



# STUART COMMUNITY VISIONING

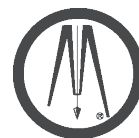
## Final Report and Feasibility Study



### Program Partners:

- Iowa Department of Transportation
- Trees Forever
- ISU Landscape Architecture
- ISU Extension Community and Economic Development

Prepared by:



**BOLTON  
& MENK**

Real People. Real Solutions.

# Table of Contents

Participants . . . . .	2
Consultant History and Expertise . . . . .	3
Introduction . . . . .	5
Inventory and Analysis . . . . .	8
Bioregional Assessments . . . . .	8
Transportation Assets and Barriers Assessment . . . . .	26
Transportation Inventory and Analysis . . . . .	40
Community Concept Plan . . . . .	42
Concept Overview . . . . .	42
Pedestrian Safety Improvements . . . . .	44
Community Identity and Wayfinding . . . . .	46
Traffic Calming and Streetscapes . . . . .	50
City Greenspace Improvements . . . . .	52
Implementation Strategies . . . . .	54

## Participants

### **Stuart Visioning Committee**

Jenyse Belden  
Matt Funk  
Terri Hommer  
Erin Hunsaker  
Mike Morgan  
Lynsi Pasutti  
Kristen Renslow

### **Trees Forever**

770 7th Avenue  
Marion, IA 52302  
(800) 369-1269  
[www.treesforever.org](http://www.treesforever.org)

Leslie Berckes  
(800) 369-1269 ext. 258  
[lberckes@treesforever.org](mailto:lberckes@treesforever.org)

### **Iowa State University**

Landscape Architecture Extension  
2321 South Loop Drive, Suite 121  
Ames, IA 50010  
(515) 294-3721  
[www.communityvisioning.org](http://www.communityvisioning.org)

Julia Badenhope, Program Director and Professor of Landscape Architecture  
Sandra Oberbroeckling, Extension Program Specialist  
Matthew Gordy, Studio Director

### **Bolton & Menk**

PO Box 668  
2730 Ford Street  
Ames, IA 50010  
(515) 233-6100  
[www.bolton-menk.com](http://www.bolton-menk.com)

Casey Byers, PLA  
(515) 450-4833  
[caseyby@bolton-menk.com](mailto:caseyby@bolton-menk.com)

Amber Gable  
(515) 233-6100  
[amberga@bolton-menk.com](mailto:amberga@bolton-menk.com)

Hannah Schmitz, ISU Intern

## Consultant History and Expertise

### Bolton & Menk

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

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

Beyond our technical experience and skills, our service is also based on management and product delivery strategies we have developed over time:

**Listen** to the client's needs and wants

**Learn** the characteristics and personality of each client

**Communicate** proactively with staff, stakeholders, and the public

Develop **effective solutions** through consensus building

Achieve the **client's vision**

Foster **long-term relationships**

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



## Project Work Examples



### Hopkins ARTery

Hopkins, MN

- Incorporation of innovative storm-water infrastructure into a highly urbanized drainage area with local art integrated into the treatment process
- Balance the needs of owners, pedestrians, and vehicular traffic to create a unique experience for all users



### Riverfront Renaissance Improvements

Hastings, MN

- Three phase project aimed at revitalizing and reconnecting downtown Hastings to the Mississippi River
- Worked collaboratively with City staff, stakeholder groups, and the general public to develop an overall master plan focusing on downtown infrastructure and Levee Park

## Introduction

The city of Stuart is one of ten communities selected to participate in the 2016 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 interns, and ISU faculty and staff. The program is sponsored by the Iowa Department of Transportation.

## Program Overview

### Community Goals

Develop pedestrian connections and school routes to improve safety

- Develop a path across town from Lawbaugh Park to the high school
- Improve pedestrian railroad crossing by adding railroad crossing gates

Develop Stuart's identity through wayfinding signage

- Create custom entry signs
- Develop wayfinding signage for directions to points of interest around the community
- Create an information kiosk

Enhance city streetscape and calm traffic

- Plant street trees
- Add bump-outs at intersections to decrease pedestrian crossing distance
- Utilize pedestrian crossing signals where appropriate

Develop enhancement strategies for Stuart's parks

- Improve library park
- Connect Lawbaugh Park to recreation fields

### Capturing the Stuart 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, which is illustrated in the following set of presentation boards:

01. Program Overview
02. Bioregional Assessment
03. Transportation Assets and Barriers Assessments
04. Transportation Inventory and Analysis
05. Concept Overview
06. Pedestrian Safety Improvements
07. Community Identity and Wayfinding
08. Traffic Calming and Streetscape
09. City Greenspace Improvements



Community Tour

### Program Overview

The city of Stuart is one of ten communities selected to participate in the 2016 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
  - 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 provides administration and organizes ISU faculty and staff. The program is sponsored by the Iowa Department of Transportation.



Goal Setting Meeting

### Community Goals

- Develop pedestrian connections and school routes to improve safety
  - Develop a path across town from Lawbaugh Park to the high school
  - Improve pedestrian railroad crossing by adding railroad crossing gates
- Create custom entry signs
- Develop wayfinding signage for directions to points of interest around the community
- Create an information kiosk

Enhance city streetscape and calm traffic

- Plant street trees
- Add bump-outs at intersections to decrease pedestrian crossing distance
- Utilize pedestrian crossing signals where appropriate

- Develop enhancement strategies for Stuart's parks
  - Improve library park
  - Connect Lawbaugh Park to recreation fields



Design Workshop

### Capturing the Stuart 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, which is illustrated in the following set of presentation boards:

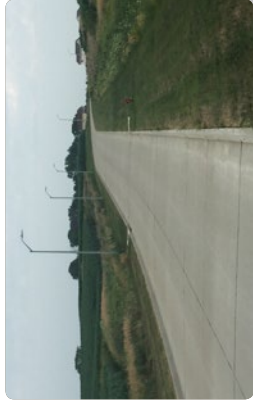
01. Program Overview
02. Bioregional Assessments
03. Transportation Assets and Barriers Assessments
04. Transportation Inventory and Analysis
05. Concept Overview
06. Pedestrian Safety Improvements
07. Community Identity and Wayfinding
08. Traffic Calming and Streetscape
09. City Greenspace Improvements



Looking Northeast on S Division Street and 3rd Street



Looking West on Front Street



Looking East on NE 2nd Street

# Stuart

## Program Overview

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk

LA Intern: Hannah Schmitz - Bolton & Menk

Iowa Department of Transportation

Trees Forever

ISU Landscape Architecture Extension

ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS

Summer 2016

## Bioregional Assessments

### Settlement Patterns

During the 1800s, state atlases were one of the most underdeveloped branches of American cartography. Responding to that need, an entrepreneur named Alfred Andreas joined a group of former military associates to canvass and map counties in the state of Illinois. Using the experience he gained in Illinois, Andreas devised a plan to earn more money from mapping by subdividing the counties into smaller areas and producing more detailed maps. This idea led to Andreas' production of the Illustrated Historical Atlas of the State of Iowa – 1875, which had nearly 23,000 subscribers.

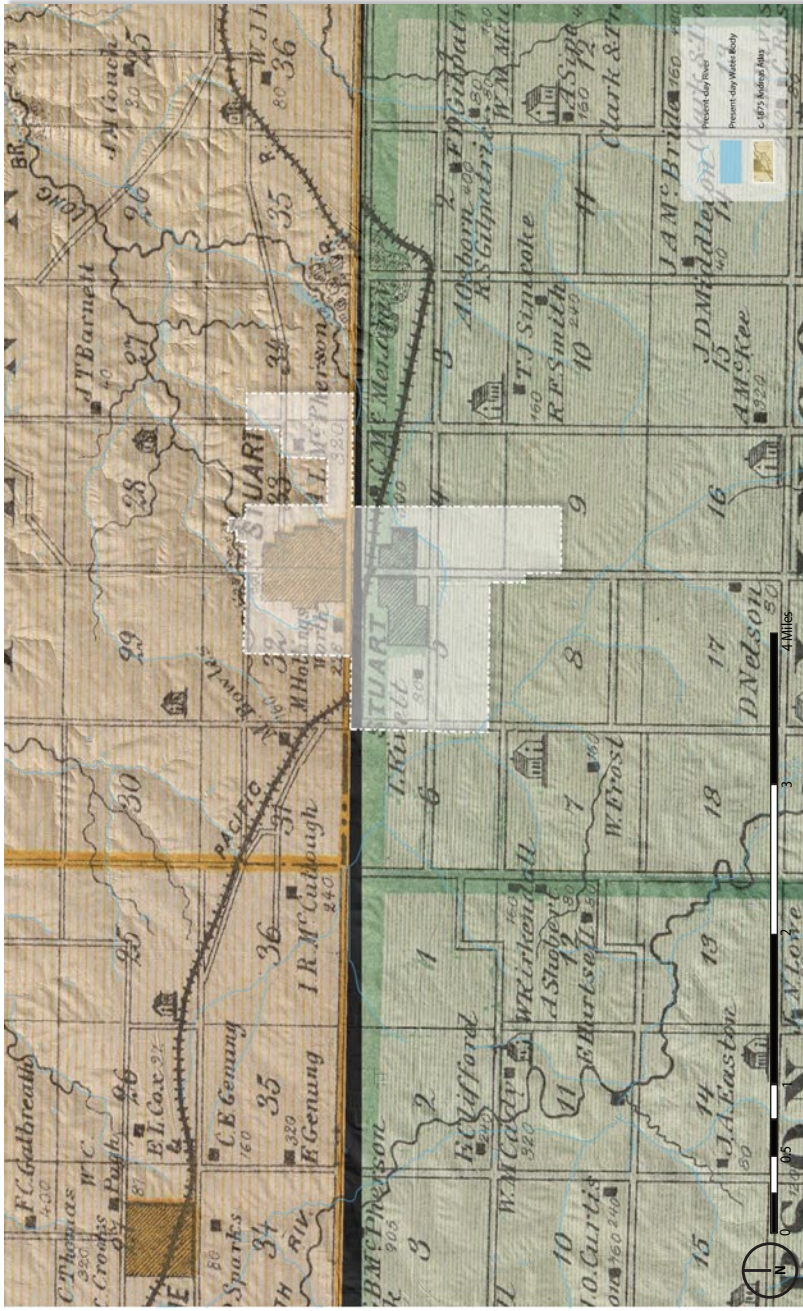
The historic atlas depicts useful information such as administrative boundaries, transportation routes, forest coverage, water bodies, cities, rural family settlements, and so on. Overlaying present-day city boundaries on Andreas atlas map reveals how far the city has expanded laterally over time. As with the historic vegetation map, map overlays can be used to reveal where remnant vegetative communities may still exist in the region.



### Settlement Patterns

During the 1800s, state atlases were one of the most underdeveloped branches of American cartography. Responding to that need, an entrepreneur named Alfred Andreas joined a group of former military associates to canvass and map counties in the state of Illinois. Using the experience he gained in Illinois, Andreas devised a plan to earn more money from mapping by subdividing the counties into smaller areas and producing more detailed maps. This idea led to Andreas' production of the Illustrated Historical Atlas of the State of Iowa - 1875, which had nearly 23,000 subscribers.

The historic atlas depicts useful information such as administrative boundaries, transportation routes, forest coverage, water bodies, cities, rural family settlements, and so on. Overlaying present-day city boundaries on Andreas atlas map reveals how far the city has expanded laterally over time. As with the historic vegetation map, map overlays can be used to reveal where remnant vegetative communities may still exist in the region.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <https://www.dnr.iowa.gov/using/gisbox/>.

# Stuart

## Settlement Patterns

Iowa State University: Julia Badenhop, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
 Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development



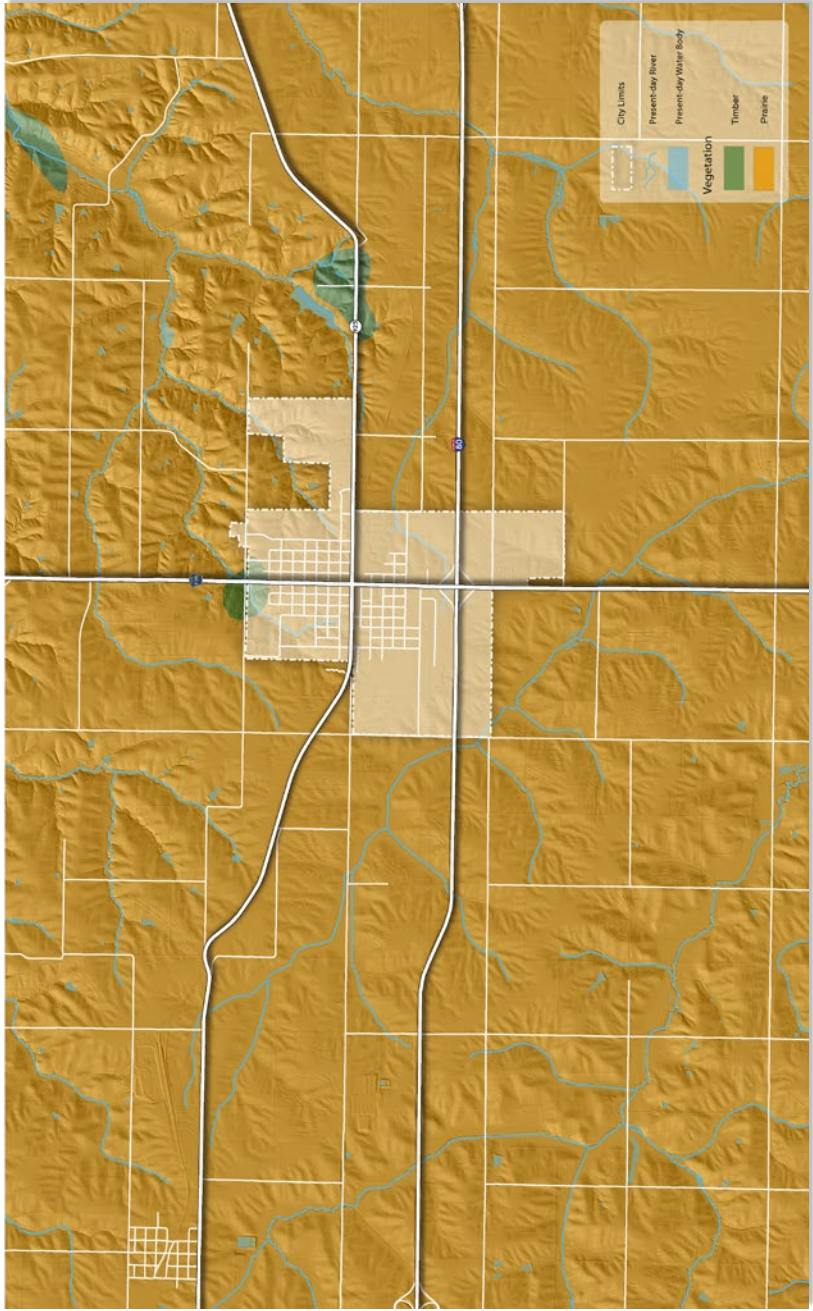


## Bioregional Assessments

### Historic Vegetation

Historic vegetation maps provide insight into vegetative patterns that existed within the landscape prior to significant disturbance associated with nonnative settlement. When combined with other maps that depict vegetative conditions from other eras, this map is helpful in predicting where pockets of native vegetation of various types may still exist. When considering future landscape restoration, the maps provide insight into what types of vegetation thrived historically and could thrive again.

The plant communities mapped by the United State General Land Office (GLO) surveyors varied in classification as time went on, and the extent of each surveyor's plant knowledge influenced how they classified vegetation. When faculty and students at Iowa State University interpreted the hand-drawn maps and notes to create a GIS map, they did not re-categorize any vegetation types. For example, "slough" and "marsh" appear as separate map units, but both describe similar conditions—herbaceous vegetation on perennially wet to partially flooded land. "Oak barrens," adjacent "timber," and "large expanses of timber" are also identified. "Oak barrens" undoubtedly referenced what is called oak savanna today. Oak savannas are frequently burned woodlands dominated by oak and hickory species with a unique, shade-tolerant, prairie community beneath. "Timber" and "prairie," as used by the GLO, are catchall names that included many vegetation types. Examining water-table data can reveal hydraulic patterns that would have influenced what specific plant communities were present in vast areas of "timber" and "prairie."



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.gisbu.iowa.edu/ingislab/>.

### Historic Vegetation

Historic vegetation maps provide insight into vegetative patterns that existed within the landscape prior to significant disturbance associated with normative settlement. When combined with other maps that depict vegetative conditions from other eras, this map is helpful in predicting where pockets of native vegetation of various types may still exist. When considering future landscape restoration, the maps provide insight into what types of vegetation thrived historically and could thrive again.

The plant communities mapped by the United States General Land Office (GLO) surveyors varied in classification as time went on, and the extent of each surveyor's plant knowledge influenced how they classified vegetation. When faculty and students at Iowa State University interpreted the hand-drawn maps and notes to create a GIS map, they did not reclassify any vegetation types. For example, "slough" and "marsh" appear as separate map units, but both describe similar conditions—herbaceous vegetation on perennially wet to partially flooded land. "Oak barrens," adjacent "timber," and "large expanses of timber" are also identified. "Oak barrens" undoubtedly referenced what is called oak savanna today. Oak savannas are frequently burned woodlands dominated by oak and hickory species with a unique, shade-tolerant, prairie community beneath. "Timber" and "prairie," as used by the GLO, are catchall names that included many vegetation types. Examining water-table data can reveal hydraulic patterns that would have influenced what specific plant communities were present in vast areas of "timber" and "prairie."

# Stuart

## Historic Vegetation

Iowa State University: Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
 Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development



Spring 2016 2b

## Bioregional Assessments

### Depth to Water Table

The water table is a groundwater-saturated zone in the soil that becomes rivers, springs, and lakes when the water table reaches the surface. The water table generally mimics surface topography, but there are differences depending on the permeability and porosity of soils and bedrock in the area. The water-table depth is typically defined as a range because the depth is constantly changing with the seasons and the weather. For example, an area with a water-table depth ranging from one foot to three feet is closer to one foot below the surface after the spring snowmelt. Impermeable layers such as concrete also affect the water table by preventing precipitation from infiltrating into the soil and contributing to the subsurface water level. As a result, the water table is lower in those areas.

Prior to the significant landscape alterations caused by nonnative settlement, the water table was a driving factor that affected vegetation growth in the area. For example, historically a quaking aspen in the landscape would indicate that water is located not far below the surface. Today, quaking aspens are highly sought-after specimen trees and are found in many places they would not have existed historically.



### Depth to Water Table

The water table is a groundwater-saturated zone in the soil that becomes rivers, springs, and lakes when the water table reaches the surface. The water table generally mimics surface topography, but there are differences depending on the permeability and porosity of soils and bedrock in the area. The water-table depth is typically defined as a range because the depth is constantly changing with the seasons and the weather. For example, an area with a water-table depth ranging from one foot to three feet is closer to one foot below the surface after the spring snowmelt. Impermeable layers such as concrete also affect the water table by preventing precipitation from infiltrating into the soil and contributing to the subsurface water level. As a result, the water table is lower in those areas.

Prior to the significant landscape alterations caused by nonnative settlement, the water table was a driving factor that affected vegetation growth in the area. For example, historically a quaking aspen in the landscape would indicate that water is located not far below the surface. Today, quaking aspens are highly sought-after specimen trees and are found in many places they would not have existed historically.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library." <http://www.idnr.iowa.gov/dnri/gis/box/>.

# Stuart

## Depth to Water Table

Iowa State University: Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
 Iowa Department of Transportation: Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development



Spring 2016

## Bioregional Assessments

### Elevation and Flow

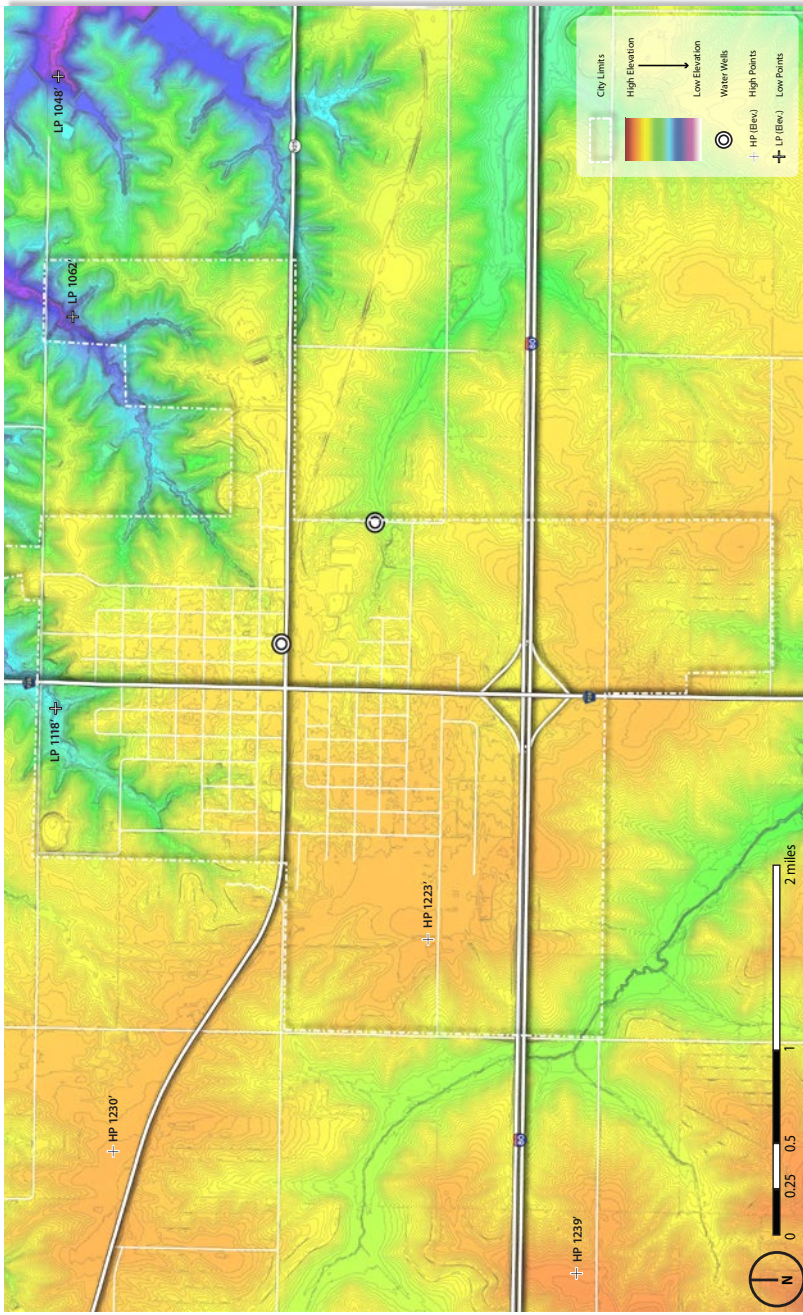
The map to the right displays elevation using warm and cool colors. The warm colors represent higher elevations and the cool colors represent lower elevations. The elevation of the land and how quickly it changes greatly impacts many landscape systems. Areas where the color changes quickly signifies a high slope percentage, which can be a major barrier to transportation access and development.

The colorization also helps reveal the direction of surface runoff. In general, runoff will move from areas with warmer colors to the nearest area with a cooler color. Valleys where runoff is collected are easily identified because they appear as cool-colored veins surrounded by warmer colors.

### Elevation and Flow

The map to the left displays elevation using warm and cool colors. The warm colors represent higher elevations and the cool colors represent lower elevations. The elevation of the land and how quickly it changes greatly impacts many landscape systems. Areas where the color changes quickly signifies a high slope percentage, which can be a major barrier to transportation access and development.

The colorization also helps reveal the direction of surface runoff. In general, runoff will move from areas with warmer colors to the nearest area with a cooler color. Valleys where runoff is collected are easily identified because they appear as cool-colored veins surrounded by warmer colors.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.gis.iowa.edu/ingis/abx/>.

# Stuart

## Elevation and Flow

Iowa State University: Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development

IOWA'S  
LIVING  
RADIANS  
Spring 2016 2d



## Bioregional Assessments

### Regional Watersheds

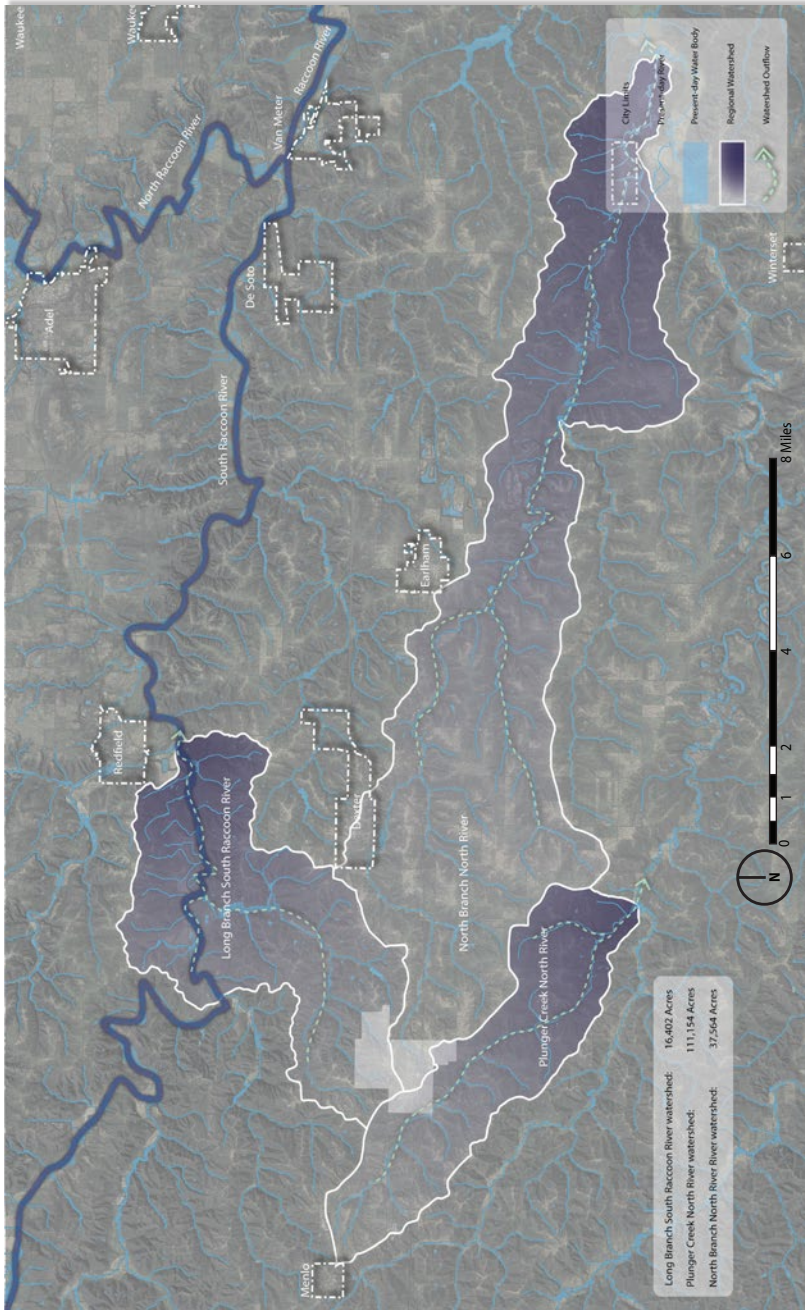
Watersheds are expanses of landscape that are confined by the slope and elevation of the terrain. When in plan view, watershed boundaries show the extent of a drainage area that is flowing to a single outlet. The watershed boundary is defined by the highest ridgelines circling around to the outlet where water flows out of the watershed. The boundary determines whether precipitation is directed into one watershed or an adjacent watershed. It is important to consider scale when identifying and defining watersheds because they are nested features that can be examined at many scales. For example, many sub-watersheds that are smaller than a city block fit together like puzzle pieces to make a watershed encompassing an entire city or more. This puzzle hierarchy builds upward to watersheds that cover thousands of miles, such as the Mississippi River watershed.

Where a community lies within its watershed determines what capacity it has to manage large watershed issues. For example, a community located in a lowland floodplain will have little capacity to reduce the amount of water draining toward it from upland areas. That said, communities always have the power to reduce their contribution to the total runoff production for the watershed.

**Regional Watershed**

Watersheds are expanses of landscape that are confined by the slope and elevation of the terrain. When in plan view, watershed boundaries show the extent of a drainage area that is flowing to a single outlet. The watershed boundary is defined by the highest ridgelines circling around to the outlet where water flows out of the watershed. The boundary determines whether precipitation is directed into one watershed or an adjacent watershed. It is important to consider scale when identifying and defining watersheds because they are nested features that can be examined at many scales. For example, many sub-watersheds that are smaller than a city block fit together like puzzle pieces to make a watershed encompassing an entire city or more. This puzzle hierarchy builds upward to watersheds that cover thousands of miles, such as the Mississippi River watershed.

Where a community lies within its watershed determines what capacity it has to manage large watershed issues. For example, a community located in a lowland floodplain will have little capacity to reduce the amount of water draining toward it from upland areas. That said, communities always have the power to reduce their contribution to the total runoff production for the watershed.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.dnr.iowa.gov/using/dalbox/>.

# Stuart

## Regional Watersheds

Iowa State University: Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
 Iowa Department of Transportation    Trees Forever    ISU Landscape Architecture Extension    ISU Extension Community and Economic Development



IOWA'S  
 LIVING  
 RAINWAYS  
 Spring 2016

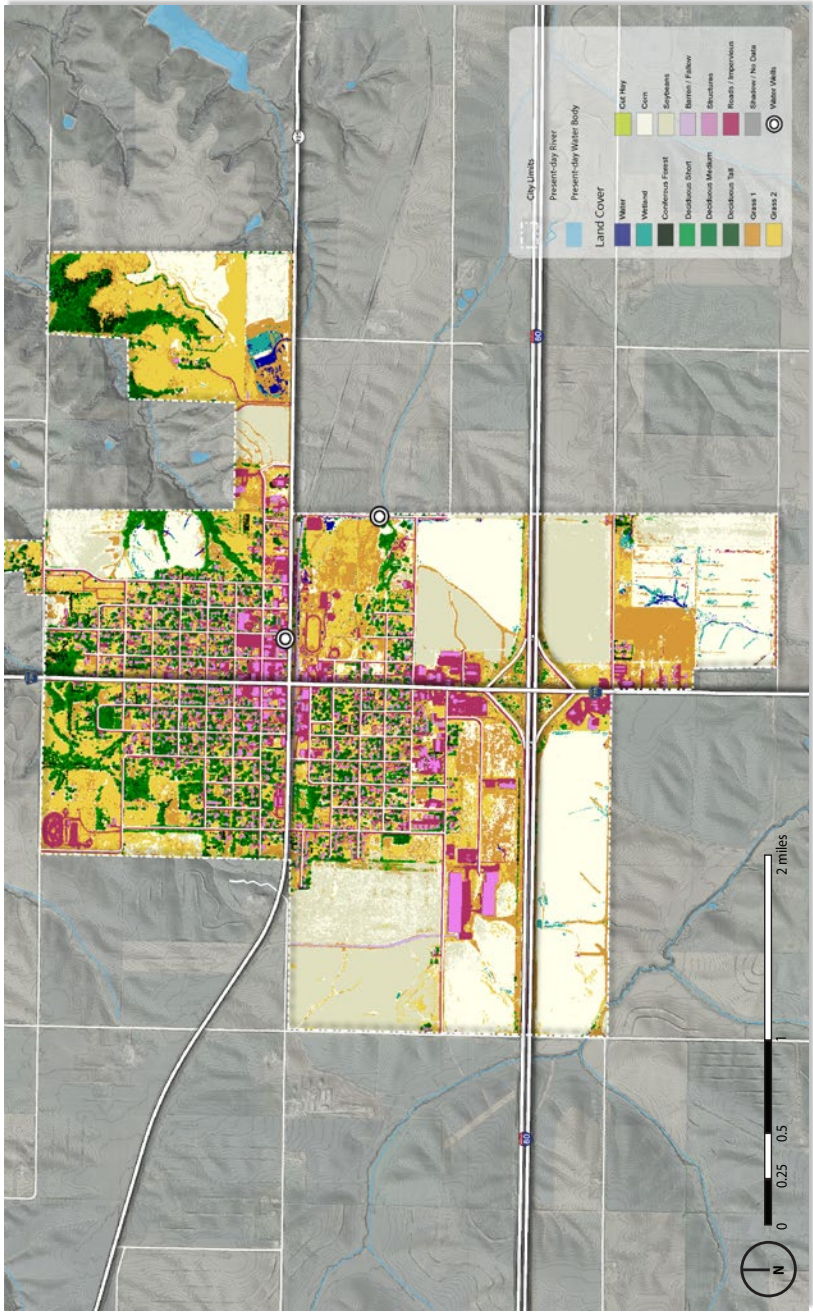
## Bioregional Assessments

### Present-Day Land Cover

The land-cover map depicts both natural and man-made surfaces on the landscape based upon aerial imagery. The Iowa DNR created 15 unique classes for this dataset, including water, wetland, coniferous forest, deciduous forest (short, medium, tall), grass (type 1, type 2), cut hay, corn, soybeans, barren/fallow land, structures, roads/impervious, and shadow/no data. These classes are useful in clearly distinguishing different types of landscape features that would otherwise be difficult to discern from an aerial photograph.

For example, the balance of pervious and impervious coverage is clearly evident because impervious areas are represented as pink or magenta. Large expanses of impervious surfaces can cause significant drainage issues without proper planning, because they prevent the infiltration of precipitation and provide little to no friction to slow precipitation that is running off the surface.





Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.gis.iowa.edu/imagelibrary/>.

**Present Day Land Cover**

The land-cover map depicts both natural and man-made surfaces on the landscape based upon aerial imagery. The Iowa DNR created 15 unique classes for this dataset, including water, wetland, coniferous forest, deciduous forest (short, medium, tall), grass (type 1, type 2), cut hay, corn, soybeans, barren/fallow land, structures, roads/impervious, and shadow/no data. These classes are useful in clearly distinguishing different types of landscape features that would otherwise be difficult to discern from an aerial photograph.

For example, the balance of pervious and impervious coverage is clearly evident because impervious areas are represented as pink or magenta. Large expanses of impervious surfaces can cause significant drainage issues without proper planning, because they prevent the infiltration of precipitation and provide little to no friction to slow precipitation that is running off the surface.

# Stuart

## Present-Day Land Cover

Iowa State University: Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
 Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development

IOWA'S  
 LIVING  
 RAINWAYS  
 Spring 2016

## Bioregional Assessments

### 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.

Interestingly, there are typically no tree markings in close proximity to most communities. Possible causes of this phenomenon are earlier harvesting of forest resources or the fact that community founders may have avoided wet areas. Today, most Iowa communities have a good amount of canopy coverage. Although trees may have been cleared during early settlement, the settlers would have replanted tree species that they found useful and pleasant, which eventually resulted in the establishment of urban forests. Those species would include trees that produce fruits and nuts, as well as others that provide wind protection and shade. These choices may explain the overplanting of maple species across the state. In addition to their pleasant appearance, most maples have a fast growth rate that quickly provides shade and wind protection, as well as the additional benefit of producing the sap required to make maple syrup.



### Present Day Vegetation

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

Interestingly, there are typically no tree markings in close proximity to most communities. Possible causes of this phenomenon are earlier harvesting of forest resources or the fact that community founders may have avoided wet areas. Today, most Iowa communities have a good amount of canopy coverage. Although trees may have been cleared during early settlement, the settlers would have replanted tree species that they found useful and pleasant, which eventually resulted in the establishment of urban forests. Those species would include trees that produce fruits and nuts, as well as others that provide wind protection and shade. These choices may explain the overplanting of maple species across the state. In addition to their pleasant appearance, most maples have a fast growth rate that quickly provides shade and wind protection, as well as the additional benefit of producing the sap required to make maple syrup.



Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," <http://www.idnr.iowa.edu/ngislib/>.

# Stuart

## Present-Day Vegetation

Iowa State University: Julia Badenhope, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development





# Bioregional Assessments

## Strategies for Using Native Plants

### Pre-Settlement Landscape

#### Performance Strengths:

Wind tolerant  
Snow/ice loading  
Drought tolerant

#### Species:

Quercus macrocarpa  
Quercus alba  
Ulmus americana

#### Performance Strengths:

Fast Growing  
Shade tolerant  
Seasonal Flooding

#### Species:

Acer saccharinum  
Populus deltoides  
Betula nigra  
Gleditsia triacanthos

#### Performance Strengths:

Wildlife habitat  
Water filtration  
Soil remediation

#### Species:

Cornus spp.  
Euonymus atropurpureus  
Asimina triloba  
Prunus virginiana

#### Performance Strengths:

Flood tolerant  
Fast growing  
Soil stabilization  
Humus production

#### Species:

Salix spp.  
Ulmus spp.  
Carex spp.

### Current Built Landscape

#### Performance Strengths:

Wildlife habitat  
Water filtration  
Soil remediation

#### Species:

Cornus spp.  
Euonymus atropurpureus  
Asimina triloba  
Prunus virginiana

#### Performance Needs:

Shady street trees  
Stormwater interception  
Protection from natural elements

#### Species:

Quercus macrocarpa  
Ulmus americana  
Quercus alba

#### Performance Needs:

Fast Growing  
Shade tolerant  
Seasonal Flooding

#### Species:

Acer saccharinum  
Populus deltoides  
Betula nigra  
Gleditsia triacanthos

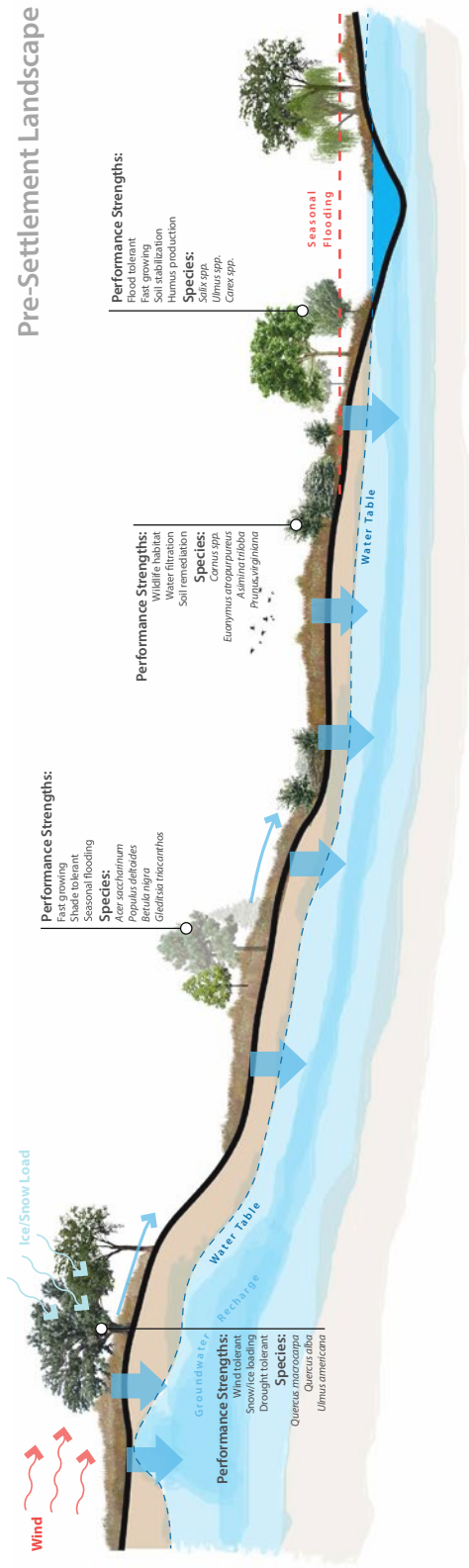
#### Performance Needs:

Bank stabilization  
Vegetated buffers  
Flood resilience

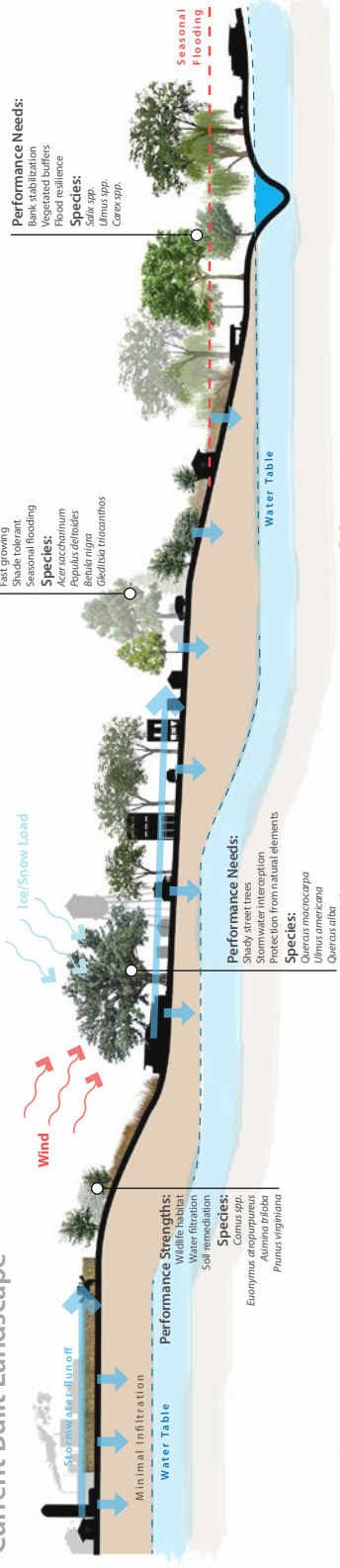
#### Species:

Salix spp.  
Ulmus spp.  
Carex spp.

## Pre-Settlement Landscape



## Current Built Landscape



# Stuart

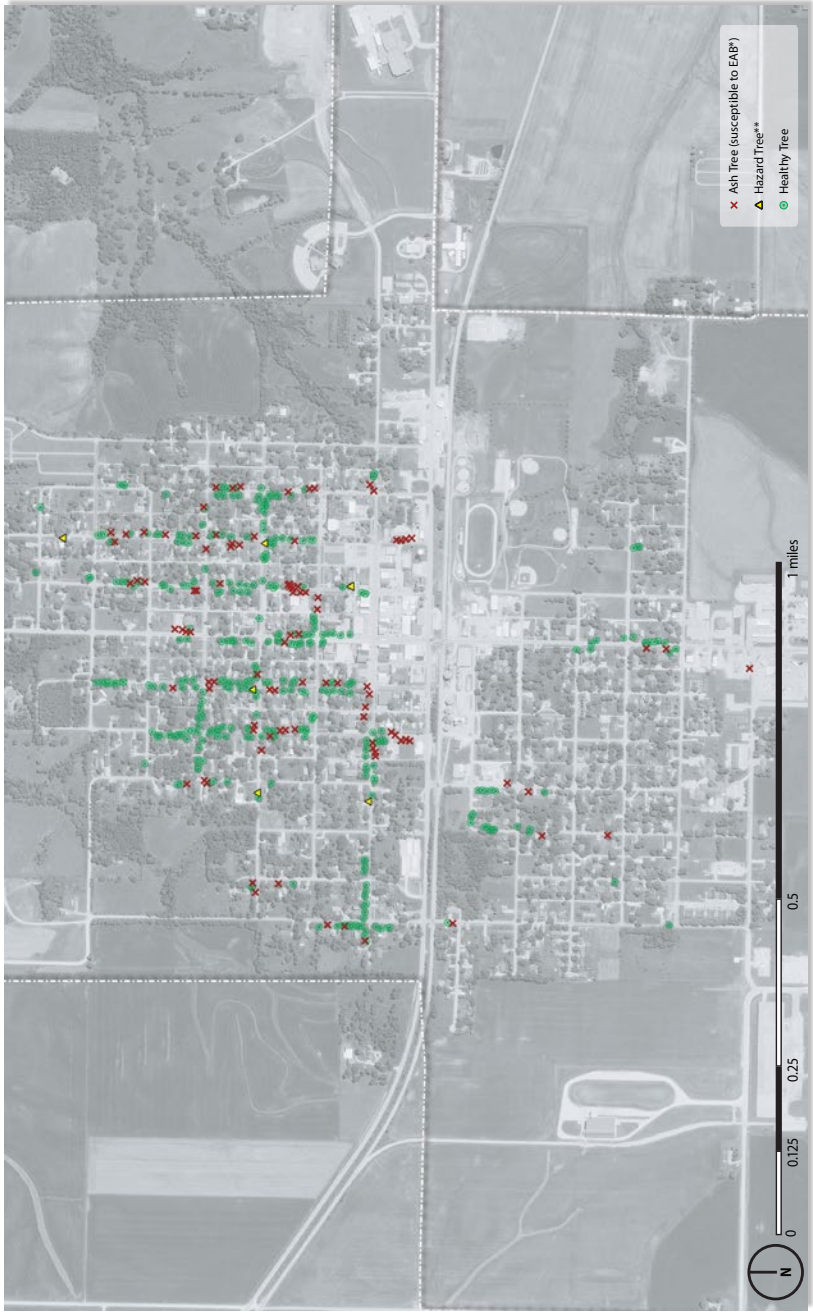
## Strategies for Using Native Plants

Iowa State University: Julia Badenhop, Sandra Oberbrockling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development  
IOWA'S LIVING RIVERS Spring 2016

## Bioregional Assessments

### The Urban Forest

The map on the right depicts public right-of-way trees that have been surveyed by the Iowa Department of Natural Resources (Iowa DNR).<sup>1</sup> 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.<sup>2</sup> EAB was first discovered in Iowa in 2010 and has been confirmed in 30 Iowa counties and counting.

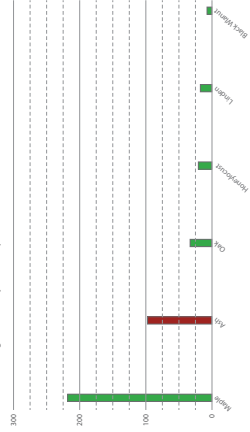


Map Source: data courtesy of the Iowa Department of Natural Resources Community Tree Inventory program, <http://www.iowadnr.gov/Conservation/Forestry/Urban-Forestry/Community-Tree-Inventory>

### 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).<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup> EAB was first discovered in Iowa in 2010 and has been confirmed in 30 Iowa counties and counting.<sup>3</sup>

Public Right-of-Way Tree Species Count, October 2012 (452 total)



The bar graph above depicts the breakdown of the tree species surveyed by the Iowa DNR. Take note of the large number of ash and maple trees. Increasing species diversity in the urban forest will make it more resilient should a new exotic bug or plant disease emerge. There is a strong possibility that 21% (96 ash trees) of Stuart'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. <http://www.iowadnr.gov/Conservation/Forestry/Urban-Forestry/Community-Tree-Inventory>  
 2. EAB is a significant threat to our urban, suburban, and rural forests because it kills or debilitates healthy ash trees. The Emerald Ash Borer is a highly destructive pest that has caused significant economic damage to the forest industry in the eastern United States. Emerald Ash Borer: The Green Meanie. USDA Program Ad No. 1709-2008. [http://www.aphis.usda.gov/publications/plant\\_health/comp/etrp/epab/080908\\_eab.pdf](http://www.aphis.usda.gov/publications/plant_health/comp/etrp/epab/080908_eab.pdf)  
 3. "New Tree Pests Website," Entomology and Plant Sciences Bureau of the Iowa Department of Agriculture and Land Stewardship, ISM, USA, last updated February 9, 2016, [http://www.iowadnr.gov/plant\\_health/epab.html](http://www.iowadnr.gov/plant_health/epab.html)

# Stuart

## Urban Forestry Conditions

Iowa State University: Julia Badenhop, Sandra Oberbroeckling, Matthew Gordy, Jessica Adiwijaya, Miao Fangzhou, Anh Le, Katherine Gould, Evan Kay, Richard Garcia  
 Iowa Department of Transportation: Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Spring 2016



## Transportation Assets and Barriers Assessment

### What Factors Affect Transportation in Stuart?

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 Stuart, 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 Stuart'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 Stuart residents with different transportation needs to participate in focus groups. A total of 49 residents attended Stuart's workshop. Participants were separated into four user groups and the Stuart visioning committee.

**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.

**Seniors and Mobility Impaired (10 participants):** Accessibility—both in terms of physical access and proximity—is a major concern for this user group. Handicapped parking, curb ramps, and smooth surfaces are critical transportation features. Because some people in this user group do not or are unable to drive, having goods and services within walking distance is important.

**Youth (14 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 popular destinations on foot or via bicycle. Having goods and services within walking distance is important.

**Parents (14 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 (5 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.

## What Factors Affect Transportation in Stuart?

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 Stuart, 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 Stuart'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 Stuart residents with different transportation needs to participate in focus groups. A total of 49 residents attended Stuart's workshop. Participants were separated into four user groups and the Stuart visioning committee.



**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.



**Seniors and Mobility Impaired (10 participants):** Accessibility—both in terms of physical access and proximity—is a major concern for this user group. Handicapped parking, curb ramps, and smooth surfaces are critical transportation features. Because some people in this user group do not or are unable to drive, having goods and services within walking distance is important.



**Youth (14 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 popular destinations on foot or via bicycle. Having goods and services within walking distance is important.



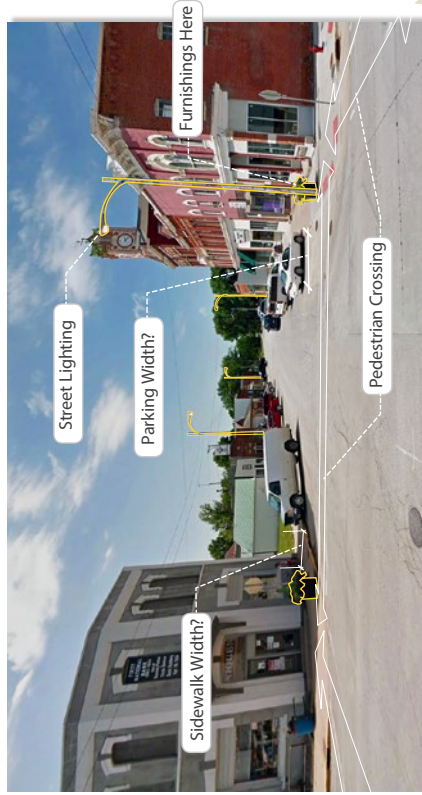
**Parents (14 participants):** Safety of their children is a primary concern of this user group. Access to safe and easy routes to school activities is another significant factor to this group. Parents of young children desire smooth, wide surfaces for strollers.



**Steering Committee (5 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.



Elements of a Complete Street



Downtown Stuart Streetscape Components

# Stuart

## Transportation Assets and Barriers | Overview

Iowa Department of Transportation | Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Spring 2016  
TAB 38



# Transportation Assets and Barriers Assessment

## What People Said

### Actives:

"...[T]he streets aren't really supportive of biking in most cases, at least the main arteries. Then I'm on the sidewalk and there are bumps."

"I would love to see a bike trail heading [north]... [I]t has some shaded areas headed towards Panora and beautiful farmland."

"I do [walk] the All Saints area right now when it's nice and cold, but when it gets to be summertime, it's going to get hot... because there are no trees..."

"In summer, I'll take the county road and go around town, but that's less than ideal because you're running on gravel. [A] path would be amazing."

"I [Division Street] comes up in some places, it ditches in others, and if it rains, there is nothing but a slick spot."

### Seniors & Mobility Impaired:

"I'd rather drive as long as I can drive, and so far I've been able to do that. And it's also an outing for the day."

"There' [re] no stop signs at all [at Fourth and Adair Streets] so we call it the racetrack road."

"I walk most days two to four miles, but that's for exercise."

"I walk most days two to four miles, but that's for exercise."

### Youth:

"There really [aren't] any sidewalks."

"One of our paramedic[s]... [has] gone to a couple different accidents that have occurred over that railroad, because people have tried to ramp it and somebody landed on another car."

"Even when I'm running—when we run on the streets and stuff—I like running in spots where there are trees just because I like scenic runs on the roads."

"I live [on Third Street] and people fly by my house [in cars] right there all the time and don't even stop..."

"... I know there's a lady who literally rides her bike everywhere and she takes the highway, but it would be safer if we had a bike trail that went to Dexter so she could ride that."

"Bikes get stolen way too much. Especially near Dollar General."

### Parents:

"A lot of people pick alternative routes just because there are no sidewalks..."

"...[J]ust walking and biking trails or even bike lanes on streets would be nice."

"I would say in general it's difficult to get around—period—because there are not sidewalks."

"...[I] think the biggest thing is just making [Stuart] a little bit more kid friendly."

"...[I] tell my kid not to cross the railroad tracks or anything because it's just too busy on the main drag."

"It might be nice on that trail to have a few benches for... somebody...older [who] needed to take a break."

### Steering Committee:

"I'd have to say a majority of the sidewalks, though, do have what I would consider legally a trip hazard."

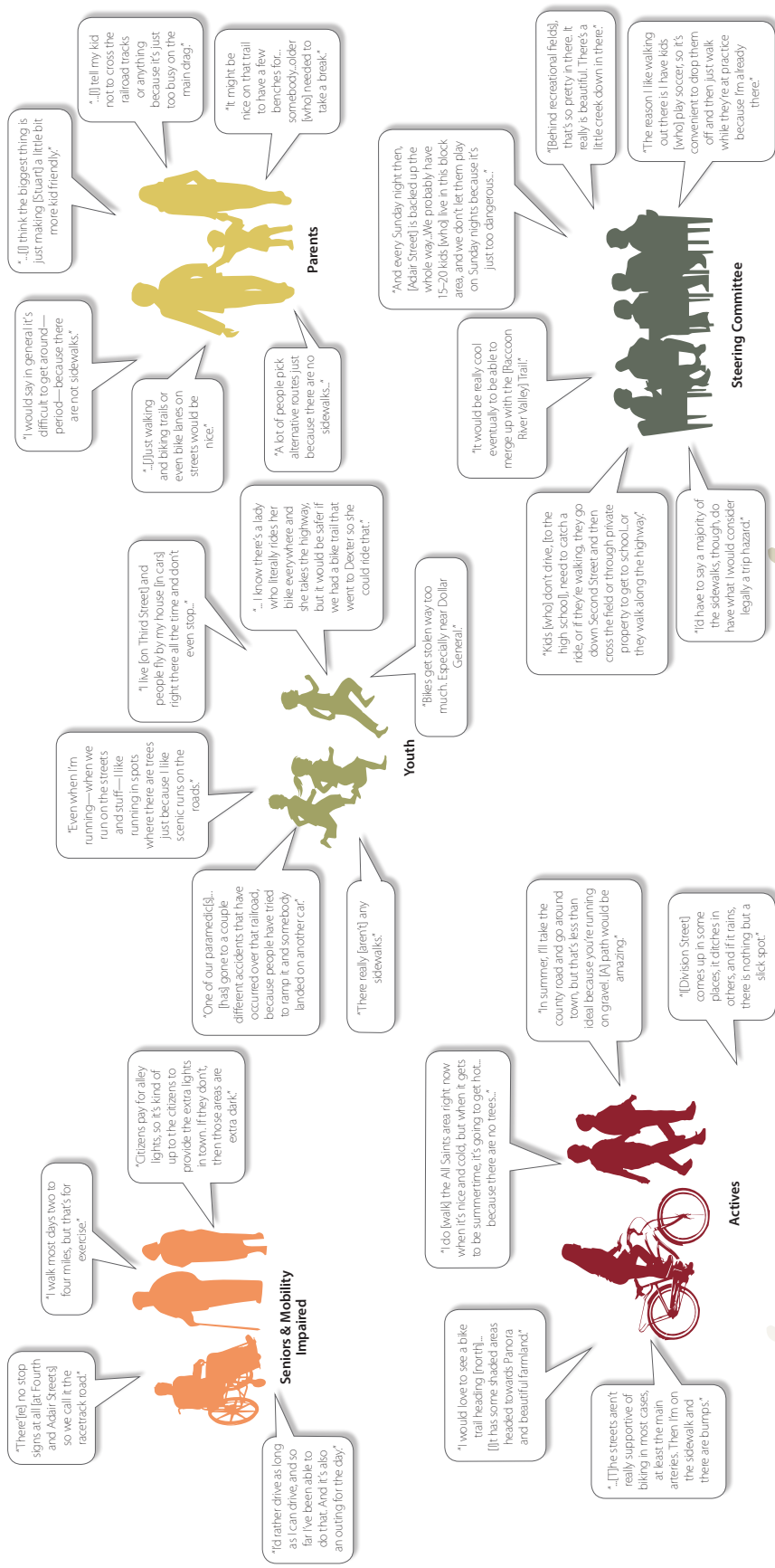
"Kids [who] don't drive, [to the high school], need to catch a ride, or if they're walking, they go down Second Street and then cross the field or through private property to get to school...or they walk along the highway."

"It would be really cool eventually to be able to merge up with the [Raccoon River Valley] Trail."

"And every Sunday night then, [Adair Street] is backed up the whole way...We probably have 15-20 kids [who] live in this block area, and we don't let them play on Sunday nights because it's just too dangerous..."

"[Behind recreational fields], that's so pretty in there. It really is beautiful. There's a little creek down in there."

"The reason I like walking out there is I have kids [who] play soccer, so it's convenient to drop them off and then just walk while they're at practice because I'm already there."



# Stuart

## Transportation Assets and Barriers | What People Said

Iowa Department of Transportation | Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Spring 2016  
TAB 3B

# Transportation Assets and Barriers Assessment

## What Matters to Stuart Residents

Actives primarily walk, but also run, bike and drive. They are most bothered by bumpy sidewalks and roads. Actives desire more trails and connections as well as more trash cans throughout town.

Seniors and mobility-impaired individuals drive to most of their destinations, but occasionally walk and bike. They focused on traffic throughout town and consider pedestrian access along the highway a priority.

The major mode of transportation for youth is walking or biking, and adults often drive them places. The youth group focused on a lack of sidewalks and designated spaces to ride their bikes. More places for recreational activities is a common desire for this group.

Parents drive and walk to their destinations. This group is most concerned with controlling vehicular traffic and creating a consistent network of sidewalks throughout town.

The steering committee members primarily walk and drive to their destinations. This group was mostly concerned with regulating traffic and providing safe pedestrian access to the high school.

The recreational fields are used by all user groups. While some residents said access to the fields was difficult, the site is used by youth for sporting events and adults use the path around the field for exercise.

The racetrack attracts people from out of town, and becomes a destination for youth runners and bikers. Active adults and steering committee members think it is integral to Stuart but leads to traffic congestion.

Each of the user groups described the high school as important to the community. A major concern for the steering committee and parents was the lack of pedestrian access from the high school to the rest of town.

Actives, steering committee members and seniors and mobility impaired appreciate the beautiful scenery around the walking trails and behind the recreation fields.

The parents group appreciates the exercise stations in the park, and the youth group enjoys the routes throughout town that provide good exercise.

All of the residents appreciate the trees and shade in town, but would like to see more of it. The youth group expressed a desire for more trees to protect them from the sun on track runs.

Unkempt and disconnected sidewalks throughout town makes traveling challenging. The disconnect of the high school to the rest of town leads students to walk through private property and fields to get to class.

The steering committee and parents noted that near the trails the lack of lighting causes a sense of unease. The senior and mobility impaired group felt downlighting would fix this problem and still provide views of the stars.

All groups discussed problems with vehicular traffic throughout the community. Common factors included busy intersections with no stop signs and speeding.

Actives, seniors, and youth felt certain parts of Stuart are less secure than others. Actives noted seeing strangers on the trails, and seniors felt the trail is too secluded. The youth commented on the high number of stolen bikes.

All residents desire more trails. Each of the groups discussed providing designated trails for bikes and the actives group, youth and steering committee feel a connection to the youth and steering committee feel a connection to the Redfield trail would be beneficial to the community.

All groups discussed a desire for improved traffic control. Adair Street has heavy traffic and no stop signs and little speed regulation. Each of the groups discussed the busy traffic on Division Street.

The steering committee and parents both expressed a wish for more signage throughout town, both to regulate traffic and to inform people from out of town of important destinations.

The parents, actives, and youth felt that benches downtown and along trails would be beneficial. The parents suggested using similar benches to unify different parts of town.

## What Matters to Stuart Residents

User Types	Destinations and Activities				Desirable Qualities and Features				Undesirable Qualities and Features				Most Desired Improvements and Activities			
	Recreational Fields	Backtrack	High School	Scenery	Exercise Routes and Equipment	Trees and Shade	Sidewalks	Lack of Lighting	Traffic	Flooding	Perceived Lack of Security	Traffic Control	Trail System	Signage	Benches	
<p>Active Adult</p>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
<p>Senior &amp; Mobility Impaired</p>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
<p>Youth</p>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
<p>Parents</p>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
<p>Steering Committee</p>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

Actives primarily walk, but also run, bike and drive. They are most bothered by bumpy sidewalks and roads. Actives desire more trails, as well as more trash cans throughout town.

Seniors and mobility impaired individuals drive to most of their destinations, but occasionally walk and bike. They focused on traffic throughout town and consider pedestrian access along the highway a priority.

The major mode of transportation for youth is walking or biking, and adults often drive to most of their destinations. Youth are most concerned about the lack of sidewalks and designated spaces to ride their bikes. More places for recreational activities is a common desire for this group.

Parents drive and walk to their destinations. They are most concerned about controlling vehicular traffic and creating a consistent network of sidewalks throughout town.

The steering committee members primarily walk and drive to their destinations. This group was mostly concerned with regulating traffic and providing safe pedestrian access to the high school.

The recreational fields are used by all user groups. The site is used by youth for sports events and adults use the path around the field for exercise.

The backtrack attracts people from out of town and important to steering committee members and users. Each of the user groups described the high school as access from the high school to the rest of town.

Active, steering committee members and seniors around the walking trails and behind the recreation fields. Parents group appreciate the beautiful scenery and the youth group enjoys the exercise stations in the town that provide good exercise.

All of the residents appreciate the trees and shade in town, but would like to see more of it. The youth group expressed desire for more trees to protect them from the sun on track runs.

Unkept and disconnected sidewalks throughout town makes traveling challenging. The disconnect of the high school to the rest of town leads students to get to class.

The steering committee and parents noted that near the trail, the lack of lighting causes a sense of unease. The would fix this problem and still provide views of the stars.

All groups discussed problems with vehicular traffic, busy intersections with no stop signs and speeding. The steering committee, parents and youth all felt parking was a significant problem, especially near the park and on Harrison Street.

Active, seniors, and youth felt certain parts of Stuart are less safe than others. Active noted seeing strangers on the sidewalk trail would be beneficial to the community. All residents desire more trails. Each of the groups discussed providing designated trails for bikes and the active group youth and steering committee for bikes and the youth.

Adel Street has heavy traffic and no stop signs and this traffic regulation. Each of the groups discussed the busy trail, and to manage people from out of town or important destinations.

The steering committee and parents both expressed a desire for more signage throughout town, both to regulate traffic and to manage people from out of town or important destinations.

The steering committee and parents both expressed a desire for more signage throughout town, both to regulate traffic and to manage people from out of town or important destinations.

Parents suggest using similar benches to unify different parts of town.

Down town and along trails would be beneficial. The steering committee and youth felt that benches in downtown and along trails would be beneficial. The steering committee and youth both expressed a desire for more signage throughout town, both to regulate traffic and to manage people from out of town or important destinations.

# Stuart

## Transportation Assets and Barriers | Emerging Themes

Iowa Department of Transportation    Trees Forever    ISU Landscape Architecture Extension    ISU Extension Community and Economic Development    Spring 2016

IOWA'S LIVING RIGHWAYS

TAB 3C



# Transportation Assets and Barriers Assessment

## **Stuart's Barriers: Common Factors**

The analysis of barriers is a synthesis of the feedback we received from the four transportation user groups. The steering committee is not considered a user group, but rather an amalgamation of all user types. Although not shown on an individual map, input from the steering committee is incorporated into the maps of all four of transportation user groups.

### **Nighttime Visibility and Security**

Lack of lighting in Stuart creates a feeling of unease for many user groups. Parents and actives are concerned by the poor lighting along the trail around the recreational fields. Lighting is also a problem along North Division Street.

### **Environmental Comfort and Seasonal Barriers**

During unusually intense rainstorms, flooding is a problem in the recreation fields and on the southwest side of town, especially on Summit and 105th Streets

### **Lack of Complete Access**

All user groups consider the inconsistent maintenance and gaps in the sidewalk network as transportation barriers. Residents have difficulty accessing popular and everyday destinations. Both adults and youth expressed concern about kids walking, biking, and running in the street where there are no sidewalks.

### **Circulation and Intersections**

All user groups indicate the busy intersection and heavy truck traffic at Division and 350th Streets as unsafe. Visibility is poor at intersections along Adair and 350th Streets, as well as the streets crossing the railroad on Division and Madison Streets. There are inadequate crossing signals on 350th Street.



- Legend**
- Traffic Conflict
  - Needs Shade
  - Dust Issues
  - Wind Issues
  - Poor Visibility
  - Poor Parking Conditions
  - Poor Connection
  - Snow Pile
  - Drainage Problems
  - Standing Water
  - Low Point
  - Poor Lighting

### Stuart's Barriers: Common Factors

The analysis of barriers is a synthesis of the feedback we received from the four transportation user groups. The steering committee is not considered a user group, but rather an amalgamation of all user types. Although not shown on an individual map, input from the steering committee is incorporated into the maps of all four of transportation user groups.

### Nighttime Visibility and Security

Lack of lighting in Stuart creates a feeling of unease for many user groups. Parents and actives are concerned by the poor lighting along the trail around the recreational fields. Lighting is also a problem along North Division Street.

### Environmental Comfort and Seasonal Barriers

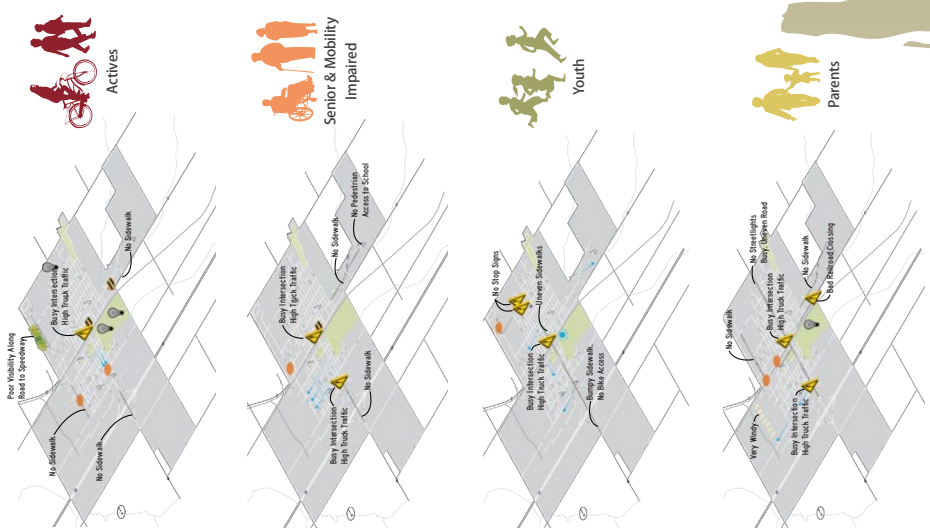
During unusually intense rainstorms, flooding is a problem in the recreational fields and on the southwest side of town, especially on Summit and 105th Streets.

### Lack of Complete Access

All user groups consider the inconsistent maintenance and gaps in the sidewalk network as transportation barriers. Residents have difficulty accessing popular and everyday destinations. Both adults and youth expressed concern about kids walking, biking, and running in the street where there are no sidewalks.

### Circulation and Intersections

All user groups indicate the busy intersection and heavy truck traffic at Division and 350th Streets as unsafe. Visibility is poor at intersections along Adair and 350th Streets, as well as the streets crossing the railroad on Division and Madison Streets. There are inadequate crossing signals on 350th Street.



# Stuart

## Transportation Assets and Barriers | Analysis of Barriers

Iowa Department of Transportation | Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Spring 2016  
TAB 30

# Transportation Assets and Barriers Assessment

## Assets and Preferred Routes

The analysis of assets and routes is a synthesis of the feedback we received from the four transportation user groups. The steering committee is not considered a user group, but rather an amalgamation of all user types. Although not shown on an individual map, input from the steering committee is incorporated into the maps of all four of transportation user groups.

### Driving

Senior and mobility-impaired users primarily drive to get around town. They typically drive on the main roads that give them access to necessities such as the post office and grocery store. Parents and actives drive into town and once there, walk to destinations. Actives also drive to out-of-town trail systems. Young children get rides from adults to school and activities such as soccer practice. Youth who are old enough to drive tend to do so only to locations outside Stuart and prefer to walk in town. However, during inclement weather, they drive more often. Some young drivers speed south of the high school.

### Walking

People in all groups walk, mainly gravitating to the perimeter of town or paths leading to and through area parks. Actives and parents like to walk a loop along SW 7th and SW 8th Streets past the AmericInn because the road is wide and

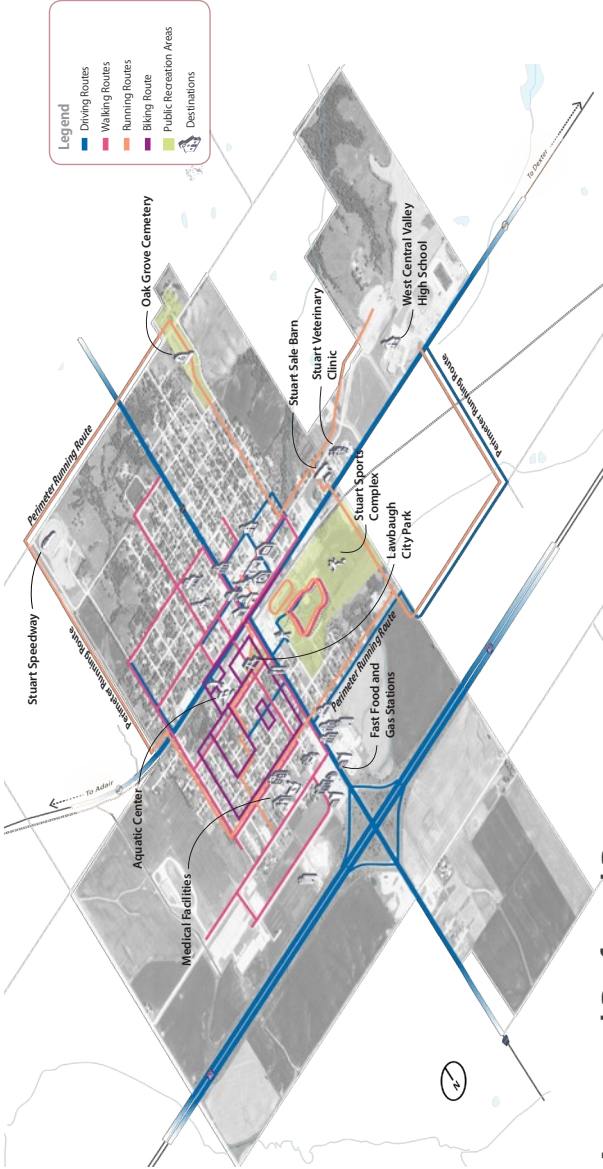
doesn't have much traffic. Parents walk the trail at the recreation fields while their children are playing sports. Walkers select their routes based on sidewalk availability and safety. Seniors walk in more public places in case of any accidents. Youth walk to places such as school, parks, and the pool, especially when the weather is nice.

### Running and Biking

Parents, actives, and youth run for exercise. Youth on the cross-country team run a five-mile loop around the perimeter of Stuart for training. Because there are no sidewalks or trails, they run on the street. Actives prefer asphalt over concrete because it has more "give." They also avoid places with heavy traffic because they fear getting hit. Biking is popular among youth and actives. Youth bike to places such as the library, parks, and school. Some adults would bike more if there were trails in town and connections to regional trails. Youth never cross the highway and avoid heavily traveled or gravel roads.

### Winter Recreation

During winter, youth enjoy getting pulled around on sleds by tractors, ATVs, or family dogs. For those who don't engage in outdoor winter activities, Stuart has a recreation center with a roller-skating rink and a dance floor. Water aerobics classes are offered at the indoor pool at AmericInn. Bowling is another indoor winter activity available to residents.



Actives



Senior & Mobility Impaired



Youth



Parents

## Assets and Preferred Routes

The analysis of assets and routes is a synthesis of the feedback we received from the four transportation user groups. The steering committee is not considered a user group, but rather an amalgamation of all user types. Although not shown on an individual map, input from the steering committee is incorporated into the maps of all four of transportation user groups.

### Driving

Senior and mobility-impaired users primarily drive to get around town. They typically drive on the main roads that give them access to necessities such as the post office and grocery store. Parents and actives drive into town and once there, walk to destinations. Actives also drive to out-of-town trail systems. Young children get rides from adults to school and activities such as soccer practice. Youth who are old enough to drive tend to do so only to locations outside Stuart and prefer to walk in town. However, during inclement weather, they drive more often. Some young drivers speed south of the high school.

### Walking

People in all groups walk, mainly gravitating to the perimeter of town or paths leading to and through area parks. Actives and parents like to walk a loop along SW 7th and SW 8th Streets past the Americinn because the road is wide and doesn't have much traffic. Parents walk the trail at the

recreation fields while their children are playing sports. Walkers select their routes based on sidewalk availability and safety. Seniors walk in more public places in case of any accidents. Youth walk to places such as school, parks, and the pool, especially when the weather is nice.

### Running and Biking

Parents, actives, and youth run for exercise. Youth on the cross-country team run a five-mile loop around the perimeter of Stuart for training. Because there are no sidewalks or trails, they run on the street. Actives prefer asphalt over concrete because it has more "give." They also avoid places with heavy traffic because they fear getting hit. Biking is popular among youth and actives. Youth bike to places such as the library, parks, and school. Some adults would bike more if there were trails in town and connections to regional trails. Youth never cross the highway and avoid heavily travelled or gravel roads.

### Winter Recreation

During winter, youth enjoy getting pulled around on sleds by tractors, ATVs, or family dogs for those who don't engage in outdoor winter activities. Stuart has a recreation center with a roller-skating rink and a dance floor. Water aerobics classes are offered at the indoor pool at Americinn. Bowling is another indoor winter activity available to residents.

# Stuart

## Transportation Assets and Barriers | Assets and Preferred Routes

Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development



# Transportation Assets and Barriers Assessment

## Desired Improvements

The analysis of desired improvements is a synthesis of the feedback we received from the four transportation user groups. The steering committee is not considered a user group, but rather an amalgamation of all user types. Although not shown on an individual map, input from the steering committee is incorporated into the maps of all four of transportation user groups.

The information on this board should in no way be interpreted as design solutions, but rather as a series of suggestions for improvements taken from the focus-group sessions. These are a preliminary sample of what might be explored as the design process moves forward over the next few months.

### Improved Sidewalk Network

An incomplete and poorly maintained sidewalk system makes walking around Stuart difficult. Senior/mobility impaired residents require smoother, complete sidewalks to improve their quality of life. Continuous sidewalks all along Division Street and to the high school would meet the needs discussed by all user groups. Curb cuts on sidewalks at all intersections would make cycling around town easier.

### Trail System

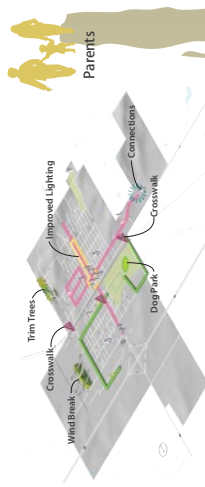
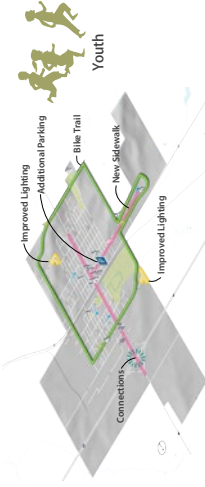
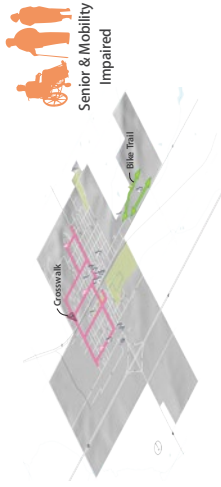
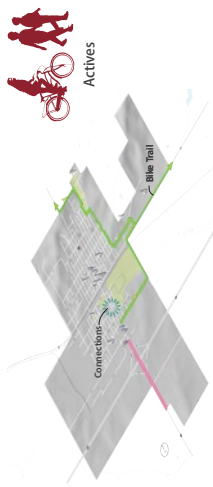
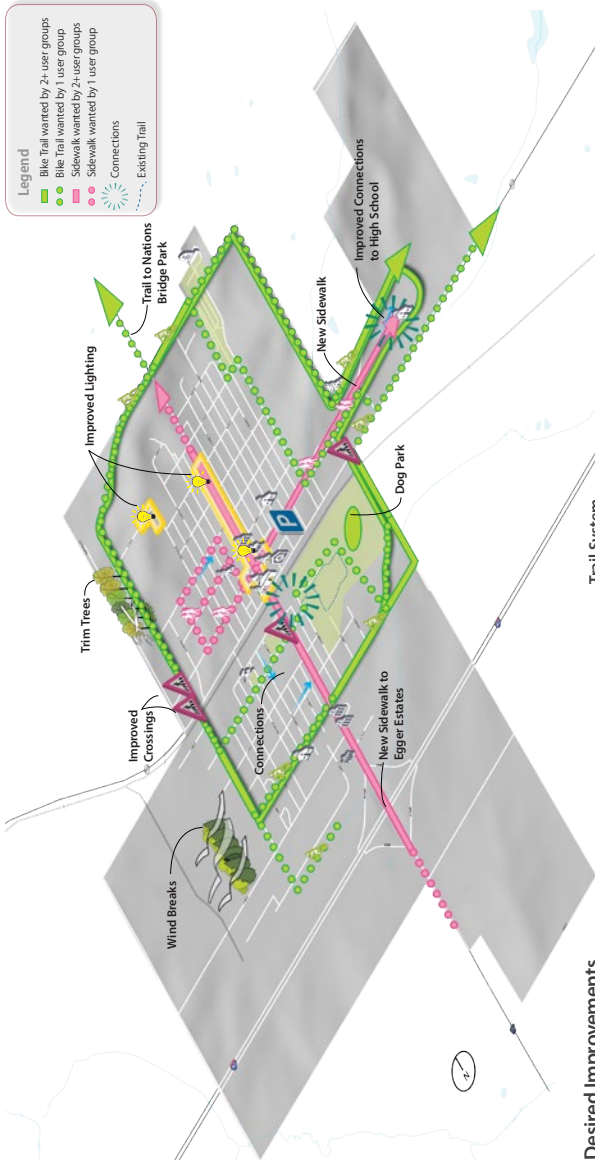
Residents seek improved recreational opportunities in Stuart. All user groups desire a bike trail system in town and to out-of-town destinations. Parents, youth, and actives want access to the Raccoon River Valley Trail in Redfield.

### Connectivity

The town is divided into quadrants by the White Pole Road (Highway 925/Front Street) running east-west and Division Street (County Road P28) running north-south. Improved pedestrian crossings would allow people to more easily walk and bike to Stuart's destinations, especially the high school. Adding a sidewalk or trail along County Road P28 would connect Egger Estates with the rest of town.

### Traffic Control

Participants made several suggestions for controlling traffic in different parts of Stuart. The seniors suggested left-turn lanes on S. Division north of I-80 to reduce congestion. Parents and youth would like to either divert racetrack traffic from Adair Street or add stop signs. Residents would like either stop signs or a light at the intersection of Division and Front Streets.



### Desired Improvements

The analysis of desired improvements is a synthesis of the feedback we received from the four transportation user groups. The steering committee is not considered a user group, but rather an amalgamation of all user types. Although not shown on an individual map, input from the steering committee is incorporated into the maps of all four of transportation user groups.

The information on this board should in no way be interpreted as design solutions, but rather as a series of suggestions for improvements taken from the focus-group sessions. These are a preliminary sample of what might be explored as the design process moves forward over the next few months.

### Improved Sidewalk Network

An incomplete and poorly maintained sidewalk system makes walking around Stuart difficult. Senior/mobility impaired residents require smoother, complete sidewalks to improve their quality of life. Continuous sidewalks all along Division Street and to the high school would meet the needs discussed by all user groups. Curb cuts on sidewalks at all intersections would make cycling around town easier.

### Trail System

Residents seek improved recreational opportunities in Stuart. All user groups desire a bike trail system in town and to out-of-town destinations. Parents, youth, and actives want access to the Raccoon River Valley Trail in Redfield.

### Connectivity

The town is divided into quadrants by the White Pole Road (Highway 925/Front Street) running east-west and Division Street (County Road P28) running north-south. Improved pedestrian crossings would allow people to more easily walk and bike to Stuart's destinations, especially the high school. Adding a sidewalk or trail along County Road P28 would connect Egger Estates with the rest of town.

### Traffic Control

Participants made several suggestions for controlling traffic in different parts of Stuart. The seniors suggested left-turn lanes on S. Division north of I-80 to reduce congestion. Parents and youth would like to either divert racetrack traffic from Adair Street or add stop signs. Residents would like either stop signs or a light at the intersection of Division and Front Streets.

# Stuart

## Transportation Assets and Barriers | Desired Improvements

Iowa Department of Transportation | Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Spring 2016  
TAB 34

# Transportation Assets and Barriers Assessment

## How to Use Your Map

In addition to focus-group discussions, participants in the transportation assets and barriers workshops engaged in a photomapping activity. Each person was given a GPS-enabled digital camera and a worksheet. They were asked to photograph and describe the three best assets and the three worst barriers in their community.

The Iowa State University research staff uploaded the data from the cameras and entered the information from the worksheets into an online database, which is linked to an interactive online map.

The map showing the images and descriptions is available to the public via the Community Visioning Program website at [www.communityvisioning.org](http://www.communityvisioning.org). On the homepage, click on the link reading: "Transportation Assets and Barriers Maps for the visioning communities are available [HERE](#)."

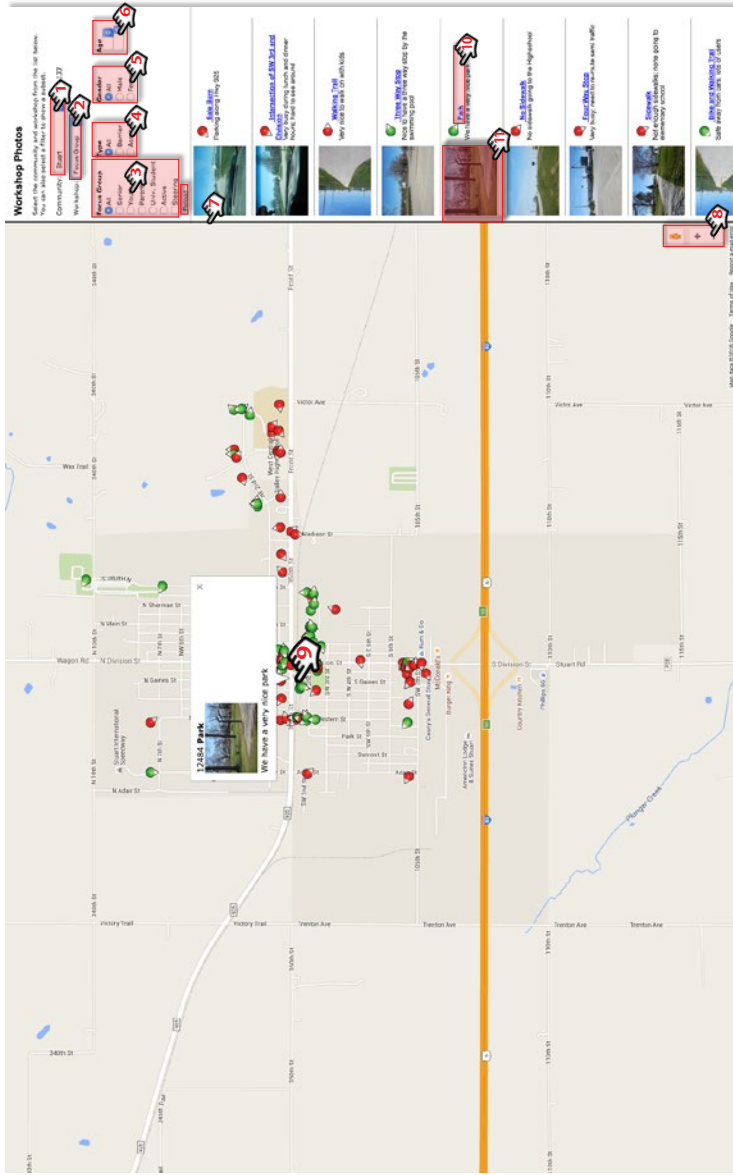
The database can be queried to sort the images by the following criteria:

- User Types: Senior & Mobility Impaired, Youth, Parents, Active, or Steering Committee
- Photo Designation: Asset or Barrier
- Participant Gender
- Participant Age

Use these instructions to navigate the map, view photos and comments associated with the data points, and save photos as .jpg files.

- Select your Community from the dropdown menu.
- Select "Focus Group" from the dropdown list of Workshop types.

- You have the option to view a specific Focus Group demographic. The default view shows data points from all the demographic groups.
- Select the Type of data you wish to view. You have the option to view only assets, only barriers, or both. The default view shows all the data points on the map.
- You have the option to view the data by the Gender of the participants. The default view shows data from both male and female participants.
- Finally, you can sort the data by Age. Sort options include participants who are exactly, older than or younger than 21, 45, or 60 years old.
- When you have selected the desired criteria for the data points you wish to view, click Reload.
- When you mouse over the map, the pointer becomes a hand symbol. Use the hand to "grab" the map to move to different areas of the community. To zoom in or out, click on the + and - symbols.
- When you click on any data point, a thumbnail of the photo along with the description provided by the participant will pop up on the map. If there are multiple data points clustered together, you may need to zoom in to select the desired point.
- Thumbnails of all the photos, along with the descriptions, are shown along the right side of the window under the search criteria. To find out where in the community a photo was taken, click on the photo title, which is a link that will reload the map so that the photo's data point is centered on the map.
- To see a larger image, click on the thumbnail of the photo. A new tab with a full-size image will open in your browser. To save the image, right-click on the image and select "Save Image As."



Use these instructions to navigate the map, view photos and comments associated with the data points, and save photos as .jpg files.

- Select your **Community** from the dropdown menu.
- Select "Focus Group" from the dropdown list of **Workshop** types.
- You have the option to view a specific **Focus Group** demographic. The default view shows data points from all the demographic groups.
- Select the **Type** of data you wish to view. You have the option to view only assets, only barriers, or both. The default view shows all the data points on the map.
- You have the option to view the data by the **Gender** of the participants. The default view shows data from both male and female participants.
- Finally, you can sort the data by **Age**. Sort options include participants who are exactly, older than or younger than 21, 45, or 60 years old.
- When you have selected the desired criteria for the data points you wish to view, click **Reload**.
- When you mouse over the map, the pointer becomes a hand symbol. Use the hand to "grab" the map to move to different areas of the community. To zoom in or out, click on the + and - symbols.
- When you click on any data point, a thumbnail of the photo along with the description provided by the participant will pop up on the map.
- If there are multiple data points clustered together, you may need to zoom in to select the desired point.
- Thumbnails of all the photos, along with the descriptions, are shown along the right side of the window under the search criteria. To find out where in the community a photo was taken, click on the photo title, which is a link that will reload the map so that the photo's data point is centered on the map.
- To see a larger image, click on the thumbnail of the photo. A new tab with a full-size image will open in your browser. To save the image, right-click on the image and select "Save Image As."



The map showing the images and descriptions is available to the public via the Community Visioning Program website at [www.communityvisioning.org](http://www.communityvisioning.org). On the homepage, click on the link reading: "Transportation Assets and Barriers Maps for the visioning communities are available HERE."

- The database can be queried to sort the images by the following criteria:
- User Types: Senior & Mobility Impaired, Youth, Parents, Active, or Steering Committee
  - Photo Designation: Asset or Barrier
  - Participant Gender
  - Participant Age

In addition to focus-group discussions, participants in the transportation assets and barriers workshops engaged in a photomapping activity. Each person was given a GPS-enabled digital camera and a worksheet. They were asked to photograph and describe the three best assets and the three worst barriers in their community.

The Iowa State University research staff uploaded the data from the cameras and entered the information from the worksheets into an online database, which is linked to an interactive online map.

# Stuart

## Transportation Assets and Barriers | How to Use Your Map

Iowa Department of Transportation | Trees Forever | ISU Landscape Architecture Extension | ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Spring 2016  
TAB 39

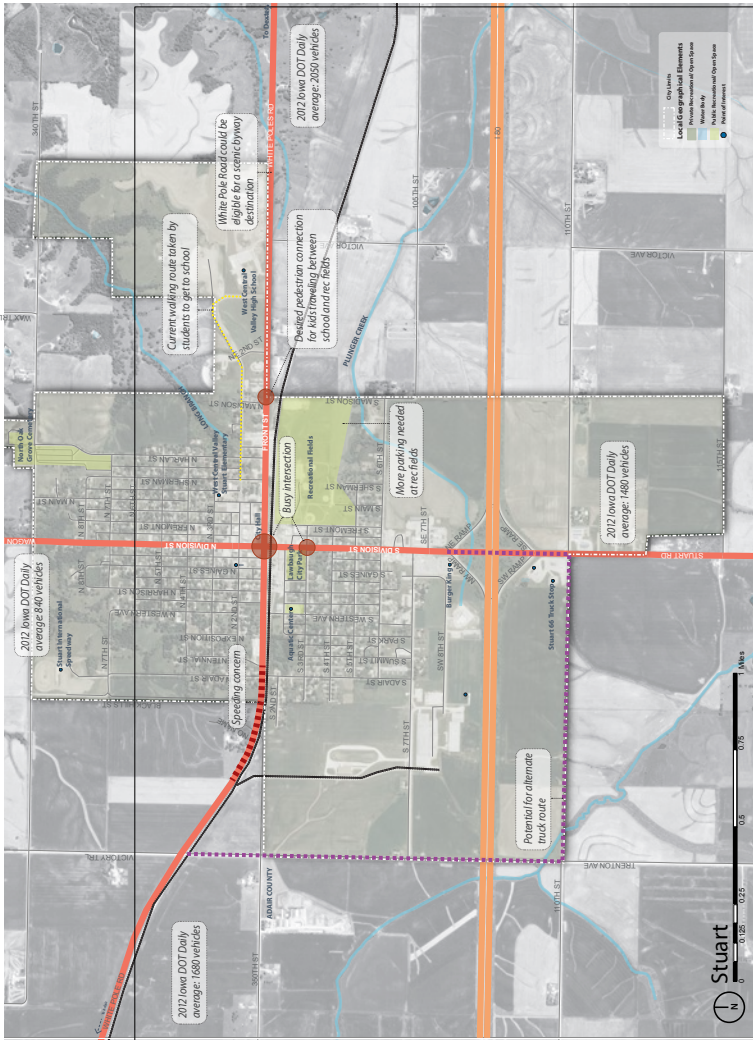


## Transportation Inventory and Analysis

### Transportation Mapping

Knowledge of the transportation systems in and around a community is critical for sustainable transportation enhancement planning. Transportation systems include paved and unpaved roadways, pedestrian and bike trails, waterways, railroad lines or railbeds from abandoned railroad lines and airports. During the transportation meeting, we learned of a few key areas in town where transportation, both vehicular and pedestrian, was conflicting or lacking due to poor existing site conditions. Pedestrian traffic is cut off from certain areas like the high school and recreational fields, as sidewalks are not continuous throughout the city. High truck and railroad traffic also causes concerns for safety, as there is only one marked railroad crossing for pedestrians and an increased amount of semis driving through town to reach the ethanol plant.

The city of Stuart benefits from several different amenities, such as the Lawbaugh City Park, Stuart Sports Complex, ½ mile walking/biking trail, and Stuart Recreation Center. However, pedestrian access and proper signage to these amenities is currently lacking. The design team used this information to explore opportunities for creating connections within city limits and to nearby amenities.



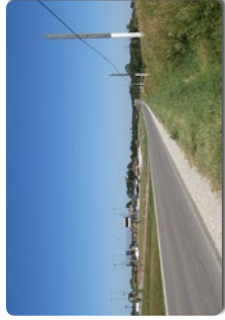
Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," accessed May 2016



Railroad Intersection at South Western Avenue



From Street Looking West



From Street Looking East Toward Recreational Facilities

**Transportation Mapping**  
 Knowledge of the transportation systems in and around a community is critical for sustainable transportation enhancement planning. Transportation systems include paved and unpaved roadways, pedestrian and bike trails, waterways, railroad lines or railbeds from abandoned railroad lines and airports. During the transportation meeting, we learned of a few key areas in town where transportation, both vehicular and pedestrian, was conflicting or lacking due to poor existing site conditions. Pedestrian traffic is cut off from certain areas like the high school and recreational fields, as sidewalks are not continuous throughout the city. High truck and railroad traffic also causes concerns for safety, as there is only one marked railroad crossing for pedestrians and an increased amount of semis driving through town to reach the ethanol plant.

The city of Stuart benefits from several different amenities, such as the Lawbaugh City Park, Stuart Sports Complex, ½ mile walking/biking trail, and Stuart Recreation Center. However, pedestrian access and proper signage to these amenities is currently lacking. The design team used this information to explore opportunities for creating connections within city limits and to nearby amenities.

# Stuart

## Transportation Inventory & Analysis

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk  
 LA Intern: Hannah Schmitz - Bolton & Menk  
 Iowa Department of Transportation    Trees Forever    ISU Landscape Architecture Extension    ISU Extension Community and Economic Development

IOWA'S  
 LIVING  
 REWARDS  
 Summer 2016

## Concept Overview

Long-term visioning and planning are essential for a community to be able to provide sustainable, functional, and beneficial improvements. Using the results of the inventory and analysis of community resources, the Stuart visioning committee set goals and determined their vision for the community.

Following the goal-setting process, the design team led a conceptual design workshop, during which preliminary concepts were created with help from community members. The enhancements identified during the workshop were:

Develop pedestrian connections and school routes to improve safety includes:

- Develop a path across town from Lawbaugh Park to the high school
- Improve pedestrian railroad crossing by adding railroad crossing gates

Develop a city identity through wayfinding signage includes:

- Create customized entry signs
- Develop wayfinding signage to lead visitors to points of interest around the community
- Create a kiosk to guide and inform guests about Stuart's history

Enhance city streetscape and calm traffic includes:

- Plant street trees to create vertical visual barrier
- Add bump-outs at intersections to decrease pedestrian crossing distance
- Utilize pedestrian crossing signals where appropriate

Develop enhancement strategies for city's green spaces includes:

- Improve outdoor library space
- Connect Lawbaugh Park to recreation fields

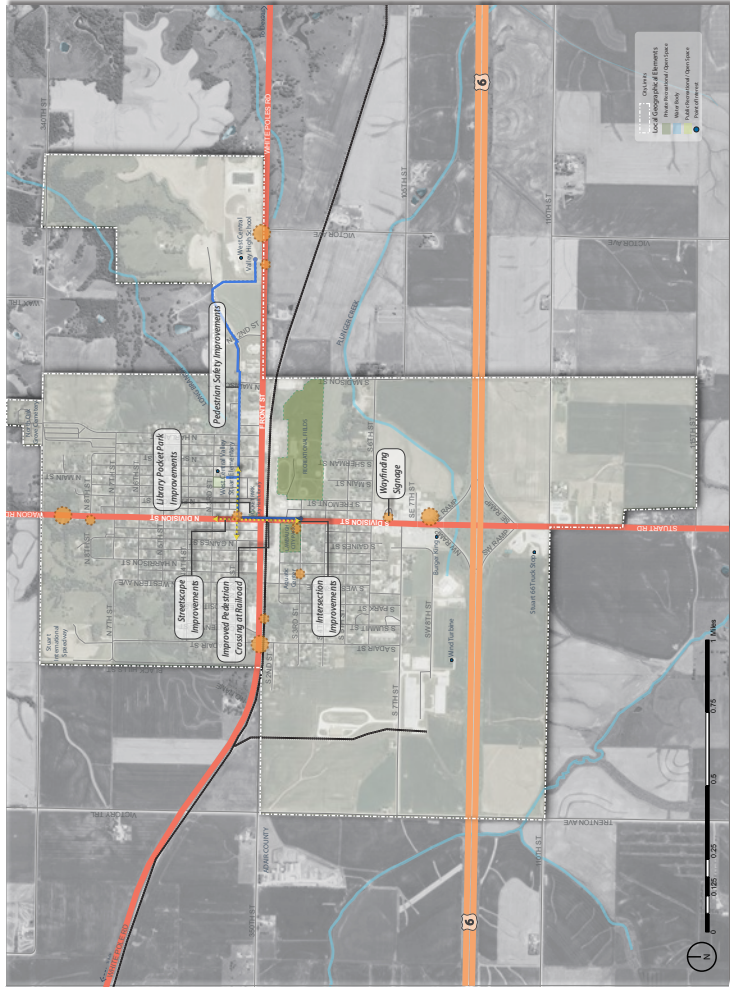
The community concept plan is based on input from both the visioning committee and residents of Stuart and brings together ideas, goals, and visions for improvements.

### Summary of Preliminary Opinion of Probable Costs

The preliminary opinions of probable construction costs in this report are based on current construction costs for typical contractors bidding on materials and installation. These costs also reflect generally conceptualized master plan concepts for each area described in the following pages. Final costs may be impacted by quantities, size, and type of materials used and may also change based on further design. The opinions also do not reflect donations, in-kind gifts, volunteer labor, alternatives, regulatory agency permits/fees, property costs, and utilities or other various unknown conditions.

The opinions of cost presented in this report are intended to be used for preliminary ball park budgetary information only and will need to be refined and updated as the concepts are further developed.





Map Source: Iowa Department of Natural Resources, "Natural Resources Geographic Information Systems Library," accessed May 2015. <http://www.iagubwra.edu/ingiflbr/>.

Long-term visioning and planning are essential for a community to be able to provide sustainable, functional, and beneficial improvements. Using the results of the inventory and analysis of community resources, the Stuart visioning committee set goals and determined their vision for the community.

Following the goal-setting process, the design team led a conceptual design workshop during which preliminary concepts were created with help from community members. The proposed enhancements identified during the workshop were:

- Develop pedestrian connections and school routes to improve safety
- Develop a path across town from Lawbaugh Park to the high school
- Improve pedestrian railroad crossing by adding railroad crossing gates

Develop a city identity with wayfinding signage

- Create custom entry signs
- Develop wayfinding signage to direct visitors to points of interest around the community
- Create an informational kiosk for visitors

Enhance city streetscape and calm traffic

- Plant street trees to provide shade and visual appeal
- Add bump-outs at intersections to decrease pedestrian crossing distance

Develop enhancement strategies for city's parks

- Utilize pedestrian crossing signals where appropriate
- Improve outdoor reading room at the library
- Connect Lawbaugh Park to recreational fields

The community concept plan is based on input from both the visioning committee and residents of Stuart and brings together ideas, goals, and visions for improvements.



Pedestrian Safety Improvements



Wayfinding/Identity



Traffic Calming & Streetscape Improvements



Park Improvements

# Stuart

## Concept Overview

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk  
 LA Intern: Hannah Schmitz - Bolton & Menk  
 Iowa Department of Transportation

ISU Landscape Architecture Extension

ISU Extension Community and Economic Development

Summer 2016



## Pedestrian Safety Improvements

Stuart’s schools are within easy walking distance for most students. However, there are walkability impediments due to poorly maintained or missing sidewalks, and conflicts with heavy vehicular traffic and trains. There is limited pedestrian and biking access to the recently opened West Central Valley High School. The busy railroad tracks running through the center of Stuart are a major barrier for elementary school students living south of the tracks. The “children feel unsafe crossing the railroad tracks...” while traveling between the school and recreational fields and park.

The Iowa DOT’s ‘Guide to Transportation Funding Programs’ is an excellent resource for small towns needing financial assistance to implement important infrastructure upgrades like those proposed in this plan. The plan displays a suggested route to improve pedestrian connections from residential neighborhoods to Stuart’s schools. Crucial intersections and pathways that are in need of improvements are highlighted as well.

The Transportation Act provides the state with a lump sum that is then divided among apportioned programs to address State and local transportation needs. The city of Stuart could utilize the State’s apportionment that is suballocated for programs that help areas of similar size.

This plan proposes to add pedestrian crossing gates to the existing vehicle crossing gates to improve the overall safety of the intersection

of South Division Street with the railroad tracks. The Highway-Railroad Crossing Safety Program is another Iowa DOT resource to pursue for funding the suggested improvements at this intersection.

### Key Concept Components

- Develop safer walking and biking routes to the Elementary School and High School
- Improve existing sidewalks and develop new sidewalks and crosswalks
- Improve safety at railroad crossing

### Design Expertise Recommended

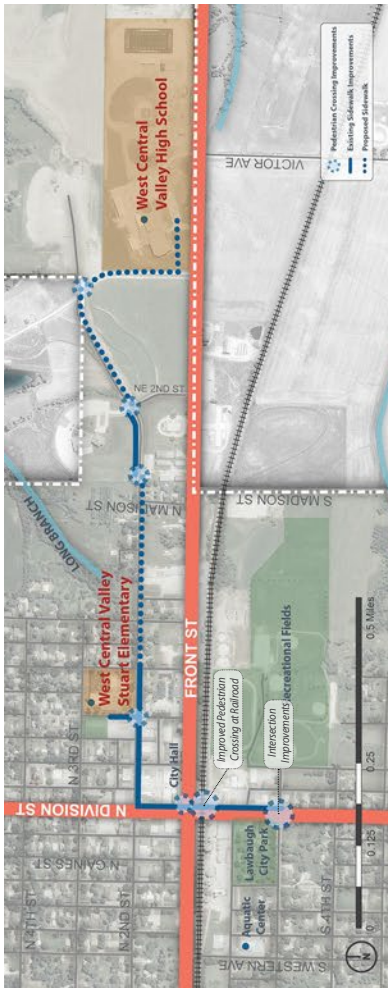
Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape architect and transportation/civil engineer. The committee should also expect to coordinate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

### Project Scope and Cost Opinion

The following cost opinion is based on current project bid costs within the state. These costs may be reduced with materials donated or provided at reduced cost and volunteer labor for appropriate projects. In the event of a reconstruction project, additional investigation may be needed on the impact to existing utilities; this can be resolved in a subsequent design phase. As a result, these costs are not included in the cost opinion.

	UNIT	QUANTITY	UNIT COST	TOTAL
<b>PEDESTRIAN SAFETY IMPROVEMENTS</b>				
MOBILIZATION	LS	1	\$30,000.00	\$30,000.00
COMMON EXCAVATION & PAVEMENT REMOVAL	SY	3,000	\$10.00	\$30,000.00
PEDESTRIAN RAILROAD CROSSINGS/GATES	EA	4	\$40,000.00	\$160,000.00
PEDESTRIAN ADA RAMPS	EA	14	\$5,000.00	\$70,000.00
NE 2ND ST. 4' CONCRETE WALK	SY	900	\$65.00	\$58,500.00
NE 2ND ST. 4' CONCRETE WALK	SY	550	\$65.00	\$35,750.00
WEST CENTRAL VALLEY 6' CONCRETE WALK	SY	500	\$65.00	\$32,500.00
WEST CENTRAL VALLEY VEGETATED SWALE (NATIVE SEED)	AC	0.5	\$6,500.00	\$3,250.00
TURF RESTORATION	SY	2,500.0	\$2.00	\$5,000.00
TREES 2" CAL.	EA	5	\$500.00	\$2,500.00
IMPROVEMENTS SUBTOTAL				\$427,500.00
CONTINGENCY (15%)				\$64,125.00
DESIGN/ENGINEERING FEES (15%)				\$64,125.00
<b>SITE IMPROVEMENTS TOTAL</b>				<b>\$555,750.00</b>

ANTICIPATED COST RANGE \$500,000 - \$600,000

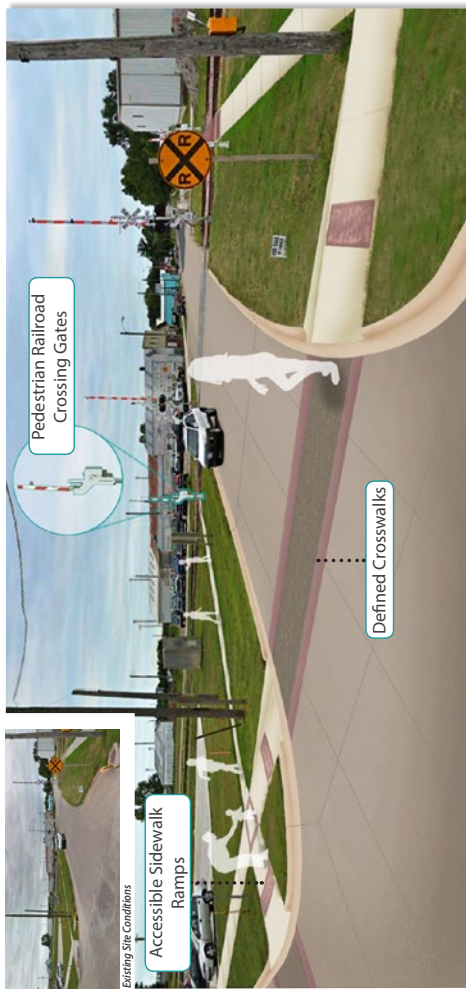


Plan of proposed pedestrian connection improvements between the recreational fields, Elementary School, and High School.



Existing Site Conditions

Potential connection to High School along private drive



Pedestrian connection improvements along the intersection of 350th (Front) Street and S Division Street including safer railroad crossings.

**Pedestrian Safety Improvements**

Stuart's schools are within easy walking distance for most students. However, there are walkability impediments due to poorly maintained or missing sidewalks, and conflicts with heavy vehicular traffic and trains. There is limited pedestrian and biking access to the recently opened West Central Valley High School. The busy railroad tracks running through the center of Stuart are a major barrier for elementary school students living south of the tracks. The "children feel unsafe crossing the railroad tracks..." while traveling between the school and recreational fields and park.

The Iowa DOT's Guide to Transportation Funding Programs is an excellent resource for small towns needing financial assistance to implement important infrastructure upgrades like those proposed in this plan. The plan displays a suggested route to improve pedestrian connections from residential neighborhoods to Stuart's schools. Crucial intersections and pathways that are in need of improvements are highlighted as well. The Transportation Act provides the state with a lump sum that is then divided among apportioned programs to address State and local transportation needs. The city of Stuart could utilize the State's apportionment that is suballocated for programs that help areas of similar size.

This plan proposes to add pedestrian crossing gates to the existing vehicle crossing gates to improve the overall safety of the intersection of South Division Street with the railroad tracks. The Highway-Railroad Crossing Safety Program is another Iowa DOT resource to pursue for funding the suggested improvements at this intersection.

# Stuart Pedestrian Safety Improvements

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk  
 LA Intern: Hannah Schmitz - Bolton & Menk  
 Iowa Department of Transportation Trees Forever ISU Landscape Architecture Extension ISU Extension Community and Economic Development

# Community Identity and Wayfinding

## Entry Signage

A town’s identity evokes a sense of pride for the community by being recognized for the certain attributes that make the town unique. Through improved welcome and way-finding signage, a community’s sense of place can be strengthened. Stuart residents came together to determine a variety of signage options that can help establish the town’s identity. These options include signage that emphasizes community entry, pedestrian and vehicular wayfinding, and information kiosks.

Pictured above are two entry feature options. Both concepts incorporate limestone materials to match the community’s newest entry sign near the high school. The first option draws from Stuart’s relation to transportation. Located at the bottom of the sign, there are metal pieces supporting the larger sign, which represent the railroad that runs through the heart of Stuart. On the right side of Option 1, there are two poles which symbolize the White Pole Road. Option 2 is a more universal design, which uses three-dimensional letters situated on a limestone ledge to greet visitors. A beam is fixed above the

letters to support a lamp that will illuminate the letters at night.

## Key Concept Components

- Develop community identity through entry signage
- Provide entry signage options to consider installing at key community entrances.

## Design Expertise Recommended

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

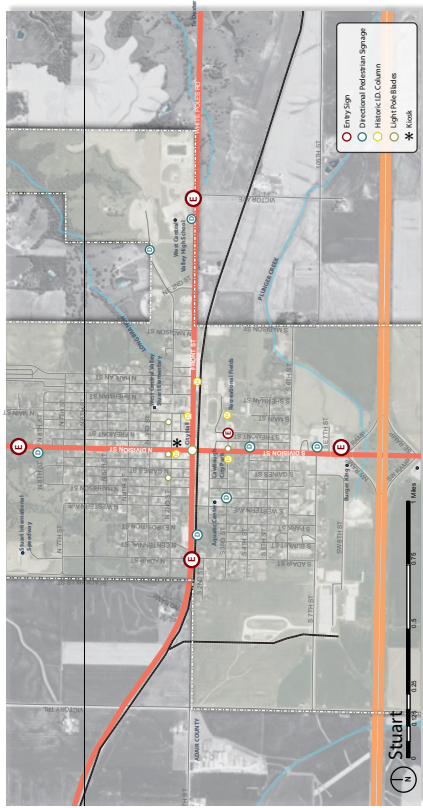
## Project Scope and Cost Opinion

The following cost opinion is based on current project bid costs within the state. These costs may be reduced with materials donated or provided at reduced cost and volunteer labor for appropriate projects.

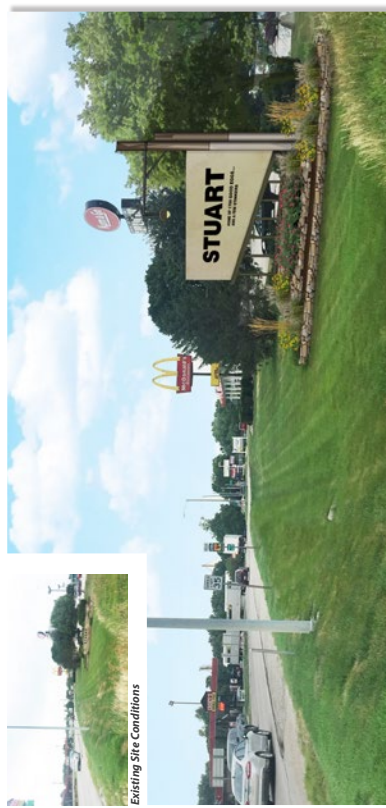
	UNIT	QUANTITY	UNIT COST	TOTAL
<b>WAYFINDING/IDENTITY</b>				
MOBILIZATION	LS	1	\$20,000.00	\$20,000.00
ENTRY SIGNAGE WITH LIGHTING	EA	3	\$30,000.00	\$90,000.00
PLANTINGS (PERENNIALS, AMENDED SOILS, MULCH)	SF	75	\$20.00	\$1,500.00
LIGHT POLE BLADES (PER LOCATION)	EA	4	\$1,000.00	\$4,000.00
INFORMATION KIOSK	EA	1	\$15,000.00	\$15,000.00
DIRECTIONAL SIGNAGE (PANEL AND POST)	EA	6	\$2,000.00	\$12,000.00
HISTORIC INFORMATION COLUMN	EA	5	\$5,000.00	\$25,000.00
TREES 2" CAL.	EA	3	\$500.00	\$1,500.00
IMPROVEMENTS SUBTOTAL				\$169,000.00
CONTINGENCY (15%)				\$25,350.00
DESIGN/ENGINEERING FEES (15%)				\$25,350.00
<b>SITE IMPROVEMENTS TOTAL</b>				<b>\$219,700.00</b>

ANTICIPATED COST RANGE \$200,000 - \$250,000

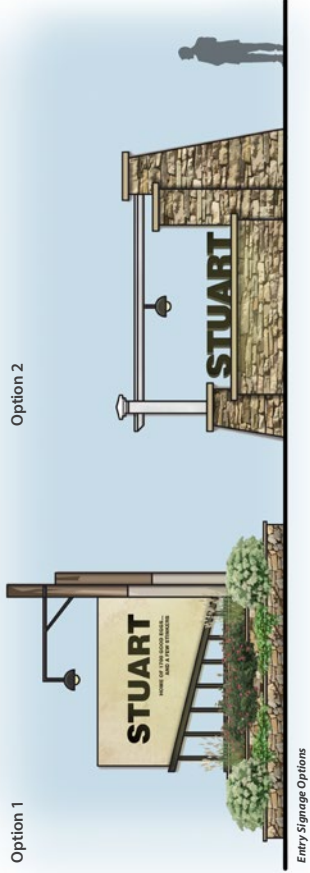




Stuart  
Signage Locations Map



Existing Site Conditions  
Entry Signage Near Interstate Pull Off



Entry Signage Options

### Entry Signage

A town's identity evokes a sense of pride for the community by being recognized for the certain attributes that make the town unique. Through improved welcome and way-finding signage a community's sense of place can be strengthened. Stuart residents came together to determine a variety of signage options that can help establish the town's identity. These options include signage that emphasizes community entry, pedestrian and vehicular wayfinding, and information kiosks.

Pictured above are two entry feature options. Both concepts incorporate limestone materials to match the community's newest entry sign near the high school. The first option draws from Stuart's relation to transportation. Located at the bottom of the sign, there are metal pieces supporting the larger sign, which represent the railroad that runs through the heart of Stuart. On the right side of Option 1, there are two poles which symbolize the White Pole Road. Option 2 is a more universal design, which uses three-dimensional letters situated on a limestone ledge to greet visitors. A beam is fixed above the letters to support a lamp that will illuminate the letters at night.

# Stuart

## Community Identity and Wayfinding

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk

LA Intern: Hannah Schmitz - Bolton & Menk

Iowa Department of Transportation

Trees Forever

ISU Landscape Architecture Extension

ISU Extension Community and Economic Development

IOWA'S  
LIVING  
ROADWAYS  
Summer 2016



## Community Identity and Wayfinding

### Wayfinding Signage

Wayfinding signage is used to help orient both residents and visitors in the community from where they are to where they want to go. This signage works best when the information displayed is both clear and consistent.

Correlating materials and themes on each piece also helps establish a community's identity.

Four types of wayfinding features have been designed to help guide people to key areas in town, such as the Masonic Temple, Saints Center for Culture and Arts, train depot, and downtown. These features include light pole blades, information kiosks, community guides, and historic information columns. All of these elements include limestone or red materials and incorporate the railroad symbol which can be found on option one in the entry sign board. The light pole blades will be located at downtown intersections. The train depot's form can be seen in the information kiosk. This kiosk may include information such as a map with points of interest or additional information about the community. While light pole blades are used to guide vehicles, community guides are used to guide pedestrians. These may be beneficial in areas like Lawbaugh City Park where there is no clear directional signage to other destinations. The historic information columns

can be used near some of Stuart's most well-known historic areas, such as outside of the Bonnie and Clyde Bank Robbery location. All wayfinding options are used to enhance one's experience in Stuart.

### Key Concept Components

- Develop wayfinding signage to direct visitors to major attractions in town
- Provide various types of signage to accommodate both pedestrian and vehicular traffic
- Use a consistent palette of materials to develop a sense of identity

### Design Expertise Recommended

Projects may require help beyond the capability of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape architect and graphic designer.

### Project Scope and Cost Opinion

The following cost opinion is based on current project bid costs within the state. These costs may be reduced with materials donated or provided at reduced cost and volunteer labor for appropriate projects.



Wayfinding Directional Sign and Lightpole Blades on Main Street

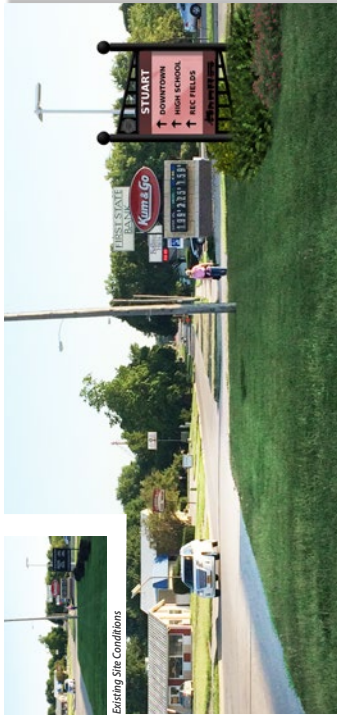


Wayfinding Signage Options: Light Pole Blade

### Wayfinding Signage

Wayfinding signage is used to help orient both residents and visitors in the community from where they are to where they want to go. This signage works best when the information displayed is both clear and consistent. Correlating materials and themes on each piece also helps establish a community's identity.

Four types of wayfinding features have been designed to help guide people to key areas in town, such as the Masonic Temple, Saints Center for Culture and Arts, train depot, and downtown. These features include light pole blades, information kiosks, community guides, and historic information columns. All of these elements include limestone or red materials and incorporate the railroad symbol which can be found on option one in the entry sign board. The light pole blades will be located at downtown intersections. The train depot's form can be seen in the information kiosk. This kiosk may include information such as a map with points of interest or additional information about the community. While light pole blades are used to guide vehicles, community guides are used to guide pedestrians. These may be beneficial in areas like Lawbaugh City Park where there is no clear directional signage to other destinations. The historic information columns can be used near some of Stuart's most well-known historic areas, such as outside of the Bonnie and Clyde Bank Robbery location. All wayfinding options are used to enhance one's experience in Stuart.



Wayfinding Directional Sign at South Entry of Town

# Stuart

## Community Identity and Wayfinding

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk

LA Intern: Hannah Schmitz - Bolton & Menk

Iowa Department of Transportation Trees Forever

ISU Landscape Architecture Extension

ISU Extension Community and Economic Development

Summer 2016

76

## Traffic Calming and Streetscape

Interstate 80 and White Pole Road bring high volumes of traffic to Stuart. This traffic consists of tourists, travelers, and semi-drivers traveling through town to areas like the high school, the ethanol plant, and downtown. Existing conditions have created awareness of safety concerns for pedestrians and the need for traffic calming methods and streetscape improvements.

Streetscape conditions currently do not invite drivers from the interstate pull-off to the heart of the community. By enhancing vegetative plantings on Division Street, we can create a more welcoming gateway in to the community, while also addressing the high traffic speeds. Street tree plantings act as vertical walls, giving motorists a visual reference while they drive. By providing visual references drivers are able to better gauge and evaluate their speed. A bump-out is proposed at the intersection of South Division Street and 3rd Street. Bump outs are used to reduce the distance a pedestrian has to walk to cross the street.

Additional streetscape features include updated pedestrian crossing signals, ornamental plantings, planters and way-finding signage. Through these improvements, the goal is to strengthen the community's sense of place with a charming identity and reduce safety concerns

through shorter crosswalk lengths, enhanced crossing opportunities, and a pedestrian-scale streetscape environment.

### Key Concept Components

- Increase pedestrian safety along Division Street through improved bump-outs, street trees, pedestrian crossing signals, and crosswalks
- Improve streetscape amenities including wayfinding signage and ornamental plantings

### Design Expertise Recommended

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

### Project Scope and Cost Opinion

The following cost opinion is based on current project bid costs within the state. These costs may be reduced with materials donated or provided at reduced cost and volunteer labor for appropriate projects.

	UNIT	QUANTITY	UNIT COST	TOTAL
<b>TRAFFIC CALMING AND STREETSCAPE</b>				
MOBILIZATION	LS	1	\$40,000.00	\$40,000.00
PEDESTRIAN ADA RAMPS	EA	10	\$5,000.00	\$50,000.00
PAVER CROSSWALKS - EXCAVATION/INSTALL	SY	175	\$140.00	\$24,500.00
DECORATIVE INTERSECTION PAVEMENT - EXCAVATION/INSTALL	SY	225	\$100.00	\$22,500.00
CURB AND GUTTER	LF	400	\$20.00	\$8,000.00
PERENNIAL PLANTING IN BUMP-OUTS	SF	400	\$20.00	\$8,000.00
3RD ST./REC PARK 8' ASPHALT PATH - EXCAVATION/INSTALL	SY	460	\$75.00	\$34,500.00
PEDESTRIAN CROSSING SIGNALS	EA	2	\$20,000.00	\$40,000.00
PAVEMENT MARKINGS	LF	250	\$1.50	\$375.00
SOD	SQ	75.0	\$55.00	\$4,125.00
TREES 2" CAL.	EA	18	\$500.00	\$9,000.00
IMPROVEMENTS SUBTOTAL				\$232,000.00
CONTINGENCY (15%)				\$34,800.00
DESIGN/ENGINEERING FEES (15%)				\$34,800.00
<b>SITE IMPROVEMENTS TOTAL</b>				<b>\$301,600.00</b>

ANTICIPATED COST RANGE \$250,000 - \$350,000





South Division Street Concept Map



Existing Site Conditions



South Division Street Pedestrian Crossings

- Ⓐ Decorative Pavement
- Ⓑ Sidewalk Extension
- Ⓒ Bump-outs
- Ⓓ Street Trees

**Traffic Calming and Streetscape**

Interstate 80 and White Pole Road bring high volumes of traffic to Stuart. This traffic consists of tourists, travelers, and semi-drivers traveling through town to areas like the high school, the ethanol plant, and downtown. Existing conditions have created awareness of safety concerns for pedestrians and the need for traffic calming methods and streetscape improvements.

Streetscape conditions currently do not invite drivers from the interstate pull-off to the heart of the community. By enhancing vegetative plantings on Division Street, we can create a more welcoming gateway in to the community, while also addressing the high traffic speeds. Street tree plantings act as vertical walls, giving motorists a visual reference while they drive. By providing visual references drivers are able to better gauge and evaluate their speed. A bump-out is proposed at the intersection of South Division Street and 3rd Street. Bump outs are used to reduce the distance a pedestrian has to walk to cross the street.

Additional streetscape features include updated pedestrian crossing signals, ornamental plantings, planters and way-finding signage. Through these improvements, the goal is to strengthen the community's sense of place with a charming identity and reduce safety concerns through shorter crosswalk lengths, enhanced crossing opportunities, and a pedestrian-scale streetscape environment.

# Stuart

## Traffic Calming and Streetscape

Landscape Architects: Amber Gable and Casey Byers, PIA - Bolton & Menk, Inc.

LA Intern: Hannah Schmitz - Bolton & Menk, Inc.

Iowa Department of Transportation - Trees Forever

ISU Landscape Architecture Extension

ISU Extension Community and Economic Development

Summer 2016



## City Greenspace Improvements

### Outdoor Reading Room

Located behind City Hall and the library is a small space currently home to a few benches and native plants. This space is intended to be used by guests of the building or pedestrians looking for a quiet place to relax. Currently the plantings are taking over this site and preventing guests from entering.

The new design refines the existing elements with a curvilinear sidewalk that flows through the space. This sidewalk is bordered by planting beds filled with shrubs and perennials. Upon entering, one may contribute or borrow a book from a free library stand. On the east side of the courtyard are gathering rooms. These rooms can be used for activities such as group reading or sitting at table to grab a bite to eat.

### Recreational Park Entrance

Other park improvements include adding signage to the Recreational Facility. This signage would be surrounded by trees and plantings. Signage can help establish a stronger pedestrian connection from Lawbaugh Parks to the sports fields.

### Key Concept Components

- Improve library park space plantings
- Provide opportunities within the library space for gathering, reading, and learning.
- Develop new entry and directional signage for the recreational park
- Improve street tree plantings and trail connection into recreational park

### Design Expertise Recommended

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

### Project Scope and Cost Opinion

The following cost opinion is based on current project bid costs within the state. These costs may be reduced with materials donated or provided at reduced cost and volunteer labor for appropriate projects.

	UNIT	QUANTITY	UNIT COST	TOTAL
<b>CITY GREENSPACE IMPROVMENTS</b>				
LIBRARY				
MOBILIZATION	LS	1	\$5,000.00	\$5,000.00
COMMON EXCAVATION	SY	75	\$10.00	\$750.00
DECORATIVE CONCRETE PAVING	SY	75	\$65.00	\$4,875.00
PLANTER WALLS	LF	100	\$50.00	\$5,000.00
PLANTING SOIL	CY	9	\$100.00	\$900.00
EAST FENCE	LF	15	\$150.00	\$2,250.00
BENCHES	EA	7	\$1,500.00	\$10,500.00
TABLE AND 4 CHAIRS	EA	1	\$3,000.00	\$3,000.00
FREE LIBRARY STAND	EA	1	\$500.00	\$500.00
MURAL	SF	750	\$20.00	\$15,000.00
5 GAL. SHRUBS (INCLUDES AMENDED SOIL)	EA	9	\$75.00	\$675.00
PERENNIALS (INCLUDES AMENDED SOIL)	SF	120	\$20.00	\$2,400.00
<b>RECREATIONAL PARK</b>				
WELCOME/INFORMATIONAL SIGNAGE AND LIGHTING	EA	1	\$15,000.00	\$15,000.00
TREES 2" CAL.	EA	4	\$500.00	\$2,000.00
			IMPROVEMENTS SUBTOTAL	\$67,850.00
			CONTINGENCY (15%)	\$10,177.50
			DESIGN/ENGINEERING FEES (15%)	\$10,177.50
			<b>SITE IMPROVEMENTS TOTAL</b>	<b>\$88,205.00</b>

ANTICIPATED COST RANGE \$80,000 - \$100,000

- ① Free Library Stand
- ② Decorative Pavement
- ③ Benches
- ④ Gathering Spaces



Outdoor Reading Room Concept



Low Maintenance Shade Tolerant Plants

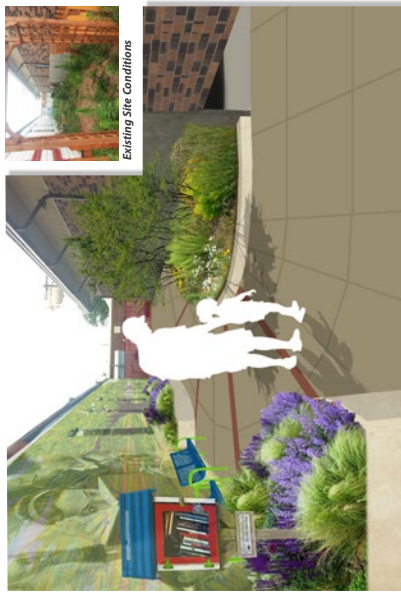
#### Outdoor Reading Room

Located behind City Hall and the library is a small space currently home to a few benches and native plants. This space is intended to be used by guests of the building or pedestrians looking for a quiet place to relax. Currently the plantings are taking over this site and preventing guests from entering.

The new design refines the existing elements with a curvilinear sidewalk that flows through the space. This sidewalk is bordered by planting beds filled with shrubs and perennials. Upon entering, one may contribute or borrow a book from a free library stand. On the east side of the courtyard are gathering rooms. These rooms can be used for activities such as group reading or sitting at table to grab a bite to eat.

#### Recreational Park Entrance

Other park improvements include adding signage to the Recreational Facility. This signage would be surrounded by trees and plantings. Signage can help establish a stronger pedestrian connection from Lawbaugh Parks to the sports fields.



Outdoor Reading Room Entrance



3rd Street Looking East Toward Recreation Fields

# Stuart

## City Greenspace Improvements

Landscape Architects: Amber Gable and Casey Byers, PLA - Bolton & Menk

LA Intern: Hannah Schmitz - Bolton & Menk

Iowa Department of Transportation

Trees Forever

ISU Landscape Architecture Extension

ISU Extension Community and Economic Development

Summer 2016

## Implementation Strategies

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

### Recommendations

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

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

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

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

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

One thing to keep in mind with all projects, whether phased or not, it is imperative that the overall project is designed and planned for at the beginning to ensure that each segment will interconnect and relate to another. Failing to plan for future construction phases can easily lead to complications that could set back positive progress for years.

### **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 Transportation Enhancement Act (TEA-21)
- 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



## Funding Synopsis

Source	Administrative Agency	Application Due	Review Period
Build With Bags	Keep Iowa Beautiful	March 30	1 month
DOT/DNR Fund	Iowa Dept. of Transportation, Iowa Dept. of Natural Resources	All Year	3 months
Empowering Adair County Foundation	Empowering Adair County Foundation	March 15, November 15	TBA
Regional Transportation Alternatives Program	Iowa Dept. of Transportation	October	TBA
Guthrie County Community Foundation	Guthrie County Community Foundation	March 2017	TBA
Iowa Clean Air Attainment Program	Iowa Dept. of Transportation	October 1.	4 Months
Iowa Living Roadways Projects	Trees Forever	March 1, September 1	TBA
Living Roadway Trust Fund	Iowa Dept. of Transportation	June 1	TBA
Community Kickstarter Grants Program	Wellmark Blue Cross Blue Shield	September	2 months
Healthy Communities Small Grant Program	Wellmark Blue Cross Blue Shield	February	3 months
MATCH Grant Program	Wellmark Blue Cross Blue Shield	May	3 months
Traffic Safety Improvement Program	Iowa Dept. of Transportation	August 15	4 months
Trees for Kids and Trees for Teens	Iowa Dept. of Natural Resources	March 1, September 1	2- 3 weeks

\*The synopsis provides funding sources to help guide the start of the implementation process. Grant examples are highlighted in a range of funds and various projects the source focuses on. In order to successfully attain outside support, it is important to identify and prepare the correct material needed for the funding application and process. Resources are available to help prepare the information required for an application.

Match Requirement	Award Amount	Payment Method	Common Projects/Improvements	Stuart Project
Not required	\$2,000	Grant	Park benches, picnic tables, and trash cans from recycled materials	Site Furnishings at Parks or Schools
TBA	\$100,000	Grant	Roadside Beautification of Primary System Corridors with Plant Materials	Street Tree Plantings
Not required	\$1,000-\$10,000	Grant	Tourism/Beautification, Economic Well-Being, Public Services, Recreation/Entertainment	Wayfinding Signage, Greenspace Improvements
20%	TBA	Grant	Sidewalk Improvements, Bicycle and Pedestrian Facilities	Pedestrian Safety Improvements
50%	TBA	Grant	Arts & Culture, Health, Human Services, Community Betterment, Historic Preservation	Wayfinding Signage, Greenspace Improvements
20%	Minimum \$20,000 Total Cost	Grant	Projects that result in reductions in emissions and improve air quality	Pedestrian Infrastructure
20%	\$50,000	Grant	Roadside plantings	Street Tree Plantings
Variable	TBA	Grant	Roadside Enhancement, Seed Propagation, Special Equipment	Plantings at Community Entry Signs
Not required, but encouraged	\$10,000	Grant	Community Gardens, Bike Share Programs, Safe Routes to School Campaigns	Pedestrian Safety Improvements
Not required, but encouraged	\$25,000	Grant	Trail Systems, Safe Routes to School Campaigns	Pedestrian Safety Improvements
50%	\$75,000	Grant	Trail Systems, Safe Routes to School Campaigns	Pedestrian Safety Improvements
TBA	\$500,000	Grant	Traffic Control Devices, Research, and Public Information	Pedestrian Safety Improvements
Not required	\$1,000-\$5,000	Grant	Street ROW, Cemeteries, Trails, Courthouse Lawns	Street Tree Plantings