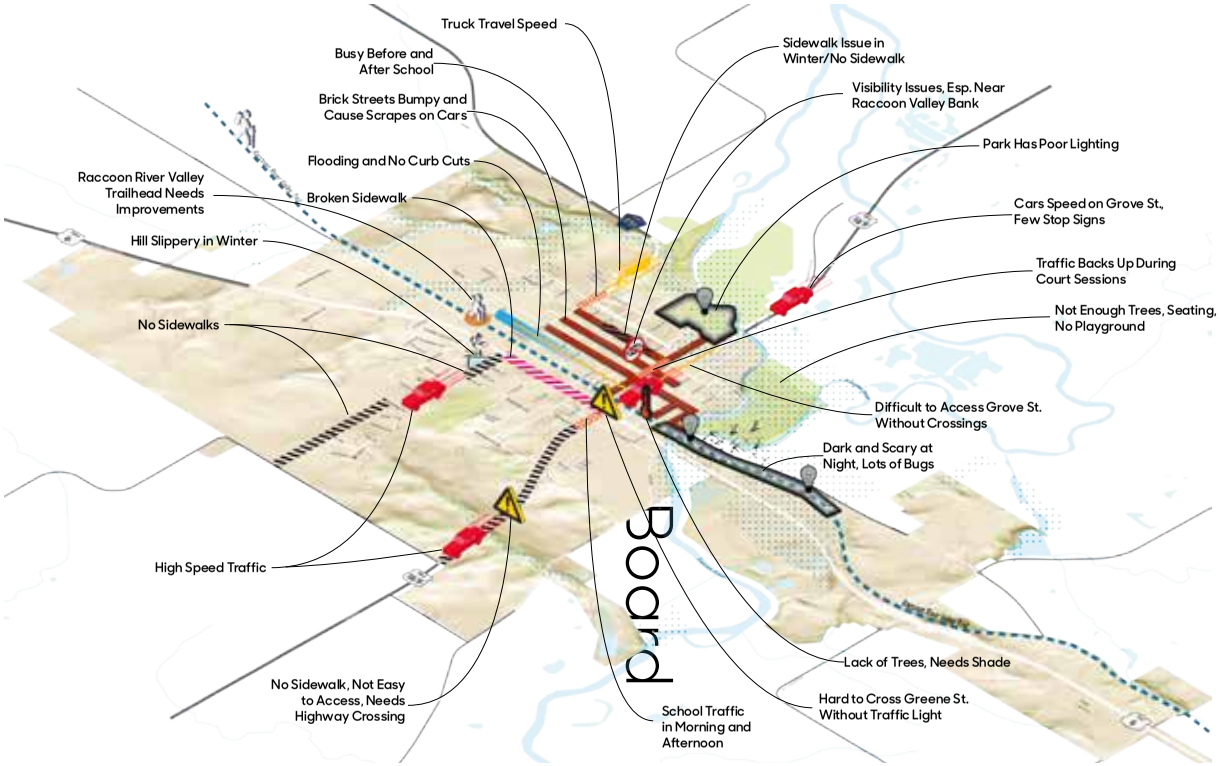

Legend

- Traffic Warning
- Access Issues
- 100-year Floodplain
- High Speed Traffic
- Brick Roads
- No Sidewalks
- Buggy Area
- Flooding
- Truck Traffic
- Poor Sidewalks
- Poor Lighting
- Ice Slip Hazard
- Sunny and Hot
- Traffic Congestion
- Poor Visibility
- Trailhead Location

Adel
Barriers

Transportation Assets and Barriers

Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Richard Garcia

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Analysis of Assets

The analysis of assets synthesizes the feedback we received from the five transportation user groups. Although not shown on an individual map, input from the steering committee is incorporated into the map of all five user groups.

Natural areas are valued by all user types. For example, both youth and adults enjoy the Raccoon River because of the many recreation opportunities it provides, and residents appreciate the Raccoon River Valley Trail because it provides a venue for walking, biking, running, and viewing wildlife, while bringing visitors to Adel.

Actives

Active recreationists value the Raccoon River Valley Trail because it provides a natural environment for walking, running, and biking. They also enjoy Island Park for walking, fishing, and camping, and Evans Park for Frisbee golf.

Mobility Impaired

Mobility-impaired individuals appreciate the proximity of outdoor amenities such as Evans Park and the Raccoon River Valley Trail. They also value smooth surfaces that facilitate use of wheelchairs.

Older Adults

Older adults enjoy natural areas such as the parks, the trail, the cemetery, and the pollinator garden. They also value the many businesses and services available in Adel.

Youth

Adel's abundant outdoor recreation opportunities are important to youth. They engage in activities such as sledding in Evans Park and behind the high school, fishing, playing soccer, and camping. They appreciate the low traffic levels near Kinnick-Feller Park.

Parents

Parents appreciate Adel's outdoor recreation opportunities because these venues provide many activities for them and their children. They fish, kayak, canoe, and tube on the river and enjoy the beach at Island Park.

Adel's Assets: Common Factors

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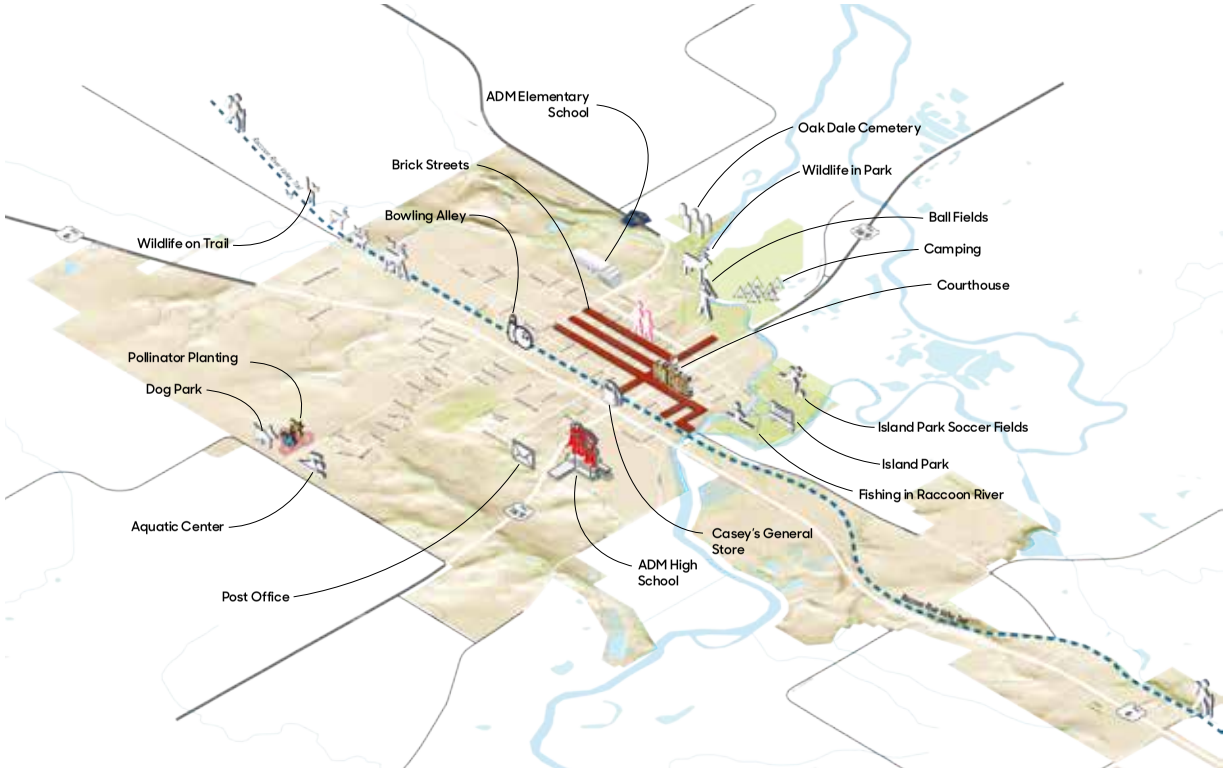

Adel
Assets

Transportation Assets and Barriers

Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Sam Thompson

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Desired Improvements: Common Factors

The analysis of desired improvements synthesizes the feedback we received from the five transportation user groups. Although not shown on an individual map, input from the steering committee is incorporated into the map of all five user groups.

A number of desired improvements for Adel are related to the Raccoon River Valley Trail, such as adding lighting and landscaping along the trail and renovating the Wagon Wheel Bridge. Improving connectivity throughout the community, particularly between the new developments and the rest of the community and to the high school, is also an important issue among Adel residents.

Actives

Improving outdoor recreation venues is important to active recreationists and is reflected in their desired improvements. This group would like more amenities in the parks and along the trail. Actives are also interested in making the riverfront more accessible.

Mobility Impaired

Mobility-impaired individuals would a safer crossing on Highway 169. They would also like downtown to be more ADA accessible. This group is interested in improving connectivity throughout town.

Older Adults

Similar to the mobility-impaired group, older adults want more areas to be ADA accessible, specifically at the courthouse and the downtown area. This group is also interested in more trail connections and additional vegetation.

Youth

Youth want more outdoor recreation opportunities, as well as improvements made to existing venues. For example, they would like restrooms, water fountains, and benches in the parks.

Parents

Parents' desired improvements are focused on safety. For example, they would like lighting along the trail, a stop sign at Highway 6 and South 14th Street. A safe connection to the high school for pedestrians and cyclists is a high priority.

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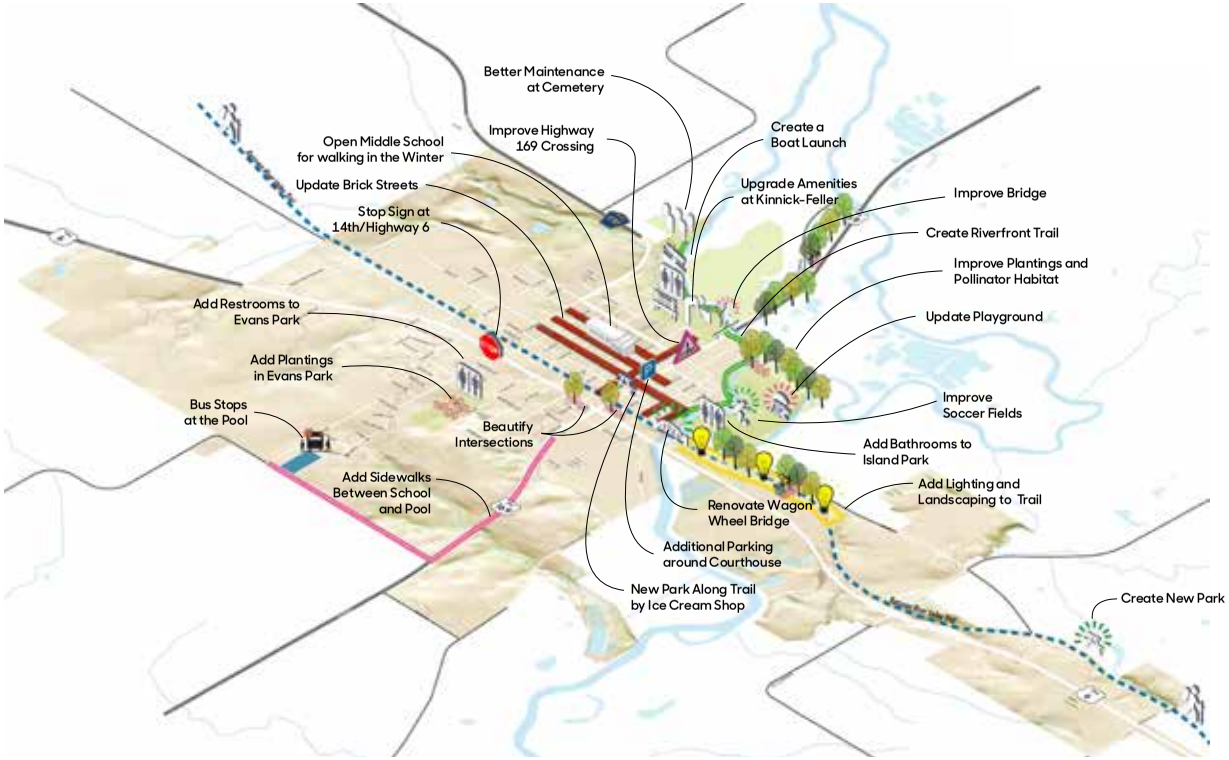

Adel
Desired Improvements

Transportation Assets and Barriers

Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Sam Thompson

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Transportation Behaviors and Needs

Overview

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

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

With assistance from Iowa State University's Survey Research Services staff in the Center for Survey Statistics and Methodology (CSSM-SRS), ISU visioning program staff conducted a survey to better understand the transportation patterns and behaviors, needs and desires of Adel residents. Surveys were mailed to 400 randomly selected residents living in Adel 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 343. A total of 174 people returned surveys, for a response rate of 50.7%. (A response rate of 20% is considered valid.)

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

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

Why Do A Survey?

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What Did We Find Out?

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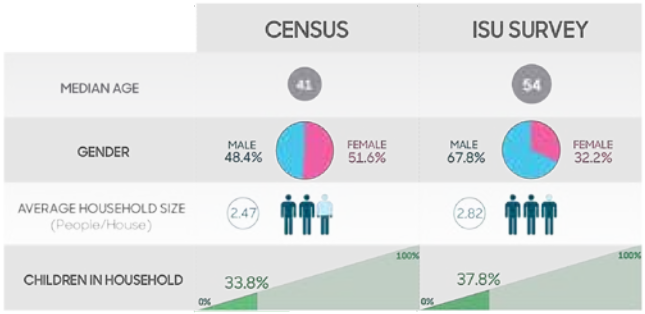
- Biking Routes
- Desired Trail Routes

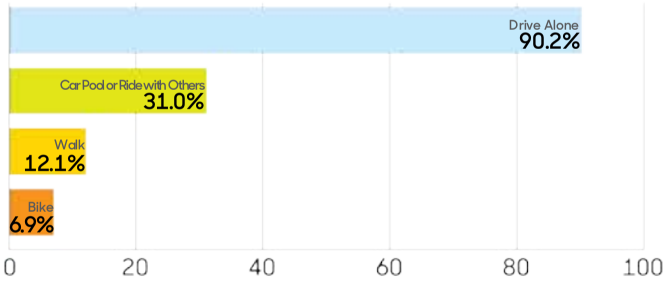
How Did We Do?

The demographics of the respondents are somewhat different from those obtained from the 2015 American Community Survey Five-Year Estimate. For example, the survey respondents median age of 54 is significantly older than the 2015 estimated average age for Adel residents of 41. In terms of gender, males are overrepresented in the survey sample. Both the average household size and number of children in the household from the survey sample are significantly higher than the 2015 estimates.



How Do Adel Residents Travel?

Most survey respondents drive to important destinations such as the convenience store, the post office, school, and church (90.2%). More than 30% car pool or ride with someone else. Some people indicated that they walk or bike, but the primary mode of transportation in Adel is by vehicle.

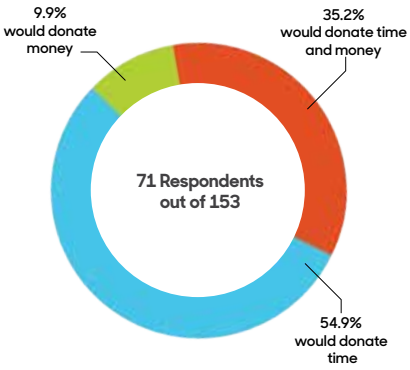


*Please note that some respondents indicated that they use more than one mode of transportation to get to work; therefore, percentages add up to more than 100%.

Willingness to Help

Most survey participants who answered this question are willing to contribute their time and talent to community improvements (54.9%), while just over 35% would contribute both time and talent and financial help. Nearly 10% of respondents indicated that they would be willing to contribute financially.

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



"I grew up in Adel and moved away. Coming back to Adel and seeing all of the improvements [is] wonderful. Keep up the good work."

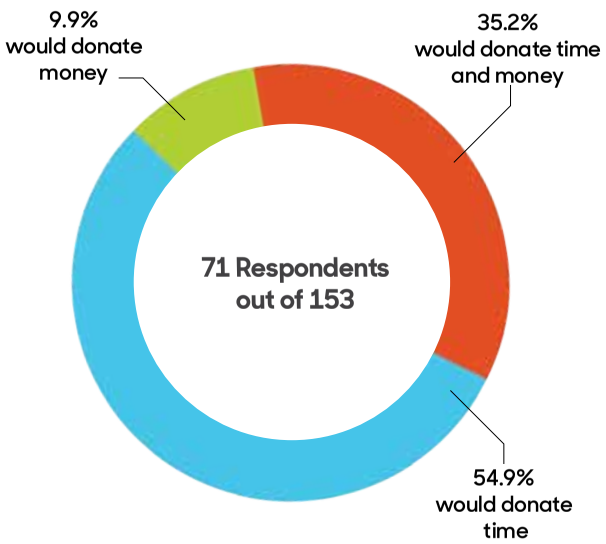
"Adel is a growing community with younger demographics. Diverse recreational opportunities will become increasingly important."

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

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

ARE PEOPLE WILLING TO HELP?

More than 46% said YES!



Willingness to implement change

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WHAT DID PEOPLE SAY THEY ARE WILLING TO DO?

Survey Participants Said...

"I grew up in Adel and moved away. Coming back to Adel and seeing all of the improvements [is] wonderful. Keep up the good work."

"Adel is a growing community with younger demographics. Diverse recreational opportunities will become increasingly important."

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.

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

Adel
Willingness to Help

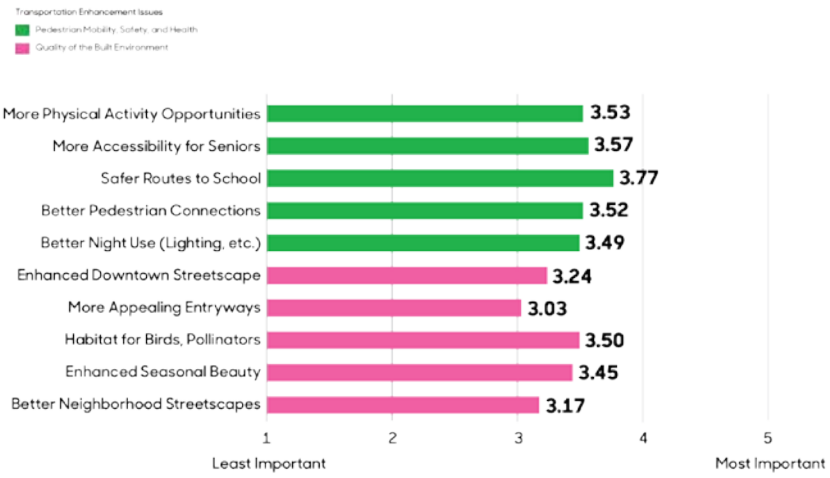
Transportation Behavior and Needs Survey
Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Miao Fangzhou
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Priorities

What Types of Enhancements are Important?

Mobility, Safety and Health



Importance of transportation enhancement by type (162 responses)

On a scale of 1 to 5, with 5 being the most important, participants in Adel ranked creating safer routes to school as most important, with a mean value of 3.77. Other transportation enhancements that address pedestrian mobility, health, and safety are also considered important. Environmental and aesthetic issues are less important among respondents, with mean values ranging from 3.03 to 3.50. These findings are consistent with the views expressed by focus group participants during the Transportation Assets and Barriers workshop held in March 2017.

"Sometimes I walk through town to get exercise. Some of the sidewalks are not easily traversed. I wish there were a sidewalk along North 15th Street."

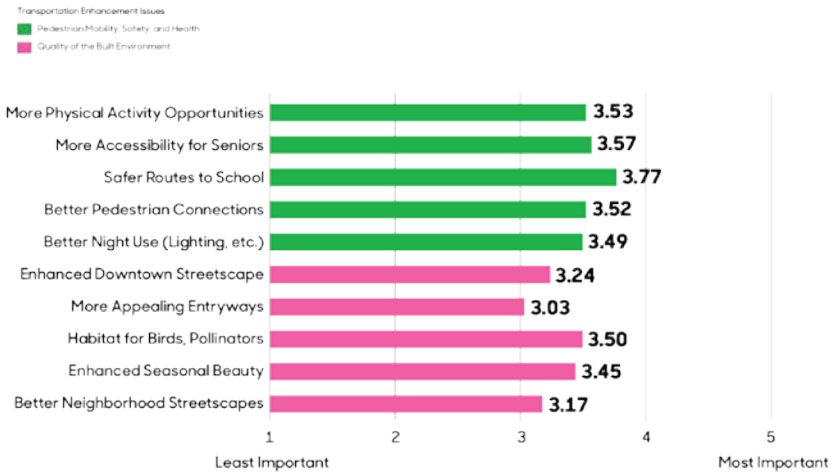
"Not having safe walking access to the high school is frustrating because we can see the school from our backyards."

"We will not let our kids walk to school because [there is] no sidewalk on Nile Kinnick Drive to the school."

"[There is] too much traffic on Highway 169 and the intersection of Highway 169 and Highway 6."

WHAT TYPES OF ENHANCEMENTS ARE IMPORTANT?

Mobility, Safety, and Health!



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WHAT DID THEY SAY?

Survey Participants Said...

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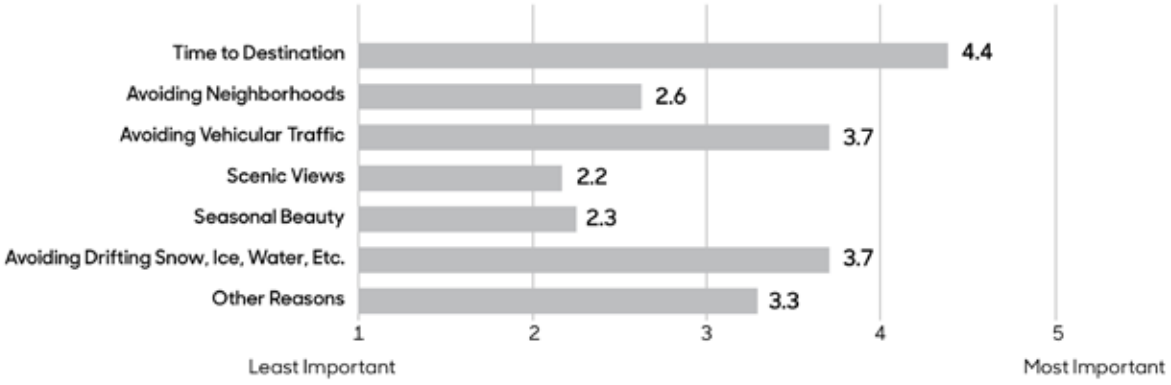
Commuting Routes

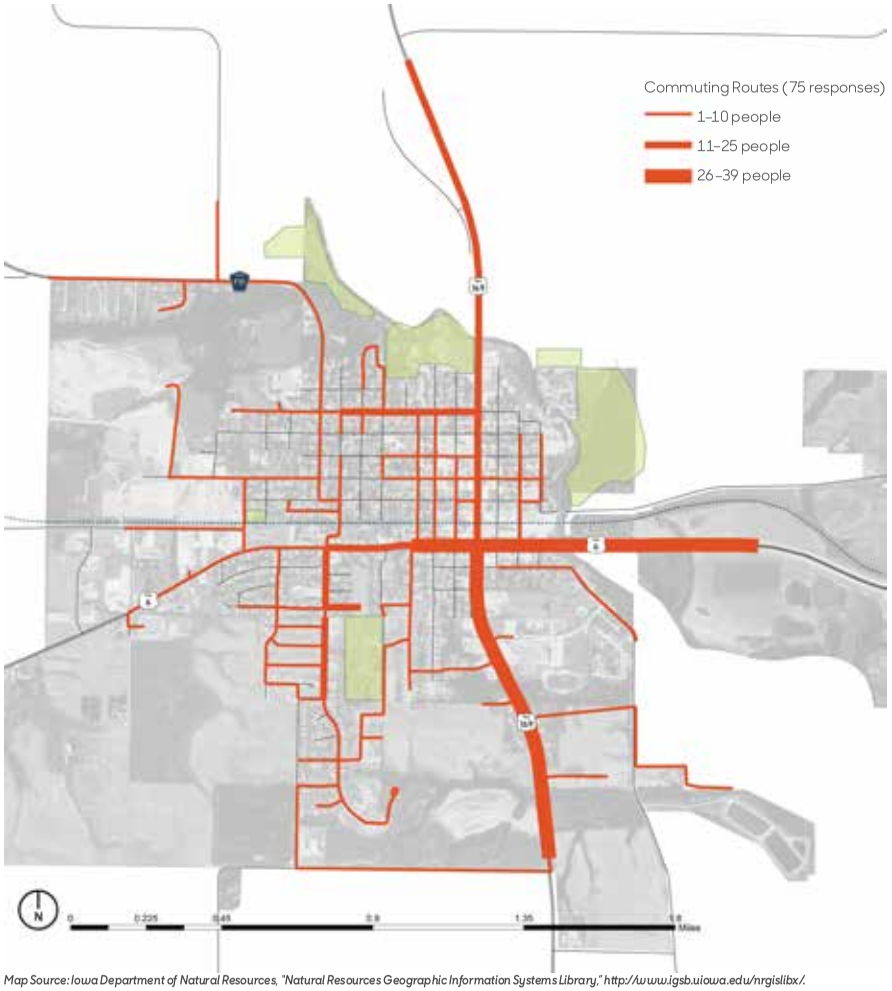
This map shows the commuting routes identified by 75 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. The primary commuting corridors in Adel are Highway 169 to the south and US 6 to the east. Some people also go north on Highway 169 and a few take US 6 to the west. In town, North 8th Street, South 14th Street, and Grove Street are the most heavily traveled.

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

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that factored into their choice of commuting route. Among Adel participants, time to destination is clearly the most important factor, with a mean value of 4.4. Avoiding vehicular traffic and avoiding weather-related issues such as snow and ice are also considered important, with mean values of 3.7 each. Avoiding neighborhoods, scenic views, and seasonal beauty are not critical factors in determining commuting routes. Some of the other reasons, which have a mean value of 3.3, include avoiding road construction, certain roadways that lack turning lanes, and gravel roads.





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

How They Get There

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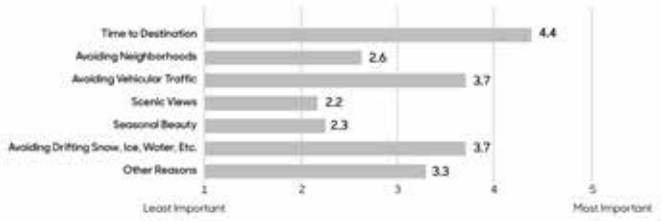

Adel

Commuting Routes

Transportation Behavior and Needs Survey
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Iowa State University | Trees Forever | Iowa Department of Transportation

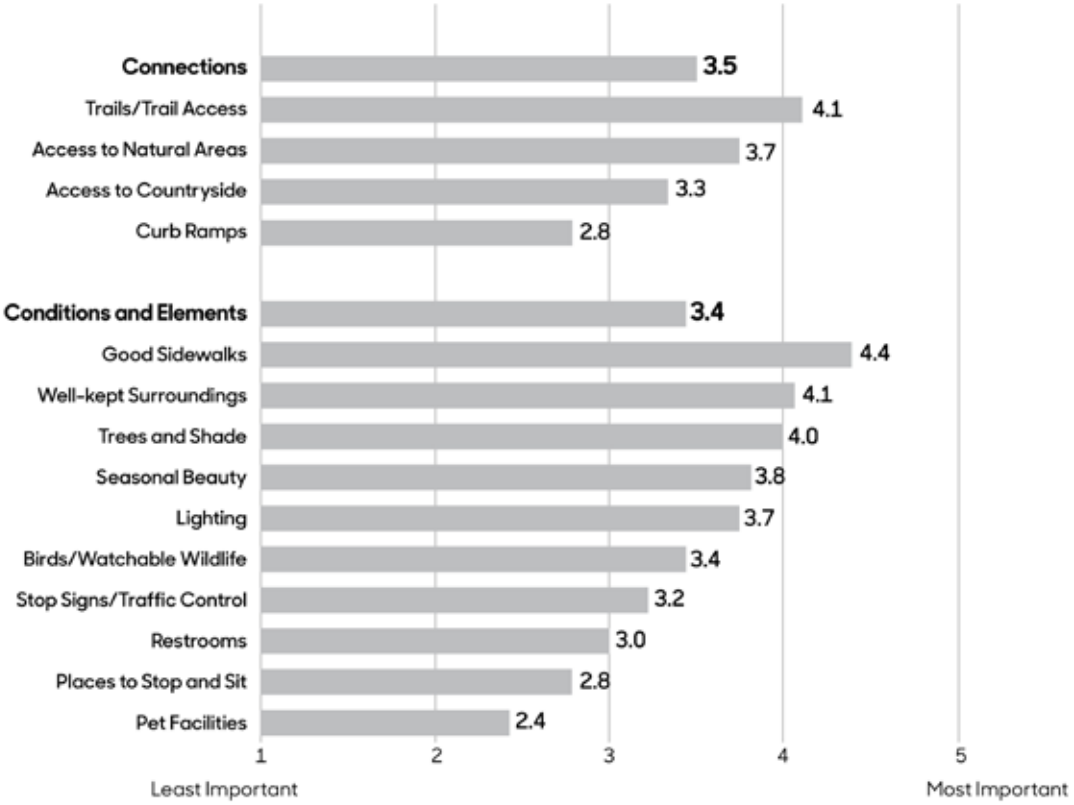
Iowa's Living Roadways community visioning

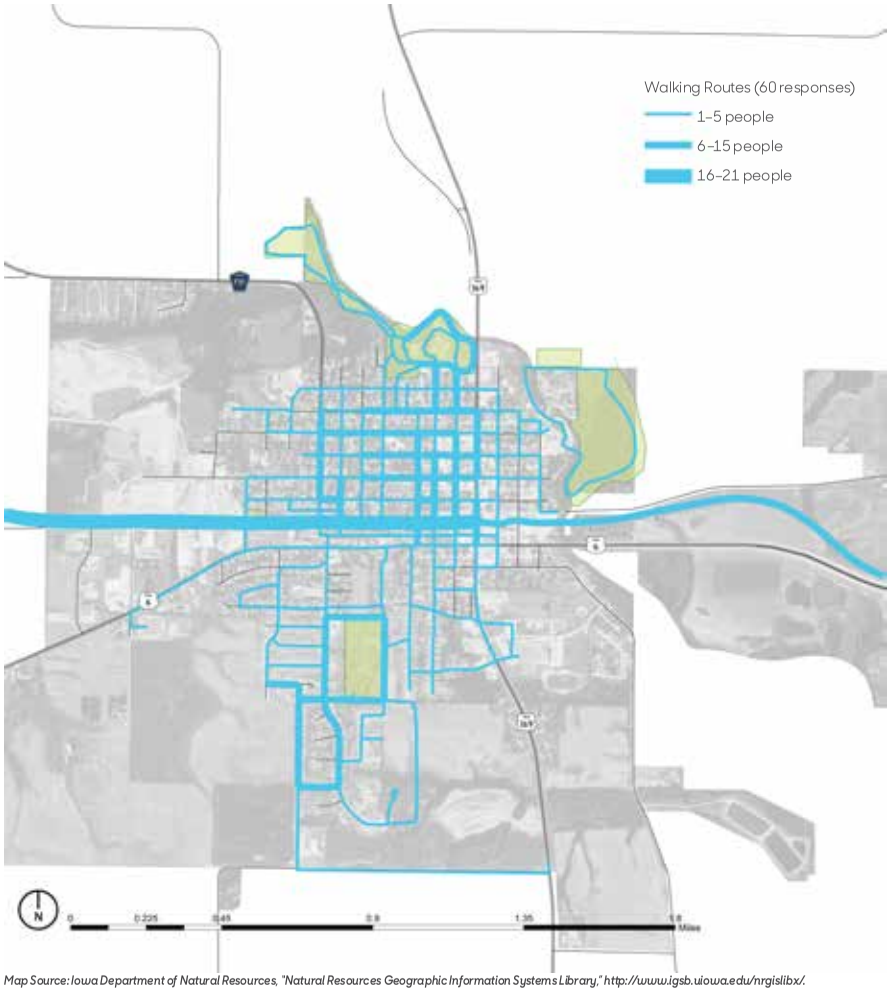
Walking Routes

This map shows the walking routes identified by 60 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. The Raccoon River Valley Trail is clearly the most popular walking route in Adel, particularly west of Highway 169. In town, participants indicated that they walk the grid of streets in "Adel proper." A number of people also walk in Kinnick-Feller Park, with some going on to Oakdale Cemetery. Some participants walk around Evans Park and in the subdivision to the south; others walk in Island Park. A few people walk along US 6 within city limits.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their walking experience better. These features are categorized as either "connections" or "conditions and elements." Among Adel participants, connections and conditions/elements have nearly equal importance with mean values of 3.5 and 3.4, respectively. In terms of connections, access to trails is most important with a mean value of 4.1. Good sidewalks are the most important element to walkers (4.4), followed by well kept surroundings (4.1) and trees and shade (4.0).





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

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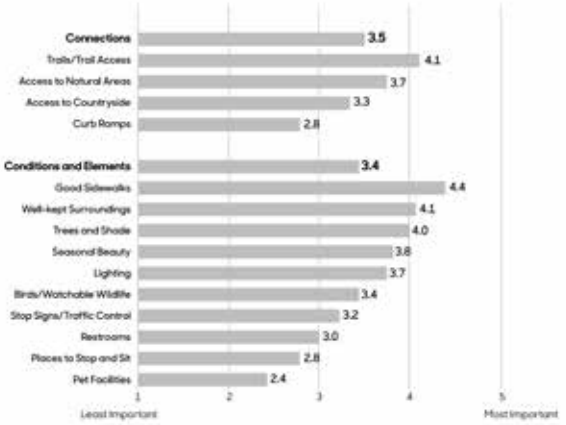


Adel

Walking Routes

Transportation Behavior and Needs Survey
Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Miao Fangzhou
Iowa State University | Trees Forever | Iowa Department of Transportation

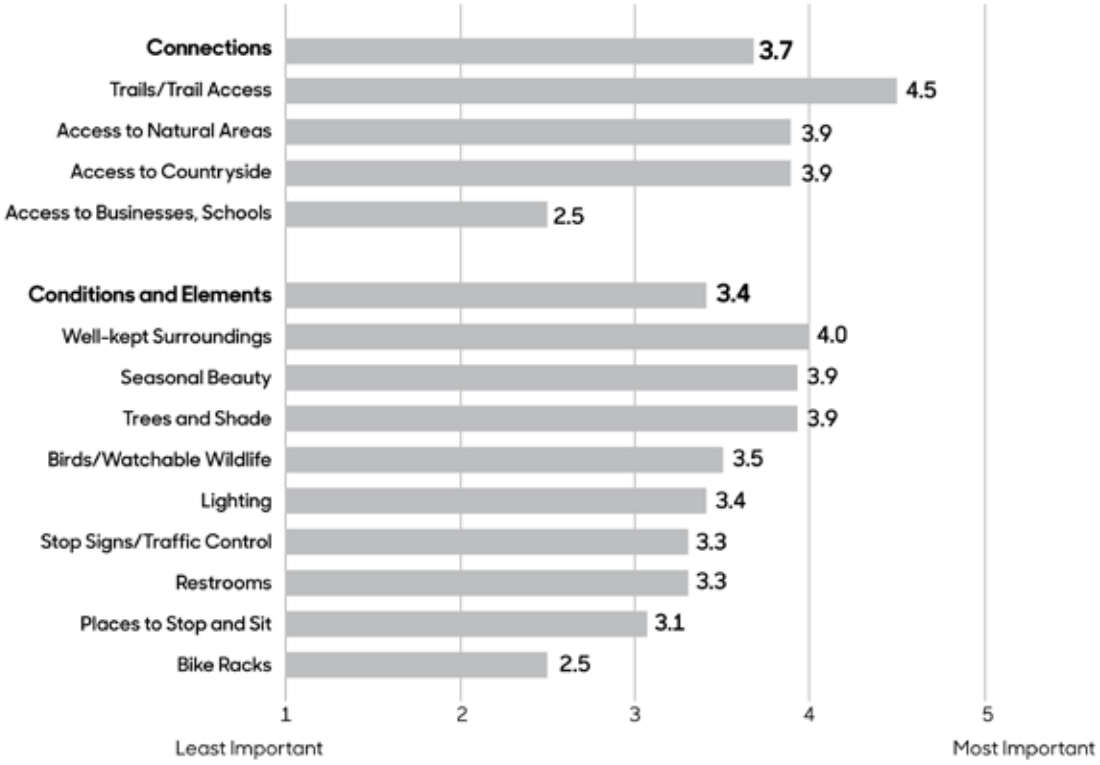
Iowa's Living Roadways community visioning

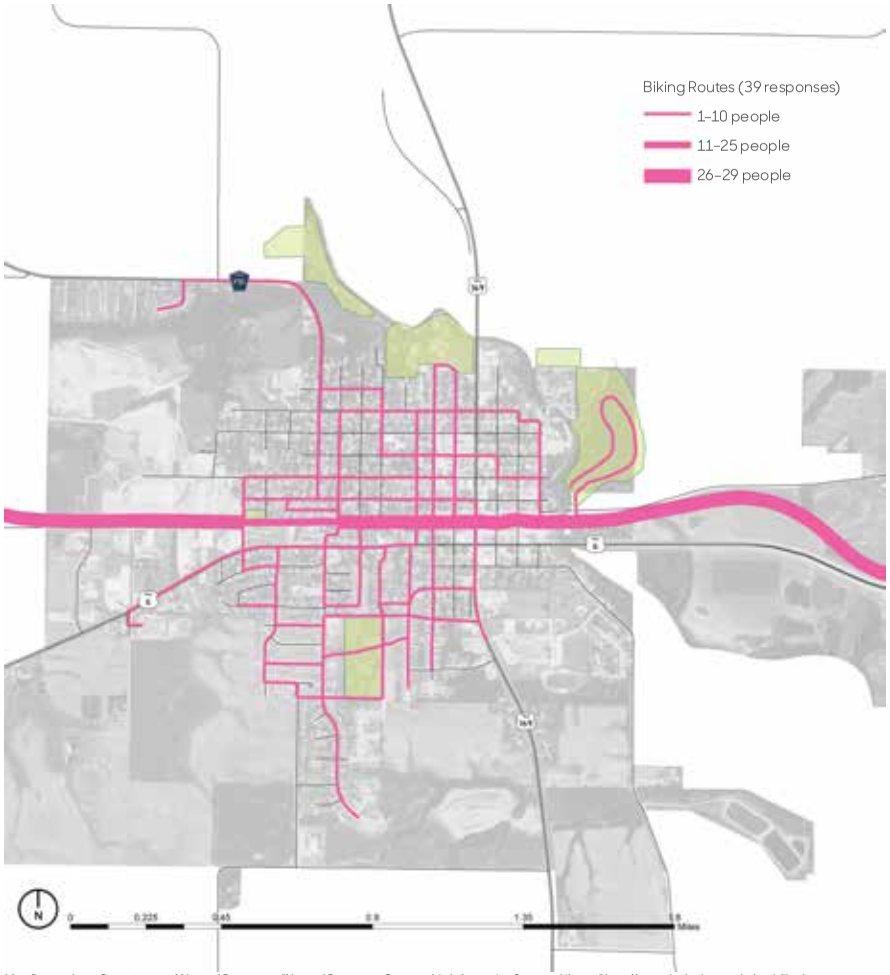
Biking Routes

This map shows the biking routes identified by 39 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. As with walkers, the most popular route among cyclists is the Raccoon River Valley Trail, particularly from South 14 Street to the east and from South 18th Street to the west. In town, cyclists use a variety of city streets, both to the north and south of US 6. A few people ride on US 6 west of South 10th Street, and some people bike in Island Park.

Why They Go That Way

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their biking experience better. These features are categorized as either "connections" or "conditions and elements." Among Adel participants, connections are somewhat more important than conditions/elements, with mean values of 3.7 and 3.4, respectively. In terms of connections, access to trails is significantly important with a mean value of 4.5. Well-kept surroundings are the most important element to cyclists (4.0), followed by seasonal beauty and trees and shade (each with mean values of 3.9).





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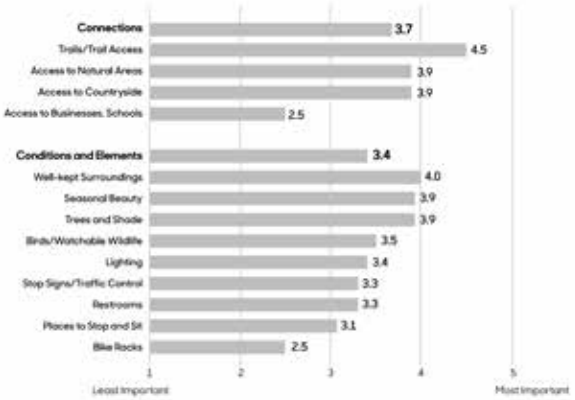


Adel
Biking Routes

Transportation Behavior and Needs Survey

Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Miao Fangzhou

Iowa State University | Trees Forever | Iowa Department of Transportation

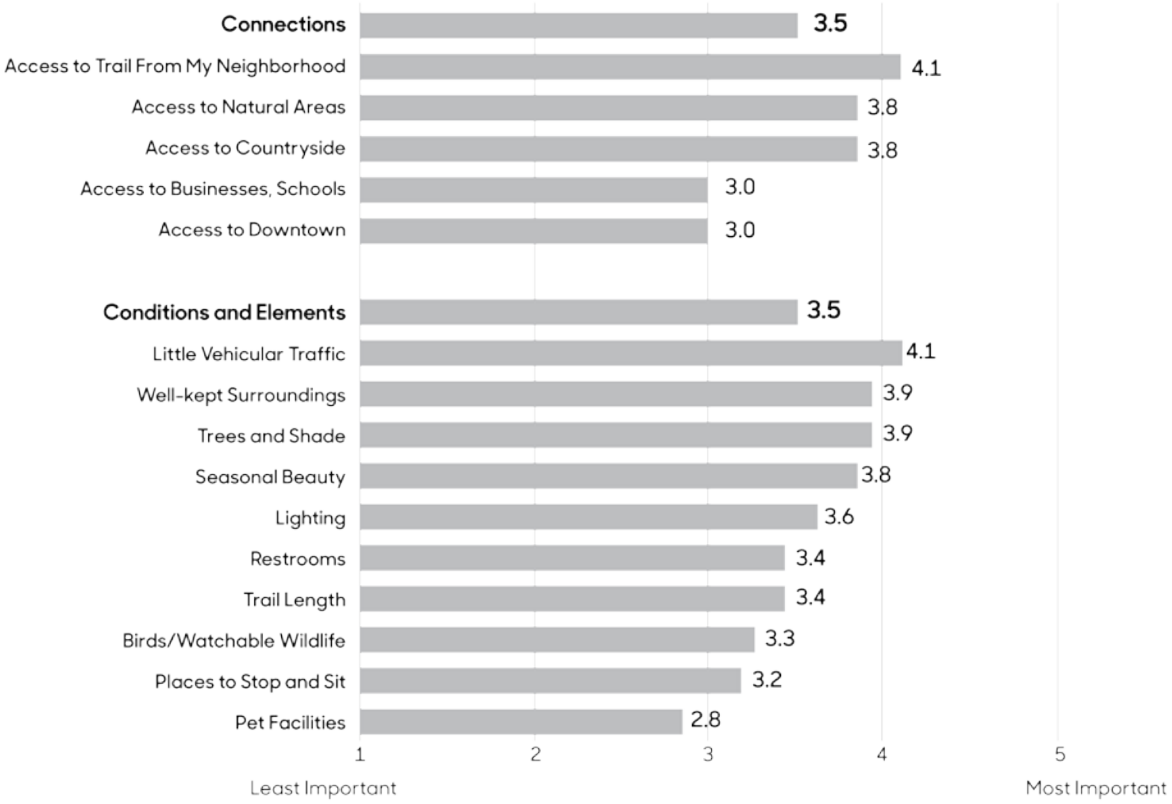
Iowa's Living Roadways community visioning

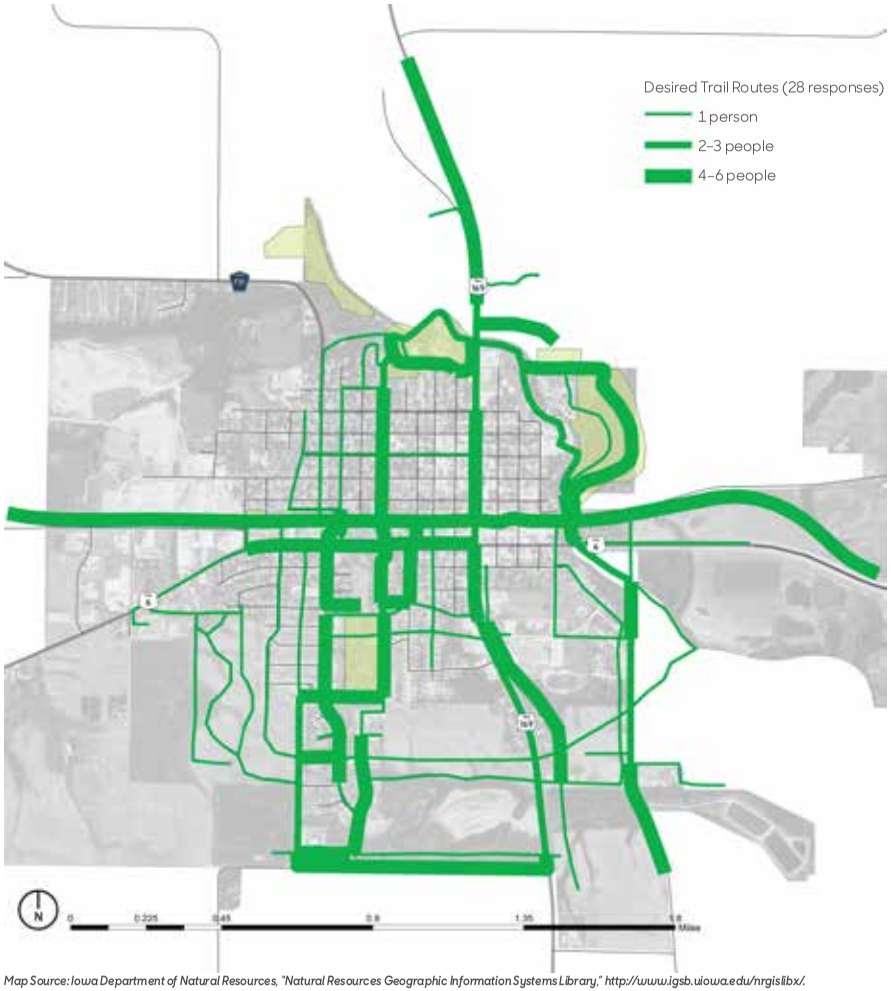
Desired Trail Routes

This map shows the desired trail routes identified by 28 survey respondents. The frequency that the routes are used is depicted by their thickness, with most frequently used routes being the thickest. Most desired trail routes include the Raccoon River Valley Trail, with connections to Island Park, Evans Park, and Kinnick-Feller Park. A number of survey participants would like a trail along Highway 169 from the north into and through town, and some would like a trail along US 6 between Highway 169 and South 18th Street. Several respondents proposed trail loops around the south part of town. Old Portland Road to the south was also frequently identified as a potential trail route.

What Trail Features Are Important

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their trail experience better. These features are categorized as either "connections" or "conditions and elements." Among Adel participants, connections and conditions/elements are equally important, each with a mean value of 3.5. In terms of connections, access to the trail from my neighborhood is most important with a mean value of 4.1. Little vehicular traffic is the most important element to trail users (4.1), followed by well-kept surroundings and trees and shade (each with a mean value of 3.9).





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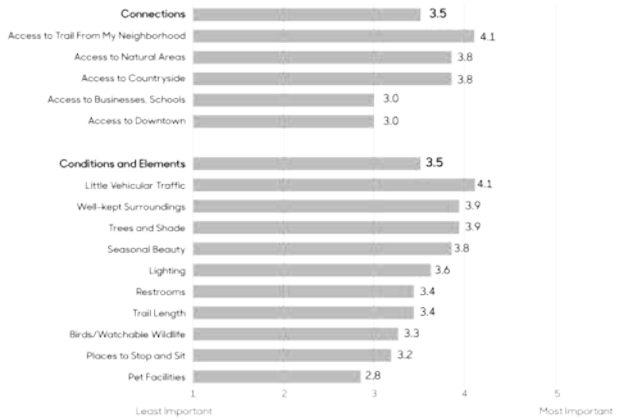

Adel
Desired Trail Routes

Transportation Behavior and Needs Survey
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Iowa's Living Roadways community visioning

Transportation Inventory and Analysis

Through observation, anecdotal evidence, resident surveys, and discourse with City of Adel, Dallas County, Iowa Department of Transportation officials, The Community Visioning team has inventoried existing transportation assets, needs and concerns throughout the community. Challenges related to pedestrian safety and a spotty, disconnected sidewalk and bike network, are exasperated by rapid population growth and high rate of private residential development at the south and east edges of town. As transportation and growth patterns have evolved, many residents are commuting east and south to the metro area. Where Highways 6 and 169 pass through town, many heavy freight vehicles combine with commuter and local traffic, making it extremely difficult for pedestrians to cross the road safely, particularly at the ADM Schools campus.

A Safe Routes to School study was recently completed for this location, and some highway crossing improvements proposed will likely be funded and implemented in the near future. The Raccoon River Valley Trail, which runs on an old railroad bed through town, is well used but road crossings are minimally marked and signed, some portions of the trail are unsightly, and well-defined connections to local trails, parks, and other attractions are lacking. Two brick monument signs exist at the north and far east entrances to town, although the east sign is easy to miss and set far from the developed edge of the city. The projects proposed by Community Visioning seek to update and enhance safety, connectivity, and aesthetic character / identity throughout the transportation fabric of Adel.

Existing Gateway Signs North & East of Town

Existing unmarked trail crossing at HWY 169

RRVT Bridge at The Raccoon River

HWY 169 & HWY 6

Pedal Plaza Trailhead at RRVT/HWY169

HWY 6 South

Transportation Inventory Plan

Transportation Needs

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Adel
Transportation Inventory

Genus Landscape Architects
LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA
Intern: Fan-Kai Lin
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Historical Resources

Adel is rich with visible history related to transportation infrastructure. The city lies at the intersection of the Raccoon River, state and interstate highways, and a railroad turned regional bike trail, and a has a continuing legacy of local clay brick production. An extensive network of brick streets adds a quaint touch to the downtown district, where grand old buildings built from local brick are well used and preserved. A series of three impressive steel box truss bridges span the river right on the edge of town, and have become local landmarks for residents and visitors. The Community Visioning projects proposed for Adel pay homage to this local history and build on this existing infrastructure, with a vision towards current and future needs of the community.

C - United Brick & Tile Co (Brick Factory)

H - 9th Street Brick Blvd

D - Adel City Hall

E - Wiscotta Bridge

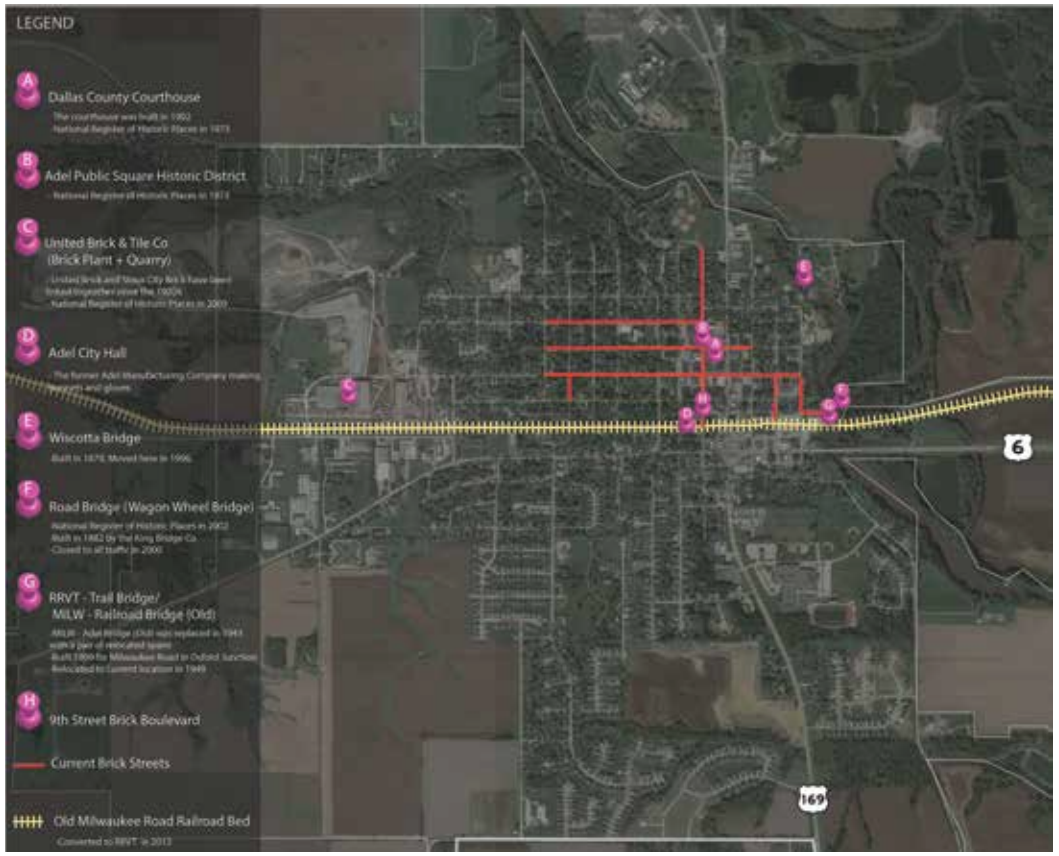
E - Wiscotta Bridge

G - RRVT- Adel Bridge

G - RRVT- Adel Bridge

F- Wagon Wheel Bridge

F- Wagon Wheel Bridge



Historical Resources Plan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Bricks + Bridges

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Adel
Historical Resources

Genus Landscape Architects
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Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Community Concept Plan

With guidance and input from the Adel Community Visioning steering committee, local and regional government agencies, and citizens of the community over the last six months, several transportation improvement project concepts are proposed to mitigate safety concerns at pedestrian and bike trail highway crossings, enhance community gateways at the city's perimeter, and improve regional trail connectivity with a more robust local trail system (including a proposed water trail on the Raccoon River). These projects aim to make Adel a more connected, safe, and beautiful place for visitors and residents alike.

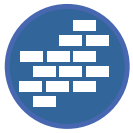
All projects strive to address multiple issues, so that each transportation investment provides maximum benefit to the community. These performance benefits fall into five primary categories as shown below. Graphic icons corresponding to each category are used to identify these benefits for each proposed project throughout the Adel Community Visioning documents.

Connectivity + Access

expanded local multi-use trail and sidewalk systems | new/improved trailheads | way finding signage | water trails and access points | access to local culture and recreation

Safety

enhanced road crossing markings and signage | traffic calming | low-head dam removal



Identity + Aesthetics

brick monuments and streetscape plantings | first impressions | community 'brand' | 'cues for care' | maintenance considerations

Ecology

habitat creation | increased biodiversity | urban forest and shade | stormwater management

History + Culture

brick infrastructure and production | local tourism and interpretation | cycling communities | raise profile of parks, schools, and businesses and other cultural institutions for visitors

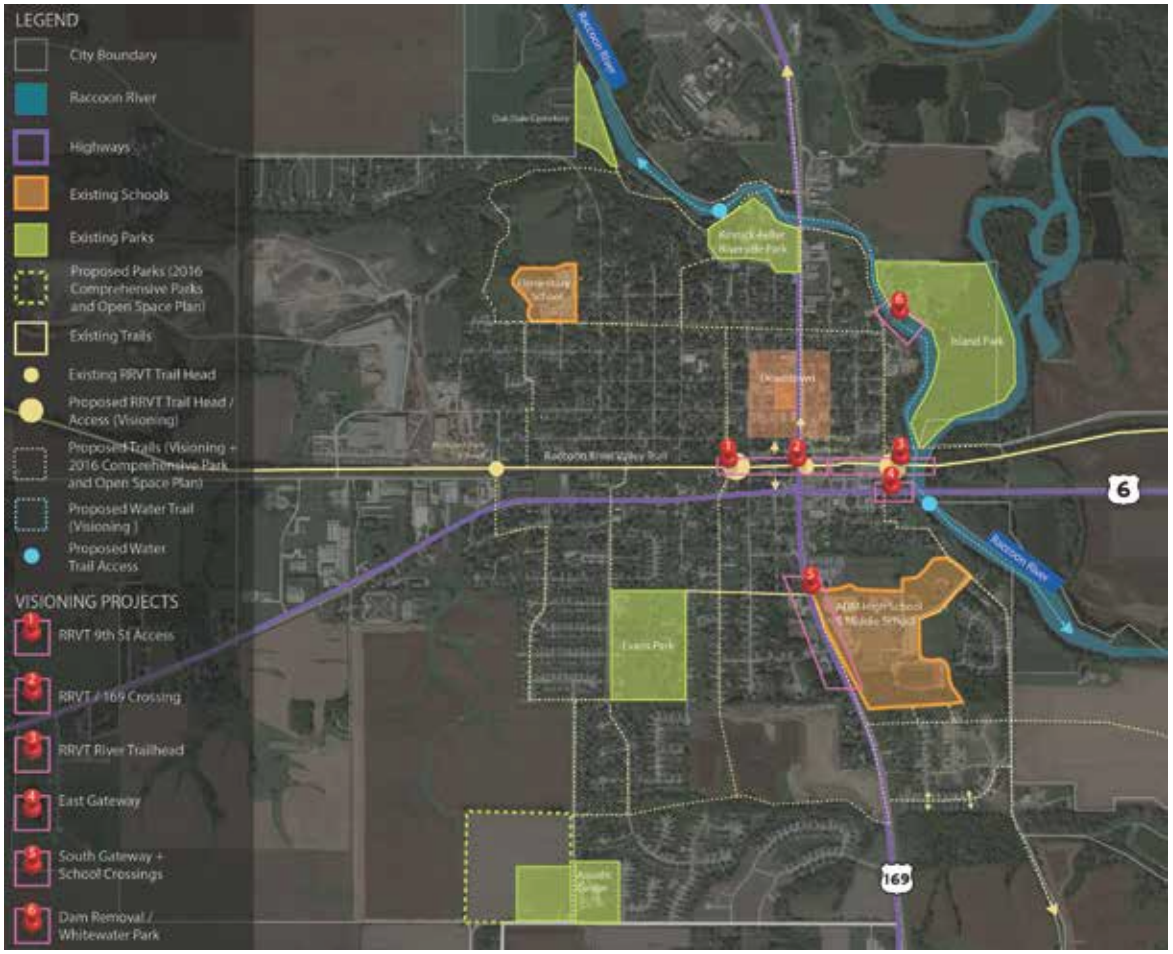
Cost Opinion Summary

The projects and their estimated budgets are discussed in more detail in the following pages. Estimates presented here are based on industry sources, previous project bid tabulations, and research. Costs are presented in 2017 dollars and will escalate in subsequent years. Local site conditions, labor, and material costs may effect actual construction costs differently than presented in estimate.

Abbreviations used in the following opinions of probable cost include:

AL = allowance
EA = each
LF = linear foot
LS = lump sum
SF = square foot
SY = square yard
CY = cubic yard
T = ton
N.I.C. = not included in calculation

RACCOON RIVER VALLEY TRAIL CORRIDOR IMPROVEMENTS			
1 RIVER TRAILHEAD	$	568,295	*Water trail access feasibility study: $30,000 AL*
2 HIGHWAY 169 CROSSING	$	80,808	
3 9TH STREET ACCESS	$	31,850	
4 CORRIDOR IMPROVEMENTS	$	249,600	*Bridge accent lighting: $120,000*
RRVT Improvements Total*	**$**	**930,553**	
			**Estimates do not include property easements, land acquisition, or utility modifications*
EAST GATEWAY			
1 ENHANCED CROSSWALK	$	56,472	
2 BRICK MONUMENT SIGNS	$	87,152	
Esat Gateway Total*	**$**	**143,624**	
			**Estimates do not include property easements, land acquisition, or utility modifications*
SOUTH GATEWAY + SCHOOL CROSSINGS			
1 ENHANCED CROSSINGS W/ VEGETATED MEDIAN	$	160,995	
2 VEGETATED MEDIANS	$	142,656	
3 ROADSIDE PLANTINGS + TREES	$	133,562	
South Gateway + School Crossing Total*	**$**	**437,212**	
			**Estimates do not include property easements, land acquisition, or utility modifications*
DAM REMOVAL / WHITEWATER PARK			
1 ENGINEERING FEASIBILITY STUDY	$	75,000	*Recommended first step to determine feasibilty and cost*
2 DAM REMOVAL	$	250,000	*Design and Implementation cost per IA precedents*
2 WHITEWATER PARK	$	500,000	*Design and Implementation cost per IA precedents*
Dam Removal / Whitewater Park Total*	**$**	**825,000**	
			**Detailed estimate not prepared for this project. Costs provided are based on DNR funding data available for similar recent projects in Iowa.*
SUMMARY			
Overall Combined Project Costs Total	**$**	**2,336,389**	



Community-Wide Plan

Visioning Process + Projects

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All projects strive to address multiple issues, so that each transportation investment provides maximum benefit to the community. These performance benefits fall into five primary categories as shown below. Graphic icons corresponding to each category are used to identify these benefits for each proposed project throughout the Adel Community Visioning documents.

Connectivity + Access
expanded local multi-use trail and sidewalk systems | new/improved trailheads | way finding signage | water trails and access points | access to local culture and recreation

Safety
enhanced road crossing markings and signage | traffic calming | low-head dam removal

Identity + Aesthetics
brick monuments and streetscape plantings | first impressions | community 'brand' | 'cues for care' | maintenance considerations

Ecology
habitat creation | increased biodiversity | urban forest and shade | stormwater management

History + Culture
brick infrastructure and production | local tourism and interpretation | cycling communities | raise profile of parks, schools, and businesses and other cultural institutions for visitors

Adel
Concept Plan Overview

Genus Landscape Architects
LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA
Intern: Fan-Kai Lin
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

RRVT Improvements (9th St. - 7th St.)

Corridor Improvements
These projects serve to improve the Raccoon River Valley Trail corridor near downtown, strengthening connections and adding facilities that can increase Adel's standing as a destination and trailhead for regional cyclists. Existing road crossings are improved, new trailheads created, and new way finding and safety signage is proposed along the corridor.

New tree plantings screen adjacent industrial and commercial facilities, and provide shade for trail users, while turf areas are converted to low-maintenance prairie and shrub plantings that reduce mowing requirements, create habitat for pollinators and other wildlife, and give this portion of trail corridor a distinct character.

The project also addresses maintenance challenges of the parallel storm drainage channel with the addition of concrete forebays at the culvert outlets to collect sediment and allow for easier sediment removal. Substituting low-maintenance prairie and shrub plantings for weedy lawn along the side slopes, and adding limestone outcroppings as seating areas can also transform this unsightly infrastructure into a water feature park amenity.

9th Street Access
A small trail access is proposed at 9th Street, where the brick street extends to the RRVT, as a jumping off point for trail users to explore historic downtown and the adjacent public library and city hall. A small brick paver landing is proposed at the existing sidewalk crossing, along with bike racks, a limestone seat wall, and brick way finding pillar, which will direct trail users towards local destinations. Interpretive signs could be incorporated into the space to explain local cultural and natural history.

RRVT / HWY 169 Crossing
An improved trail crossing is proposed where the RRVT crosses Highway 169/Nile Kinnick Drive. To alert drivers to the crossing at greater distances, enhanced pavement markings (with brick stencil pattern over red background) and crossing signs with push button-operated Rectangular Rapid Flashing Beacon (RRFB) LED lights can be installed. Adjacent to the existing Pedal Plaza trail hub, which includes existing park amenities and signage, a brick way finding pillar is proposed to direct visitors to local destinations. As an additional park feature, a cluster of limestone blocks along the existing drainage channel provides seating and act as stepping stones from the trail down to this urban waterway.

Costs + Feasibility Considerations

The Highway 169 crossing and 9th street access projects may be broken down into separate projects. Coordination between the City of Adel, Dallas County, Iowa Department of Transportation (IDOT), and private property owners along the project route is necessary for property acquisition, design review, implementation and long term operations.

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following professionals: landscape architect, civil engineer, geotechnical engineer, mechanical/electrical/plumbing engineer, and structural engineer for detailed design, construction documentation, bidding assistance and construction administration services.

RACCOON RIVER VALLEY TRAIL CORRIDOR IMPROVEMENTS - (9TH STREET - 7TH STREET)

	Improvement Description	*Unit*	*Qty.*	*Unit Cost*	*Subtotal*
1	HIGHWAY 169 CROSSING				
1	Removal of Pavement	SY	110	$ 20.00	$ 2,200.00
2	Colored Concrete	SF	640	$ 14.00	$ 8,960.00
3	Crosswalk Marking (preformed thermoplastic)	SF	400	$ 20.00	$ 8,000.00
4	Brick Wayfinding Pillar	AL	1	$ 6,000.00	$ 6,000.00
5	ADA Tactile Warning Strip/Curb Ramps	EA	2	$ 1,500.00	$ 3,000.00
6	14' Crossing Sign (solar panel, push-button RRFB)	EA	2	$ 8,500.00	$ 17,000.00
7	Limestone Steppers	LS	1	$ 15,000.00	$ 15,000.00
8	Seeding / Mulch	AL	1	$ 500.00	$ 500.00
9	Plantings	AL	1	$ 1,500.00	$ 1,500.00
				Section Subtotal	$ 62,160.00
				20% Contingency	$ 12,432.00
				10% Design & Engineering Costs	$ 6,216.00
				Highway 169 Crossing Subtotal	**$ 80,808.00**
2	9TH STREET ACCESS				
1	Brick Wayfinding Pillar	AL	1	$ 6,000.00	$ 6,000.00
2	Brick Paving	SF	200	$ 34.00	$ 6,800.00
3	Bike Racks	EA	3	$ 600.00	$ 1,800.00
4	Limestone Seatwall	AL	1	$ 8,000.00	$ 8,000.00
5	Seeding / Mulch	AL	1	$ 400.00	$ 400.00
6	Plantings	AL	1	$ 1,500.00	$ 1,500.00
				Section Subtotal	$ 24,500.00
				20% Contingency	$ 4,900.00
				10% Design & Engineering Costs	$ 2,450.00
				9th Street Access Subtotal	**$ 31,850.00**
				RACCOON RIVER VALLEY TRAIL CORRIDOR IMPROVEMENTS TOTAL*	**$ 112,658.00**

**Estimates do not include property easements, land acquisition, or utility modifications*

RRVT Improvements Plan

9th Street Access Perspective

RRVT HWY 169 Crossing Perspective

9th Street Access

A small trail access is proposed at 9th Street, where the brick street extends to the RRVT, as a jumping off point for trail users to explore historic downtown and the adjacent public library and city hall. A small brick paver landing is proposed at the existing sidewalk crossing, along with bike racks, a limestone seat wall, and brick way finding pillar, which will direct trail users towards local destinations. Interpretive signs could be incorporated into the space to explain local cultural and natural history.

Brick Way Finding Pillar

RRVT / HWY 169 Crossing

An improved trail crossing is proposed where the RRVT crosses Highway 169/Nile Kinnick Drive. To alert drivers to the crossing at greater distances, enhanced pavement markings (with brick stencil pattern over red background) and crossing signs with push button-operated Rectangular Rapid Flashing Beacon (RRFB) LED lights can be installed. Adjacent to the existing Pedal Plaza trail hub, which includes existing park amenities and signage, a brick way finding pillar is proposed to direct visitors to local destinations. As an additional park feature, a cluster of limestone blocks along the existing drainage channel provides seating and act as stepping stones from the trail down to this urban waterway.

Corridor Improvements

These projects serve to improve the Raccoon River Valley Trail corridor near downtown, strengthening connections and adding facilities that can increase Adel's standing as a destination and trailhead for regional cyclists. Existing road crossings are improved, new trailheads created, and new way finding and safety signage is proposed along the corridor.

New tree plantings screen adjacent industrial and commercial facilities, and provide shade for trail users, while turf areas are converted to low-maintenance prairie and shrub plantings that reduce mowing requirements, create habitat for pollinators and other wildlife, and give this portion of trail corridor a distinct character.

The project also addresses maintenance challenges of the parallel storm drainage channel with the addition of concrete forebays at the culvert outlets to collect sediment and allow for easier sediment removal. Substituting low-maintenance prairie and shrub plantings for weedy lawn along the side slopes, and adding limestone outcroppings as seating areas can also transform this unsightly infrastructure into a water feature park amenity.

Performance Icons

- Connectivity + Access
- Safety
- Identity + Aesthetics
- Ecology
- History + Culture

Adel

RRVT Improvements (9th St. – 7th St.)

Genus Landscape Architects

LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA

Intern: Fan-Kai Lin

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

RRVT Improvements (7th St. - River)

Corridor Improvements

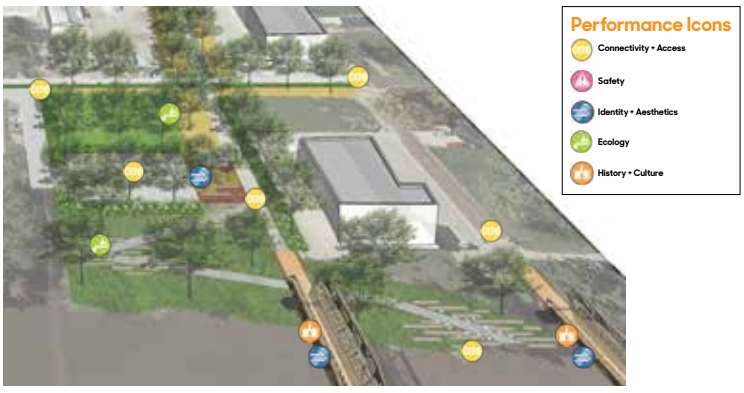
These projects serve to improve the Raccoon River Valley Trail corridor near downtown, strengthening connections and adding facilities that can increase Adel's standing as a destination and trailhead for regional cyclists. New trail / sidewalk extensions combined with way finding and safety signage connect the RRVT to 5th Street north and south, expanding access for adjacent neighborhoods and providing a direct link to Island Park several blocks to the north. A signature park/trailhead at the Raccoon River bridge creates a hub for local and regional recreation access.

The two historic steel box truss bridges could be lit with LED accent lighting to add drama and improve safety at night, and draw the attention of drivers on the parallel Highway 6 bridge to the south. A small trail extension is also proposed on the east side of the river, to connect the RRVT north to River Street and the Wagonwheel Bridge, to create a River Bridge Loop Trail near the trailhead. New tree plantings screen adjacent industrial facilities, and provide shade for trail users, while turf areas can be converted to low maintenance prairie and shrub plantings that reduce mowing needs, create habitat for pollinators and other wildlife, and give this portion of trail corridor a distinct character.

River Trailhead

Building on a concept proposed in the recently completed Adel Comprehensive Park and Open Space Plan, this project aims to convert an underutilized Dallas County gravel parking lot into a signature downtown park and trailhead for the RRVT. East 5th Street can be extended north of Highway 6 to easily bring local and out-of-town visitors to the trailhead parking lot from the south. Between the parking lot and the trail, a brick paver plaza with public restrooms, limestone seat walls, bike racks, and a brick way finding pillar is proposed. Leading down the river bank fro the plaza, a switchback gravel path and canoe launch give paddlers access to the Raccoon River and potential future Adel water trail. These improvements could be developed in phases as Dallas County relocates their facilities and land becomes available, with the parking lot and plaza located on readily available land for early implementation.

River Trail head Plaza Perspective View



River Trail head 'Bird's Eye' View

Costs + Feasibility Considerations

The RRVT Trailhead and corridor improvement projects may be broken down into separate projects and be phased out as land becomes available. Coordination between the City of Adel, Dallas County, Iowa Department of Transportation (IDOT), and private property owners along the project route is necessary for property acquisition, design review, implementation and long term operations. Implementation costs have not been provided for the water trail access. Additional study is recommended to analyze the impacts of the water trail access on the 100 year floodplain at this location.

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following professionals: landscape architect, civil engineer, geotechnical engineer, mechanical/electrical/plumbing engineer, and structural engineer for detailed design, construction documentation, bidding assistance and construction administration services.

RACCOON RIVER VALLEY TRAIL CORRIDOR IMPROVEMENTS - (7TH STREET - RIVER)

	Improvement Description	*Unit*	*Qty.*		*Unit Cost*		*Subtotal*
1	RIVER TRAILHEAD						
1	5th Street Extension - Concrete Roadway	SY	950	$	40.00	$	38,000.00
2	Concrete Parking Lot	SY	850	$	63.00	$	53,550.00
3	Brick Plaza	SF	3,500	$	34.00	$	119,000.00
4	Limestone Seatwall	EA	4	$	8,000.00	$	32,000.00
5	Brick Wayfinding Pillar	AL	1	$	6,000.00	$	6,000.00
6	Restroom (plumbed CMU building/one stall)	AL	1	$	125,000.00	$	125,000.00
7	Bike Racks	EA	6	$	600.00	$	3,600.00
8	Sod Lawn	SQ	200	$	75.00	$	15,000.00
9	Plantings	AL	1	$	15,000.00	$	15,000.00
10	Watertrail Access Feasibility Study	AL	1	$	30,000.00	$	30,000.00
					Section Subtotal	$	437,150.00
					20% Contingency	$	87,430.00
					10% Design & Engineering Costs	$	43,715.00
					River Trailhead Subtotal	**$**	**568,295.00**
2	CORRIDOR IMPROVEMENTS						
1	Trees	EA	40	$	400.00	$	16,000.00
7	Trail Extension	SF	4,000	$	7.00	$	28,000.00
2	Native Plantings	AL	1	$	20,000.00	$	20,000.00
3	Sedimentation Forebay	EA	2	$	4,000.00	$	8,000.00
4	Bridge Accent Lighting (color-changing LED)	AL	2	$	60,000.00	$	120,000.00
					Section Subtotal	$	192,000.00
					20% Contingency	$	38,400.00
					10% Design & Engineering Costs	$	19,200.00
					Corridor Improvements Subtotal	**$**	**249,600.00**
					RACCOON RIVER VALLEY TRAIL CORRIDOR IMPROVEMENTS TOTAL*	**$**	**817,895.00**

**Estimates do not include property easements, land acquisition, or utility modifications*

River Trail head Plan

Corridor Improvements

These projects serve to improve the Raccoon River Valley Trail corridor near downtown, strengthening connections and adding facilities that can increase Adel's standing as a destination and trailhead for regional cyclists. New trail / sidewalk extensions combined with way finding and safety signage connect the RRVT to 5th Street north and south, expanding access for adjacent neighborhoods and providing a direct link to Island Park several blocks to the north. A signature park/trailhead at the Raccoon River bridge creates a hub for local and regional recreation access.

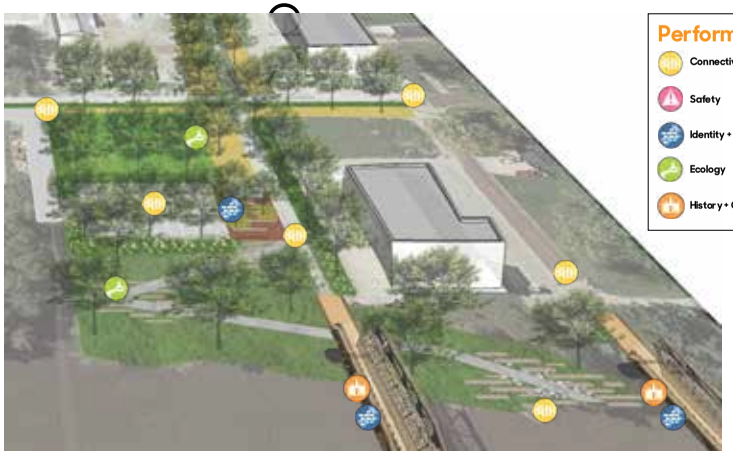
The two historic steel box truss bridges could be lit with LED accent lighting to add drama and improve safety at night, and draw the attention of drivers on the parallel Highway 6 bridge to the south. A small trail extension is also proposed on the east side of the river, to connect the RRVT north to River Street and the Wagonwheel Bridge, to create a River Bridge Loop Trail near the trailhead.

New tree plantings screen adjacent industrial facilities, and provide shade for trail users, while turf areas can be converted to low-maintenance prairie and shrub plantings that reduce mowing needs, create habitat for pollinators and other wildlife, and give this portion of trail corridor a distinct character.

River Trailhead

Building on a concept proposed in the recently completed Adel Comprehensive Park and Open Space Plan, this project aims to convert an underutilized Dallas County gravel parking lot into a signature downtown park and trailhead for the RRVT. East 5th Street can be extended north of Highway 6 to easily bring local and out-of-town visitors to the trailhead parking lot from the south. Between the parking lot and the trail, a brick paver plaza with public restrooms, limestone seat walls, bike racks, and a brick way finding pillar is proposed. Leading down the river bank fro the plaza, a switchback gravel path and canoe launch give paddlers access to the Raccoon River and potential future Adel water trail. These improvements could be developed in phases as Dallas County relocates their facilities and land becomes available, with the parking lot and plaza located on readily available land for early implementation.

River Trail head Plaza Perspective View



River Trail head 'Bird's Eye' View

Adel

RRVT Improvements (7th St. – River)

Genus Landscape Architects
LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA
Intern: Fan-Kai Lin
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

East Gateway

The existing Adel welcome sign situated on Highway 6 at the edge of city limits is easy to miss when entering Adel from the east. To complement that sign in town, a new landscape gateway is proposed along the Green Street right-of-way on the west side of the Highway 6 bridge over the Raccoon River. A series of variable-height brick monuments flank either side of the road, interspersed with drought-tolerant, low-maintenance ornamental grasses, shrubs, and short, flowering trees. These could also be supplemented with accent uplighting to add drama at night. The scale and repetitive spacing of the monuments ensure the gateway will be noticed by passersby, and the three color brick gradient pattern provides a contemporary twist on the traditional brick construction around town.

An improved highway crossing is also proposed at S 5th Street. To alert drivers to the crossing at greater distances, enhanced crosswalk markings (with high contrast brick pattern graphic) and crossing signs with push button-operated Rectangular Rapid Flashing Beacon (RRFB) LED lights could be installed. This crossing aligns with the proposed S 5th Street and sidewalk/trail expansion, which extends to the RRVT and proposed River Trailhead, improving connectivity between the RRVT and neighborhoods to south of Highway 6.

The East Gateway signifies Adel as a beautiful and growing community, and announce to visitors that they have arrived. The gateway can be thought of as a template whose elements can be replicated elsewhere throughout town by the city and private developers as the community continues to expand over the coming decades.

East Gateway Perspective

Costs + Feasibility Considerations

The East Gateway project sets a new precedent / design character for the City of Adel that may be implemented elsewhere. Coordination between the City of Adel, Iowa Department of Transportation (IDOT), the affected private residence (2nd driveway removal), and businesses along the project route is necessary for design review, implementation and long term operations. There is a potential storm sewer utility conflict that may present operational implications, should the storm sewer ever need to be replaced.

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following professionals: landscape architect and structural engineer for detailed design, construction documentation, bidding assistance and construction administration services.

EAST GATEWAY						
Improvement Description	***Unit***	***Qty.***		***Unit Cost***		***Subtotal***
1 ENHANCED CROSSWALK						
1 Removal of Pavement	SY	122	$	20.00	$	2,440.00
2 Integrally Colored Concrete	SF	800	$	18.00	$	14,400.00
3 Crosswalk Marking (preformed thermoplastic)	SF	270	$	20.00	$	5,400.00
4 Turf Restoration	SQ	2	$	75.00	$	150.00
5 ADA Tactile Warning Strip/Curb Ramps	EA	2	$	1,500.00	$	3,000.00
6 Sidewalk	SF	50	$	21.00	$	1,050.00
7 14' Crossing Sign (solar panel, push-button RRFB)	EA	2	$	8,500.00	$	17,000.00
				Section Subtotal	$	43,440.00
				20% Contingency	$	8,688.00
				10% Design & Engineering Costs	$	4,344.00
				Enhanced Crosswalk Subtotal	**$**	**56,472.00**
2 BRICK MONUMENT SIGNS						
1 Brick Monument Signs -Small	EA	4	$	2,500.00	$	10,000.00
2 Brick Monument Signs -Medium	EA	4	$	2,800.00	$	11,200.00
3 Brick Monument Signs- Large	EA	2	$	3,200.00	$	6,400.00
4 Soil	CY	22	$	115.00	$	2,530.00
5 Mulch	CY	34	$	65.00	$	2,210.00
6 Trees	EA	8	$	400.00	$	3,200.00
7 Plantings	AL	1	$	30,000.00	$	30,000.00
8 Turf Restoration	SQ	20	$	75.00	$	1,500.00
				Section Subtotal	$	67,040.00
				20% Contingency	$	13,408.00
				10% Design & Engineering Costs	$	6,704.00
				Brick Monument Signs Subtotal	**$**	**87,152.00**
				EAST GATEWAY TOTAL*	**$**	**143,624.00**

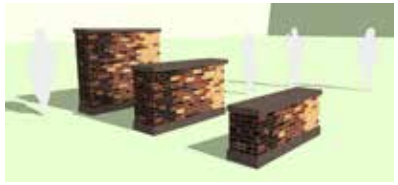
**Estimates do not include property easements, land acquisition, or utility modifications*

East Gateway

East Gateway Perspective

East Gateway

The existing Adel welcome sign situated on Highway 6 at the edge of city limits is easy to miss when entering Adel from the east. To complement that sign in town, a new landscape gateway is proposed along the Green Street right-of-way on the west side of the Highway 6 bridge over the Raccoon River. A series of variable-height brick monuments flank either side of the road, interspersed with drought-tolerant, low-maintenance ornamental grasses, shrubs, and short, flowering trees. These could also be supplemented with accent uplighting to add drama at night. The scale and repetitive spacing of the monuments ensure the gateway will be noticed by passersby, and the three-color brick gradient pattern provides a contemporary twist on the traditional brick construction around town.



Brick Gateway Monuments

An improved highway crossing is also proposed at S 5th Street. To alert drivers to the crossing at greater distances, enhanced crosswalk markings (with high contrast brick pattern graphic) and crossing signs with push button-operated Rectangular Rapid Flashing Beacon (RRFB) LED lights could be installed. This crossing aligns with the proposed S 5th Street and sidewalk/trail expansion, which extends to the RRVT and proposed River Trailhead, improving connectivity between the RRVT and neighborhoods to south of Highway 6.

The East Gateway signifies Adel as a beautiful and growing community, and announce to visitors that they have arrived. The gateway can be thought of as a template whose elements can be replicated elsewhere throughout town by the city and private developers as the community continues to expand over the coming decades.

Performance Icons

- Connectivity + Access
- Safety
- Identity + Aesthetics
- Ecology
- History + Culture

Adel
East Gateway

Genus Landscape Architects
LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA
Intern: Fan-Kai Lin
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

South Gateway - School Crossings

Addressing safety concerns is a top priority for the Adel Community Visioning steering committee, especially for students needing to cross Highway 169 near the ADM campus. The South Gateway project proposes strategies that both improve pedestrian safety and enhance aesthetic character along this busy, high-speed artery into Adel.

Simple, low-maintenance landscape plantings and widely-spaced shade trees are positioned along the roadside, and painted center medians are transformed into raised, vegetated medians planted with low, drought-tolerant ornamental grasses. These medians and roadside plantings can be effective traffic calming devices, signifying to drivers a change in roadway character from the open, high-speed rural highway section over the hill south of town, to a slower, more restricted urban corridor. The diagonal, poorly marked existing crosswalk that is in conflict with the private driveway for Harvey's Greenhouse is abandoned.

New pedestrian crossings are proposed at two locations to provide egress across the highway. These include enhanced crosswalk markings and two-sided crossing signs with push button-activated RRFBs. The crossings bisect the raised vegetated medians, which provides a 'refuge island', or protected midpoint in the crosswalk. This breaks up the long crossing into two smaller more manageable crosswalk sections, a great benefit to those with mobility impairments, and young children. New sidewalks along the roadside drainage-ways connect these crossings to existing public sidewalks and neighborhoods and the expanded school campus sidewalks proposed by the recent Safe Routes to School Study.

Improved Pedestrian Crossing Perspective

Costs + Feasibility Considerations

The South Gateway + School Crossings project piggybacks on the current Safe Routes to School study and implementation projects. Coordination between the City of Adel, Iowa Department of Transportation (IDOT), ADM School, and private businesses along the project route is necessary for design review, implementation and long term operations.

Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following professionals: landscape architect, traffic engineer for detailed design, construction documentation, bidding assistance and construction administration services.

SOUTH GATEWAY + SCHOOL CROSSINGS						
Improvement Description	***Unit***	***Qty.***		***Unit Cost***		***Subtotal***
1 ENHANCED CROSSINGS WITH VEGETATED MEDIAN						
1 Pavement Removal	SY	172	$	20.00	$	3,440.00
2 Integrally Colored Concrete	SF	528	$	14.00	$	7,392.00
3 Crosswalk Marking (preformed thermoplastic)	SF	540	$	20.00	$	10,800.00
4 14' Crossing Sign (solar panel, push-button RRFB)	EA	6	$	8,500.00	$	51,000.00
5 18" Wide Concrete Curb	LF	350	$	36.00	$	12,600.00
6 Soil - Export + Amendment	CY	37	$	115.00	$	4,255.00
7 Mulch	CY	5	$	65.00	$	325.00
8 Plantings	LS	1	$	8,500.00	$	8,500.00
9 5' Concrete Sidewalk	SY	310	$	63.00	$	19,530.00
10 ADA Tactile Warning Strip/Curb Ramps	EA	4	$	1,500.00	$	6,000.00
				Section Subtotal		$123,842.00
				20% Contingency	$	24,768.40
				10% Design & Engineering Costs	$	12,384.20
				Enhanced Crosswalk with Median Subtotal	**$**	**160,994.60**
2 VEGETATED MEDIANS						
1 Removal of Pavement	SY	2,770	$	20.00	$	55,400.00
2 18" Wide Concrete Curb	LF	530	$	36.00	$	19,080.00
3 Soil - Export + Amendment	CY	148	$	115.00	$	17,020.00
4 Mulch	CY	19	$	65.00	$	1,235.00
5 Plantings	LS	1	$	17,000.00	$	17,000.00
				Section Subtotal		$109,735.00
				20% Contingency	$	21,947.00
				10% Design & Engineering Costs	$	10,973.50
				Vegetated Median Subtotal	**$**	**142,655.50**
3 ROADSIDE PLANTINGS + TREES						
1 Soil	AL	1	$	3,000.00	$	3,000.00
2 Mulch	CY	156	$	65.00	$	10,140.00
3 Trees	EA	24	$	400.00	$	9,600.00
4 Plantings	LS	1	$	80,000.00	$	80,000.00
				Section Subtotal		$102,740.00
				20% Contingency	$	20,548.00
				10% Design & Engineering Costs	$	10,274.00
				Roadside Plantings + Trees Subtotal	**$**	**133,562.00**
				SOUTH GATEWAY + SCHOOL CROSSINGS TOTAL*	**$**	**437,212.10**

**Estimates do not include property easements, land acquisition, or utility modifications*

South 169 Gateway Plan

South Gateway

Addressing safety concerns is a top priority for the Adel Community Visioning steering committee, especially for students needing to cross Highway 169 near the ADM campus. The South Gateway project proposes strategies that both improve pedestrian safety and enhance aesthetic character along this busy, high-speed artery into Adel. Simple, low-maintenance landscape plantings and widely-spaced shade trees are positioned along the roadside, and painted center medians are transformed into raised, vegetated medians planted with low, drought-tolerant ornamental grasses. These medians and roadside plantings can be effective traffic calming devices, signifying to drivers a change in roadway character from the open, high-speed rural highway section over the hill south of town, to a slower, more restricted urban corridor. The diagonal, poorly marked existing crosswalk that is in conflict with the private driveway for Harvey's Greenhouse is abandoned. New pedestrian crossings are proposed at two locations to provide egress across the highway. These include enhanced crosswalk markings and two-sided crossing signs with push button-activated RRFBs. The crossings bisect the raised vegetated medians, which provides a 'refuge island', or protected midpoint in the crosswalk. This breaks up the long crossing into two smaller more manageable crosswalk sections, a great benefit to those with mobility impairments, and young children. New sidewalks along the roadside drainage-ways connect these crossings to existing public sidewalks and neighborhoods and the expanded school campus sidewalks proposed by the recent Safe Routes to School Study.

Improved Pedestrian Crossing Perspective

Performance Icons

- Connectivity + Access
- Safety
- Identity + Aesthetics
- Ecology
- History + Culture

Adel

South Gateway + School Crossings

Genus Landscape Architects
LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA
Intern: Fan-Kai Lin
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Dam Removal / Whitewater Park

Island Park is a popular local and regional recreation destination located in the Raccoon River floodplain in Adel. This city park includes a large soccer complex, picnic areas, a full campground, and water access for fishing, paddling ,and tubing in the river. A steel box truss bridge (Wiscotta Bridge) has been relocated to a position above an existing (and dangerous) low-head dam to provide pedestrian access to city parks and neighborhoods on the west side of the river. However, the earthen ramp and stone stairs leading to the bridge have fallen into disrepair and are not accessible for most users and are not connected to the public sidewalk system.

The creation of a whitewater park is proposed at this location to address safety and connectivity concerns, and create a new recreational opportunity in Adel. The 12'+ tall low-head hydroelectric dam is no longer needed, and is a significant drowning hazard and barrier to fish and other wildlife moving upstream. By removing this dam and adding rock riffles that lower the water level over a series of incremental 2-3' steps, the river can continue to function hydrologically, while safety concerns are mitigated, river passage is improved for wildlife and human navigation, and entry-level recreational whitewater is created. Many similar projects have been implemented throughout Iowa and the upper Midwest in recent years, but further engineering feasibility studies are needed to determine the viability of the dam removal at this location.

The whitewater park would also strengthen road, trail, and pedestrian connectivity to the west and south with new parking lot entrance on N 5th Street, leading to new stairs and accessible ramp to the Wiscotta Bridge. This location is several blocks due north of the proposed RRVT improvements and River Trailhead, and would strengthen the surface and water trail network in and around the city of Adel.

Whitewater Park Perspective

Costs + Feasibility Considerations

No detailed cost estimate has been provided for the Dam Removal / Whitewater Park. We have shown cost allowances for planning purposes only and have based them on average costs of similar recent projects in Iowa. A water resource engineering study is needed to determine the feasibility of the dam removal and implications for hydrology, flood control, water treatment and other environmental impacts.

DAM REMOVAL / WHITEWATER PARK					
Improvement Description	*Unit*	*Qty.*	*Unit Cost*		*Subtotal*
1 ENGINEERING FEASIBILITY STUDY	AL	1	$ 75,000.00	$	75,000.00
2 DAM REMOVAL	AL	1	$ 250,000.00	$	250,000.00
3 WHITEWATER PARK	AL	1	$ 500,000.00	$	500,000.00
		DAM REMOVAL / WHITEWATER PARK TOTAL*		**$**	**825,000.00**

**Estimates include design and implementation costs, and are average costs from DNR funding data available for similar recent projects in Iowa.*

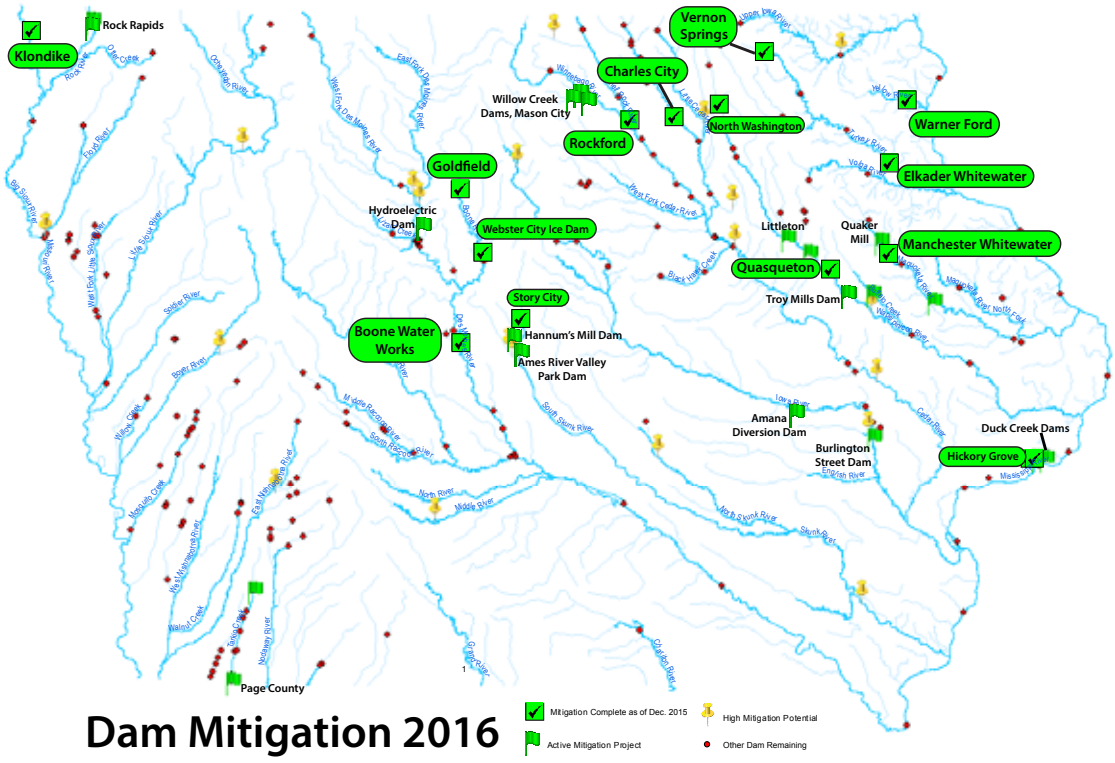
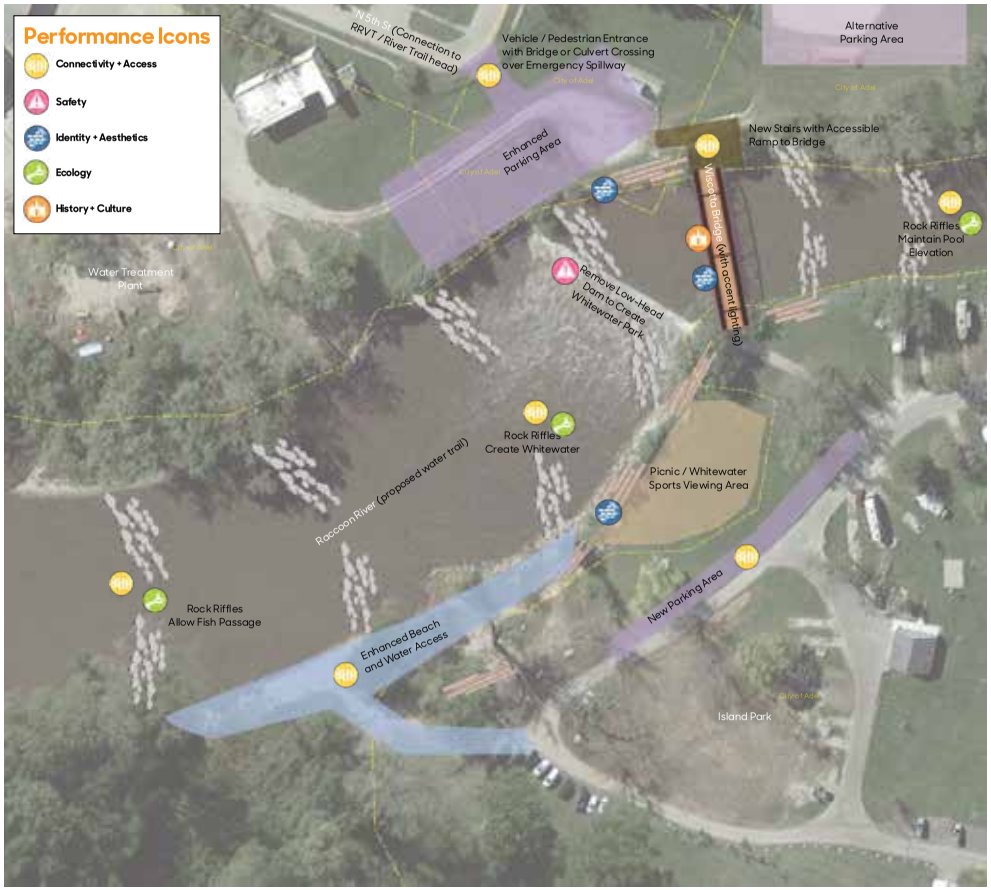


Figure 1: Low-Head Dam Mitigation Map (Iowa DNR 2016)



Whitewater Park Diagrammatic Plan

Whitewater Park Perspective

Whitewater Park

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Whitewater, Charles City, IA

Whitewater Park, Elkader, IA

Whitewater Park, Manchester, IA

Adel
Dam Removal / Whitewater Park

Genus Landscape Architects
LA's: Eric Holt, PLA, ASLA & Paige Hubbard, Associate ASLA
Intern: Fan-Kai Lin
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Identity and Signage

Brick Wayfinding Pillar

- Brick pillar with gray integral color concrete cap and base; concrete frost footing
- Signature color gradient pattern using Adel dark brown and red bricks, and an additional buff color brick
- Metal sign panels indicate direction and distance to local and regional destinations; could be color-coded per destination type (trails, parks, culture and history, shopping, entertainment, etc.)
- Three locations are proposed along the RRVT corridor, but the wayfinding pillar could be replicated throughout Adel parks and trails system

Brick Gateway Monuments

- Brick monuments of varying heights with gray integral color concrete cap and base; shallow concrete spread footing
- Signature color gradient pattern using Adel dark brown and red bricks, and an additional buff color brick
- To be installed in a series of five (tallest in the center), approximately 20' on center, symmetrically flanking either side of the roadway outside of the designated clear zone setback distance
- One location is proposed at the Highway 6 river bridge, but the monuments could be replicated at other community gateways and neighborhood entrances throughout Adel

Enhanced Crosswalk Markings

- Preformed thermoplastic graphic panel overlay or white paint stencil applied to integral color concrete
- High-contrast brick pattern references local brick streets and provides a highly visible graphic crossing
- Combined with refuge islands at raised medians on South Gateway School Crossings
- Crossing dimensions, layout, and pavement marking materials conform to Federal Highway Administration Manual on Uniform Traffic Devices (MUTCD)

Crossing Signs with RRFBs

- Double-sided, 14' tall bike / pedestrian crossing sign posts with push button-activated RRFB lights proposed at each side of a crossing and on a center median if applicable
- Rectangular Rapid Flashing Beacon (RRFB) is LED, visible during daylight; can be powered by a pole mounted solar assembly or ground wire
- Sign placement and graphic panels conform to Federal Highway Administration Manual on Uniform Traffic Devices (MUTCD)

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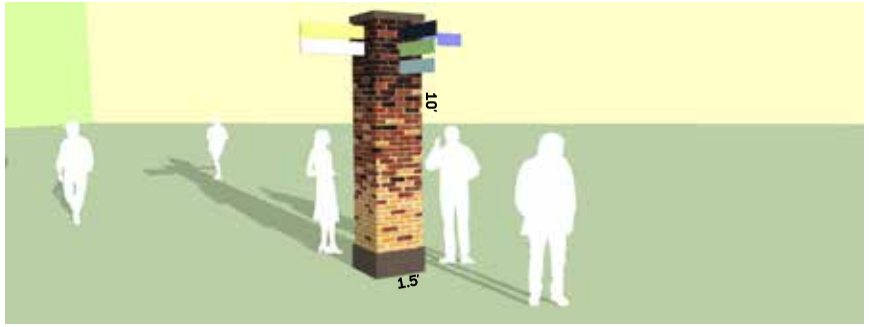

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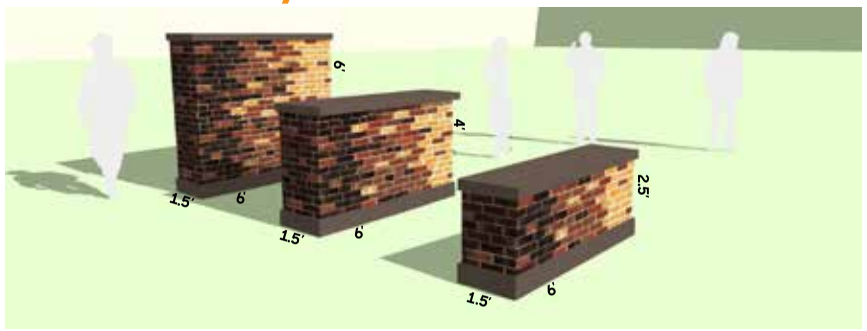

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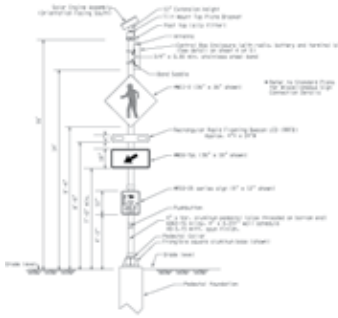

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Adel
Identity & Signage

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Iowa's Living Roadways community visioning

Implementation Strategies

YEAR ONE

TASK 1	Identify and form a Community Steering Committee [which meets at a minimum of a quarterly basis]
TASK 2	Identify and rank in order of importance and priority the community improvement project(s) that were identified in the feasibility study
TASK 3	Identify eligible and related potential grant and/or loan funding sources to finance the community improvement project(s) chosen to be implemented first.
TASK 4	Submit application(s) for eligible and related grant and/or loan programs to help finance the first improvement
MEASUREMENT OF SUCCESS	Formed a Community Steering Committee Prioritized the community improvement projects identified in the Feasibility Study. Created a list of eligible grant and/or loan funding sources for financing the first community improvement project. Submitted a grant and/or loan application and other required documentation for the first community improvement project.

YEAR TWO

TASK 1	Upon a successful grant and/or loan application: develop a schedule for contracting for design, advertising for bid, and contracting for construction of the first community improvement project.
TASK 2	Select and execute a contract with a Landscape Architect/Design Professional as your lead design consultant for the first community improvement project. [Allow to a 3-6 month Design and Construction Documentation Phase]
TASK 3	Select and execute a contract with a General Contractor as your construction manager for the first community improvement project. [Allow for a 6 month Construction Administration Phase]
MEASUREMENT OF SUCCESS	Received a successful grant and/or loan award letter notification for the first community improvement project. Selected a Landscape Architect / Design Professional to prepare the full scope of design documents and bid documents for construction of the first community improvement project. Selected a General Contractor to complete the construction of the first community improvement project.

YEAR THREE

TASK 1	Identify eligible and related potential grant and/or loan funding sources to finance the community improvement project(s) chosen to be implemented second.
TASK 2	Submit application(s) for eligible and related grant and/or loan programs to help finance the second improvement project, with the assistance and guidance from Trees Forever and a Landscape Architect.
MEASUREMENT OF SUCCESS	Created a list of eligible grant and/or loan funding sources for financing the second community improvement project. Submitted a grant and/or loan application and other required documentation for the second priority community improvement project.

YEAR FOUR

TASK 1	Upon a successful grant and/or loan application: develop a schedule for contracting for design, advertising for bid, and contracting for construction of the second community improvement project.
TASK 2	Select and execute a contract with a Landscape Architect/Design Professional as your lead design consultant for the second community improvement project. [Allow to a 3-6 month Design and Construction Documentation Phase]
TASK 3	Select and execute a contract with a General Contractor as your construction manager for the second community improvement project. [Allow for a 6 month Construction Administration Phase]
MEASUREMENT OF SUCCESS	Received a successful grant and/or loan award letter notification for the second community improvement project. Selected a Landscape Architect / Design Professional to prepare the full scope of design documents and bid documents for construction of the second community improvement project. Selected a General Contractor to complete the construction of the second community improvement project.

Repeat steps from years three and four as necessary to complete all community improvement projects.

Available Resources

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

Funding Opportunities

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

Funding Sources

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

Grant Programs

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