Final Report and Feasibility Study
Durant, Iowa

SUMMER **2019**

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Flenker
Land Architecture
Consultants, LLC

Professional Planning, Design &
Environmental Services

Program Partners:

Iowa Department of Transportation
Trees Forever
Iowa State University

Iowa's Living Roadways
community
visioning

Participants

Town Steering Committee

Deana Cavin
Lynn Stender
Mike Hein
Kevin Mundt
Barbara Asselbergs
Wendy Bullard
Jack Pearlman
Monica Wolf
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Julia Badenhope, Program Director and Professor of Landscape Architecture
Sandra Oberbroeckling, Project Manager and Extension Program Specialist

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Haoyue (Karma) Yang
Landscape Architecture Intern
Texas A & M University

Jue Jue (JJ) Wai Hin Thaw
Landscape Architecture Intern
Augustana University

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About Flenker Land Architects

Flenker Land Architecture Consultants, L.L.C. (FLAC), aka Flenker Land Architects, is a full service professional environmental, planning and landscape architectural firm which was founded in 1997 by Meg Flenker. Professionally licensed FLAC works with both public and private sector clients throughout all phases of their projects - from the conceptual stages of assessing project feasibility, evaluating alternatives, researching funding and performing site analysis and creating schematic designs, to the preparation of final design and construction documents, including project administration and construction observation.

FLAC's personnel are trained and committed to consider aesthetics, detail, scale, pedestrian and vehicular circulation and interaction, project context, environmental impact, user safety, functionality, and how humans interact with their surroundings - all things that FLAC considers inherent to the success and value of each project and essential to creating a "sense of place". With FLAC, you get the persons with the knowledge and experience working on your project. Our "real world" knowledge and understanding of the planning, design, permitting and construction process, coupled with our understanding of the natural and built landscape is an asset to the services that we provide.

We are certified as an Iowa Targeted Small Business (TSB) and a Disadvantaged Business Enterprise (DBE) with the Iowa, Illinois and Wisconsin Department of Transportation.

Flenker Land Architecture Consultants, LLC, continually strive to create individualized and quality projects that create value - a guiding principle that has resulted in our involvement in the planning and design of various award winning projects, both at the state and national level.

Site Design: Dubuque, Ia.

Streetscape Design: Parkersburg, Ia.

Bike Path Design: Great River Trail

LID Design: Coralville, Ia.

Sport Field & Park Design: Eldridge, Ia.

Native Habitat Design: Clinton, Ia.

Meg Flenker, PLA, ASLA, CPESC, CPSWQ

Meg Flenker is a registered landscape architect with over 30 years of professional experience in the landscape architectural, engineering, planning and environmental fields. In addition to holding various certifications in LID, sustainability, hardscape, and environmental planning and design, she is also a Certified Professional in Storm Water Quality (CPSWQ) and Certified Professional in Sediment & Erosion Control (CPSEC). Ms. Flenker holds her Bachelor of Landscape Architecture (BLA) degree from Iowa State University and her Master of Business Administration (MBA) degree from the University of Iowa. Meg worked for a midwest engineering firm for 8 years before leaving to start Flenker Land Architecture Consultants in 1997, which is the same year that she became involved with the Iowa's Living Roadways Community Visioning Program.

A native of eastern Iowa, Meg returned to the Quad Cities after graduating from Iowa State. Today, she resides just north of the Quad-Cities on the family farm that she grew up on and is active in the community.

Haoyue (Karma) Yang, Intern

Karma is a MLA candidate who is entering her final year of the Master of Landscape Architecture program at Texas A & M University in Texas where she is also a Teachers Assistant (TA) for the program's construction courses. She grew up in Baotou, Inner Mongolia, China and received her Bachelor of Landscape Architecture (BLA) from Northeastern Forestry University in China. Karma describes herself as a designer, researcher, drummer, pony lover and Rock and Metal fanatic. After graduating from Texas A & M, Karma plans to pursue her PhD in the United States with the goal of becoming a professor.

Jue Jue (JJ) Wai Hin Thaw, Intern

JJ is a native of Myanmar (Burma) and is a junior at Augustana College in Rock Island, Illinois studying Geography and Environmental Studies. She plans to continue her education next year at the University of Illinois in order to complete here Bachelors degree and obtain her MLA through the 3+3 program that is a partnership between Augustana and the University of Illinois. Ms. Thaw is interested in designing sustainable buildings, green roofs, green walls and streetscapes. She enjoys landscape architecture and the value it brings to place making.

Program Overview

Durant is one of 10 communities selected to participate in the 2019 Iowa's Living Roadways Community Visioning Program. The program, which selects communities through a competitive application process, provides professional planning and design assistance along transportation corridors to small Iowa communities (populations of fewer than 10,000).

Goals for the Visioning Program include:

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

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

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

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

Community Goals

The Durant visioning committee identified a number of goals and priority areas during the visioning process, which included: improve accessibility & connectivity of sidewalks, enhance safety at intersections, incorporate more trees for shade and aesthetics along streets, strengthen community identity, establish a looped trail network that is part of a regional trail system, integrate traffic -calming measures into streetscape, enhance the Highway 6 (5th St.) corridor streetscape, incorporate more lighting along main roadways and walking routes, and enhance parks.

Capturing the Durant Vision

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

One of the various focus groups (Youth, Age 12 & Under) providing their input at the March 2019 TAB workshop.

One of the various focus groups (Mobility-Impaired Individuals) providing their input at the March 2019 TAB workshop.

One of the various focus groups (Older Adults) providing their input at the March 2019 TAB workshop.

The design team interacted with more than 57 community members that attended the public design workshop held at the Durant Fire Station on June 5, 2019.

Program Overview

The city of Durant is one of 10 communities selected to participate in the 2019 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 (less than 10,000 residents).

Visioning Program Goals:

- Develop a conceptual plan and implementation strategies alongside local community residents.
- Enhance the natural, cultural and visual resources existing within communities.
- Assist 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:

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Iowa State University's Landscape Architecture Department and Extension and Outreach, of which the Community Visioning program is part, manages the design team and the Community Visioning program, as well as organizes the initial focus groups and transportation assets and behaviors workshop (TAB) and survey with design interns and ISU staff. Iowa State University, along with Trees Forever and the Iowa Department of Transportation, select private sector Professional Landscape Architects (PLA) to be part of the design team and work with the various communites in creating their "community vision" and transportation enhancement plan.

Iowa State University processes the information collected from the focus groups and surveys and provides the data to the steering committee and design team for their use in developing community centered transportation enhancements based on the needs and desires expressed by residents participating in the focus groups, surveys, and public design workshop.

The Community Visioning program is sponsored by the Iowa Department of Transportation.

Community Goals

The Durant steering committee identified a number of goals and priority areas during the visioning process. These goals and priorities were reflective of what the community members identified in the TAB workshops (see Boards 3a-3c) and surveys (see Boards 4a-4f).

- Improve accessibility & connectivity of sidewalks
- Enhance safety at intersections
- Incorporate more trees for shade and aesthetics along streets
- Strengthen community identity
- Establish a looped trail network that is part of a regional trail system
- Integrate traffic -calming measures into streetscape
- Enhance the Highway 6 (5th St.) corridor streetscape
- Incorporate more lighting along main roadways and walking routes
- Enhance Parks

Capturing the Durant Vision

Based on the needs and desires of the local residents, as well as a detailed inventory of community resources, the design team developed transportation-based community improvement project concepts, which are illustrated in the following set of presentation boards:

1. Program Overview
2. Bioregional Assessments
3. Transportation Assets and Barriers Assessment
4. Transportation Behavior and Needs
5. Transportation Inventory
6. Goal Setting
7. Concept Overview
8. Way-finding
9. Entryway Signage
10. Pedestrian Systems: Walks
11. Pedestrian Systems: Trails
12. Pedestrian Systems: Entire
13. Corridors & Business District
14. Downtown District - Part I
15. Downtown District - Part II
16 Pythian Sisters Park
17. Feldhan Park Expansion
18. 14th Avenue Enhancements
19. Implementation

Durant
Program Overview

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
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Iowa's Living Roadways community visioning

Bioregional Assessment

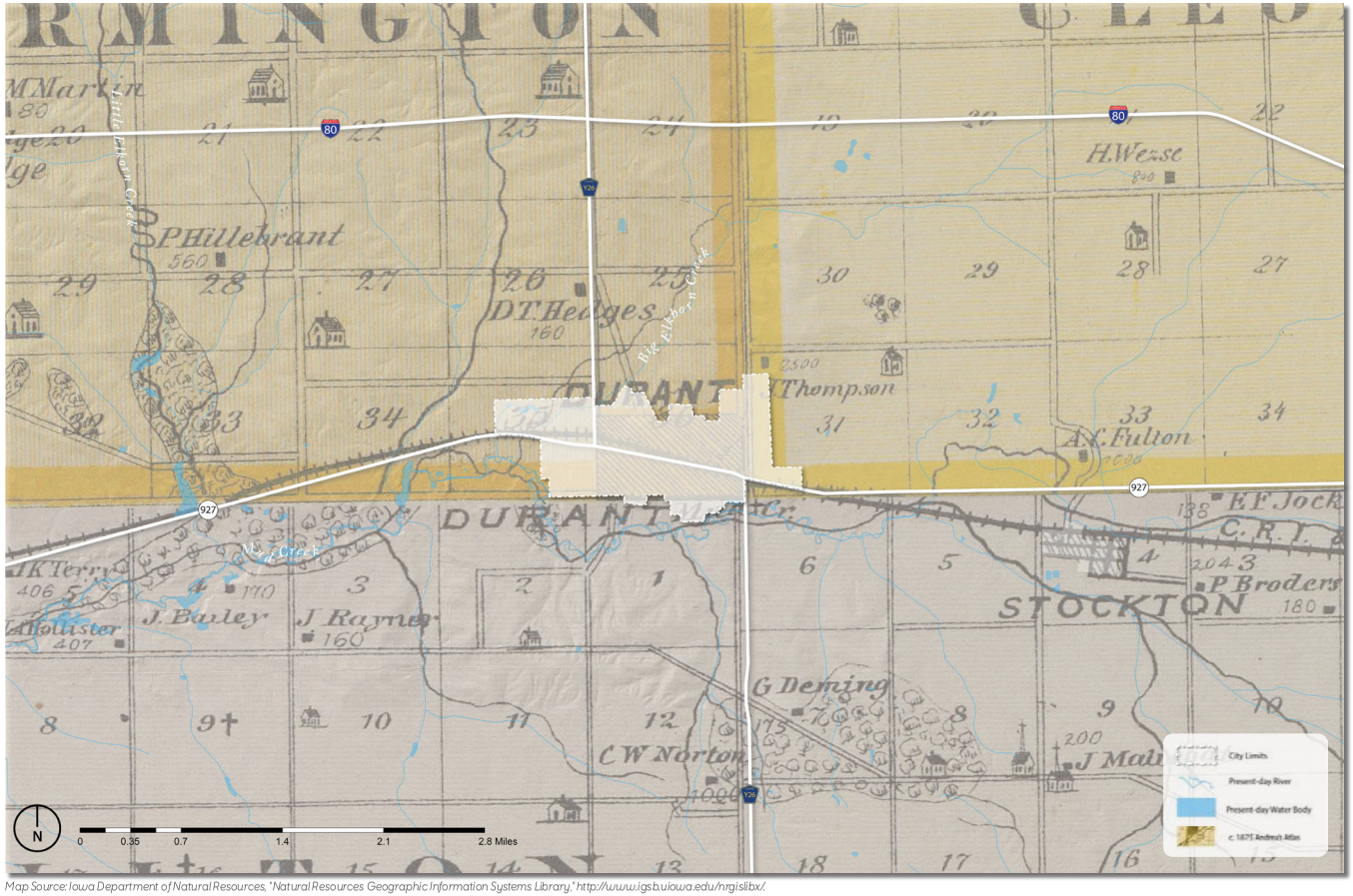
Settlement Patterns

Board 2a (Historical Settlement Patterns) uses a map from A.T. Andreas' Illustrated Historical Atlas of the State of Iowa, 1875 overlaid with present-day town boundaries and water bodies. Published in 1875, Andreas' Atlas is an extraordinary resource showing the post-Civil War landscape of Iowa, including settlement features (towns and villages, churches, schools, roads, railroads, etc.) and landscape features (water bodies, vegetated patches such as timber and swamp, and major topographic features.) A high-quality scan of the Atlas is arranged to correspond closely with the present-day map, revealing major landscape changes as well as features that have persisted, such as railroad rights-of-way and in some cases remnant vegetation patches.

Durant in Context

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

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



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

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Durant
Historical Settlement Patterns

Bioregional Context

Julia Badenhope, Riley Dunn, Emma Georgeff, Timothy Kerkhove, Clare Kiboko, Alysse Kirkman, Giannis Koutsou, Zoey Mauck, Abigail Schafer

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Historical Vegetation

The vegetation information shown on board 2b (Historical Vegetation) is derived from township maps made by the General Land Office (GLO) surveys beginning in 1836 through 1859. This information was digitized in 1996 as a resource for natural resource management and is useful "...for the study of long term ecological processes and as baseline data for the study of present day communities."[1]

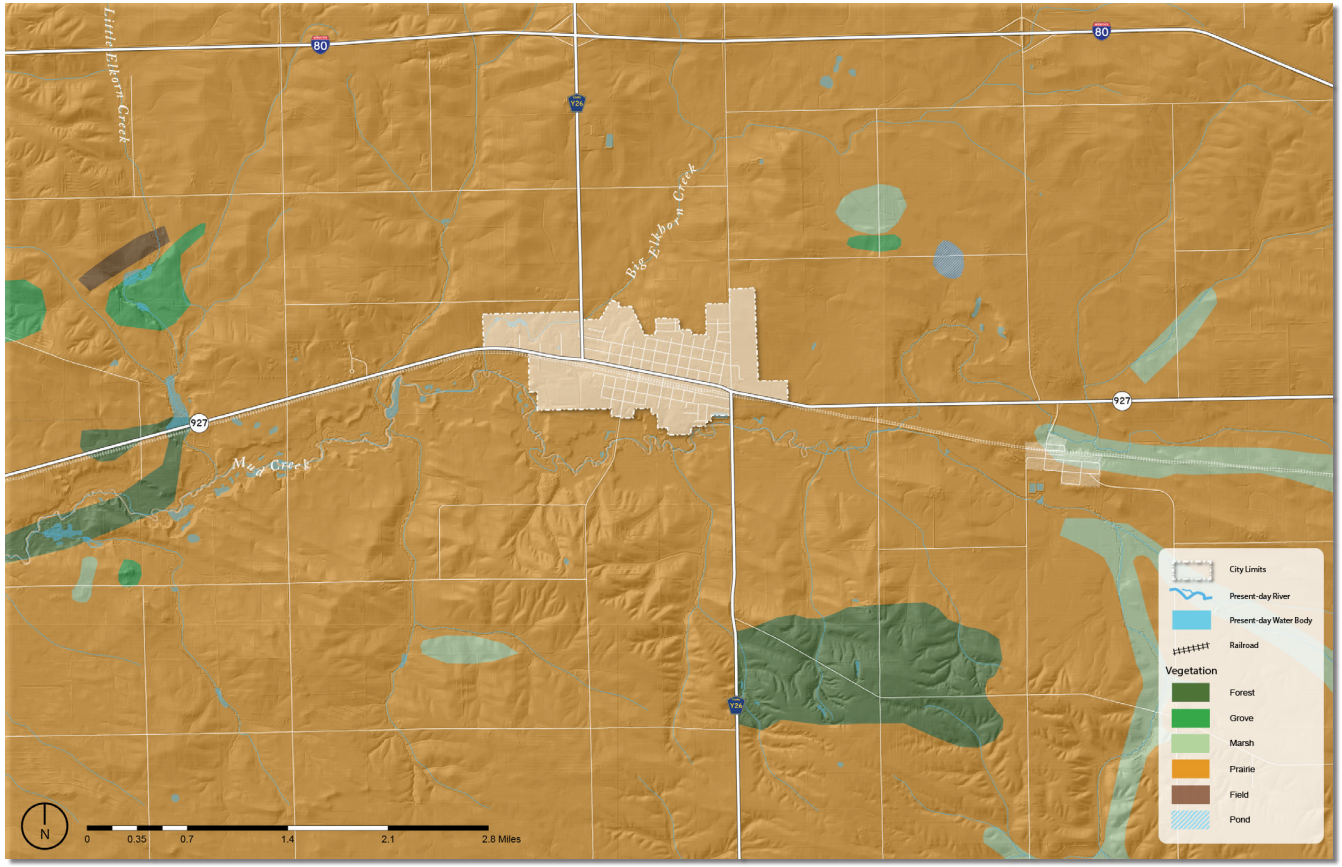
The plant community names mapped by the GLO surveyors varied. The original terminology they used has been preserved in the original data, but we have renamed them on this map to reflect names used to describe contemporary vegetation communities.

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

Early land surveyors mapped the following vegetation types, some of which may not be presented in the vicinity of your community:

1. Forest: Tree dominated, with a mostly closed canopy. Ground vegetation shade tolerant. Developed under infrequent fire.
2. Grove: Isolated, relatively small, dense stand of small trees.
3. Marsh: Perennial non-woody plants; water and fire dominated.
4. Prairie: Perennial non-woody plants; fire dominated.
5. Field: Cultivated lands of early pioneers or Native Americans.
6. Pond: Small bodies of stationary, or "ponded," water.

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



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

Durant

Historical Vegetation

Bioregional Context

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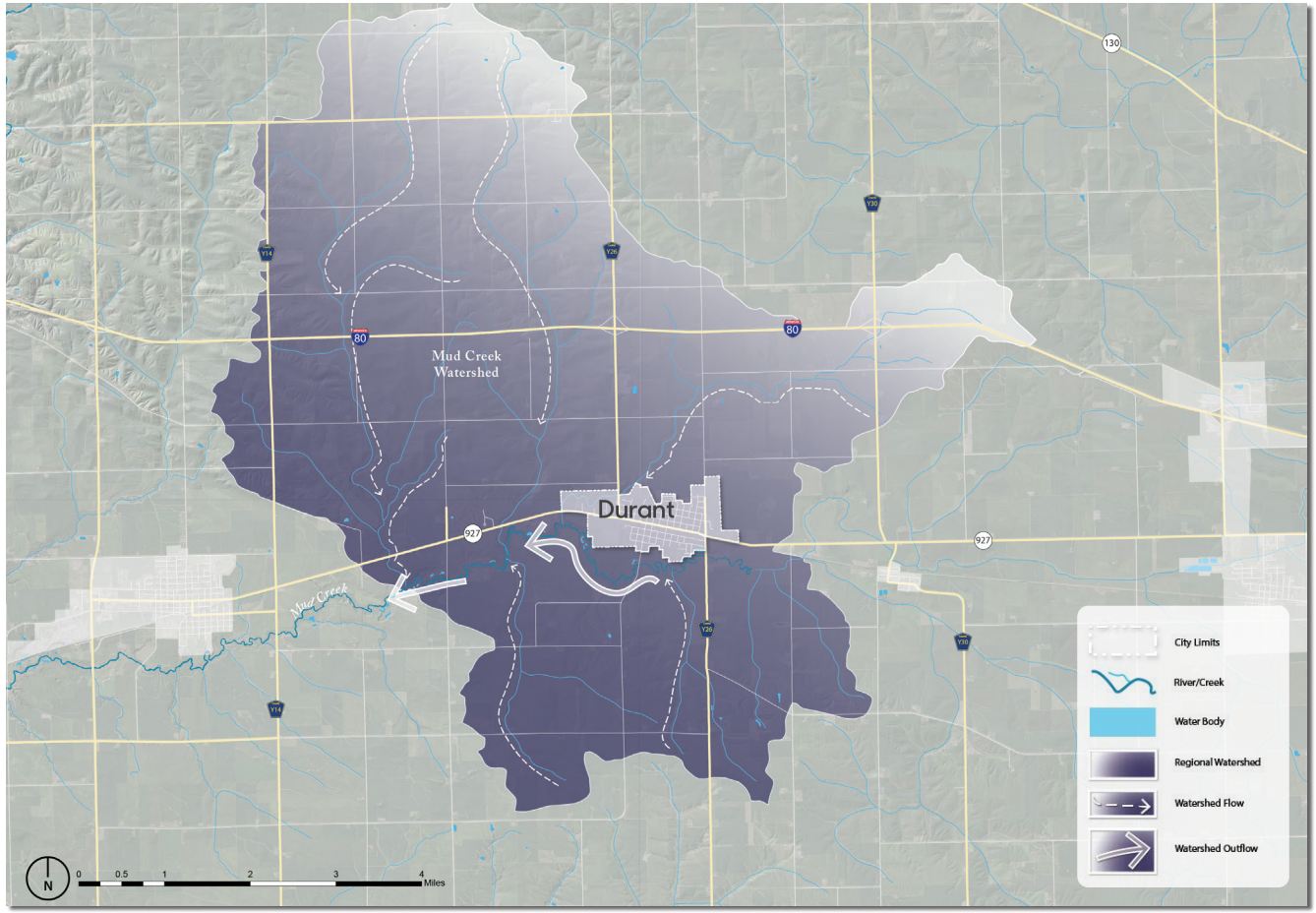
Regional Watershed

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

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

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



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Regional Watershed

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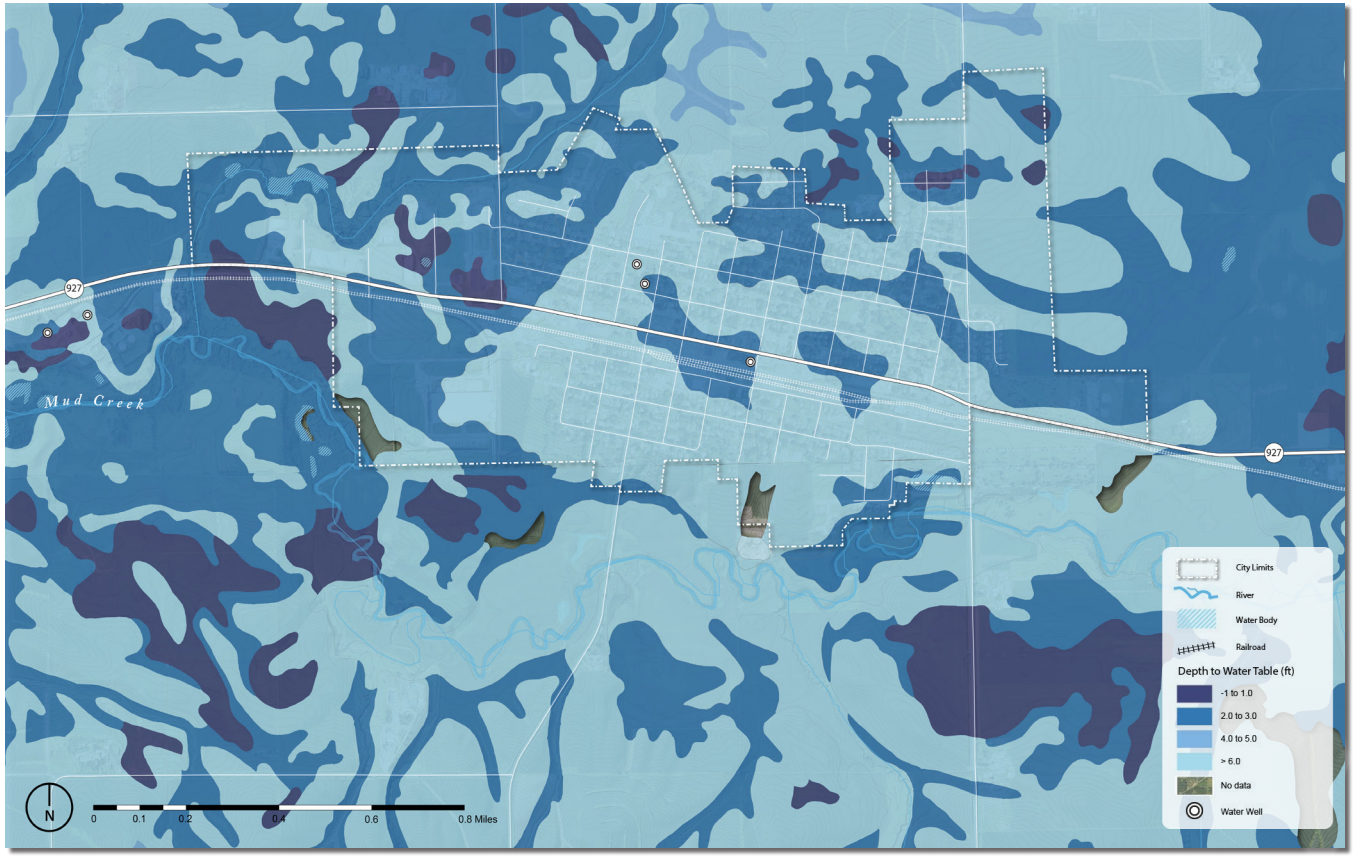
Iowa's Living Roadways community visioning

Depth to Water Table

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

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

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



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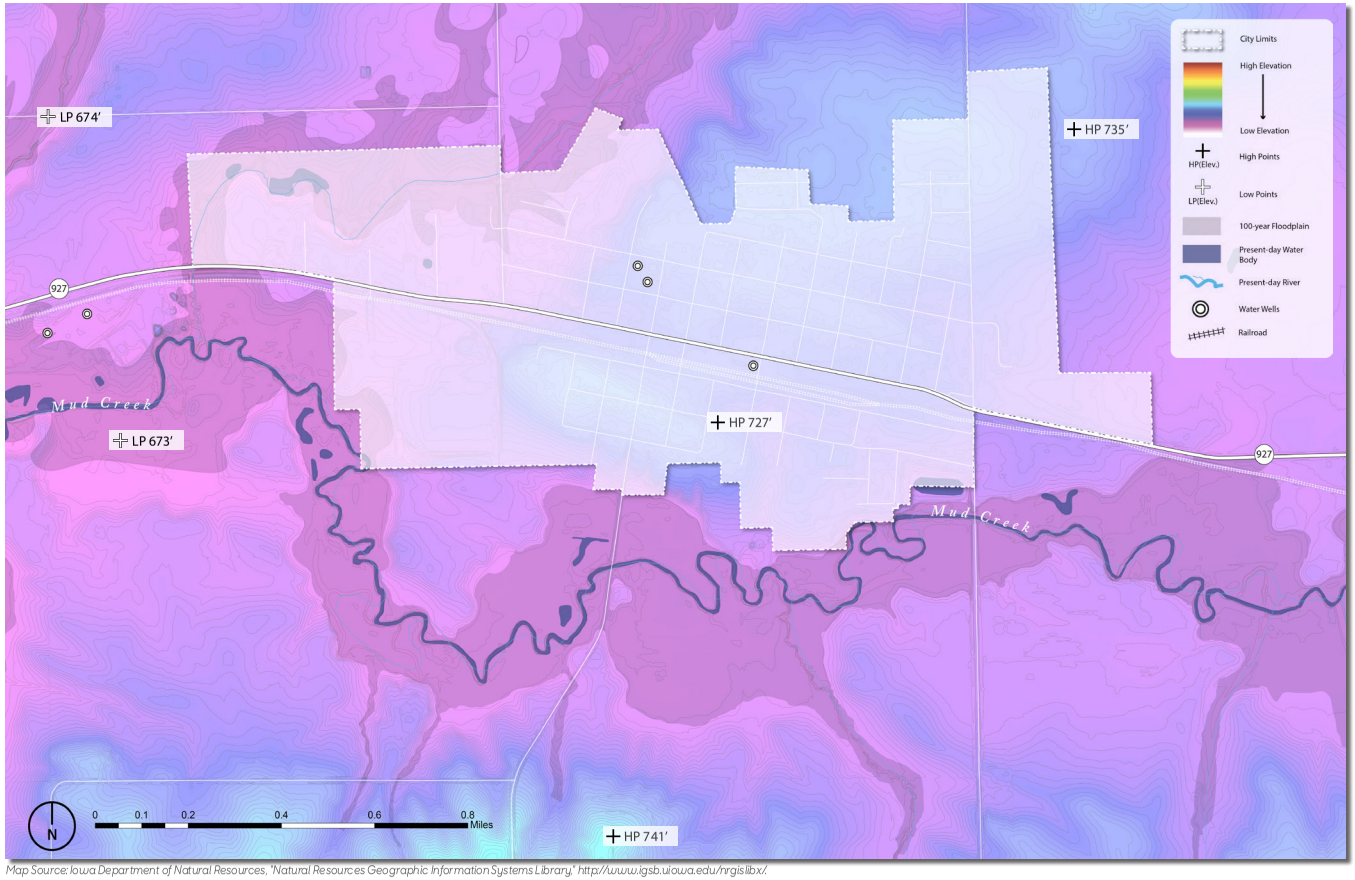
Elevation and Flow

The map on the board 2e (Elevation and Flow) displays topographic differences in elevation using a combination of contour lines and the color gradient depicted in the legend. The high points and low points have also been located.

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

If your community lies within or near a floodplain or floodway, the map reflects these features. Not all communities will have these elements; if they are absent on this map, none are present.

Flood risk is correlated to low-lying land. This map shows your community's flood risk as defined by the Federal Emergency Management Agency (FEMA) Flood Map Service Center. This map shows the two most important flood zones if they are present: the Base Flood and the Regulatory Floodway (consult legend). Base Flood is the zone having a 1% chance of being equaled or exceeded in any given year, also referred to as the "100-year floodplain." The Regulatory Floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% flood discharge can be accommodated without increasing the base flood elevation.



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

Elevation and Flow

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

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Present Day Land Cover

The land-cover map on board 2f (Present Day Land Cover) depicts both natural and man-made land-cover types with aerial imagery. The Iowa DNR created 15 unique classes for this dataset to differentiate land covers. Refer to the legend for a breakdown of land-cover types within your community boundaries.

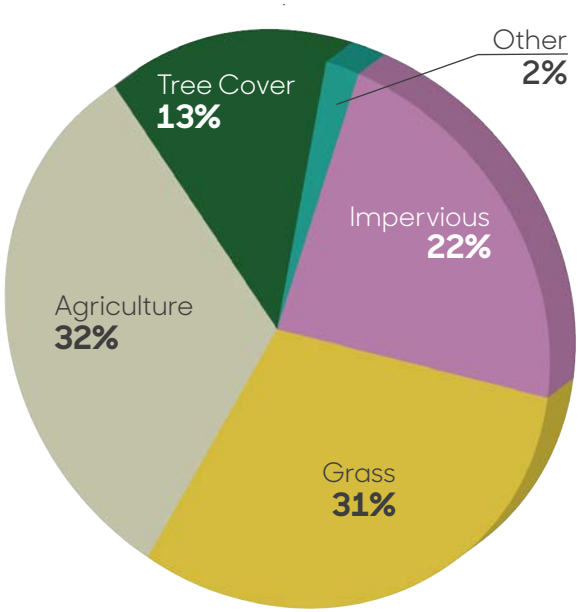
What do you observe about the dominant landcover types in your community?

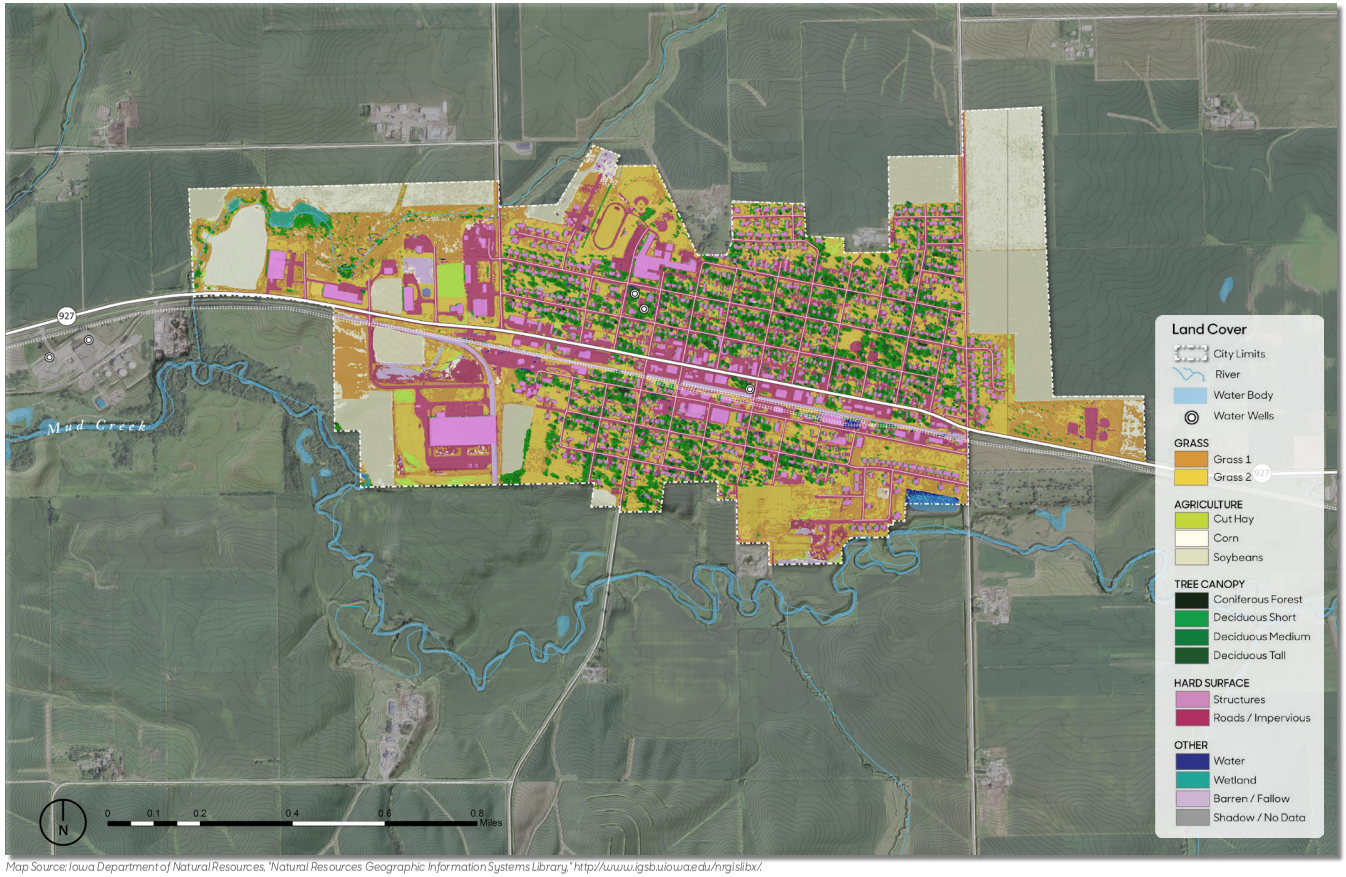
Where is the tree canopy most concentrated?

Look at how much of your community consists of impervious surfaces (e.g., parking lots, roads, buildings) compared to other surfaces (e.g., water, grass, and agriculture). What does this mean for surface-water movement?

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

Percent Land Cover Type





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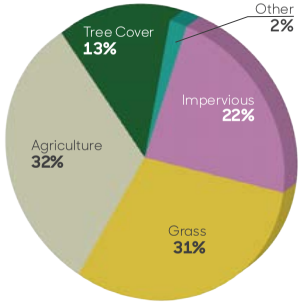

Percent Land Cover Type

Durant

Present-day Land Cover

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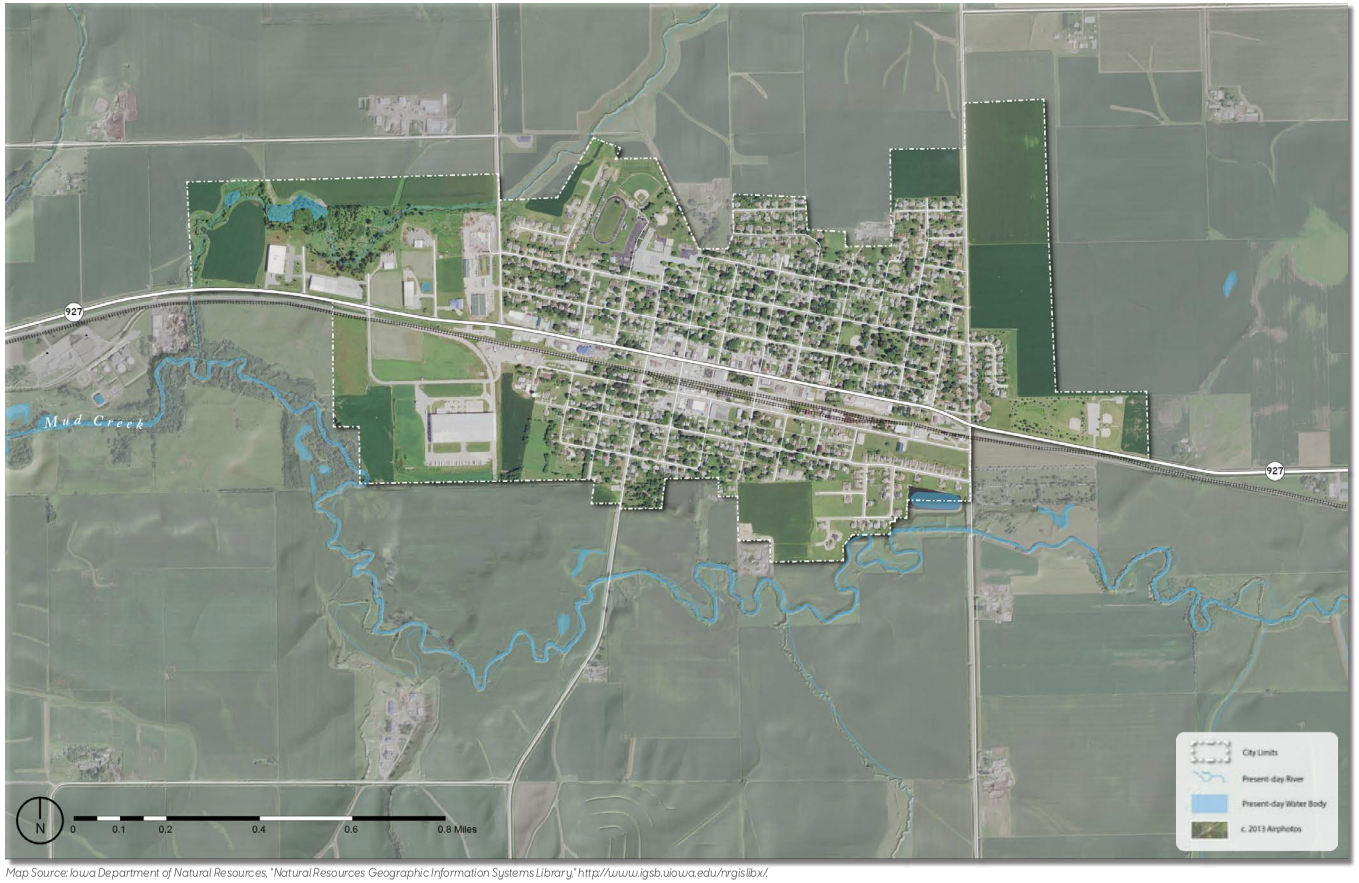
Present Day Vegetation

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

The map on board 2g (Present Day Vegetation) shows the present-day vegetation in an aerial image, indicating where trees, shrubs, and other plants create shade, line streets, buffer edges, and provide other services.

Notice how much the vegetation has been altered since government land office surveyors mapped the historic vegetation. People alter vegetation to produce crops and provide shelter, and for other amenities.

Also notice how the community and its vegetation have changed since the Andrea's Atlas was drawn. Development typically removes vegetation where infrastructure is built, and then re-introduces vegetation for its functional and aesthetic value.



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Present-day Vegetation

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Iowa's Living Roadways community visioning

Strategies for Using Native Plants

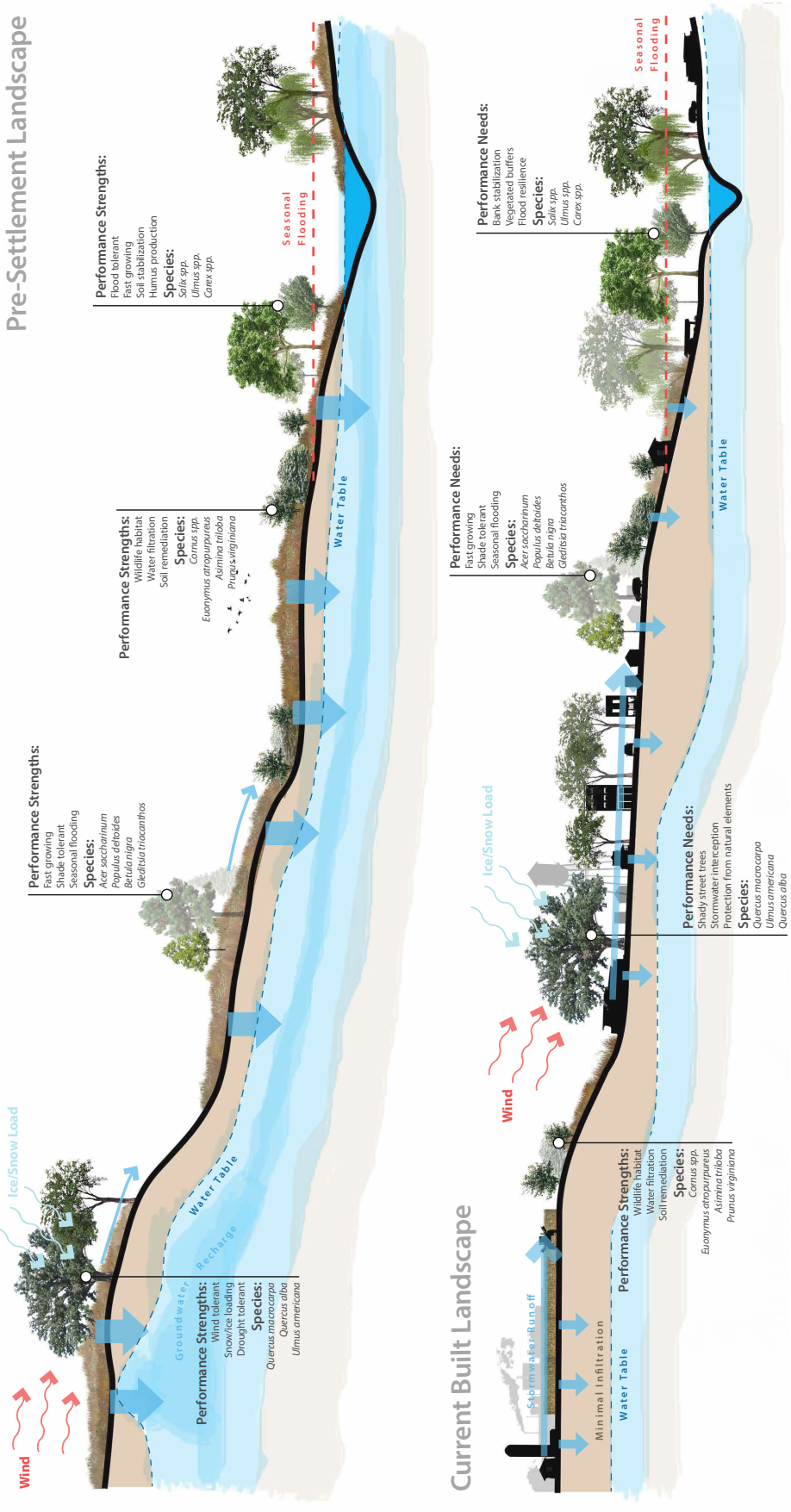
Pre-Settlement Landscape to Current Built Landscape

Prior to settlement, the landscape was comprised of native plant species that performed different functions. In addition, they grew on the landscape where they were best equipped to survive and thrive the climatic and soil conditions.

With settlement came the transformation of the landscape. Many of the native plants were cleared from the woodlands, prairies, and wetlands to make way for farming and development/urbanization. While the majority of our landscape has been transformed greatly since pre-settlement, our needs today can still be best met by planting native species in the correct landscape setting. In fact, it is critical to do so in order to help heal the function of our ecosystems back to health.

The following table lists some select species along with their pre-settlement function and the needs that these same species can satisfy in our current built landscape. The graphic on the following pages illustrates this as well.

Native Species	Pre-Settlement Landscape Preformance Strengths	Current Built Landscape Needs
Quercus macrocarpa *Quercus alba* *Ulmus Americana*	Wind Tolerant, Snow/Ice Loading and Drought Tolerant	Shady Street Trees, Stormwater Interception and Protection from Natural Elements
Acer saccharinum *Populus deltoides* *Betula nigra* *Gledisia triacanthos*	Fast Growing, Shade Tolerant, and Seasonal Flooding	Fast Growing, Shade Tolerant, and Seasonal Flooding
Cornus spp. *Euonymus atropupureus* *Asimina triloba* *Prunus virginiana*	Wildlife Habitat, Water Filtration, and Soil Remediation	Wildlife Habitat, Water Filtration, and Soil Remediation
Salix spp. *Ulmus spp.* *Carex spp.*	Flood Tolerant, Fast Growing, Soil Stabilization and Humus Production	Bank Stabiliziation, Vegetated Buffers, and Flood Resiliance


Pre-Settlement Landscape
Wind
Ice/Snow Load
Performance Strengths:
Wind tolerant
Snow/ice loading
Drought tolerant
Species:
Quercus macrocarpa
Quercus alba
Ulmus americana
Groundwater Recharge
Water Table
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.
Seasonal Flooding
Water Table
Current Built Landscape
Wind
Ice/Snow Load
Stormwater Runoff
Minimal Infiltration
Water Table
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.
Seasonal Flooding
Water Table

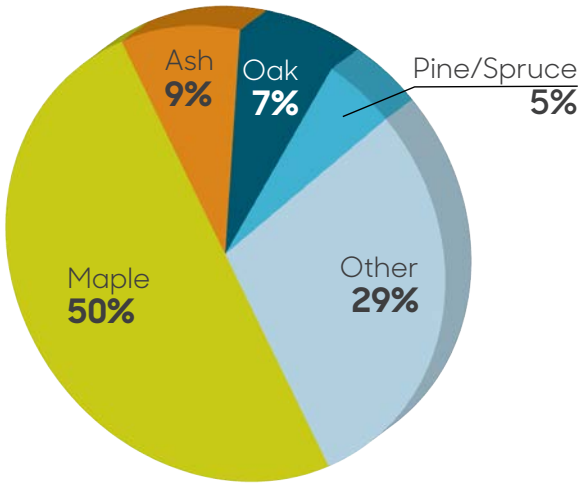
The Urban Forest

This map shown on board 2h (Urban Forest) depicts city-owned trees that have been surveyed by the Iowa Department of Natural Resources (Iowa DNR).[1] The trees are divided into three categories: healthy trees, hazard trees, and ash trees.

A yellow triangle indicates a "hazard" tree. The hazard designation reflects tree condition using the Iowa DNR's priority rating. Hazard trees are "dangerous, dead, or dying, and no amount of maintenance will increase longevity or safety;" or are infected by "insects, pathogens, or parasites."

A purple cross indicates an "ash" tree. They are under imminent threat from the Emerald Ash Borer (EAB), an invasive beetle that disrupts circulation in the tree resulting in the loss of tens of millions of ash trees in North America.[2] EAB was first discovered in Iowa in 2010 and was confirmed in 65 Iowa counties as of 2018.[3]

The graph below shows how many of the city's trees are of the same species. There is a strong possibility that 9% (ash trees) of Durant's city-owned trees will die once EAB reaches the area. With proper planning and management, the city can improve its canopy by planting suitable trees to gradually replace hazard and ash trees. Improving species diversity will create a more resilient urban forest.



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

2 Emerald Ash Borer the Green Menace, USDA Program Aid No. 1769, 2008, https://www.aphis.usda.gov publications/plant_health/content/printable_version/EAB-GreenMenace-reprint June09.pdf.

3 "Iowa Tree Pests website," Entomology and Plant Science Bureau of the Iowa Department of Agriculture and Land Stewardship (IDALS), last updated September 12, 2018, http://www.iowatreepests.com/eab_home.html.

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

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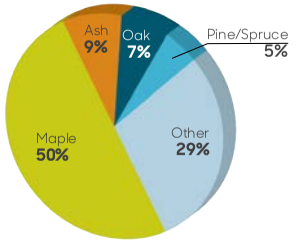

1. Iowa Department of Natural Resources Community Tree Inventories, http://www.iowadnr.gov/Conservation/Forestry/Urban-Forestry/Community-Tree-Inventories.
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3. "Iowa Tree Pests website," Entomology and Plant Science Bureau of the Iowa Department of Agriculture and Land Stewardship (IDALS), last updated September 12, 2018, http://www.iowatreepests.com/eab_home.html.

Durant
Urban Forest

Bioregional Context
Julia Badenhope, Riley Dunn, Emma Georgeff, Timothy Kerkhove, Clare Kiboko, Alysse Kirkman, Giannis Koutsou, Zoey Mauck, Abigail Schafer
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Transportation Assets and Barriers

Overview

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

In this participatory assessment, we want to find out which factors and conditions affect transportation use in Durant, 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 Durant'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 Durant residents with different transportation needs to participate in focus groups. A total of 102 residents attended Durant's workshop. Participants were separated into five user groups and the Durant steering committee.

Actives

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

Mobility Impaired

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

Older Adults

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

Youth

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

Parents

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

Steering Committee

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

Durant Cemetery is a great place for walking, running, and biking, and has great shade in the summertime.

The sidewalks on Main Street are uneven and are difficult to access from the street because of the two-step curb, especially with snow in the winter.

Accessible corners, parking and cleanliness is appreciated downtown.

Seventh Street has no sidewalks, and is an important connector for pedestrians, cyclists, and drivers.

Smooth shaded sidewalks are appreciated by kids and people who walk for exercise, as well as the mobility impaired.

Truck traffic sometimes blocks views of oncoming traffic on 5th Street.

What Factors Affect Transportation in Durant?

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

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Different Users = Different Needs

To capture insights about transportation from a variety of perspectives, we invited Durant residents with different transportation needs to participate in focus groups. A total of 108 residents attended Durant's workshop. Participants were separated into five user groups and the Durant steering committee.

Active Adults

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

Mobility Impaired

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

Older Adults

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

Youth

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

Parents

(23 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

(9 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.

Durant
Overview

Transportation Assets and Barriers Analysis
Julia Badenhope, Sandra Oberbroeckling, Riley Dunn, Alysse Kirkman, Zoey Mauck, Zach Rupprecht, Wei Zhang

Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

What People Said

"Because of all the fir trees [in the cemetery], it doesn't get much sun so [snow] doesn't melt off much...it's usually icier than anywhere else in the winter."

"...there's some older sidewalks in town... that are heaved up, uneven, so you've really got to watch your step on them."

"There are streets that, if it's hot...are shadier...you can...say, 'Oh, I'm going to hit that street, it's got more shade'...lots of trees [on] 6th, 7th Street."

"...we're pretty lucky. I think we have pretty good street cleaning and clearing here..."

"...we do a lot of running just around town, and also in the cemetery... particularly in the summer; there's more shade there probably than anywhere else in town."

"...on the south side [of 5th Street] there's always a huge puddle there that... turns into an ice sheet in the winter."

Actives

"I get my grandkids after school each day and I take a stroller...some of the sidewalks are horrendous... the poor little guy in the stroller, when I hit some of those spots on the sidewalk—not good."

"For a number of years I've had a vision of having a walking path all the way around town."

"There are some dark areas on third street...I know if I'm driving on it there will be people ...walking in the street or biking in the street."

"If I want to have a leisurely walk or take my bike somewhere nice, I'll go to the cemetery."

"I probably drive more than I should.... It's because of the ice. I'm afraid I'm going to fall, even walking a block to church..."

"My whole street doesn't have sidewalks either. I don't really want a sidewalk in my front yard, but, you know what, I'll abide by it because I understand the need for them."

Older Adults

"[The intersection of 6th Avenue and 5th Street], that's the one you are most vulnerable feeling.... there are cars on all sides, people.... a lot of traffic, you're not being seen."

"...in my wheelchair going to Jeff's or the drugstore or the doctor's office there on Main Street, it's...very difficult because the sidewalks are... so damaged."

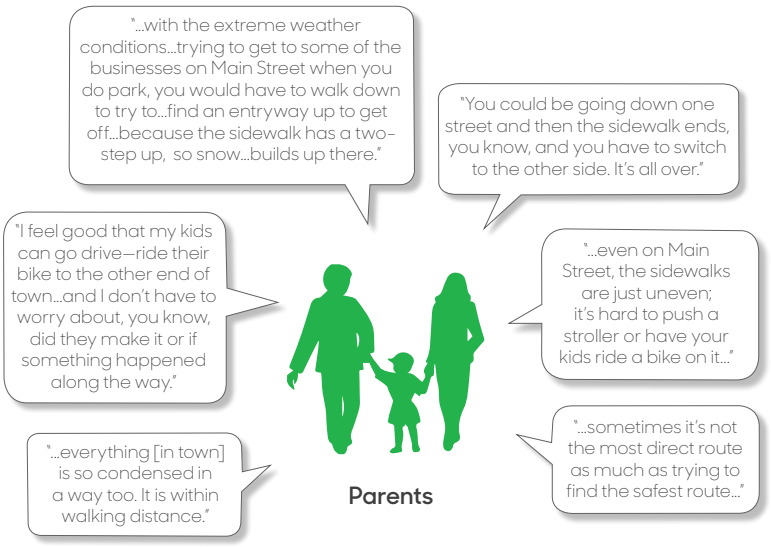
"That sidewalk up [in the park] is really nice and smooth and wide."

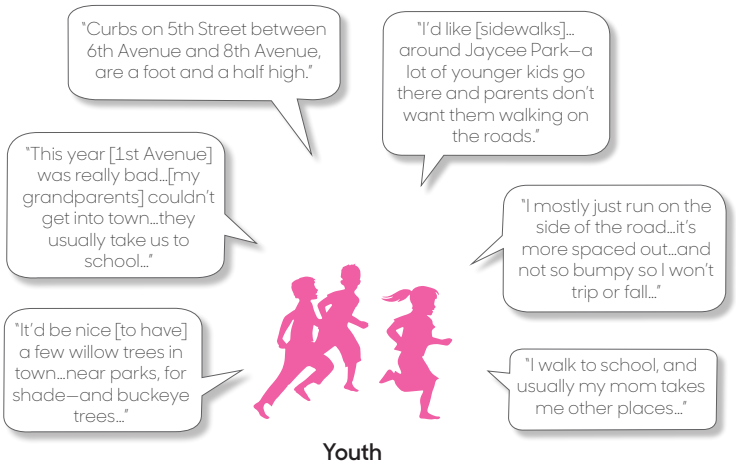
"Up until two years ago I rode [my] bicycle all over town."

"...there [are] a lot of areas where the lighting's pretty poor. You wouldn't go out [after dark]."

"It's just a little curb, it's not very big, but when you don't have balance and you don't have a railing, it's a big deal."

Mobility Impaired


"...with the extreme weather conditions...trying to get to some of the businesses on Main Street when you do park, you would have to walk down to try to...find an entryway up to get off...because the sidewalk has a two-step up, so snow...builds up there."
"You could be going down one street and then the sidewalk ends, you know, and you have to switch to the other side. It's all over."
"I feel good that my kids can go drive–ride their bike to the other end of town...and I don't have to worry about, you know, did they make it or if something happened along the way."
"...even on Main Street, the sidewalks are just uneven; it's hard to push a stroller or have your kids ride a bike on it..."
"...everything [in town] is so condensed in a way too. It is within walking distance."
"...sometimes it's not the most direct route as much as trying to find the safest route..."
Parents


"Curbs on 5th Street between 6th Avenue and 8th Avenue, are a foot and a half high."
"I'd like [sidewalks]... around Jaycee Park–a lot of younger kids go there and parents don't want them walking on the roads."
"This year [1st Avenue] was really bad...[my grandparents] couldn't get into town...they usually take us to school..."
"I mostly just run on the side of the road...it's more spaced out...and not so bumpy so I won't trip or fall..."
"It'd be nice [to have] a few willow trees in town...near parks, for shade–and buckeye trees..."
"I walk to school, and usually my mom takes me other places..."
Youth


"Semis will sometimes park in front of Jeff's or the Creamery... and even if you are running or walking, you cannot see if there is a car coming..."
"I do not let my youngest cross 5th on a bike...I don't know if there's a way to make an intersection for bikers or walkers or joggers...[to be more visible]."
"During the hot summer we will choose a path underneath shade trees, and there [are] a lot of stretches where there's no shading or walkways..."
"In the mornings, before and after school... on 7th Street there are no sidewalks. Buses go through, and kids are trying to walk to school on the road."
"We have a mile and a half trail...we have geese and herons and turtles and fox and deer....and all different kinds of plants. We have milkweed, so we get the monarch butterflies. It's not public but I see other people there."
"Everyone on the south side of Highway 6 with kids has got to find their way across to get to [Jaycee] Park."
Steering Committee

Emerging Themes

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

Actives walk, drive, and bike regularly, either as part of a daily commute or as recreational/sports training. They especially appreciate well-connected walkways and trails. Seasonal barriers-ice, snow, etc.-disrupt recreational activity.

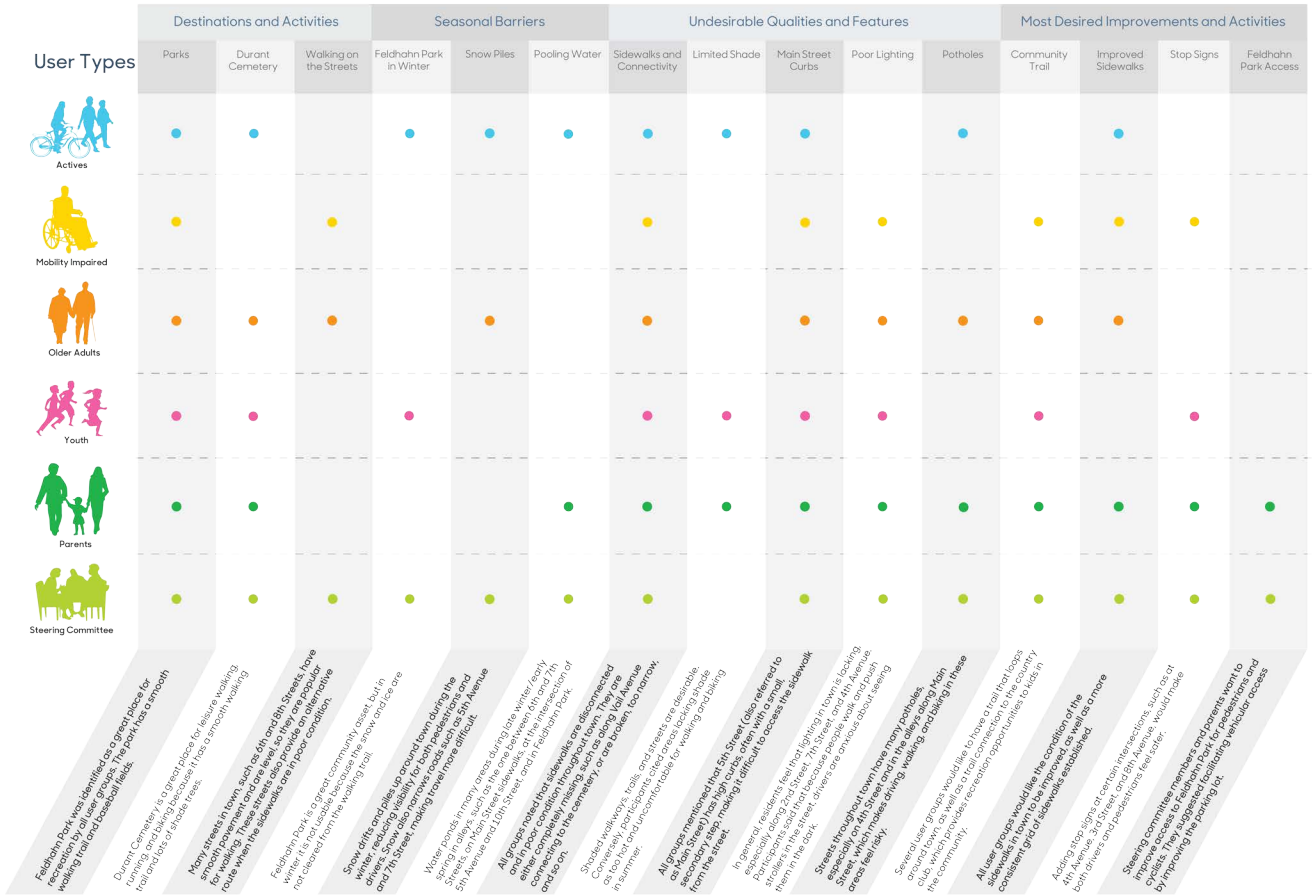
Mobility-impaired individuals walk, bike and drive to get around town. They miss curb cuts and continuous sidewalks when absent. Poor lighting and visibility at intersections cause anxiety. Busy paths, such as at the cemetery, make safe passage challenging because of limited space.

Older adults enjoy and appreciate newly paved streets and wish more streets and sidewalks were smoother. High curbs without curb cuts are barriers in some places. This group feels that adding lighting and benches would be helpful to facilitate visibility and rest while walking.

Youth walk, bike, and are learning to drive in town. They use alleys, which "become swamps" in spring. Youth would like more stop signs, connected pathways to school and to the cemetery, and more shade in town.

Parents walk, bike, and drive. They value the feeling of security in a small town. They would like better walking and biking connections and enhanced trails around town. Parents would also like more stop signs and better parking at recreation sites.

Steering committee members would like to support local quality of life and access to important services and experiences. They would like a safe walking trail to the school, a walking connections to the cemetery, lighting, and shade. Entryways are also important to make Durant visible.



Actives drive, walk, bike, and run regularly either as part of a daily commute or for recreational/sports training. They especially appreciate well-connected walkways and trails. Seasonal barriers—ice, snow, etc.—disrupt recreational activity.

Mobility-impaired individuals walk, bike, and drive to get around town. They miss curb cuts and continuous sidewalks when absent. Poor lighting and visibility at intersections cause anxiety. Busy paths, such as at the cemetery, make safe passage challenging because of limited space.

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Parents walk, bike, and drive. They value the feeling of security in a small town. They would like better walking and biking connections and enhanced trails around town. Parents would also like more stop signs and better parking at recreation sites.

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Durant

Emerging Themes

Transportation Assets and Barriers

Julia Badenhope, Sandra Oberbroeckling, Riley Dunn, Alysse Kirkman, Zoey Mauck, Zach Rupprecht, Wei Zhang

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Iowa's Living Roadways community visioning

The sidewalks on Main Street are uneven and are difficult to access from the street because of the two-step curb, especially with snow in the winter.

Seventh Street has no sidewalks, and is an important connector for pedestrians, cyclists, and drivers.

Truck traffic sometimes blocks views of oncoming traffic on 5th Street.

Durant Cemetery is a great place for walking, running, and biking, and has great shade in the summertime.

Accessible corners, parking and cleanliness is appreciated downtown.

Smooth shaded sidewalks are appreciated by kids and people who walk for exercise, as well as the mobility impaired.

Analysis of Barriers

Barriers identified by the various user groups included:

- Snow and ice on the trail in Feldhan Park is not removed during the winter which makes it unable to be used during the winter.

- Snow drifts and piles of snow around town during the winter reduces visibility for both pedestrians and drivers. Snow also narrows roads such as 5th Avenue and 7th Street, making travel more difficult.

- Water ponds in many areas during late winter/early spring in alleys, such as the one between 6th and 7th Streets, on Main Street sidewalks, at the intersection of 5th Avenue and 10th Street, and in Feldhan Park.

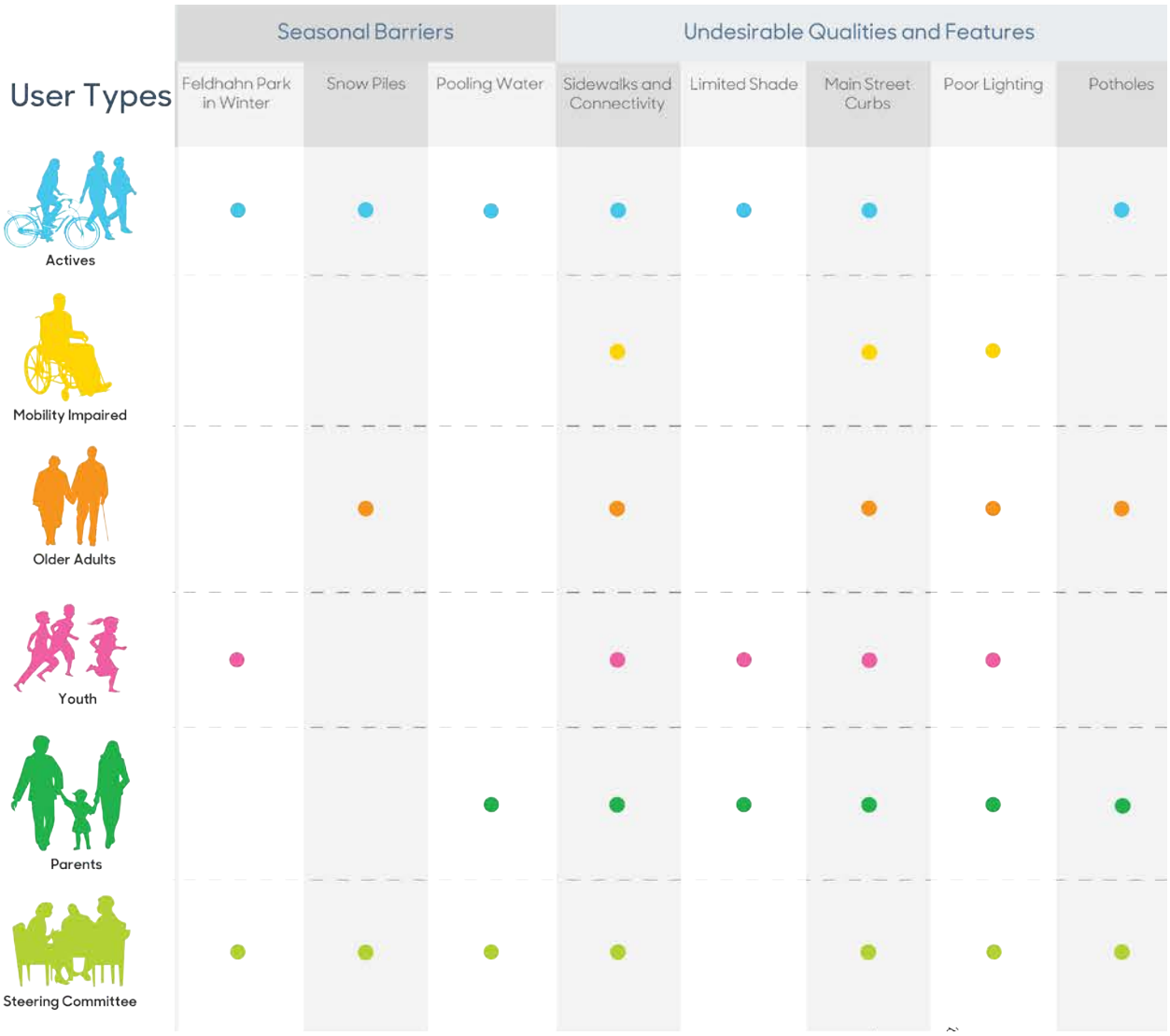
- Sidewalks are disconnected and in poor condition throughout town. They are either completely missing, such as along Vail Avenue connecting to the cemetery, or are broken, too narrow, and so on.

- Many areas lack shade making it too hot and uncomfortable for walking and biking in the summer.

- Main Street (5th Street) has high curbs, often with a small, secondary step, making it difficult to access the sidewalk from the street.

- Lighting in town is lacking, especially along 2nd Street, 7th Street, and 4th Avenue. The lack of sufficient lighting, as well as poor/lack of sidewalks, forces people to walk and push strollers in the street which makes drivers anxious about seeing them in the dark.

- Streets throughout town have many potholes, especially on 4th Street and in the alleys along Main Street, which makes driving, walking and biking in these areas feel risky.


Seasonal Barriers
Undesirable Qualities and Features
User Types
Feldhahn Park in Winter
Snow Piles
Pooling Water
Sidewalks and Connectivity
Limited Shade
Main Street Curbs
Poor Lighting
Potholes
Actives
Mobility Impaired
Older Adults
Youth
Parents
Steering Committee

Analysis of Assets

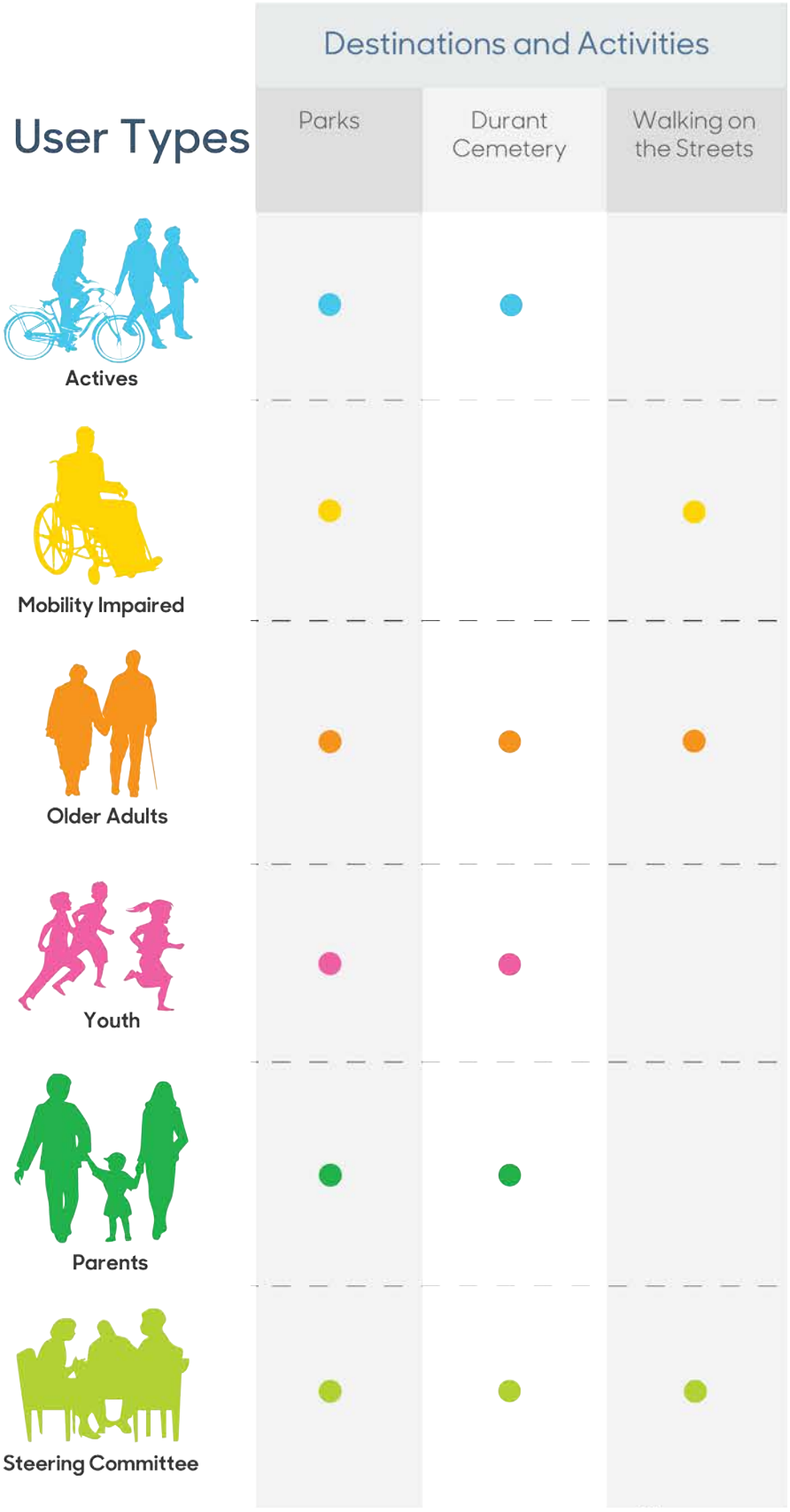
The user groups identified community assets based on their destinatons and activities. The matrix on the following page llustrates the assets identified by the various user groups.

The assets are summarized as follows:

- Feldhan Park was identified as a great place for recreation by all user groups. The park has a smooth walking trail and baseball fields.

- Durant Cemetery is a great place for leisure walking, running, and biking because it has a smooth walking trail and lots of shade trees.

- Many Streets in town, such as 6th and 8th Streets, have smooth pavement and are level, so they are popular for walking. These streets also provide an alternative route when sidewalks are in poor condition.


Destinations and Activities
User Types
Parks
Durant Cemetery
Walking on the Streets
Actives
Mobility Impaired
Older Adults
Youth
Parents
Steering Committee

Desired Improvements

During the workshop the user groups were asked to state their most desired improvements. The matrix shown on the following page illustrates the desired improvement identified by each user group.

Following is a summary:

- Several user groups would like to have a trail that loops around town, as well as a trail connection to the country club, which provides recreational opportunities to kids in the community.

- All user groups would like the condition of the sidewalks in town to be improved, as well as a more consistent grid of sidewalks established.

- Adding stop signs at certain intersections, such as at 4th Avenue, 3rd Street, and 8th Avenue, would make both drivers and pedestrians feel safer.

- Steering committee members and parents want to improve access to Feldhan Park for pedestrians and cyclists. They suggested facilitating vehicular access by improving the parking lot.

User Types	Most Desired Improvements and Activities			
	Community Trail	Improved Sidewalks	Stop Signs	Feldhahn Park Access
 Actives		●		
 Mobility Impaired	●	●	●	
 Older Adults	●	●		
 Youth	●		●	
 Parents	●	●	●	●
 Steering Committee	●	●	●	●

Transportation Behaviors and Needs

Overview

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

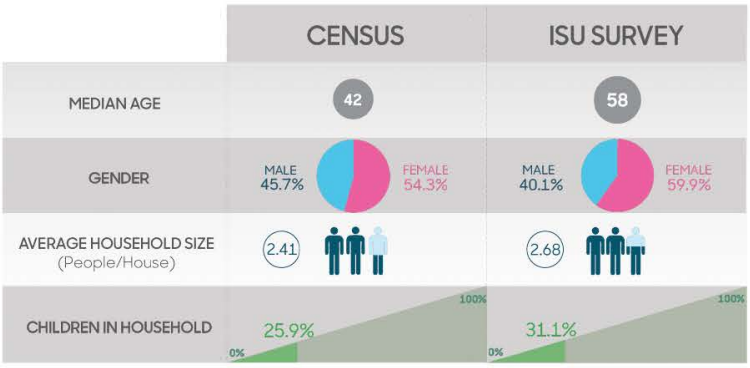
The modes of transportation that residents use and the routes they take suggest suitable types of transportation enhancements in these areas. Having a sense for people's willingness to help either financially or with their time is important because many transportation enhancements are funded from multiple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

With assistance from Iowa State University's Survey Research Services staff in the Center for Survey Statistics and Methodology (CSSM-SRS), ISU visioning program staff conducted a survey to better understand the transportation patterns, behaviors, needs, and desires of Durant residents. Surveys were mailed to 300 randomly selected residents living in Durant and the surrounding area. To increase the response rate, the study was publicized through the local media and follow-up packets were mailed to nonrespondents. With adjustments for ineligible respondents (e.g., incorrect addresses, no longer living in the community), the final sample size was 270. A total of 150 people returned surveys, for a response rate of 55.6%. (A response rate of 20% is considered valid.)

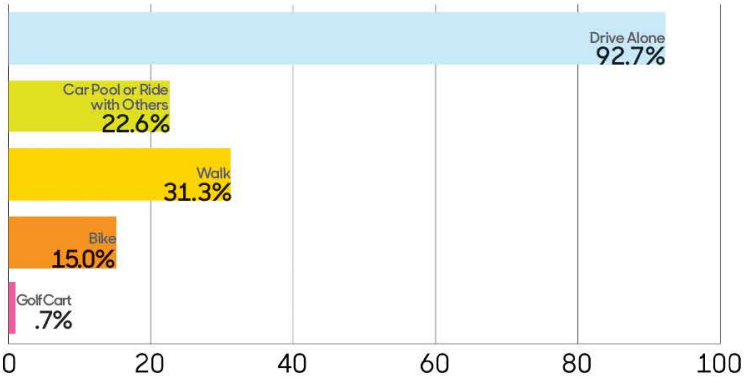
We asked survey recipients what routes they use most often for going to work and walking. In addition, we asked what qualities and features are important to cyclists and trail users. We also discovered what residents think is most important in terms of transportation enhancements that address issues such as accessibility, mobility, and safety. Finally, we learned whether or not residents are willing to contribute their time or their financial resources to making enhancements to Durant. This series of boards summarizes the results of the survey as follows:

- Willingness to Help
- Enhancement Priorities
- Commuting Routes
- Walking Routes
- Desired Qualities

The demographics of the respondents are somewhat different from those obtained from the 2017 American Community Survey Five-Year Estimate. For example, the survey respondents median age of 58 is significantly older than the 2017 estimated average age for Durant residents of 42. In terms of gender, the percentage of female survey respondents is slightly higher than that of the census. Average household size and number of children in the household among survey respondents are slightly higher than the 2017 estimates.



Most survey respondents drive to important destinations such as the convenience store, the post office, school, and church (92.7%). More than 22% car pool or ride with someone else. Some people indicated that they walk or bike, but the primarymode of transportation in Durant is by vehicle.



Why Do A Survey?

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

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

How Is It Done?

With assistance from Iowa State University's Survey Research Services staff in the Center for Survey Statistics and Methodology (CSSM-SRS), ISU visioning program staff conducted a survey to better understand the transportation patterns, behaviors, needs, and desires of Durant residents. Surveys were mailed to 300 randomly selected residents living in Durant and the surrounding area. To increase the response rate, the study was publicized through the local media and follow-up packets were mailed to nonrespondents. With adjustments for ineligible respondents (e.g., incorrect addresses, no longer living in the community), the final sample size was 270. A total of 150 people returned surveys, for a response rate of 55.6%. (A response rate of 20% is considered valid.)

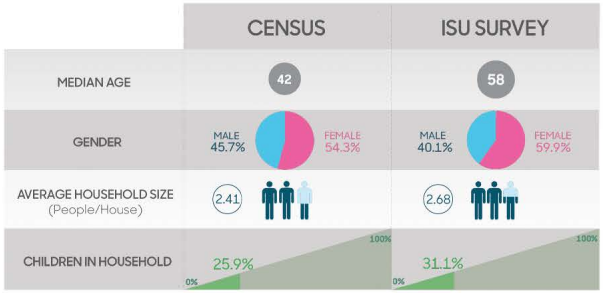
What Did We Find Out?

We asked survey recipients what routes they use most often for going to work and walking. In addition, we asked what qualities and features are important to cyclists and trail users. We also discovered what residents think is most important in terms of transportation enhancements that address issues such as accessibility, mobility, and safety. Finally, we learned whether or not residents are willing to contribute their time or their financial resources to making enhancements to Durant. This series of boards summarizes the results of the survey as follows:

- Willingness to Help
- Enhancement Priorities
- Commuting Routes
- Walking Routes
- Desired Qualities

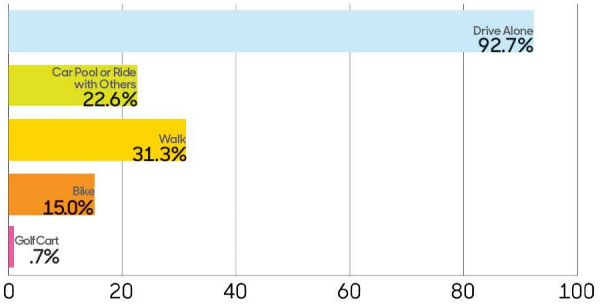
How Did We Do?

The demographics of the respondents are somewhat different from those obtained from the 2017 American Community Survey Five-Year Estimate. For example, the survey respondents median age of 58 is significantly older than the 2017 estimated average age for Durant residents of 42. In terms of gender, the percentage of female survey respondents is slightly higher than that of the census. Average household size and number of children in the household among survey respondents are slightly higher than the 2017 estimates.



How Do Durant Residents Travel?

Most survey respondents drive to important destinations such as the convenience store, the post office, school, and church (92.7%). More than 22% car pool or ride with someone else. Some people indicated that they walk or bike, but the primary mode of transportation in Durant is by vehicle.



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

Durant

Overview

Transportation Behavior and Needs Survey

Julia Badenhope, Sandra Oberbroeckling

Iowa State University | Trees Forever | Iowa Department of Transportation

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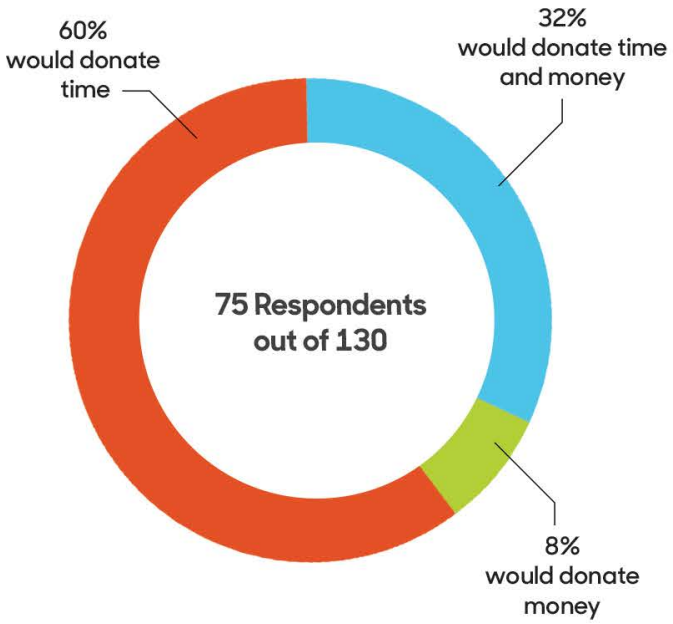
Willingness To Help

Most survey participants who answered this question are willing to contribute their time to community improvements (60%), while 32% would contribute their time and talent. Eight percent of respondents indicated that they would be willing to contribute financially.

Compared to other small towns in Iowa, Durant residents are more willing to become involved in improving their community. In 2014, on average, 43% of residents in small, rural towns volunteered to help with a community project.[1] Durant exceeds this average by 14%.



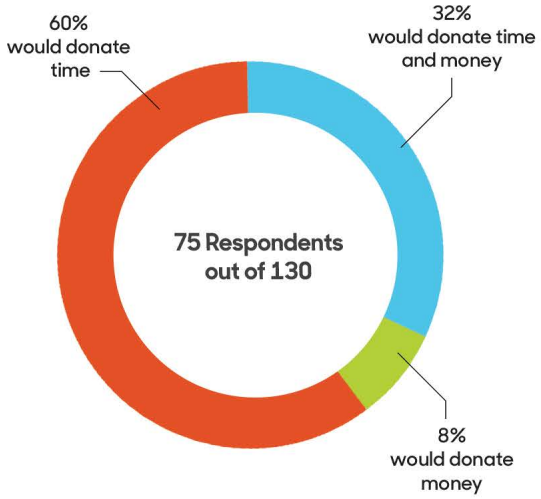
In 2014, the most common reason residents in small-town Iowa said they didn't become involved in community projects is that no one asked them (34%). Twenty-eight percent on average said that they don't have time, which is significantly lower than the 2004 average of 59%. Sixteen percent indicated that they didn't know how to become involved, and 7% said that no community project needed volunteers.[1]

These results indicate that the best ways to get people involved in community projects is to simply ask, along with advertising opportunities through traditional and social media outlets.

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

ARE PEOPLE WILLING TO HELP?

More than 57% said YES!



Willingness to implement change

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WHAT DID PEOPLE SAY?

Survey Participants Said...

"It would be awesome to have a bike trail running from Durant to Wilton. I would use it and know others [who] would."

"We appreciate the efforts to better the community."

"Improved sidewalks on Main Street [would] help with using a stroller when doing errands and would help those in wheelchairs."

HOW DO YOU GET PEOPLE TO HELP?

Ask, Show, and Advertise Opportunities

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

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Durant
Willingness to Help

Transportation Behavior and Needs Survey
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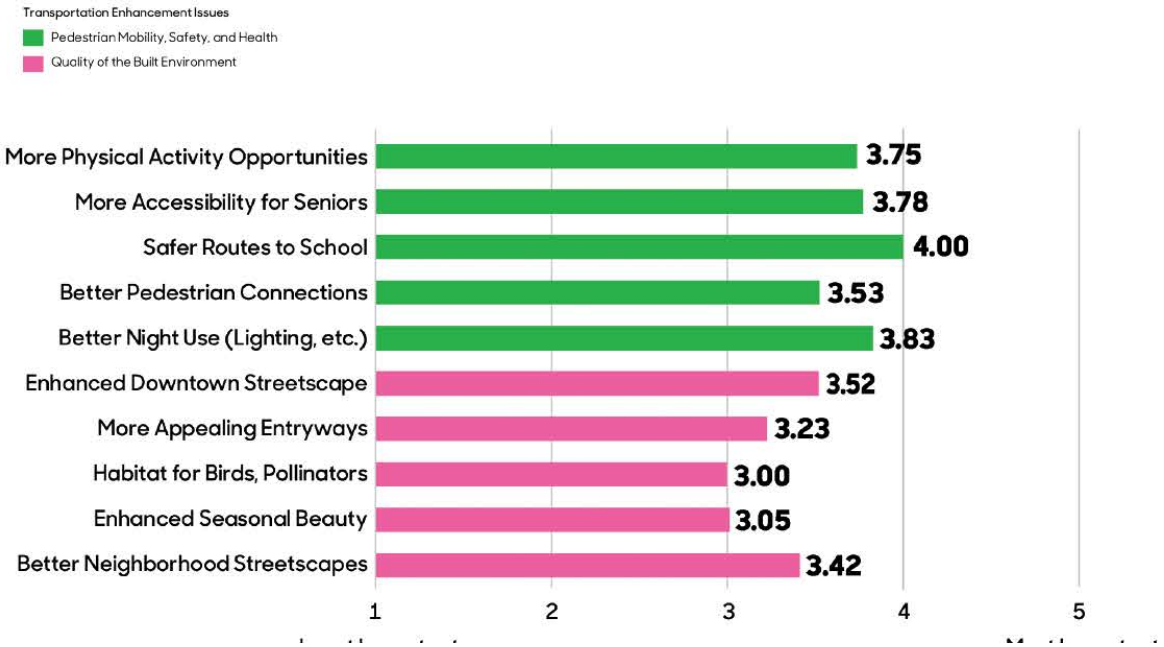
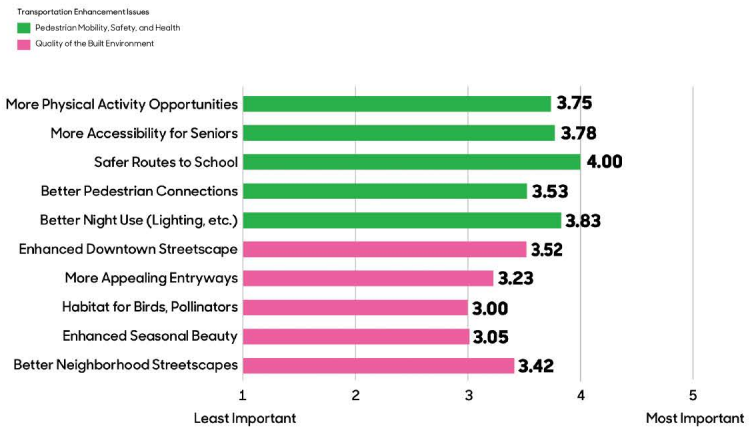
Priorities

On a scale of 1 to 5, with 5 being the most important, participants in Durant ranked creating safer routes to school as most important, with a mean value of 4.00. Other types of transportation enhancements that address pedestrian mobility, health, and safety are also considered important, such as providing better lighting for night use (3.83), more accessibility for seniors (3.78), and more opportunities for physical activity (3.75). In terms of quality of the built environment, survey respondents consider enhanced downtown streetscape as most important (3.52), followed by better neighborhood streetscapes (3.42) and more appealing entryways (3.23). These findings are consistent with the views expressed by focus group participants during the Transportation Assets and Barriers workshop held in March 2019.



WHAT TYPES OF ENHANCEMENTS ARE IMPORTANT?

Mobility, Safety, and Health!



Importance of transportation enhancement by type (118 responses)

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WHAT DID THEY SAY?

Survey Participants Said...

"It is very dark in mornings and evenings."

"...if [the sidewalks] were good, it [would feel] more safe and comfortable walking. ...new streets are too wide, causing faster traffic."

"Kids have to walk on a busy road to school. [There is] no sidewalk for half of it."

"You can't push a stroller on cracked sidewalks. Some roads don't have sidewalks."

Durant
Priorities

Transportation Behavior and Needs Survey

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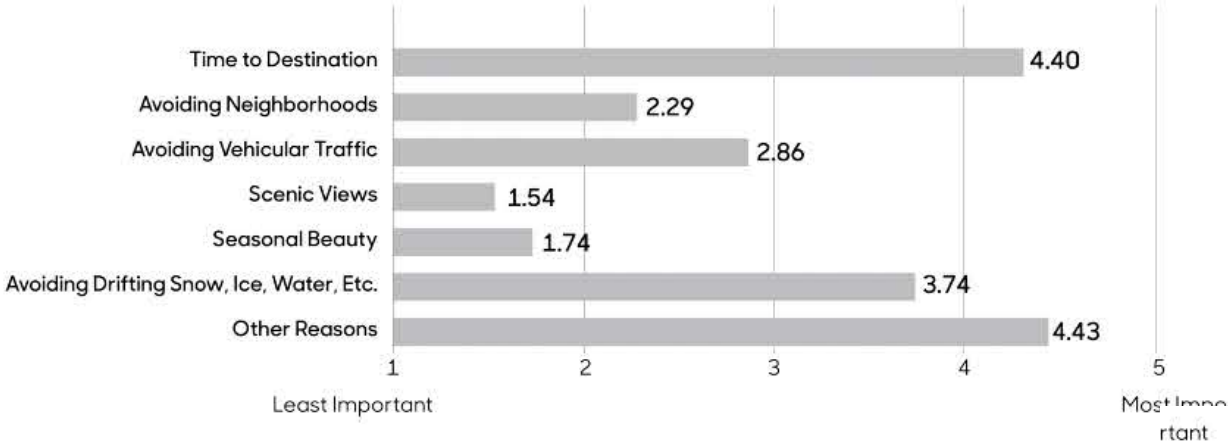
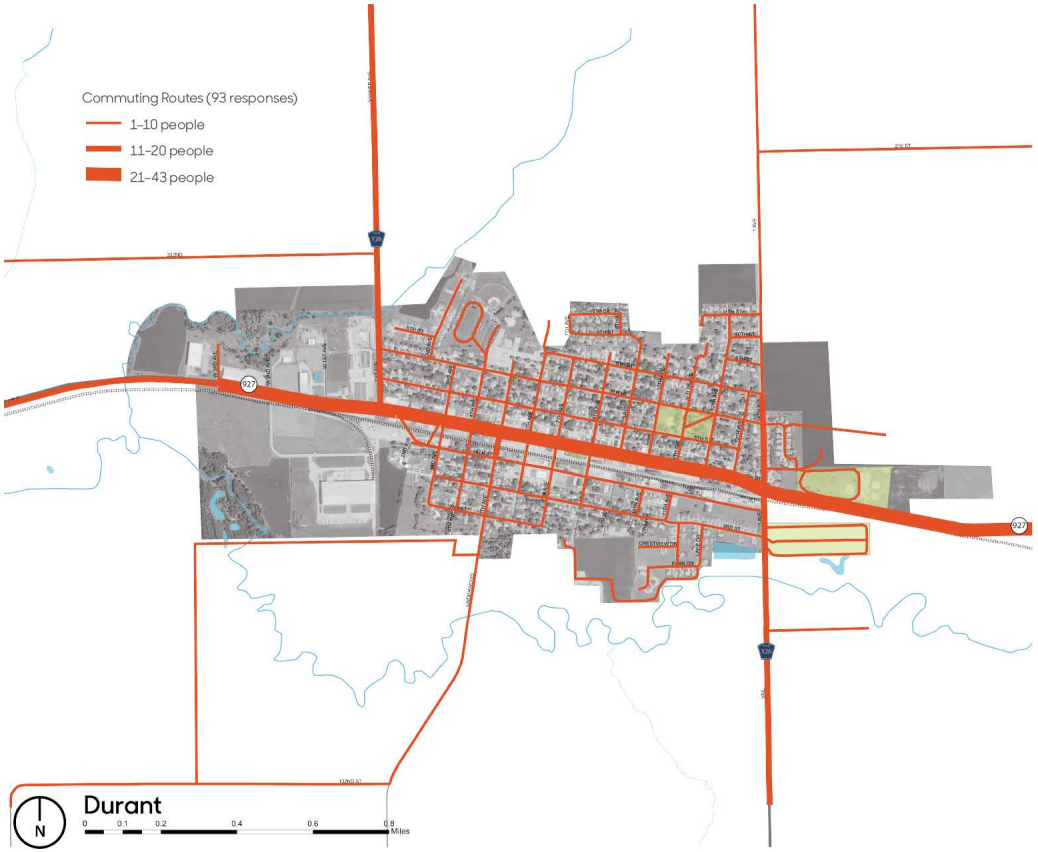
Commuting Routes

The map on board 4d shows the commuting routes identified by 93 survey respondents. The frequency that the routes are used is depicted by their width, with most frequently used routes being the thickest. The primary commuting corridor in Durant is Highway 927 (old US 6) east and west. Some people also go north and south on County Road Y26. In town, most of the city streets are used to get to work.

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

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that factored into their choice of commuting route. Among Durant participants, other reasons such as avoiding school zones, avoiding trains, and avoiding bad streets are the most important factors, with a mean value of 4.43, followed by time to destination (4.40). Avoiding weather-related issues such as snow and ice is also considered important, with a mean value of 3.74. Scenic views, seasonal beauty, and avoiding neighborhoods are not critical factors in determining commuting routes.





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

How They Get There

This map shows the commuting routes identified by 93 survey respondents. The frequency that the routes are used is depicted by their width, with most frequently used routes being the thickest. The primary commuting corridor in Durant is Highway 927 (old US 6) east and west. Some people also go north and south on County Road Y26. In town, most of the city streets are used to get to work.

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Why They Go That Way

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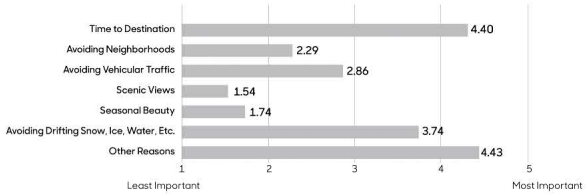


Durant
Commuting Routes

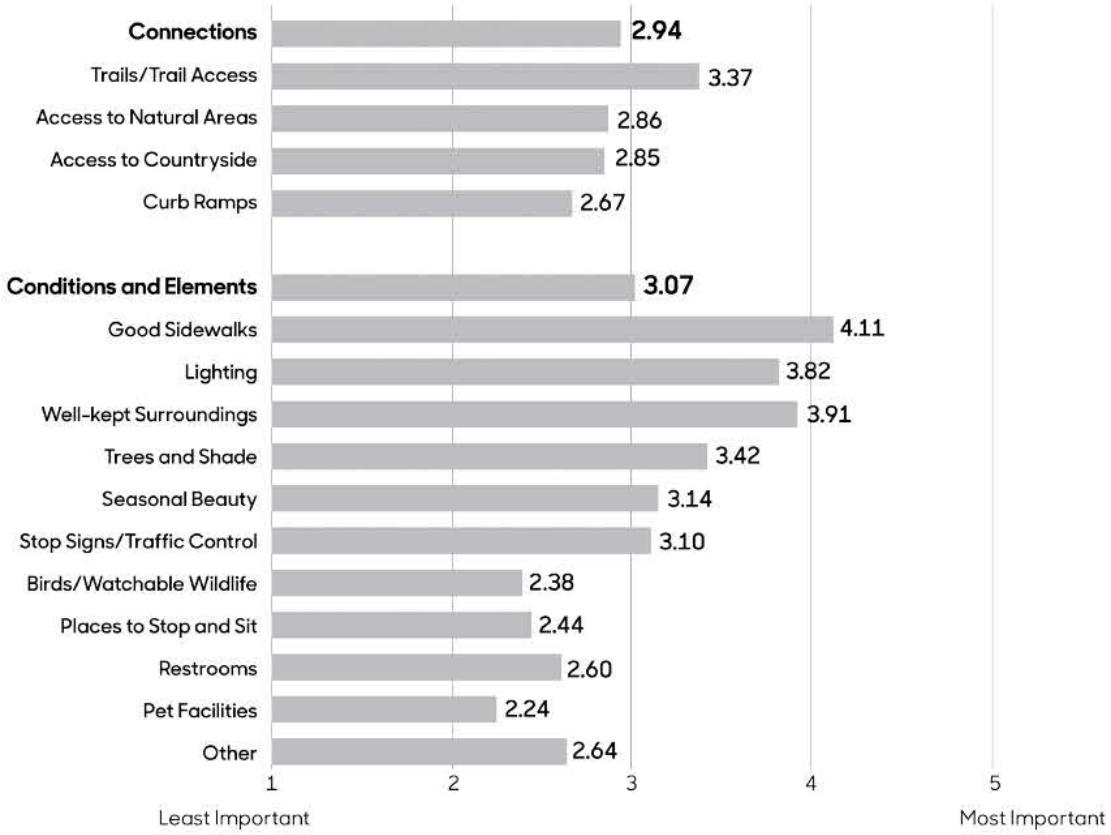
Transportation Behavior and Needs Survey
Julia Badenhope and Sandra Oberbroeckling
Iowa State University | Trees Forever | Iowa Department of Transportation

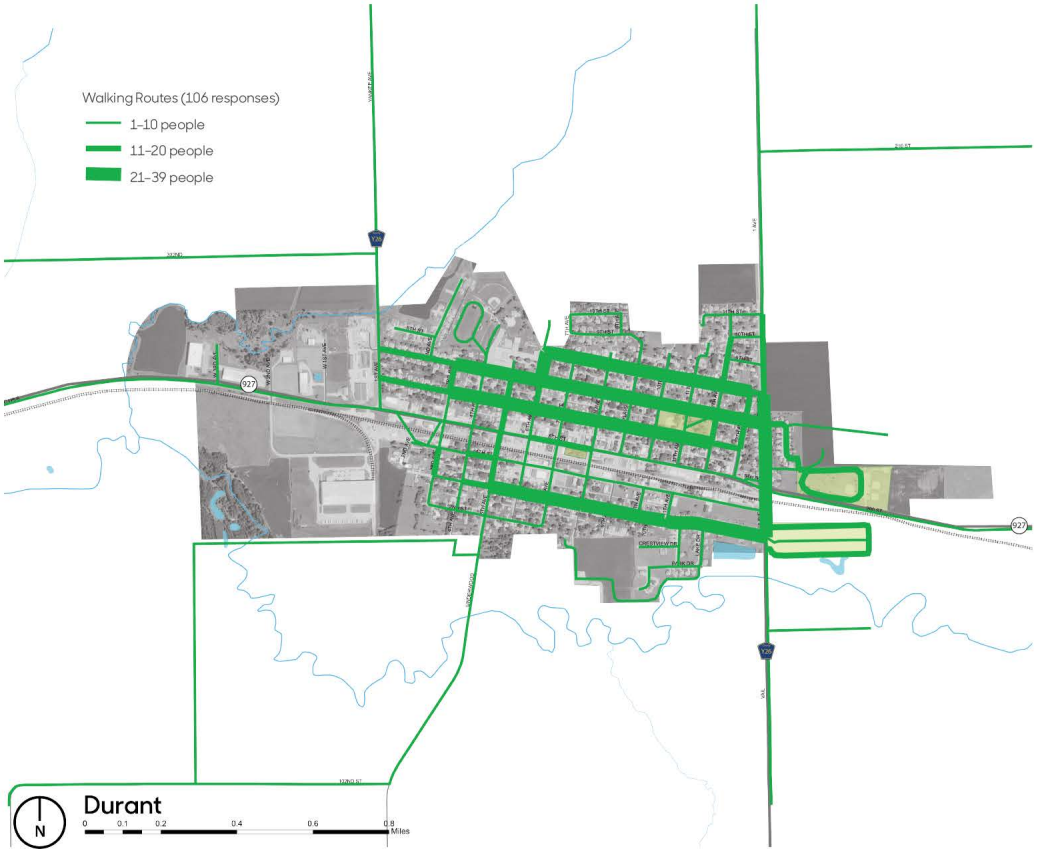
Iowa's Living Roadways community visioning

Walking Routes

The map on board 4e shows the walking routes identified by 106 survey respondents. The frequency that the routes are used is depicted by their width, with most frequently used routes being the thickest. Survey respondents identified 3rd, 6th, 7th, and 8th Streets as popular east-west routes, as well as Cedar Scott Road running north-south. People also frequently walk in the cemetery. Some people walk around the school track.

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their walking experience better. These features are categorized as either "connections" or "conditions and elements." Among Durant participants, conditions/elements are of somewhat more important than connections, with mean values of 3.07 and 2.94, respectively. In terms of connections, access to trails is most important with a mean value of 3.37. Good sidewalks (4.11) are the most important element to walkers, followed by well-kept surroundings (3.91) and lighting (3.82). Other significant factors include trees and shade (3.42) and seasonal beauty (3.14).





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

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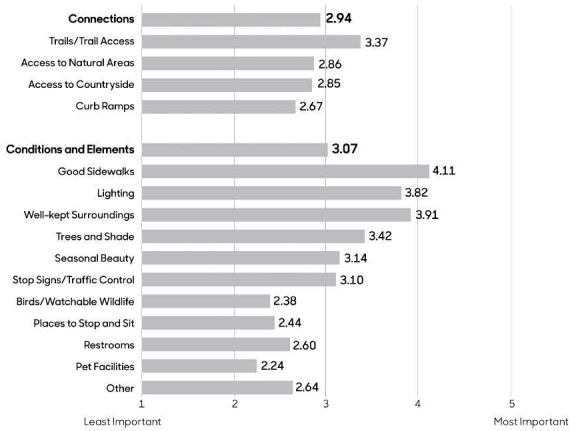

Durant
Walking Routes

Transportation Behavior and Needs Survey
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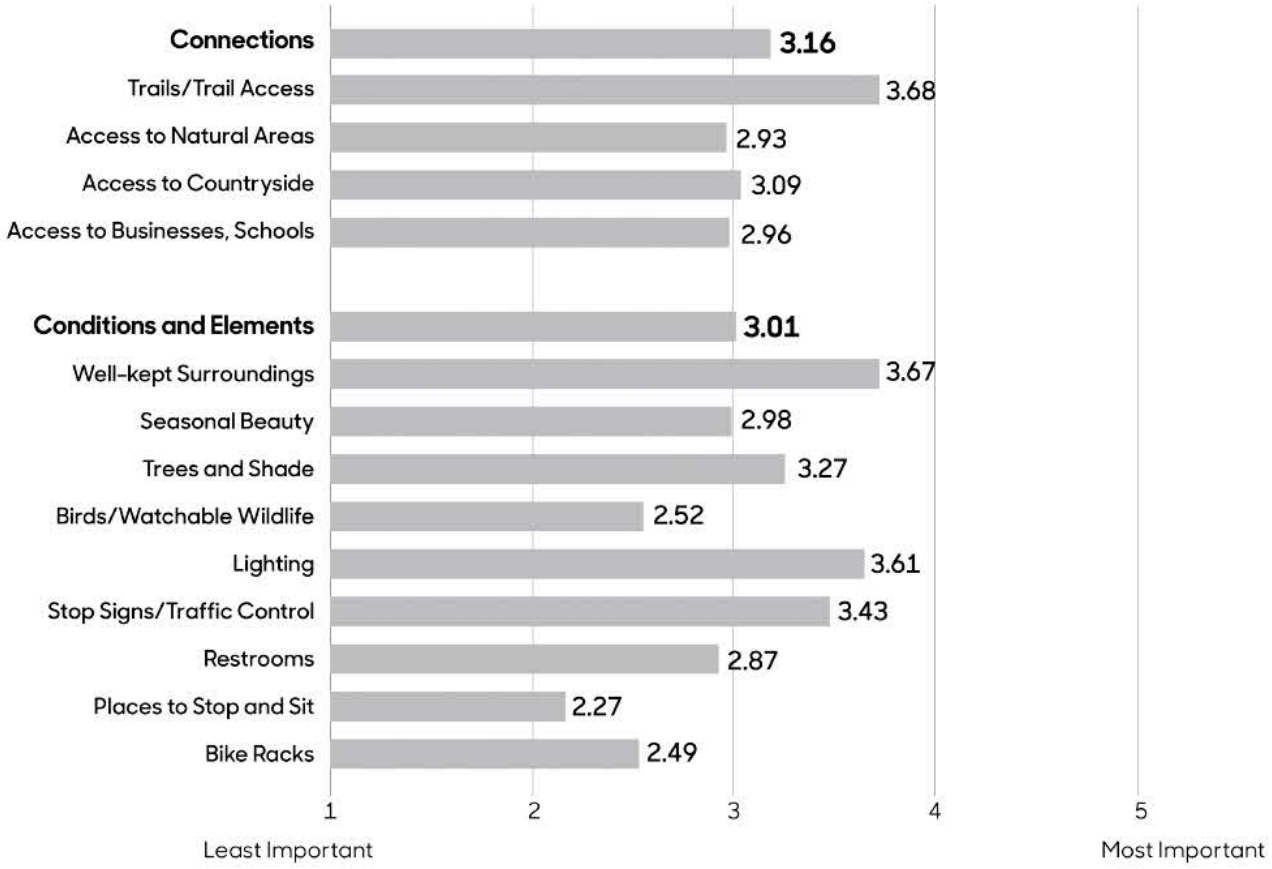
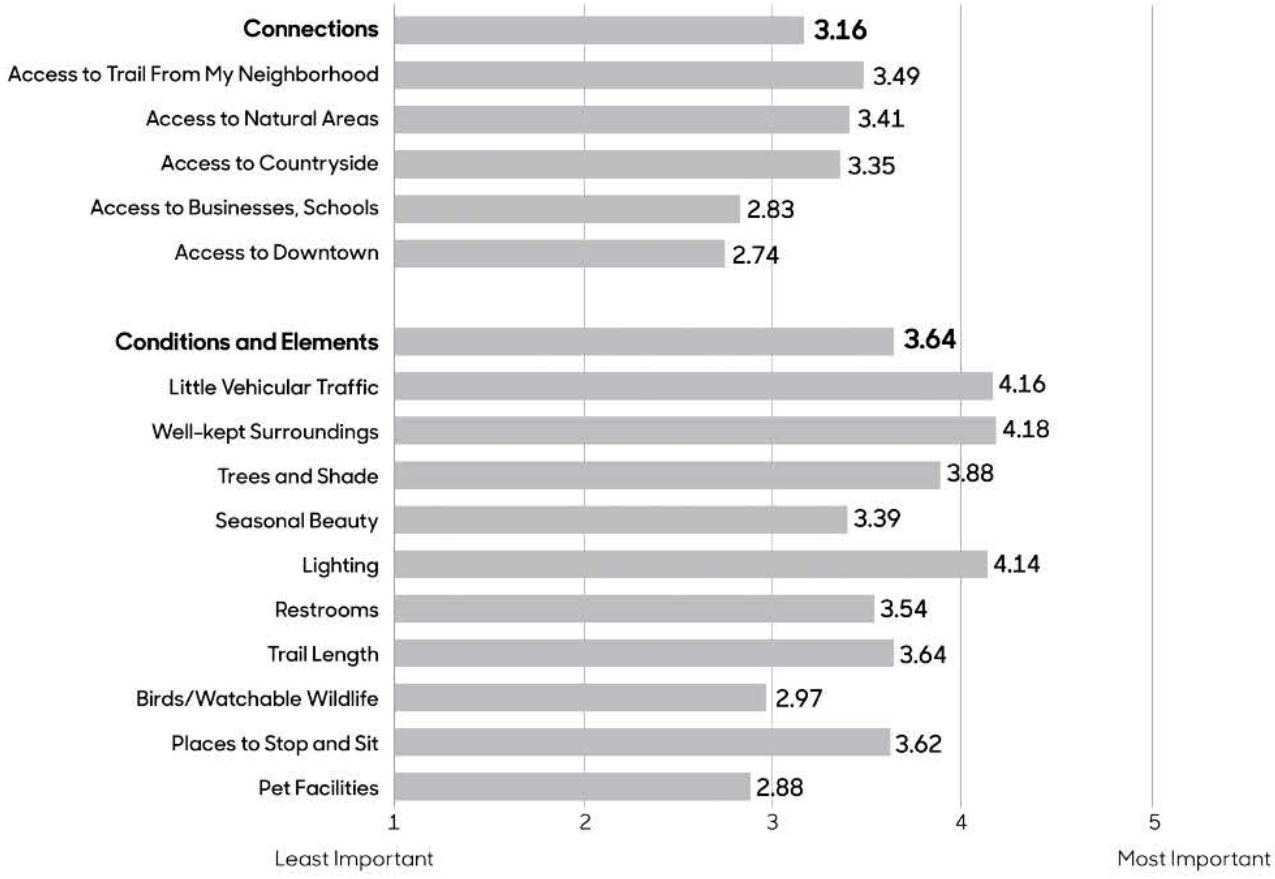
Desired Bike Route Features

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their biking experience better. These features are categorized as either "connections" or "conditions and elements." Among Durant participants, connections are of somewhat more important than conditions/ elements, with mean values of 3.16 and3.01, respectively. In terms of connections, access to trails is most important with a mean value of 3.68. Well-kept surroundings (3.67) are the most important element to cyclists, followed by lighting (3.61) and stop signs/traffic control (3.43). Places to stop and sit and bike racks are less important elements.



Desired Trail Features

On a scale of 1 to 5, with 5 being the most important, survey participants ranked the characteristics and features that made their trail experience better. Like the bike route features, they are categorized as either "connections" or "conditions and elements." Conditions/elements are more important to Durant trail users than connections, with mean values of 3.64 and 3.16, respectively. In terms of conditions/elements, well-kept surroundings (4.18), little vehicular traffic (4.16), and lighting are the most important elements. Trees and shade (3.88), trail length (3.64), and places to stop and sit are also important to trail users. In terms of connections, access to the trail from their neighborhoods is considered most important, with a mean value of 3.49.



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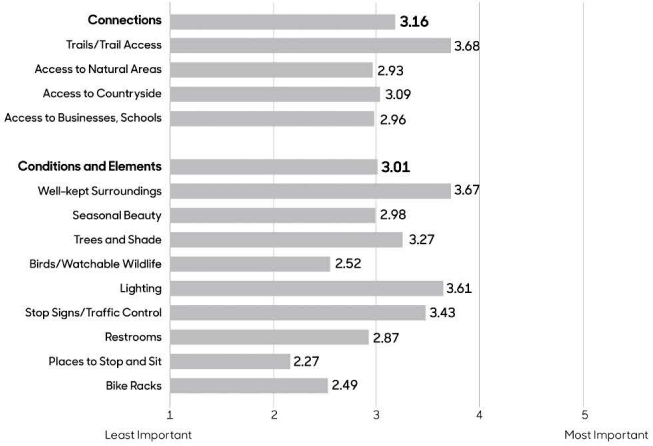

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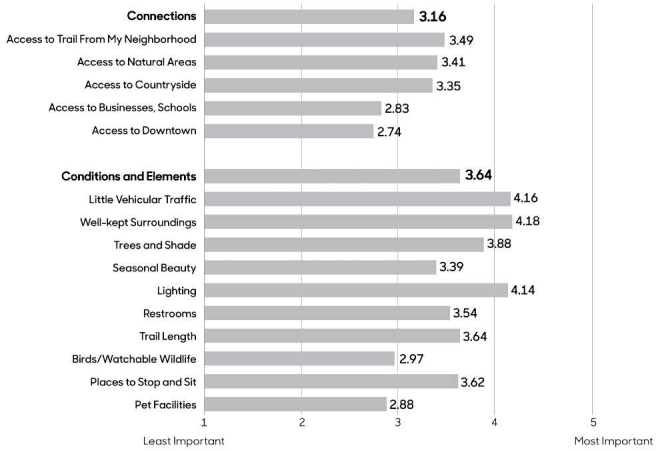

Durant

Desired Features

Transportation Behavior and Needs Survey
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Transportation Inventory and Analysis

Knowledge of the transportation systems in and around a community is critical for sustainable transportation enhancement planning. Transportation systems include paved and unpaved roadways, sidewalks, recreational trails,creeks and waterways, railroads, and abandoned railroad lines.

The design team, along with members of the steering committee, met with the district DOT planner, city staff, and local officials to identify existing, past, and future transportation systems in the area, and to discuss possible transportationrelated restraints and opportunities that could potentially affect project areas. Transportation planning officials from the various metropolitan planning organizations who were unable to attend the meeting were also contacted by the design team.

As can be seen on the transportation inventory map, Durant has many missing segments of sidewalks. In addition, most of the sidewalks that do exist are old and are in poor condition, lack ADA-compliant curb ramps, have vegetation obstructing a clear path, or are too narrow to comfortably accommodate two persons. Refer to Boards 3a through 3c. Board 10 provides recommendations to address these issues.

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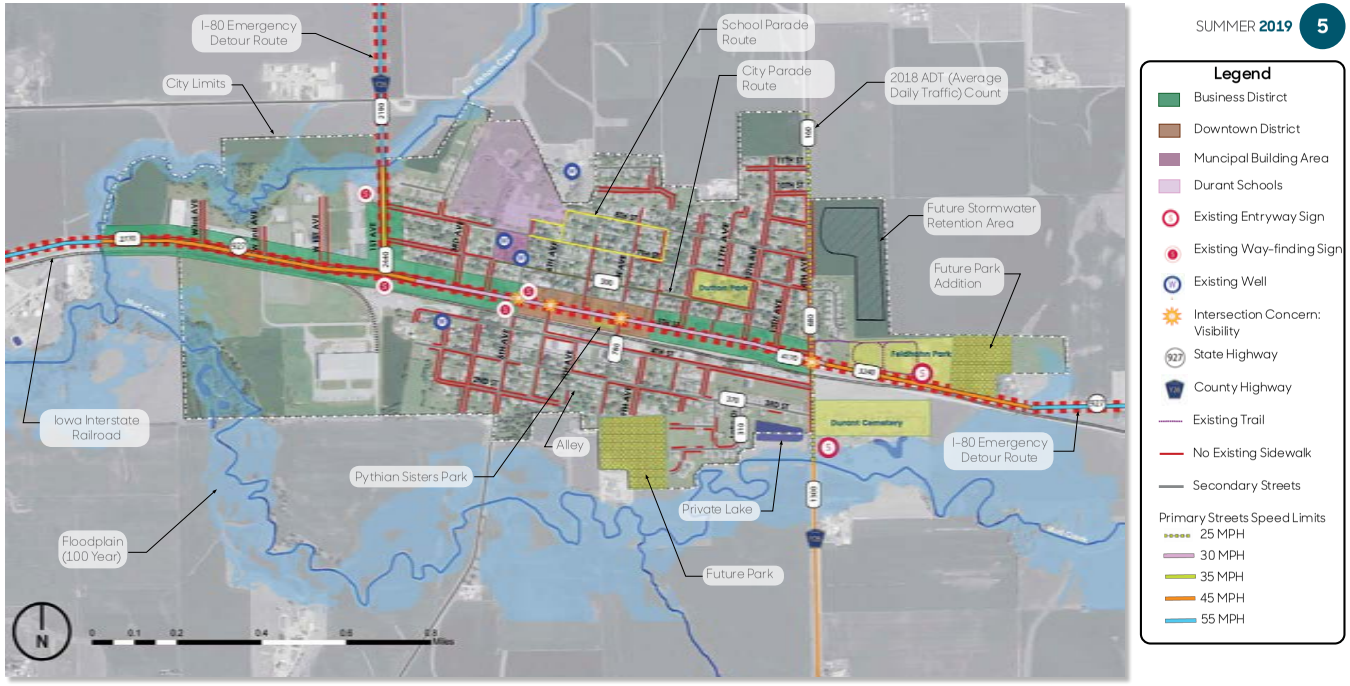


Map of Durant highlighting existing transportation infrastructure.

The 14th Ave. & 5th St. intersection is one of the intersections of concern.

Residents walking in the streets is common due to the lack of sidewalks, missing sections or their poor condition.

The Downtown District portion of the Business Corridor on historical Highway 6 (5th St.).

The Business District portion of the Business Corridor on historical Highway 6 (5th St.).

With no designated bike lane or sharrow for safe cycling along the business corridor, cyclist who need to access this corridor will often utilize the sidewalk.

While the existing sidewalks may meet the minimum width requirements, their width makes use by more than one person difficult

Durant

Transportation Inventory

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Goal Setting and Programming

The Durant steering committee presented what they learned from the TAB assessment, survey, and bioregional information to the landscape architects. The committee then identified goals and values. The goals are based on the information from the assessments. Each committee member also included reasoning for improvements around town and highlighted specific programming needs for areas of concern to them.

The landscape architects organized programming themes for the city of Durant using the goals identified by the steering committee. Greater importance was given to goals that were highlighted in discusssions and/or reated by individuals during the goal setting meeting.

Community Values/ Themes Based on Assessments & Surveys	Broad-Based Outcomes & Goals
Accessibility & Connectivity 	· Complete sidewalk system in good condition · Connectivity to other trails · Safe routes to school · Increased accessibility for seniors and mobility impaired · Improved connectivity between the north and south side of railroad tracks · Looped trail system around city that connects into a regional trail system · Visual presence from I-80 (along Yankee Ave.)
Lighting 	· Improved visibility at intersections · Visual connectivity · Increased nighttime safety · Enhanced streetscape
Traffic Calming 	· Slow down traffic in downtown area · Provide safe routes to school · Provide safe pedestrian and bike crossings · Slow traffic down along 14th Avenue coming into town from the south
Street Enhancment 	· Safe pedestrian and bike crossings · Safe routes to school · Enhanced streetscape aesthetics and function · More sidewalk connections · Lighting along main walking routes and to school at a pedestrian scale for safety · Sidewalks compliant with ADA requirements · Incorporation of street trees to provide shade
Way-finding Signage 	· Signage visibility for all modes of transportation · Unified signage system · Strengthen community identity · Clearly and uniformly labeled community assets
Trails & Parks 	· Increased connectivity to community assets · Make Durant a destination · Establish a looped trail network that is part of a regional trail system · Increase safe, accessible recreational opportunites · Enhance parks

Community Values/ Themes Based on Assessments & Surveys	Broad-Based Outcomes & Goals	Why Change Anything?	What Exactly and Where?
Accessibility & Connectivity 	· Complete sidewalk system in good condition · Connectivity to other trails · Safe routes to school · Increased accessibility for seniors and mobility impaired · Improved connectivity between the north and south side of railroad tracks · Looped trail system around city that connects into a regional trail system · Visual presence from I-80 (along Yankee Ave.)	· Encourage walking & cycling · Increase safety for users · Enhance recreational opportunities · Stimulate local businesses · Entice visitors and businesses to Durant	· Wider sidewalks (minimum of 5' wide) · ADA compliant ramps · Incorporating steps and handrails for high curbs on 5th St. · Prioritize the areas of town to complete sidewalk system · Looped trail system composed of various types of trail segments: Separate, Sharrow, Bike Lane, and Bike Route · Link the sidewalk and trail · Way-finding signage on Yankee Ave. by I-80
Lighting 	· Improved visibility at intersections · Visual connectivity · Increased nighttime safety · Enhanced streetscape	· Increase safety for both drivers and pedestrians · Improved night-time use of facilities · Enhanced aesthetics · Help improve way-finding	· Decorative vehicular and pedestrian lights along the Business and Primary Corridors · Decorative pedestrian lights along the Secondary Corridors
Traffic Calming 	· Slow down traffic in downtown area · Provide safe routes to school · Provide safe pedestrian and bike crossings · Slow traffic down along 14th Avenue coming into town from the south	· Encourage walking in areas previously viewed as challenging · Increase safety of pedetrians · Improve walking and cycling experience	· Street trees along the Business, Primary and Secondary Corridors · "Bulb Outs" in the Downtown District · Pedestrian scale lighting along the Business, Primary and Secondary Corridors · Visible crosswalks · Raised cosswalk on 14th Ave.
Street Enhancment 	· Safe pedestrian and bike crossings · Safe routes to school · Enhanced streetscape aesthetics and function · More sidewalk connections · Lighting along main walking routes and to school at a pedestrian scale for safety · Sidewalks compliant with ADA requirements · Incorporation of street trees to provide shade	· Encourage walking in areas previously viewed as challenging · Increase safety of users · Improved city image · Enhance the use of facilities · Attract more people to Durant for a longer period	· 14th Avenue South of Hwy. 6 · Designated Business, Primary, and Secondary Corridors on Concept Plan
Way-finding Signage 	· Signage visibility for all modes of transportation · Unified signage system · Strengthen community identity · Clearly and uniformly labeled community assets	· Define & reinforce city identity · Create a better experience for visitors and those unfamiliar with area by guiding them to points of interest · Improve visual connectivity between I-80 and Durant · Increase revenue for local businesses	· Uniformity and distinct hierarchy throughout the city · Provide way-finding signage along the recreational trail and trail map with points of interest on information kiosk at trail head
Trails & Parks 	· Increased connectivity to community assets · Make Durant a destination · Establish a looped trail network that is part of a regional trail system · Increase safe, accessible recreational opportunites · Enhance parks	· Provide safe, accessible recreational opportunity for all ages · Create more options for travel within and around Durant and to connect to regional trails · Provide more recreational opportunities	· Looped trail system around town and along Mudd Creek and Big Elkhorn Creek · Integrating trail route to "tie" into future county (regional) trail system planned to Walcott and Wilton · Additional passive and active recreational opportunities and public gathering amenities at Feldhan and Pythian Sisters Park

Durant

Goal Setting

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Community Concept Plan

The community visioning process proposes solutions for areas along transportation corridors where safety, circulation,connectivity, and visual enhancements are desirable. Part of this process also addresses the accessibility needs of the residents, such as providing safe and accessible pedestrian paths and walkways to connect special places within a community.

The concept plan shown on board 7 (Concept Plan Overview) is based on Durant resident input and brings together their ideas, goals, and visions for improvements. The goal of the concept plan is to integrate these into a cohesive plan that can be implemented over time as funding and other resources become available. This long-term visioning and planning process is essential for a community to be able to provide sustainable, functional, and beneficial improvements that are holistic and provide them with the best return on investment.

After reviewing the results of the inventory and analysis of community resources, surveys, and focus groups, the Durant community visioning steering committee set goals to help them realize their community vision.

Following the goal-setting process, the design team facilitated a conceptual design workshop to provide community members with concept visualizations and the opportunity to interact with the design team and steering committee and provide their feedback. Based on the comments received, the design team refined and prepared additional concepts. Below is an outline of the proposed concepts that were explored and which correspond to the map.

- Way-finding Signage
- Entryway Signage
- Sidewalks & Lighting
- Recreational Trail System
- Business Corridor Enhancements
- Park Enhancements
- Primary Corridor Enhancements
- Secondary Corridor Enhancements
- 14th Avenue Enhancements

Concept Overview

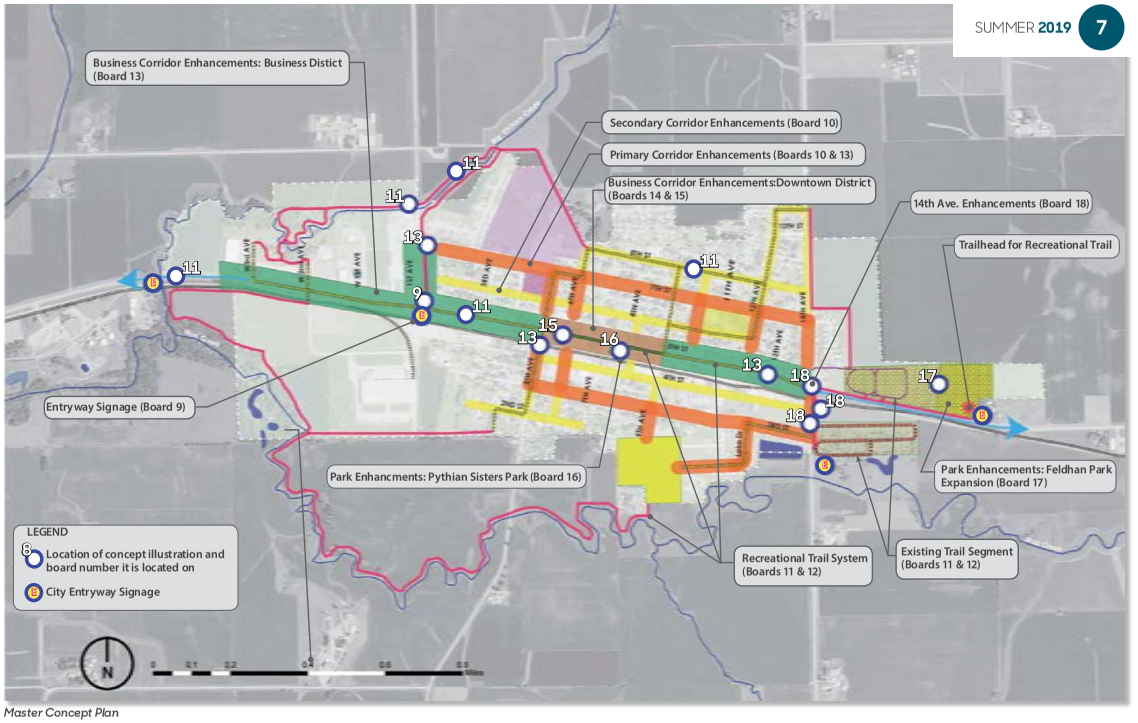
The community visioning process proposes solutions for areas along transportation corridors where safety, circulation, connectivity, and visual enhancements are desirable. Part of this process also addresses the accessibility needs of the residents, such as providing safe and accessible pedestrian paths and walkways to connect special places within a community.

The above map shows the I-80 Exit to Durant. Not to scale.

The concept plan to the left is based on Durant resident input and brings together their ideas, goals, and visions for improvements. The goal of the concept plan is to integrate these into a cohesive plan that can be implemented over time as funding and other resources become available. This long-term visioning and planning process is essential for a community to be able to provide sustainable, functional, and beneficial improvements that are holistic and provide them with the best return on investment.

After reviewing the results of the inventory and analysis of community resources, surveys, and focus groups, the Durant community visioning steering committee set goals to help them realize their community vision.

Following the goal-setting process, the design team facilitated a conceptual design workshop to provide community members with concept visualizations and the opportunity to interact with the design team and steering committee and provide their feedback. Based on the comments received, the design team refined and prepared additional concepts, which are illustrated in these sets of boards.



Master Concept Plan

Proposed Concepts (by subject) and Board Location

- Way-finding Signage ..... Refer to Board 8
- Entryway Signage..... Refer to Board 9
- Sidewalks & Lighting..... Refer to Boards 10, 12-15
- Recreational Trail System..... Refer to Boards 11-12
- Business Corridor Enhancements..... Refer to Boards 13-15
  - Business District (Board 13)
  - Downtown District (Boards 14 & 15)
- Park Enhancements..... Refer to Boards 16-17
  - Pythian Sisters Park (Board 16)
  - Feldhan Park (Board 17)
- Intersection and Sidewalk Safety..... Refer to Board 19

Durant

Concept Plan Overview

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Way-finding

Way-finding Overview

A unified way-finding signage family is critical to establishing a sense of place that is easily recognizable to visitors that they are in Durant. As illustrated in Figure 8b on Board 8, this is accomplished by the incorporation of the city logo, use of a consistent color palette and materials, and the repetition of other details. Site amenities can also be part of way-finding.

Way-finding signage helps visitors orient and navigate themselves quickly and safely to important destinations in the community. For Durant, many important destinations are located off the main 5th St. corridor, so way-finding signage is of great benefit. While the city has way-finding signage in place, branding it will make it more obvious and recognizable. Refer to Image 1 (existing) and Image 2 (proposed) on board 8 for a comparison of the existing way-finding signage to the proposed design that incorporates branding.

Since the majority of the way-finding signage will be located along county highways (including Hwy. 6 through town), the sign posts will need to meet Iowa DOT standards, which includes being mounted on break-a-way posts. The proposed design is shown on a metal one to match the color of the decorative lights.

While each park in town is identified with signage, they all have a different style as can be seen in Images 3 - 6 on board 8. This does not project a unified community image. This can be solved by utilizing park identification signage that is part of the way-finding signage family. Incorporating a simple graphic or short slogan specific to each park can be done; however, the styles should be consistent among the parks.

Key Concept Components

- Create a sense of place by using a consistent color and materials palette, being consistent with styles, repeating details, incorporating the community's existing logo and using locally available material
- Design way-finding signs and use materials that are in compliance with the *Manual of Uniform Traffic Control Devices* (MUTCD) and the Iowa Department of Transportation
- Develop way-finding signage to help visitors navigate the community
- Ensure that the font size and style are designed for maximum readability, the design should be based on the distance from the travel-way and speed of the user reading the sign
- Verify location of signage as well as content and concept with regulatory authorities (Iowa DOT and County Engineer) prior to final design and fabrication / construction

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to engage the services of a landscape architect and sign company.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment. A study will need to be conducted to determine the best location for way-finding signage. This study will locate directional signage and determine the number of each type of sign used.

Abbreviations used in the following opinion of probable cost includes:
EA= Each TBD = To Be Determined

OPC COSTS: Way-finding

Way-finding (See Board #8 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Way-finding Signage Options (à la carte)					
Park Identity Signage	TBD	EA	$ 12,500.00		
Park Informational Sign	TBD	EA	$ 15,500.00		
Trail Marker	TBD	EA	$ 1,900.00		
Interpretive Signage	TBD	EA	$ 2,450.00		
Vehicular Scaled Way-finding Sign on Post					
One Destination	TBD	EA	$ 1,500.00		
Two Destinations	TBD	EA	$ 2,500.00		
Three Destinations	TBD	EA	$ 3,500.00		
Pedestrian Scaled Way-finding Sign on Post					
One Destination	TBD	EA	$ 2,000.00		
Two Destinations	TBD	EA	$ 3,000.00		
Three Destinations	TBD	EA	$ 4,000.00		
Custom Light Banner (30" x 60")	TBD	EA	$ 125.00		

I-80 Presence

Though not directly located on I-80, Durant still has an opportunity to make an impact on the drivers and passengers of more than 34,300 vehicles that, on average, drive past Exit 277 on a daily basis. The exit is located less than 2 miles from Durant's northern corporate limits.

In order to take advantage of this exposure, Durant needs to have a presence at the interchange of Yankee Ave. and I-80. Because of the topography, existing vegetation, and the fact that whatever is erected by the city would need to be placed outside of the road right-of-way, only two locations seem plausible. These are located either on the west side of Yankee Ave. at the end of the I-80 westbound exit ramp, or on the east side of Yankee Ave. at the start of the I-80 westbound on ramp (shown in the photos on board 8). Since these two locations are on private property, permission from the property owners would be required.

The design team felt that a sculpture would be the most effective - something that could be viewed from both sides. While the statue concepts shown on this board are more traditional in style and tie in with Durant's slogan or tri-county location, the design team feels strongly that the statue should instead be quirky or very abstract in order to make the most memorable impact and elicit enough curiosity of the passerby to pull off I-80 and visit Durant to see what it is all about.

Regardless of the statue style chosen, it will have to be big. Figure 8c on board 8 illustrates the height of the statues that are shown in the image edits. The large size is due to its distance from the interstate, the speed of the traffic, and how much impact the city wants - the larger it is the more time the passerby has to view it.

Key Concept Components

- Create an eye-catching, 3-dimensional sculpture that is unique and is quirky enough to generate curiosity for a passerby on I-80 to want to take the exit to visit Durant and see what it is all about
- Tie components of the sculpture in with the way-finding signage or continue the theme with smaller sculptures located periodically along the Yankee corridor and throughout Durant
- Design sign and size of name to have impact and for maximum readability and recognition - the design needs to be based on the distance from the travel-way and speed of the I-80 traffic
- Verify location of signage as well as content and concept with regulatory authorities such as the Iowa Department of Transportation and County Engineer prior to final design and fabrication / construction
- Sign will need to be located outside of the public road right-of-way
- Verify lead time for sculptures, especially if project needs to meet a certain time schedule as there may be a multi-month lead time for the fabrication of the sculptures

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Electrical Engineer, Structural Engineer, and Sign Fabricator

Project Scope and Cost Opinions

The following cost opinions are for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:
Ac = Acre CY = Cubic Yard EA = Each LF = Linear Foot LS = Lump Sum
TBD = To Be Determined

OPC COSTS: I-80 Signage Concept A (Corn)

I-80 Signage (See Board #8 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Concept A: I-80 Corn Sculpture Sign					
Sculpture Foundation					***$ 72,805.50***
Excavation for foundation	555	CY	$ 18.00	$ 9,990.00	
Aggregate Base Course	126.5	Ton	$ 27.00	$ 3,415.50	
Concrete Footing	127	CY	$ 400.00	$ 50,800.00	
Backfill	344	CY	$ 25.00	$ 8,600.00	
Corn Sculpture					***$ 23,800.00***
Fabrication of Corn Sculpture	1	EA	$ 20,800.00	$ 20,800.00	
Installation	1	LS	$ 3,000.00	$ 3,000.00	
Utilities					***TBD***
Sign Lighting	TBD	TBD	TBD	TBD	
Electrical Service	TBD	TBD	TBD	TBD	
Land				$ -	***$ 8,800.00***
Purchase Land	0.1	Ac	$ 50,000.00	$ 5,000.00	
Fence Removal and Replacement	200	LF	$ 19.00	$ 3,800.00	
Miscellaneous					***$ 32,800.00***
Finish Grading & Seeding (Prairie Seed)	1	LS	$ 5,000.00	$ 5,000.00	
Mobilization, Safety, and Erosion Control	1	LS	$ 24,800.00	$ 24,800.00	
Surveying	1	LS	$ 3,000.00	$ 3,000.00	
				IMPROVEMENTS SUBTOTAL	*$ 138,205.50*
				CONTINGENCY (20%)	*$ 27,641.10*
				DESIGN/ENGINEERING FEES (15%)	*$ 24,876.99*
				TOTAL WITHOUT UTILITIES	***$ 190,723.59***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

OPC COSTS: I-80 Signage Concept B (Butterfly)

I-80 Signage (See Board #8 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Concept B: I-80 Butterfly Sculpture Sign					
Sculpture Foundation					***$ 27,523.00***
Excavation for foundation	186	CY	$ 18.00	$ 3,348.00	
Aggregate Base Course	75	Ton	$ 27.00	$ 2,025.00	
Concrete Footing	48	CY	$ 400.00	$ 19,200.00	
Backfill	118	CY	$ 25.00	$ 2,950.00	
Stone Veneer Column					***$ 45,650.00***
Concrete Column	24	CY	$ 800.00	$ 19,200.00	
Stone Veneer	450	SF	$ 45.00	$ 20,250.00	
Durant Sign Fabrication and Powder Coating	1	EA	$ 4,200.00	$ 4,200.00	
Stone Cap for Column	1	EA	$ 1,200.00	$ 1,200.00	
Durant Sign Transport, Installation & Assembly	1	EA	$ 800.00	$ 800.00	
Butterfly Sculpture					***$ 20,980.00***
Fabrication of Butterfly Sculpture	1	EA	$ 17,980.00	$ 17,980.00	
Installation	1	LS	$ 3,000.00	$ 3,000.00	
Utilities					***TBD***
Sign Lighting	TBD	TBD	TBD	TBD	
Electrical Service	TBD	TBD	TBD	TBD	
Land		EA		$ -	***$ 8,800.00***
Purchase Land	0.1	Ac	$ 50,000.00	$ 5,000.00	
Fence Removal and Replacement	200	LF	$ 19.00	$ 3,800.00	
Miscellaneous					***$ 32,800.00***
Finish Grading & Seeding (Prarie Seed)	1	LS	$ 5,000.00	$ 5,000.00	
Mobilization , Safety, and Erosion Control	1	LS	$ 24,800.00	$ 24,800.00	
Surveying	1	LS	$ 3,000.00	$ 3,000.00	
				IMPROVEMENTS SUBTOTAL	*$ 135,753.00*
				CONTINGENCY (20%)	*$ 27,150.60*
				DESIGN/ENGINEERING FEES (15%)	*$ 24,435.54*
				TOTAL WITHOUT UTILITIES	***$ 187,339.14***

ANTICIPATED COST RANGE: TBD

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

OPC COSTS: I-80 Signage Concept C (Tri-County)

I-80 Signage (See Board #8 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Concept C: Tri-County Sculpture Sign					
Sculpture Foundation					***$ 72,805.50***
Excavation for foundation	555	CY	$ 18.00	$ 9,990.00	
Aggregate Base Course	126.5	Ton	$ 27.00	$ 3,415.50	
Concrete Footing	127	CY	$ 400.00	$ 50,800.00	
Backfill	344	CY	$ 25.00	$ 8,600.00	
Corn Sculpture With Durant Sign					***$ 22,800.00***
Fabrication of Sign	1	EA	$ 18,000.00	$ 18,000.00	
Installation	1	LS	$ 3,000.00	$ 3,000.00	
Transport	1	LS	$ 1,800.00	$ 1,800.00	
Utilities					***TBD***
Sign Lighting	TBD	TBD	TBD	TBD	
Electrical	TBD	TBD	TBD	TBD	
Land				$ -	***$ 8,800.00***
Purchase Land	0.1	Ac	$ 50,000.00	$ 5,000.00	
Fence Removal and Replacement	200	LF	$ 19.00	$ 3,800.00	
Miscellaneous					***$ 32,800.00***
Finish Grading & Seeding (Prairie Seed)	1	LS	$ 5,000.00	$ 5,000.00	
Mobilization, Safety, and Erostion Control	1	LS	$ 24,800.00	$ 24,800.00	
Surveying	1	LS	$ 3,000.00	$ 3,000.00	
				IMPROVEMENTS SUBTOTAL	*$ 137,205.50*
				CONTINGENCY (20%)	*$ 27,441.10*
				DESIGN/ENGINEERING FEES (15%)	*$ 24,696.99*
				TOTAL WITHOUT UTILITIES	***$ 189,343.59***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Way-finding

A unified way-finding signage family is critical to establishing a sense of place that is easily recognizable to visitors that they are in Durant. As illustrated in Figure 8b, this is accomplished by the incorporation of the city logo, use of a consistent color palette and materials, and the repetition of other details. Site amenities can also be part of way-finding.

Way-finding signage helps visitors orient and navigate themselves quickly and safely to important destinations in the community. For Durant, many important destinations are located off the main 5th St. corridor, so way-finding signage is of great benefit. While the city has way-finding signage in place, branding it will make it more obvious and recognizable. Refer to Image 1 (existing) and Image 2 (proposed) on this board for a comparison of the existing way-finding signage to the proposed design that incorporates branding.

Since the majority of the way-finding signage will be located along county highways (including Hwy. 6 through town), the sign posts will need to meet Iowa DOT standards, which includes being mounted on break-a-way posts. The proposed design is shown on a metal one to match the color of the decorative lights.

Image 1

Image 2

While each park in town is identified with signage, they all have a different style as can be seen in Images 3 - 6. This does not project a unified community image. This can be solved by utilizing park identification signage that is part of the way-finding signage family. Incorporating a simple graphic or short slogan specific to each park can be done; however, the styles should be consistent among the parks.

Image 3


Image 4


Image 5


Image 6

Durant, Iowa
Prime for Growth

Figure 8a: Existing city logo

Figure 8b: Proposed concepts for community way-finding signage family


Existing I-80 westbound Exit 277 to Durant (looking west)


Concept A - Corn symbolizes fertility and rebirth " "prime for growth"


Concept B: Butterfly symbolizes transformation, ability to experience the wonder of life


Concept C: Tri-county reflects Durant's location, combined with the corn's symbolism as discussed in Concept A

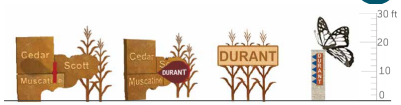


Figure 8c: Overview of proposed sculpture ideas and their height

I-80 Presence

Though not directly located on I-80, Durant still has an opportunity to make an impact on the drivers and passengers of more than 34,300 vehicles that, on average, drive past Exit 277 on a daily basis. The exit is located less than 2 miles from Durant's northern corporate limits.

In order to take advantage of this exposure, Durant needs to have a presence at the interchange of Yankee Ave. and I-80. Because of the topography, existing vegetation, and the fact that whatever is erected by the city would need to be placed outside of the road right-of-way, only two locations seem plausible. These are located either on the west side of Yankee Ave. at the end of the I-80 westbound exit ramp, or on the east side of Yankee Ave. at the start of the I-80 westbound on ramp (shown in the photos). Since these two locations are on private property, permission from the property owners would be required.

The design team felt that a sculpture would be the most effective - something that could be viewed from both sides. While the statue concepts shown on this board are more traditional in style and tie in with Durant's slogan or tri-county location, the design team feels strongly that the statue should instead be quirky or very abstract in order to make the most memorable impact and elicit enough curiosity of the passerby to pull off I-80 and visit Durant to see what it is all about.

Regardless of the statue style chosen, it will have to be big. Figure 8c illustrates the height of the statues that are shown in the image edits. The large size is due to its distance from the interstate, the speed of the traffic, and how much impact the city wants - the larger it is the more time the passerby has to view it.

Durant
Way-finding

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
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Iowa's Living Roadways community visioning

Entryway Signage

Entryway Signage Overview

The concepts presented on board 9 are considered an extension of the way-finding signage family. The limestone material that is used for all of the proposed entryway sign monuments/columns and bases is the same as what is shown on board 8. The city silhouette that is part of each concept is derived from the city logo. The font for "Durant" is the same font used for the stand alone "Durant" in Pythian Sisters Park.

An integral part to entryway signage is landscaping. The landscaping needs to frame the sign and provide a year-round background to showcase the sign. The plants selected should compliment the sign and not compete with it. Mowing edges help with maintenance and aesthetics.

Key Concept Components

- Create a sense of place and be consistent by using a consistent color and materials palette that integrates with the other way-finding signage
- Strengthen city branding by Integrate the logo or elements of the logo like shown on the concepts
- Ensure that the font size and style are designed for maximum readability, the design should be based on the distance from the travel-way and speed of the user reading the sign
- Verify location of entryway signs as well as content and concept with regulatory authorities (i.e.: Iowa Department of Transportation and County Engineer) prior to final design and fabrication / construction
- Cor-ten steel letters and city silhouette (from city logo), raised extended the background
- Limestone monument sign, lighting integrated into the design of the sign
- Low maintenance, hardy landscaping to provide year-round interest
- Mowing edge to reduce maintenance

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Electrical Engineer, and Structural Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate

and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

CY = Cubic Yard	EA= Each	LF = Linear Foot	LS = Lump Sum
SF = Square Foot	SY = Square Yard	TBD = To Be Determined	

OPC COSTS: Entryway Signage Concept Style A

Entryway Signage (See Board #9 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Concept Style A Sign Option					
Sign Foundation					***$ 4,861.35***
Earth Excavation	17	CY	$ 18.00	$ 306.00	
Aggregate Base Course	2.05	Ton	$ 27.00	$ 55.35	
Concrete Footing	8	CY	$ 400.00	$ 3,200.00	
Backfill	52	CY	$ 25.00	$ 1,300.00	
Sign & Base					***$ 34,352.50***
Concrete Core	10.5	CY	$ 800.00	$ 8,400.00	
Stone Veneer	424	SF	$ 40.00	$ 16,960.00	
Cor-ten 18" DURANT Letters	1	LS	$ 1,600.00	$ 1,600.00	
Black Powder Coated 9" Welcome to Letters	1	LS	$ 2,260.00	$ 2,260.00	
Cor-ten Logo Silhouette	1	EA	$ 2,500.00	$ 2,500.00	
Coping	40.5	SF	$ 65.00	$ 2,632.50	
Utilities					***TBD***
LED Lighting	TBD	TBD	TBD	TBD	
Electrical Installation and Extension	TBD	TBD	TBD	TBD	
Land					***TBD***
Easement or Acquisition	TBD	TBD	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
Landscaping					***$ 7,949.50***
Deciduous Ornamental Trees	3	EA	$ 425.00	$ 1,275.00	
Evergreen Upright Shrubs	6	EA	$ 125.00	$ 750.00	
Evergreen Shrubs	6	EA	$ 65.00	$ 390.00	
Perennial Flowers	13	EA	$ 35.00	$ 455.00	
Ornamental Grasses	10	EA	$ 35.00	$ 350.00	
Annual Flowers	36	EA	$ 12.00	$ 432.00	
Planting Prep, Soil Amendment	1	LS	$ 4,000.00	$ 4,000.00	
Shredded Hardwood Mulch	8.5	CY	$ 35.00	$ 297.50	
Hardscape					***$ 2,106.00***
PCC Accent Mowing Edge (around Sign)	82	:LF	$ 21.00	$ 1,722.00	
Steel Edging - Commercial Grade (Around Trees)	16	LF	$ 24.00	$ 384.00	
Finish Grading & Seeding					***$ 480.00***
Finish Grading	1200	SF	$ 0.20	$ 240.00	
Seeding	1200	SF	$ 0.20	$ 240.00	
Survey					***TBD***
Site Survey	1	LS	TBD	TBD	
Mobilization, Erosion & Sediment Control, Safety					***$ 9,000.00***
Mobilization, Erosion Control and Safety	1	LS	$ 9,000.00	$ 9,000.00	
				IMPROVEMENTS SUBTOTAL	*$58,749.35*
				CONTINGENCY (20%)	*$ 11,749.87*
				DESIGN/ENGINEERING FEES (15%)	*$ 10,574.88*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 81,074.10***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

OPC COSTS: Entryway Signage Concept Style B

Entryway Signage (See Board #9 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Concept Style B Sign Option					
Sign Foundation					***$ 12,417.00***
Earth Excavation	76	CY	$ 18.00	$ 1,368.00	
Aggregate Base Course	12	Ton	$ 27.00	$ 324.00	
Concrete Footing	23.5	CY	$ 400.00	$ 9,400.00	
Backfill	53	CY	$ 25.00	$ 1,325.00	
Sign & Base					***$ 37,715.00***
Concrete Core	6	CY	$ 800.00	$ 4,800.00	
Stone Veneer	501	SF	$ 45.00	$ 22,545.00	
Cor-ten 15" DURANT Letters	1	LS	$ 1,280.00	$ 1,280.00	
Black Powder Coated 8" Welcome to Letters	1	LS	$ 1,090.00	$ 1,090.00	
Cor-ten Logo Silhouette	1	EA	$ 2,500.00	$ 2,500.00	
Outdoor Treated Posts, 6"x 6"	12	EA	$ 80.00	$ 960.00	
Brackets for Treated Posts	12	EA	$ 75.00	$ 900.00	
Coping	56	SF	$ 65.00	$ 3,640.00	
Utilities					***TBD***
LED Lighting	TBD	TBD	TBD	TBD	
Electrical Installation and Extension	TBD	TBD	TBD	TBD	
Land					***TBD***
Easement or Acquisition	TBD	TBD	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
Landscaping					***$ 7,949.50***
Deciduous Ornamental Trees	3	EA	$ 425.00	$ 1,275.00	
Evergreen Upright Shrubs	6	EA	$ 125.00	$ 750.00	
Evergreen Shrubs	6	EA	$ 65.00	$ 390.00	
Perennial Flowers	13	EA	$ 35.00	$ 455.00	
Ornamental Grasses	10	EA	$ 35.00	$ 350.00	
Planting Prep, Soil Amendment	1	LS	$ 4,000.00	$ 4,000.00	
Annual Flowers	36	EA	$ 12.00	$ 432.00	
Shredded Hardwood Mulch	8.5	CY	$ 35.00	$ 297.50	
Hardscape					***$ 2,106.00***
PCC Accent Mowing Edge (around Sign)	82	:LF	$ 21.00	$ 1,722.00	
Steel Edging - Commercial Grade (Around Trees)	16	LF	$ 24.00	$ 384.00	
Finish Grading & Seeding					***$ 480.00***
Finish Grading	1200	SF	$ 0.20	$ 240.00	
Seeding	1200	SF	$ 0.20	$ 240.00	
Survey					***TBD***
Site Survey	1	LS	TBD	TBD	
Mobilization, Erosion & Sediment Control, Safety					***$ 9,000.00***
Mobilization, Erosion Control and Safety	1	LS	$ 9,000.00	$ 9,000.00	
				IMPROVEMENTS SUBTOTAL	*$69,667.50*
				CONTINGENCY (20%)	*$ 13,933.50*
				DESIGN/ENGINEERING FEES (15%)	*$ 12,540.15*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 96,141.15***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

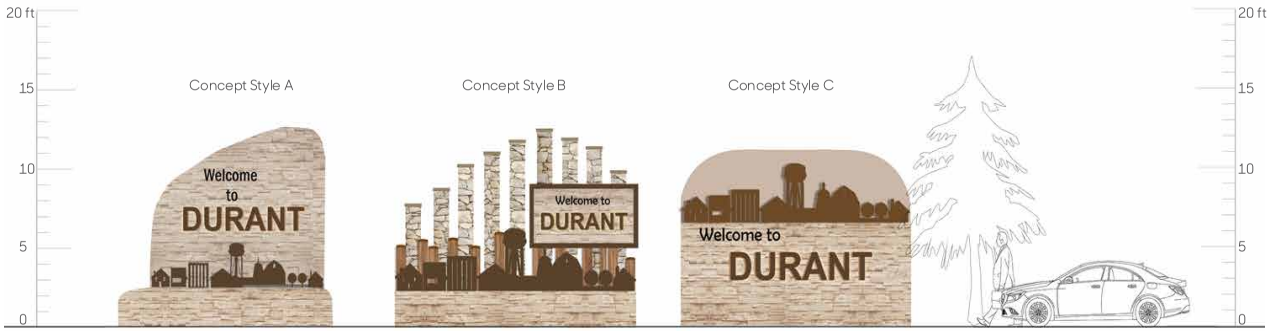
OPC COSTS: Entryway Signage Concept Style C

Entryway Signage (See Board #9 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Concept Style C Sign Option					
Sign Foundation					***$ 10,200.00***
Excavation for foundation	120	CY	$ 18.00	$ 2,160.00	
Aggregate Base Course	45	Ton	$ 22.00	$ 990.00	
Concrete Footing	12	CY	$ 400.00	$ 4,800.00	
Backfill	90	CY	$ 25.00	$ 2,250.00	
Sign & Base					***$ 37,435.00***
Concrete Core	16	CY	$ 800.00	$ 12,800.00	
Colored Concrete	6	CY	$ 140.00	$ 840.00	
Stone Veneer	260	SF	$ 45.00	$ 11,700.00	
Cor-ten 24" DURANT Letters	1	LS	$ 2,700.00	$ 2,700.00	
Black Powder Coated 12" Welcome to Letters	1	LS	$ 1,500.00	$ 1,500.00	
Cor-ten Logo Silhouette	1	EA	$ 2,500.00	$ 2,500.00	
Coping	83	SF	$ 65.00	$ 5,395.00	
Utilities					***TBD***
LED Lighting	TBD	TBD	TBD	TBD	
Electrical Installation and Extension	TBD	TBD	TBD	TBD	
Land					***TBD***
Easement or Acquisition	TBD	TBD	TBD	TBD	
Landscaping					***$ 7,949.50***
Deciduous Ornamental Trees	3	EA	$ 425.00	$ 1,275.00	
Evergreen Upright Shrubs	6	EA	$ 125.00	$ 750.00	
Evergreen Shrubs	6	EA	$ 65.00	$ 390.00	
Perennial Flowers	13	EA	$ 35.00	$ 455.00	
Ornamental Grasses	10	EA	$ 35.00	$ 350.00	
Annual Flowers	36	EA	$ 12.00	$ 432.00	
Planting Prep, Soil Amendment	1	LS	$ 4,000.00	$ 4,000.00	
Shredded Hardwood Mulch	8.5	CY	$ 35.00	$ 297.50	
Hardscape					***$ 2,106.00***
PCC Accent Mowing Edge (around Sign)	82	:LF	$ 21.00	$ 1,722.00	
Steel Edging - Commercial Grade (Around Trees)	16	LF	$ 24.00	$ 384.00	
Finish Grading & Seeding					***$ 480.00***
Finish Grading	1200	SF	$ 0.20	$ 240.00	
Seeding	1200	SF	$ 0.20	$ 240.00	
Survey					***TBD***
Site Survey	1	LS	TBD	TBD	
Mobilization, Erosion & Sediment Control, Safety					***$ 9,000.00***
Mobilization, Erosion Control and Safety	1	LS	$ 9,000.00	$ 9,000.00	
				IMPROVEMENTS SUBTOTAL	*$67,170.50*
				CONTINGENCY (20%)	*$ 13,434.10*
				DESIGN/ENGINEERING FEES (15%)	*$ 12,090.69*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 92,695.29***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Existing east entrance sign located at Feldhan Park entrance



Proposed concepts: Three different entryway signage styles are shown; each has different sized lettering to illustrate impact. Each entryway to the city would use the same style entryway sign in order to create a unified and cohesive look.

Existing conditions at the end of 1st Street

Entryway Signage:

The concepts presented are considered an extension of the way-finding signage family. The limestone material that is used for all of the proposed entryway sign monuments/ columns and bases is the same as what is shown on board 8. The city silhouette that is part of each concept is derived from the city logo. The font for "Durant" is the same font used for the stand alone "Durant" in Pythian Sisters Park.

An integral part to entryway signage is landscaping. The landscaping needs to frame the sign and provide a year-round background to showcase the sign. The plants selected should compliment the sign and not compete with it. Mowing edges help with maintenance and aesthetics.

Image Edit 1: Concept Style A

Concept Style A

- Cort-en steel letters and city silhouette are proposed to be back lit with warm lighting for nighttime illumination.
- 2.5-ft limestone base elevates the city silhouette so it is not blocked by short facer plantings in the landscape.
- Lettering and city silhouette are sized for maximum readability based on vehicle speed, distance from roadway and intended impact; 18" lettering is shown.

Image Edit 2: Concept Style B

Concept Style B

- Limestone columns of ascending and descending height create movement. Shorter treated wood posts accent the stone columns and a 2.5-ft limestone base elevates the city silhouette so it is not blocked by short facer plantings in the landscape.
- Cort-en steel lettering and city silhouette are sized for maximum readability based on vehicle speed, distance from roadway and intended impact; 15" lettering is shown. Sign is front lit with warm lighting.

Image Edit 3: Concept Style C

Concept Style C

- Cort-en steel lettering and city silhouette are proposed to be back-lit with warm lighting for nighttime illumination; lettering is placed 3 ft. above ground so it is not blocked by short facer plantings.
- Lettering and city silhouette are sized for maximum readability based on vehicle speed, distance from roadway and intended impact; 24" lettering is shown.
- Background for city silhouette is smooth limestone.

Durant
Entryway Signage

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Pedestrian Systems

Overview

A pedestrian system that is connected, accessible, in good physical condition, well lit and shaded was identified by the community members as the most desired city improvement. The pedestrian system is composed of both sidewalks and recreational trails – refer to board 12 for composite map.

Sidewalks & Lighting

The Sidewalk and Lighting Master Plan on board 10 prioritizes corridors for sidewalk and lighting improvements in the following order: 1) Business Corridor: Downtown District, 2) Business Corridor: Business District, 3) Primary Corridors, 4) Secondary Corridors, and 5) Remaining city streets.

The width of the sidewalks and lighting treatment vary for each corridor, with the width of the sidewalks decreasing and number of streetscape amenities (including lighting) decreasing as the corridors become lower in priority. These transitions between corridors, along with way-finding signage, will help visitors better navigate Durant and easily identify the primary travel routes to the various points of interest. Figures 10a and 10b on board 10 illustrate the various width requirements of pedestrians.

Street trees play a critical role in the aesthetics and function of streetscapes as well as the residents' quality of life and are proposed for all of the corridors. Proper selection of a variety of tree species is critical; things to consider include: mature size and shape, seasonal interests, leaf and fruit litter, diseases, root structure, growth rate and maintenance.

#1 Downtown District: This corridor has the widest sidewalks, pedestrian and vehicular lighting, and the most streetscape amenities. See boards 14 and 15 for more details.

#2 Business District: This corridor continues the streetscape of the downtown, but at a reduced scale. Sidewalks with a minimum width of 6' are proposed for both sides of the street along with pedestrian and vehicular lighting. Refer to board 12 for more details.

#3 Primary Corridors: These are residential streets that serve as main routes to points of interest throughout town. Both sides of the street have 6' wide sidewalks along with pedestrian and vehicular lighting. Refer to typical section 10a on board 10 as well as board 12 for additional illustrations and information.

#4 Secondary Corridors: Residential streets that serve as "collector" streets for pedestrians to get to and from the Business and Primary Corridors. These streets have 5' wide sidewalks on each side and pedestrian only lighting. Refer to typical section 10b on board 10.

#5 Remaining City Streets: The remaining city streets have 5' wide sidewalks on each side of the street. There is no lighting proposed other than at the end of each block by the intersections.

Key Concept Components

- Enhance user comfort through wider sidewalks, appropriate lighting, ADA compliant sidewalk ramps, and wayfinding signage
- Emphasize the importance of transportation corridors through sidewalk widths, and treatment of lighting and other streetscape amenities
- Incorporate street trees that are tolerant of urban conditions and of appropriate size for space and required clearances
- Enhance the aesthetics of the community with decorative lighting of appropriate illumination and coverage for the type of corridor and location
- Develop a connected sidewalk/trail network with prioritized route phasing
- Enhance pedestrian connectivity between community destinations and amenties
- Coordinate with the railroad to increase the width and condition of the pedestrian crossings and to appropriately mark the crossings with pedestrian signage
- Coordinate with the Cedar and Muscatine County Engineers on applicable segments of the Business Corridor and the Primary Corridor
- Coordinate with the Iowa Department of Transportation on applicable segments of the Business Corridor
- Start discussions and share plans with the regional planning commissions so that they are aware of the communities overall transporation visioning plan and how it ties into "Safe Routes To School", improved accessibility, and an overall pedestrian transportation network for the Durant community. Also work with them to integrate it into the regional trail system network. Inquire about potential grant funding opportunities for elements of the overall plan.

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Electrical Engineer, and Civil Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when

appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions wil be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Quantities for lighting have not been provided in the opinions of construction costs since the actual number of lights will be dependent upon a number of factors in addition to the height of the light, as such, further design development and discussions are necessary in order to create an estimate that is useful.

Typical design issues considered when selecting lighting is the appearance of colors, luminance, peripheral detection, light pollution, glare and security. Uniformity in luminance is a bigger issue because vision is affected by changes in uniformity. All of these are important to consider and address in order to maximize the city's investment in lighting and to maximize the comfort and security of the users.

Following is the typical decision process in lighting design.

1. Review lighting criteria
2. Determine average luminance
3. Determine appropriate light source
4. Lay out luminaries
5. Review code and ordinance compliance
6. Plan for operations and maintenance
7. Conduct budget review
8. Develop specifications
9. Review

To assist the committee in having a better understanding of what the design team is envisioning in terms of lighting for the various corridors, the very preliminary spacing (for planning purposes only) was estimated as follows; it is the intent to have the highest illumination in the Downtown District and decrease the amount of illumination as the importance of the corridor decreases, therefore, item 1 below would have the highest level of illumination with item 5 having the lowest level of illumination.

1) Downtown District: TBD – Highest Illumination out of all corridors

2)	Business District:	Vehicular & pedestrian combo light every ± 150′ O.C. and pedestrian light every ± 50′ O.C., alternating layout. So 2 pedestrian lights between every vehicular & pedestrian combo light.
3)	Primary Corridor:	Vehicular & pedestrian combo light every ± 180′ O.C. and pedestrian light every ± 60′ O.C., alternating layout. So 2 pedestrian lights between every vehicular & pedestrian combo light. Illumination less than the Business Corridor (Downtown and Business District)
4)	Secondary:	No vehicular & pedestrian combo lights except at intersection corners, otherwise only pedestrian lights. Pedestrian light every ± 80′ O.C., alternating layout.
5)	Remaining Streets:	No vehicular & pedestrian combo lights and no pedestrian lights. Vehicular lights at intersection corners only.

For additional discussion , information and things to consider for lighting see Appendix A at the end of this report.

Abbreviations used in the following opinions of probable construction (OPC) cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Business Corridor: Downtown District

Due to the complexity and variables that are unknown at this time, an OPC Cost for the Downtown District reconstruction is not provided. Further design development, investigations, and discussions are necessary in order to create an estimate that is useful.

OPC COSTS: Business Corridor: Business District

Pedestrian Systems: Sidewalks (See Board #10 & Board #13 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Business District: 5th Street West End (5th Ave. to West end of District)					***$ 575,117.25***
New Sidewalk (+/- 7,597 LF)					*$ 390,525.00*
Earth Excavation	710	CY	$ 15.00	$ 10,650.00	
6' Wide Sidewalk, Conc. (5" Thick)	5065	SY	$ 75.00	$379,875.00	
Existing Sidewalk Removal and Replacement (+/- 948 LF)					*$ 57,412.50*
Demolition, Assumed 4' SW, 5" Total Removed	425	SY	$ 22.50	$ 9,562.50	
Earth Excavation	30	CY	$ 15.00	$ 450.00	
6' Wide Sidewalk, Conc. (5" Thick)	632	SY	$ 75.00	$ 47,400.00	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/- 8,545 LF)					*$ 63,900.00*
Earth Excavation, 4"	650	CY	$ 15.00	$ 9,750.00	
Geotextile Fabric	5700	SY	$ 3.00	$ 17,100.00	
Aggregate Base Course, 4"	5700	SY	$ 6.50	$ 37,050.00	
ADA Compliant Detectable Warning Panel	192	SF	$ 60.00	$ 11,520.00	*$ 11,520.00*
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Decorative/Permeable Paving for On-Street Parking Areas	TBD	SY	TBD	TBD	
Highway 6 Roadway Improvements/Reconstruction	TBD	TBD	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Culverts	TBD	LF	TBD	TBD	
Suitable Fill	TBD	CY	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
Mobilization, Safety, Traffic Control, and Erosion Control					*$51,759.75*
Mobilization (5%)	1	LS	$26,167.88	$ 26,167.88	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$25,591.88	$ 25,591.88	
Business District: Yankee Ave. To North end of District (7th St.)					***$ 486,219.25***
New Sidewalk (+/- 7,597 LF)					*$ 381,675.00*
Earth Excavation	120	CY	$ 15.00	$ 1,800.00	
6' Wide Sidewalk, Conc. (5" Thick)	5065	SY	$ 75.00	$379,875.00	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/- 7,597 LF)					*$ 56,742.50*
Earth Excavation, 4"	575	CY	$ 15.00	$ 8,625.00	
Geotextile Fabric	5065	SY	$ 3.00	$ 15,195.00	
Aggregate Base Course, 4"	5065	SY	$ 6.50	$ 32,922.50	
ADA Compliant Detectable Warning Panel	60	SF	$ 60.00	$ 3,600.00	*$ 3,600.00*
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Decorative/Permeable Paving for On-Street Parking Areas	TBD	SY	TBD	TBD	
Highway 6 Roadway Improvements/Reconstruction	TBD	TBD	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Culverts	TBD	LF	TBD	TBD	
Suitable Fill	TBD	CY	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
Mobilization, Safety, Traffic Control, and Erosion Control					*$44,201.75*
Mobilization (5%)	1	LS	$22,100.88	$ 22,100.88	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$22,100.88	$ 22,100.88	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Business District: 5th Street East End (9th Ave. to 14th Ave./East end of District)					***$ 281,133.40***
New Sidewalk (+/- 1,788 LF)					*$91,920.00*
Earth Excavation	168	CY	$ 15.00	$ 2,520.00	
6' Wide Sidewalk, Conc. (5" Thick)	1192	SY	$ 75.00	$ 89,400.00	
Existing Sidewalk Removal and Replacement (+/- 2,069 LF)					*$ 125,175.00*
Demolition, Assumed 4' SW, 5" Total Removed	920	SY	$ 22.50	$ 20,700.00	
Earth Excavation	65	CY	$ 15.00	$ 975.00	
6' Wide Sidewalk, Conc. (5" Thick)	1380	SY	$ 75.00	$103,500.00	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/- 3,857 LF)					*$ 28,859.00*
Earth Excavation, 4"	295	CY	$ 15.00	$ 4,425.00	
Geotextile Fabric	2572	SY	$ 3.00	$ 7,716.00	
Aggregate Base Course, 4"	2572	SY	$ 6.50	$ 16,718.00	
ADA Compliant Detectable Warning Panel	168	SF	$ 60.00	$ 10,080.00	*$ 10,080.00*
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Decorative/Permeable Paving for On-Street Parking Areas	TBD	SY	TBD	TBD	
Highway 6 Roadway Improvements/Reconstruction	TBD	TBD	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Culverts	TBD	LF	TBD	TBD	
Suitable Fill	TBD	CY	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
Mobilization, Safety, Traffic Control, and Erosion Control					*$25,099.40*
Mobilization (5%)	1	LS	$12,801.70	$ 12,801.70	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$12,297.70	$ 12,297.70	
				IMPROVEMENTS SUBTOTAL	*$ 856,250.65*
				CONTINGENCY (20%)	*$ 171,250.13*
				DESIGN/ENGINEERING FEES (15%)	*$ 154,125.12*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 1,181,625.90***

ANTICIPATED COST RANGE:	***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Note 1: Refer to Way-finding Cost Estimate

OPC COSTS: Primary Corridor

Pedestrian Systems: Sidewalks (See Board #10 & Board #13 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Primary Corridors (East-West)					***$ 1,134,457.50***
7th Street					***$ 602,175.00***
New Sidewalk (+/- 4,100 LF)					*$ 211,275.00*
Earth Excavation	385	CY	$ 15.00	$ 5,775.00	
6' Wide Sidewalk, Conc. (5" Thick)	2740	SY	$ 75.00	$205,500.00	
Existing Sidewalk Removal and Replacement (+/- 6,070 LF)					*$ 367,500.00*
Demolition, Assumed 4' SW, 5" Total Removed	2700	SY	$ 22.50	$ 60,750.00	
Earth Excavation	200	CY	$ 15.00	$ 3,000.00	
6' Wide Sidewalk, Conc. (5" Thick)	4050	SY	$ 75.00	$303,750.00	
ADA Compliant Detectable Warning Panel	390	SF	$ 60.00	$ 23,400.00	*$ 23,400.00*
3rd Street					***$ 429,150.00***
New Sidewalk					*$ 136,500.00*
Earth Excavation (+/- 2,655 LF)	250	CY	$ 15.00	$ 3,750.00	
6' Wide Sidewalk, Conc. (5" Thick)	1770	SY	$ 75.00	$132,750.00	
Existing Sidewalk Removal and Replacement (+/- 4,676 LF)					*$ 283,050.00*
Demolition, Assumed 4' SW, 5" Total Removed	2080	SY	$ 22.50	$ 46,800.00	
Earth Excavation	150	CY	$ 15.00	$ 2,250.00	
6' Wide Sidewalk, Conc. (5" Thick)	3120	SY	$ 75.00	$234,000.00	
ADA Compliant Detectable Warning Panel	160	SF	$ 60.00	$ 9,600.00	*$ 9,600.00*
All East-West Primary Corridors					***$ 103,132.50***
Mobilization, Safety, Traffic Control, and Erosion Control					*$ 103,132.50*
Mobilization (5%)	1	LS	$51,566.25	$ 51,566.25	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$51,566.25	$ 51,566.25	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/- 17,501 LF)					*$ 130,740.00*
Earth Excavation, 4"	1325	CY	$ 15.00	$ 19,875.00	
Geotextile Fabric	11670	SY	$ 3.00	$ 35,010.00	
Aggregate Base Course, 4"	11670	SY	$ 6.50	$ 75,855.00	
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Culverts	TBD	LF	TBD	TBD	
Suitable Fill	TBD	CY	TBD	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Site Survey	1	LS	TBD	TBD	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Primary Corridors (North - South)					***$ 1,289,890.00***
5th Avenue					***$ 216,212.50***
New Sidewalk (+/- 754 LF)					*$ 39,000.00*
Earth Excavation	75	CY	$ 15.00	$ 1,125.00	
6' Wide Sidewalk, Conc. (5" Thick)	505	SY	$ 75.00	$ 37,875.00	
Existing Sidewalk Removal and Replacement (+/- 2,095 LF)					*$ 127,012.50*
Demolition, Assumed 4' SW, 5" Total Removed	935	SY	$ 22.50	$ 21,037.50	
Earth Excavation	65	CY	$ 15.00	$ 975.00	
6' Wide Sidewalk, Conc. (5" Thick)	1400	SY	$ 75.00	$105,000.00	
Pedestrian RR Crossing	2	EA	$20,000.00	$ 40,000.00	*$ 40,000.00*
ADA Compliant Detectable Warning Panel	170	SF	$ 60.00	$ 10,200.00	*$ 10,200.00*
6th Avenue					***$ 222,925.00***
New Sidewalk (+/- 192 LF)					*$ 10,050.00*
Earth Excavation	20	CY	$ 15.00	$ 300.00	
6' Wide Sidewalk, Conc. (5" Thick)	130	SY	$ 75.00	$ 9,750.00	
Existing Sidewalk Removal and Replacement (+/- 2,642 LF)					*$ 162,675.00*
Demolition, Assumed 4' SW	1180	SY	$ 22.50	$ 26,550.00	
Earth Excavation	250	CY	$ 15.00	$ 3,750.00	
6' Wide Sidewalk, Conc. (5" Thick)	1765	SY	$ 75.00	$132,375.00	
Pedestrian RR Crossing	2	EA	$20,000.00	$ 40,000.00	*$ 40,000.00*
ADA Compliant Detectable Warning Panel	170	SF	$ 60.00	$ 10,200.00	*$ 10,200.00*
9th Avenue					***$ 41,437.50***
New Sidewalk (+/- 658 LF)					*$ 33,975.00*
Earth Excavation	65	CY	$ 15.00	$ 975.00	
6' Wide Sidewalk, Conc. (5" Thick)	440	SY	$ 75.00	$ 33,000.00	
Existing Sidewalk Removal and Replacement (+/- 94 LF)					*$ 5,962.50*
Demolition, Assumed 4' SW, 5" Total Removed	45	SY	$ 22.50	$ 1,012.50	
Earth Excavation	5	CY	$ 15.00	$ 75.00	
6' Wide Sidewalk, Conc. (5" Thick)	65	SY	$ 75.00	$ 4,875.00	
ADA Compliant Detectable Warning Panel	25	SF	$ 60.00	$ 1,500.00	*$ 1,500.00*
10th Avenue					***$ 79,762.50***
New Sidewalk (+/- 1,214 LF)					*$ 62,475.00*
Earth Excavation	115	CY	$ 15.00	$ 1,725.00	
6' Wide Sidewalk, Conc. (5" Thick)	810	SY	$ 75.00	$ 60,750.00	
Existing Sidewalk Removal and Replacement (+/- 204 LF)					*$ 12,787.50*
Demolition, Assumed 4' SW, 5" Total Removed	95	SY	$ 22.50	$ 2,137.50	
Earth Excavation	10	CY	$ 15.00	$ 150.00	
6' Wide Sidewalk, Conc. (5" Thick)	140	SY	$ 75.00	$ 10,500.00	
ADA Compliant Detectable Warning Panel	75	SF	$ 60.00	$ 4,500.00	*$ 4,500.00*
12th Avenue					***$ 80,100.00***
New Sidewalk (+/- 1,413 LF)					*$ 72,900.00*
Earth Excavation	135	CY	$ 15.00	$ 2,025.00	
6' Wide Sidewalk, Conc. (5" Thick)	945	SY	$ 75.00	$ 70,875.00	
ADA Compliant Detectable Warning Panel	120	SF	$ 60.00	$ 7,200.00	*$ 7,200.00*
14th Avenue					***$ 195,350.00***
New Sidewalk (+/- 2,563 LF)					*$ 131,850.00*
Earth Excavation	240	CY	$ 15.00	$ 3,600.00	
6' Wide Sidewalk, Conc. (5" Thick)	1710	SY	$ 75.00	$128,250.00	
Existing Sidewalk Removal and Replacement (+/- 581 LF)					*$ 35,400.00*
Demolition, Assumed 4' SW, 5" Total Removed	260	SY	$ 22.50	$ 5,850.00	
Earth Excavation	20	CY	$ 15.00	$ 300.00	
6' Wide Sidewalk, Conc. (5" Thick)	390	SY	$ 75.00	$ 29,250.00	
Pedestrian RR Crossing	1	EA	$20,000.00	$ 20,000.00	*$ 20,000.00*
ADA Compliant Detectable Warning Panel	135	SF	$ 60.00	$ 8,100.00	*$ 8,100.00*
Lake Drive to New Park					***$ 225,862.50***
New Sidewalk (+/- 1,950 LF)					*$ 100,350.00*
Earth Excavation	190	CY	$ 15.00	$ 2,850.00	
6' Wide Sidewalk, Conc. (5" Thick)	1300	SY	$ 75.00	$ 97,500.00	
Existing Sidewalk Removal and Replacement (+/- 1,990 LF)					*$ 122,512.50*
Demolition, Assumed 4' SW, 5" Total Removed	885	SY	$ 22.50	$ 19,912.50	
Earth Excavation	190	CY	$ 15.00	$ 2,850.00	
6' Wide Sidewalk, Conc. (5" Thick)	1330	SY	$ 75.00	$ 99,750.00	
ADA Compliant Detectable Warning Panel	50	SF	$ 60.00	$ 3,000.00	*$ 3,000.00*

Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
All North-South Primary Corridors					***$ 228,240.00***
Mobilization, Safety, Traffic Control, and Erosion Control					*$ 106,165.00*
Mobilization (5%)	1	LS	$53,082.50	$ 53,082.50	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$53,082.50	$ 53,082.50	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/- 16,350 LF)					*$ 122,075.00*
Earth Excavation, 4"	1235	CY	$ 15.00	$ 18,525.00	
Geotextile Fabric	10900	SY	$ 3.00	$ 32,700.00	
Aggregate Base Course, 4"	10900	SY	$ 6.50	$ 70,850.00	
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Culverts	TBD	LF	TBD	TBD	
Suitable Fill	TBD	CY	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
				IMPROVEMENTS SUBTOTAL	*$ 2,424,347.50*
				CONTINGENCY (20%)	*$ 484,869.50*
				DESIGN/ENGINEERING FEES (15%)	*$ 436,382.55*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 3,345,599.55***

ANTICIPATED COST RANGE:	***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Note 1: Refer to Way-finding Cost Estimate

OPC COSTS: Secondary Corridor

Pedestrian Systems: Sidewalks (See Board #10 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Secondary Corridors (East-West)					***$ 1,448,008.25***
2nd Street					***$ 137,550.00***
New Sidewalk (+/- 3,009 LF)					*$ 129,150.00*
Earth Excavation	235	CY	$ 15.00	$ 3,525.00	
5' Wide Sidewalk, Conc. (5" Thick)	1675	SY	$ 75.00	$ 125,625.00	
ADA Compliant Detectable Warning Panel	140	SF	$ 60.00	$ 8,400.00	*$ 8,400.00*
4th Street					***$ 339,975.00***
New Sidewalk (+/- 4,651 LF)					*$ 199,350.00*
Earth Excavation	365	CY	$ 15.00	$ 5,475.00	
5' Wide Sidewalk, Conc. (5" Thick)	2585	SY	$ 75.00	$ 193,875.00	
Existing Sidewalk Removal and Replacement (+/-2,600 LF)					*$ 135,225.00*
Demolition, Assumed 4' SW, 5" Total Removed	1160	SY	$ 22.50	$ 26,100.00	
Earth Excavation	50	CY	$ 15.00	$ 750.00	
5' Wide Sidewalk, Conc. (5" Thick)	1445	SY	$ 75.00	$ 108,375.00	
ADA Compliant Detectable Warning Panel	90	SF	$ 60.00	$ 5,400.00	*$ 5,400.00*
6th Street					***$ 435,937.50***
New Sidewalk (+/- 3,080 LF)					*$ 132,225.00*
Earth Excavation	240	CY	$ 15.00	$ 3,600.00	
5' Wide Sidewalk, Conc. (5" Thick)	1715	SY	$ 75.00	$ 128,625.00	
Existing Sidewalk Removal and Replacement (+/- 5,716 LF)					*$ 297,112.50*
Demolition, Assumed 4' SW, 5" Total Removed	2545	SY	$ 22.50	$ 57,262.50	
Earth Excavation	90	CY	$ 15.00	$ 1,350.00	
5' Wide Sidewalk, Conc. (5" Thick)	3180	SY	$ 75.00	$ 238,500.00	
ADA Compliant Detectable Warning Panel (Does not include existing ones that were recently installed)	110	SF	$ 60.00	$ 6,600.00	*$ 6,600.00*
8th Street					***$ 294,750.00***
New Sidewalk (+/- 860 LF)					*$ 37,050.00*
Earth Excavation	70	CY	$ 15.00	$ 1,050.00	
5' Wide Sidewalk, Conc. (5" Thick)	480	SY	$ 75.00	$ 36,000.00	
Existing Sidewalk Removal and Replacement (+/- 4,854 LF)					*$ 252,300.00*
Demolition, Assumed 4' SW, 5" Total Removed	2160	SY	$ 22.50	$ 48,600.00	
Earth Excavation	80	CY	$ 15.00	$ 1,200.00	
5' Wide Sidewalk, Conc. (5" Thick)	2700	SY	$ 75.00	$ 202,500.00	
ADA Compliant Detectable Warning Panel	90	SF	$ 60.00	$ 5,400.00	*$ 5,400.00*
11th Street					***$ 37,800.00***
New Sidewalk (+/- 877 LF)					*$ 37,800.00*
Earth Excavation	70	CY	$ 15.00	$ 1,050.00	
5' Wide Sidewalk, Conc. (5" Thick)	490	SY	$ 75.00	$ 36,750.00	
ADA Compliant Detectable Warning Panel	40	SF	$ 60.00	$ 2,400.00	*$ 2,400.00*
All East-West Secondary Corridors					***$ 201,995.75***
Mobilization, Safety, Traffic Control and Erosion Control					*$ 124,601.25*
Mobilization (5%)	1	LS	$62,300.63	$ 62,300.63	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$62,300.63	$ 62,300.63	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/- 12,477 LF)					*$ 77,394.50*
Earth Excavation, 4"	770	CY	$ 15.00	$ 11,550.00	
Geotextile Fabric	6931	SY	$ 3.00	$ 20,793.00	
Aggregate Base Course, 4"	6931	SY	$ 6.50	$ 45,051.50	
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$ 10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$ 12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$ 16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Site Survey	1	LS	TBD	TBD	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Secondary Corridors (North - South)					***$ 742,440.25***
5th Avenue					***$ 36,225.00***
New Sidewalk (+/- 344 LF)					*$ 15,075.00*
Earth Excavation	30	CY	$ 15.00	$ 450.00	
5' Wide Sidewalk, Conc. (5" Thick)	195	SY	$ 75.00	$ 14,625.00	
Existing Sidewalk Removal and Replacement (+/- 360 LF)					*$ 18,750.00*
Demolition, Assumed 4' SW, 5" Total Removed	160	SY	$ 22.50	$ 3,600.00	
Earth Excavation	10	CY	$ 15.00	$ 150.00	
5' Wide Sidewalk, Conc. (5" Thick)	200	SY	$ 75.00	$ 15,000.00	
ADA Compliant Detectable Warning Panel	40	SF	$ 60.00	$ 2,400.00	*$ 2,400.00*
6th Avenue					***$ 73,612.50***
New Sidewalk (+/- 370 LF)					*$ 16,200.00*
Earth Excavation	30	CY	$ 15.00	$ 450.00	
5' Wide Sidewalk, Conc. (5" Thick)	210	SY	$ 75.00	$ 15,750.00	
Existing Sidewalk Removal and Replacement (+/- 1,063 LF)					*$ 55,612.50*
Demolition, Assumed 4' SW, 5" Total Removed	475	SY	$ 22.50	$ 10,687.50	
Earth Excavation	20	CY	$ 15.00	$ 300.00	
5' Wide Sidewalk, Conc. (5" Thick)	595	SY	$ 75.00	$ 44,625.00	
ADA Compliant Detectable Warning Panel	30	SF	$ 60.00	$ 1,800.00	*$ 1,800.00*
8th Avenue					***$ 144,115.00***
New Sidewalk (+/- 888 LF)					*$ 38,175.00*
Earth Excavation	70	CY	$ 15.00	$ 1,050.00	
5' Wide Sidewalk, Conc. (5" Thick)	495	SY	$ 75.00	$ 37,125.00	
Existing Sidewalk Removal and Replacement (+/-1,224 LF)					*$ 63,540.00*
Demolition, Assumed 4' SW, 5" Total Removed	544	SY	$ 22.50	$ 12,240.00	
Earth Excavation	20	CY	$ 15.00	$ 300.00	
5' Wide Sidewalk, Conc. (5" Thick)	680	SY	$ 75.00	$ 51,000.00	
Pedestrian RR Crossing	2	EA	$ 20,000.00	$ 40,000.00	*$ 40,000.00*
ADA Compliant Detectable Warning Panel	40	SF	$ 60.00	$ 2,400.00	*$ 2,400.00*
9th Avenue					***$ 71,025.00***
New Sidewalk (+/- 1,026 LF)					*$ 43,950.00*
Earth Excavation	80	CY	$ 15.00	$ 1,200.00	
5' Wide Sidewalk, Conc. (5" Thick)	570	SY	$ 75.00	$ 42,750.00	
Existing Sidewalk Removal and Replacement (+/- 404 LF)					*$ 21,075.00*
Demolition, Assumed 4' SW, 5" Total Removed	180	SY	$ 22.50	$ 4,050.00	
Earth Excavation	10	CY	$ 15.00	$ 150.00	
5' Wide Sidewalk, Conc. (5" Thick)	225	SY	$ 75.00	$ 16,875.00	
ADA Compliant Detectable Warning Panel	100	SF	$ 60.00	$ 6,000.00	*$ 6,000.00*
10th Avenue					***$ 32,475.00***
New Sidewalk (+/- 696 LF)					*$ 30,075.00*
Earth Excavation	55	CY	$ 15.00	$ 825.00	
5' Wide Sidewalk, Conc. (5" Thick)	390	SY	$ 75.00	$ 29,250.00	
ADA Compliant Detectable Warning Panel	40	SF	$ 60.00	$ 2,400.00	*$ 2,400.00*
12th Avenue					***$ 117,900.00***
New Sidewalk (+/- 2,581 LF)					*$ 110,700.00*
Earth Excavation	205	CY	$ 15.00	$ 3,075.00	
5' Wide Sidewalk, Conc. (5" Thick)	1435	SY	$ 75.00	$ 107,625.00	
ADA Compliant Detectable Warning Panel	120	SF	$ 60.00	$ 7,200.00	*$ 7,200.00*
14th Avenue					***$ 132,150.00***
New Sidewalk (+/- 2,832 LF)					*$ 121,500.00*
Earth Excavation	225	CY	$ 15.00	$ 3,375.00	
5' Wide Sidewalk, Conc. (5" Thick)	1575	SY	$ 75.00	$ 118,125.00	
Existing Sidewalk Removal and Replacement (+/- 130 LF)					*$ 7,050.00*
Demolition, Assumed 4' SW, 5" Total Removed	60	SY	$ 22.50	$ 1,350.00	
Earth Excavation	5	CY	$ 15.00	$ 75.00	
5' Wide Sidewalk, Conc. (5" Thick)	75	SY	$ 75.00	$ 5,625.00	
ADA Compliant Detectable Warning Panel	60	SF	$ 60.00	$ 3,600.00	*$ 3,600.00*

Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
All North-South Secondary Corridors					***$ 134,937.75***
Mobilization, Safety, Traffic Control and Erosion Control					*$ 60,750.25*
Mobilization (5%)	1	LS	$30,375.13	$ 30,375.13	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$30,375.13	$ 30,375.13	
Aggregate Subbase Under Sidewalk ***If Necessary*** (+/-11,918 LF)					*$ 74,187.50*
Earth Excavation, 4"	750	CY	$ 15.00	$ 11,250.00	
Geotextile Fabric	6625	SY	$ 3.00	$ 19,875.00	
Aggregate Base Course, 4"	6625	SY	$ 6.50	$ 43,062.50	
Miscellaneous					*TBD*
Painted Crosswalks	TBD	LS	TBD	TBD	
Traffic Control Signage	TBD	EA	TBD	TBD	
Decorative Pedestrian Lighting	TBD	EA	$ 10,500.00	TBD	
Decorative Vehicular Lighting	TBD	EA	$ 12,500.00	TBD	
Decorative Combination Vehicular and Pedestrian Lighting	TBD	EA	$ 16,000.00	TBD	
Way-finding Signage	TBD	EA	Note 1	TBD	
Custom Banners	TBD	EA	$ 125.00	TBD	
Street Trees, With Warranty, 2" Cal.	TBD	EA	$ 550.00	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Culverts	TBD	LF	TBD	TBD	
Suitable Fill	TBD	CY	TBD	TBD	
Utility Relocations / Adjustments	TBD	LS	TBD	TBD	
Site Survey	1	LS	TBD	TBD	
				IMPROVEMENTS SUBTOTAL	*$ 2,190,448.50*
				CONTINGENCY (20%)	*$ 438,089.70*
				DESIGN/ENGINEERING FEES (15%)	*$ 394,280.73*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 3,022,818.93***

ANTICIPATED COST RANGE:	***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Note 1: Refer to Way-finding Cost Estimate

Community comments regarding the existing pedestrian system.

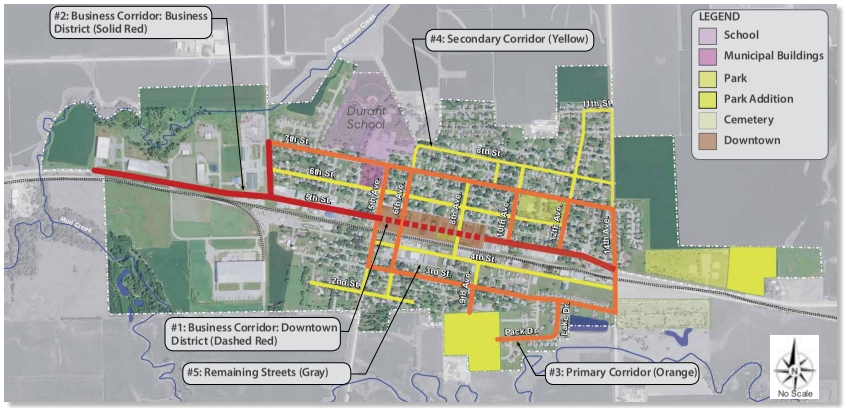
Pedestrian Systems

A pedestrian system that is connected, accessible, in good physical condition, well lit and shaded was identified by the community members as the most desired city improvement. The pedestrian system is composed of both sidewalks and recreational trails - refer to Board 12 for composite map..

Sidewalks

The Sidewalk and Lighting Master Plan on this board prioritizes corridors for sidewalk and lighting improvements in the following order: 1) Business Corridor: Downtown District, 2) Business Corridor: Business District, 3) Primary Corridors, 4) Secondary Corridors, and 5) Remaining city streets.

The width of the sidewalks and lighting treatment vary for each corridor, with the width of the sidewalks decreasing and number of streetscape amenities (including lighting) decreasing as the corridors become lower in priority. These transitions between corridors, along with way-finding signage, will help visitors better navigate Durant and easily identify the primary travel routes to the various points of interest. Figures 10a and 10b illustrate the various width requirements of pedestrians.



Proposed Concept: Sidewalk and Lighting Master Plan

Street trees play a critical role in the aesthetics and function of streetscapes as well as the residents' quality of life and are proposed for all of the corridors. Proper selection of a variety of tree species is critical; things to consider include: mature size and shape, seasonal interests, leaf and fruit litter, diseases, root structure, growth rate and maintenance.

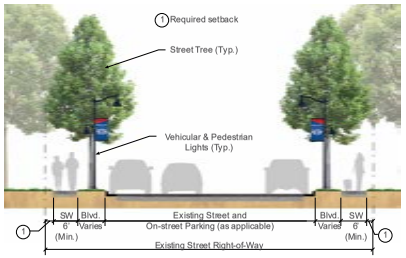
#1 Downtown District: This corridor has the widest sidewalks, pedestrian and vehicular lighting, and the most streetscape amenities. SeeBoards 14 and 15 for more details.

#2 Business District: This corridor continues the streetscape of the downtown, but at a reduced scale. Sidewalks with a minimum width of 6' are proposed for both sides of the street along with pedestrian and vehicular lighting. Refer to board #12 for more details.

#3 Primary Corridors: These are residential streets that serve as main routes to points of interest throughout town. Both sides of the street have 6' wide sidewalks along with pedestrian and vehicular lighting. Refer to typical section 10a on this board as well as board #12 for additional illustrations and information.

#4 Secondary Corridors: Residential streets that serve as "collector" streets for pedestrians to get to and from the Business and Primary Corridors. The streets have 5' wide sidewalks on each side and pedestrian only lighting. Refer to typical section 10b on this board.

#5 Remaining City Streets: The remaining city streets have 5' wide sidewalks on each side of the street. There is no lighting proposed other than at the end of each block by the intersections.



Proposed Typical Section 10a: Primary Corridors

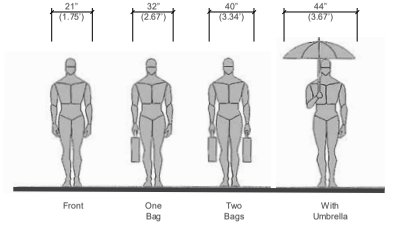


Figure 10a: Width requirements for selected pedestrian activities. Source: Time Sauver Standards for Landscape Architecture.

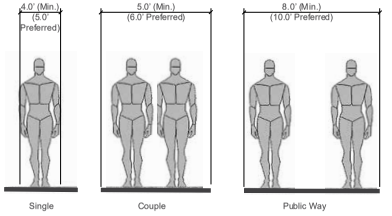
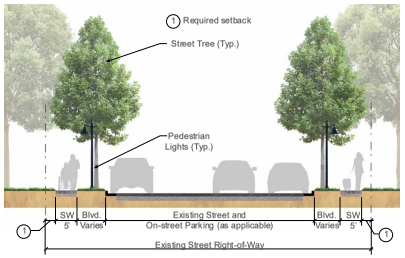


Figure 10b: Pedestrian walkway width requirements. Source: Time Sauver Standards for Landscape Architecture.



Proposed Typical Section 10b: Secondary Corridors

Durant

Pedestrian Systems: Walks

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, ASLA, PLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Trails

The proposed trail system is composed of multiple segments that accommodate various user types. The segments, in order of preference are: 1) Separate trail, 2) Bike Lanes;, 3) Sharrows, and 4) Bike Routes. All are illustrated on board 11, except for the Bike Lane, which can be seen on boards 14 and 15. All segments of the trail system are to be marked and signed in accordance with MUTCD (Manual of Uniform Traffic Control Devices).

Separate trail segments: Separate recreational trails are typically 10' wide with a 2' minimum shoulder and horizontal clearance from vertical objects. The shoulder is generally maintained grass, and the surface of the trail may have one of the following ADA-compliant surfaces: stabilized crushed ag lime, asphalt, or concrete.

Separate trails for multi-use are generally limited to "human power" activities that include bicycling, walking, and running, though many communities will allow the use of golf carts to accommodate users who are not physically capable of utilizing the trail by means of human power.

While separate trail segments need to be designed to allow emergency and maintenance vehicles, other vehicles should not be allowed on the trail. Collapsible bollards located at access points to which only emergency and city officials have a key are common methods to control access by unauthorized vehicles.

Site amenities located along the trail segments improve the quality of the users' experience. Site amenities include trash receptacles, benches, restrooms, water fountains, water bottle refill stations, bike racks, interpretive signage, and vertical or pavement mileage markers. In addition, segments that are located outside of the urbanized area that are naturalized with native prairie and trees (that are appropriate for the site conditions) will provide many benefits besides adding to the enjoyment of the user. Benefits include: improving water quality and the microclimate, managing stormwater, providing shade, reducing maintenance needs, and providing wildlife habitat.

Key Concept Components

- Develop a connected trail/sidewalk network with prioritized route phasing
- Enhance pedestrian connectivity between community destinations and amenities
- Coordinate the trail system with regional planning commissions so that the trail ties into and becomes part of a regional trail system network
- Certain segments of the proposed trail sysem may require permitting and/or coordination/involvment with the following: Iowa Interstate Railroad, Iowa Department of Transportation, County Engineer (Cedar, Muscatine, Scott), Rock Island District US Army Corp of Engineers, Iowa Department of Natural Resources

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect and Civil Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Sharrow, Bike Route and Bike Lane

Pedestrian Systems: Trails (See Board #11 for Visual)					9/20/2019
Description	***Estimated Quantity***	***Unit***	***Estimated Unit Cost***	***Estimated Line Total***	***Estimated Totals***
Sharrow Segment (Shared Street)					***TBD***
Sharrow *(+/- 13,420 LF ~ 2.54 Mi.)*					
Share-The-Road Pavement Markings, Symbols	TBD	EA	$ 350.00	TBD	
Share-The-Road Signage	TBD	EA	$ 250.00	TBD	
Mobilization, Safety and Traffic Control	TBD	TBD	TBD	TBD	
Bike Route Segment (5th St. Business District)					***TBD***
Bike Route *(+/- 6,610 LF ~ 1.25 Mi.)*					
Bike Route Pavement Markings, Symbols	TBD	EA	$ 350.00	TBD	
Bike Route Signage	TBD	EA	$ 250.00	TBD	
Mobilization, Safety and Traffic Control	TBD	TBD	TBD	TBD	
Bike Lane Segment (5th St. Downtown District) - Green Lane					***$ 156,600.00***
Bike Lane *(+/- 1,710 LF ~ 0.32 Mi.) - 1,342 LF without intersections*					***$ 156,600.00***
Bike Lane Signage	TBD	EA	$ 250.00	TBD	
Solid Painted Bike Lane, Anti-Slip Surfacing, +/-1,342 LF	2088	SY	$ 75.00	$ 156,600.00	
Mobilization, Safety and Traffic Control	TBD	TBD	TBD	TBD	
Survey					***TBD***
Site Survey	1	LS	TBD	TBD	
				IMPROVEMENTS SUBTOTAL	*TBD*
				CONTINGENCY (20%)	*TBD*
				DESIGN/ENGINEERING FEES (15%)	*TBD*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***TBD***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

OPC COSTS: Separated Bike Trail

Pedestrian Systems: Trails (See Board #11 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Separated Trail (10' Wide with 2' Grass Shoulders) +/- 6.62 Miles					
Norfolk Rd. to Proposed Park on South Side (+/- 2.90 mile)					***$ 1,293,050.00***
Trail Segment 1 (+/- 15,320 LF)					
Earth Excavation, 5"	3975	CY	$ 15.00	$ 59,625.00	
10' Wide Trail, Conc. (5" Thick)	17025	SY	$ 65.00	$ 1,106,625.00	
Painted Pavement Markings (Centerline)	15400	LF	$ 1.75	$ 26,950.00	
ADA Compliant Detectable Warning Panel	80	SF	$ 60.00	$ 4,800.00	
Trail Regulatory Signage	7	EA	$ 250.00	$ 1,750.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition / Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination	TBD	TBD	TBD	TBD	
Seeding (Shoulders)	1.5	AC	$ 12,500.00	$ 18,750.00	
Prairie Seeding (Disturbed Areas)	7.1	AC	$ 10,500.00	$ 74,550.00	
Site Survey	1	LS	TBD	TBD	
Trail Segment 1 to 4th Avenue (+/- 0.49 mile)					***$ 220,537.50***
Trail Segment 2 (+/- 2,600 LF)					
Earth Excavation, 5"	675	CY	$ 15.00	$ 10,125.00	
10' Wide Trail, Conc. (5" Thick)	2890	SY	$ 65.00	$ 187,850.00	
Painted Pavement Markings (Centerline)	2650	LF	$ 1.75	$ 4,637.50	
ADA Compliant Detectable Warning Panel	20	SF	$ 60.00	$ 1,200.00	
Trail Regulatory Signage	4	EA	$ 250.00	$ 1,000.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition / Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination	TBD	TBD	TBD	TBD	
Seeding (Shoulders)	0.25	AC	$ 12,500.00	$ 3,125.00	
Prairie Seeding (Disturbed Areas)	1.2	AC	$ 10,500.00	$ 12,600.00	
Site Survey	1	LS	TBD	TBD	
Cemetery to Feldhan Park (+/- 0.62 mile)					***$ 293,192.50***
Trail Segment 3 (+/- 3,260 LF)					
Earth Excavation, 5"	850	CY	$ 15.00	$ 12,750.00	
10' Wide Trail, Conc. (5" Thick)	3625	SY	$ 65.00	$ 235,625.00	
Painted Pavement Markings (Centerline & Stop Bars)	3410	LF	$ 1.75	$ 5,967.50	
ADA Compliant Detectable Warning Panel	260	SF	$ 60.00	$ 15,600.00	
Trail Regulatory Signage	15	EA	$ 250.00	$ 3,750.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition /Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination	TBD	TBD	TBD	TBD	
Seeding (Shoulders)	0.3	AC	$ 12,500.00	$ 3,750.00	
Prairie Seeding (Disturbed Areas)	1.5	AC	$ 10,500.00	$ 15,750.00	
Site Survey	1	LS	TBD	TBD	
Feldhan Park to 11th Street (+/- 0.52 mile)					***$ 235,525.00***
Trail Segment 4 (+/- 2,720 LF)					
Earth Excavation, 5"	710	CY	$ 15.00	$ 10,650.00	
10' Wide Trail, Conc. (5" Thick)	3025	SY	$ 65.00	$ 196,625.00	
Painted Pavement Markings (Centerline & Stop Bars)	2800	LF	$ 1.75	$ 4,900.00	
ADA Compliant Detectable Warning Panel	60	SF	$ 60.00	$ 3,600.00	
Trail Regulatory Signage	8	EA	$ 250.00	$ 2,000.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition / Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination (Includes RR for crossing)	TBD	TBD	TBD	TBD	
Seeding (Shoulders and Urban Disturbed Areas)	1	AC	$ 12,500.00	$ 12,500.00	
Prairie Seeding (Disturbed Areas)	0.5	AC	$ 10,500.00	$ 5,250.00	
Site Survey	1	LS	TBD	TBD	

Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
8th Street to Private Property Trail (+/- 0.88 mile)					***$ 402,237.50***
Trail Segment 5 (+/- 4,640 LF)					
Earth Excavation, 5"	1205	CY	$ 15.00	$ 18,075.00	
Selective Tree Removal and Grubbing	1	LS	$ 5,000.00	$ 5,000.00	
10' Wide Trail, Conc. (5" Thick)	5160	SY	$ 65.00	$ 335,400.00	
Painted Pavement Markings (Centerline & Stop Bars)	4750	LF	$ 1.75	$ 8,312.50	
ADA Compliant Detectable Warning Panel	60	SF	$ 60.00	$ 3,600.00	
Trail Regulatory Signage	9	EA	$ 250.00	$ 2,250.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition / Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination	TBD	TBD	TBD	TBD	
Seeding (Shoulders & Urban Disturbed Areas)	1.15	AC	$ 12,500.00	$ 14,375.00	
Prairie Seeding (Rural Disturbed Areas)	1.45	AC	$ 10,500.00	$ 15,225.00	
Site Survey	1	LS	TBD	TBD	
5th Avenue (Along Yankee) to Trail Segment 5 (+/- 0.51 mile)					***$ 240,087.50***
Trail Segment 6 (+/- 2,708 LF)					
Earth Excavation, 5"	705	CY	$ 15.00	$ 10,575.00	
10' Wide Trail, Conc. (5" Thick)	3010	SY	$ 65.00	$ 195,650.00	
Painted Pavement Markings (Centerline and Stop Bars)	2850	LF	$ 1.75	$ 4,987.50	
ADA Compliant Detectable Warning Panel	100	SF	$ 60.00	$ 6,000.00	
Trail Regulatory Signage	10	EA	$ 250.00	$ 2,500.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition / Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination	TBD	TBD	TBD	TBD	
Seeding (Shoulders & Urban Disturbed Area)	1	AC	$ 12,500.00	$ 12,500.00	
Prairie Seeding (Rural Disturbed Areas)	0.75	AC	$ 10,500.00	$ 7,875.00	
Site Survey	1	LS	TBD	TBD	
Private Property (+/- 0.70 mile) - Trail Reduced to 8' Wide					***$ 266,275.00***
Trail Segment 7 (+/- 3,692 LF)					
Earth Excavation, 5"	550	CY	$ 15.00	$ 8,250.00	
Selective Tree Removal and Grubbing	1	LS	$ 9,000.00	$ 9,000.00	
8' Wide Trail, Conc. (5" Thick)	3282	SY	$ 65.00	$ 213,330.00	
Painted Pavement Markings (Centerline and Stop Bars)	3800	LF	$ 1.75	$ 6,650.00	
ADA Compliant Detectable Warning Panel	32	SF	$ 60.00	$ 1,920.00	
Trail Regulatory Signage	10	EA	$ 250.00	$ 2,500.00	
Site Amenities (Benches, Trash Receptacles, Bike Racks)	TBD	TBD	TBD	TBD	
Interpretive Signage, Trail Markers, Etc.	TBD	TBD	TBD	TBD	
Drainage Structures (i.e. Culverts, etc.)	TBD	TBD	TBD	TBD	
Landscaping (Trees, Prairie)	TBD	TBD	TBD	TBD	
Land Acquisition / Long Term Easement	TBD	TBD	TBD	TBD	
Regulatory Permitting and Coordination	TBD	TBD	TBD	TBD	
Seeding (Shoulders)	0.5	AC	$ 12,500.00	$ 6,250.00	
Prairie Seeding (Disturbed Areas)	1.75	AC	$ 10,500.00	$ 18,375.00	
Site Survey	1	LS	TBD	TBD	
All Segments of Separated Trail					***$ 295,090.50***
Mobilization (5%)	1	LS	$147,545.25	$ 147,545.25	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$147,545.25	$ 147,545.25	
Site Survey	1	LS	TBD	TBD	
				IMPROVEMENTS SUBTOTAL	*$ 3,245,995.50*
				CONTINGENCY (20%)	*$ 649,199.10*
				DESIGN/ENGINEERING FEES (15%)	*$ 584,279.19*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 4,479,473.79***

ANTICIPATED COST RANGE:	***TBD***

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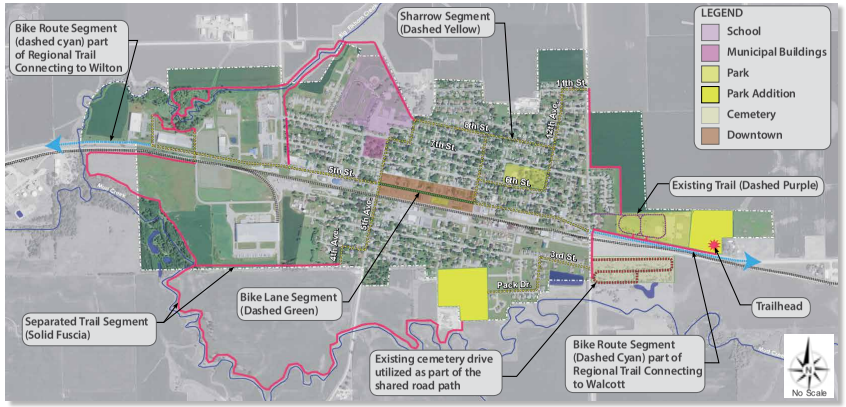
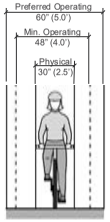


Proposed Concept: Community Trail Master Plan

Trails

The proposed trail system is composed of multiple segments that accommodate various user types. The segments, in order of preference are: 1) Separate trail, 2) Bike Lanes;, 3) Sharrows, and 4) Bike Routes. All are illustrated on this board, except for the Bike Lane, which can be seen on Boards 14 and 15. All segments of the trail system are to be marked and signed in accordance with MUTCD (Manual of Uniform Traffic Control Devices).

Separate trail segments: Separate recreational trails are typically 10' wide with a 2' minimum shoulder and horizontal clearance from vertical objects. The shoulder is generally maintained grass, and the surface of the trail may have one of the following ADA-compliant surfaces: stabilized crushed ag lime, asphalt, or concrete.

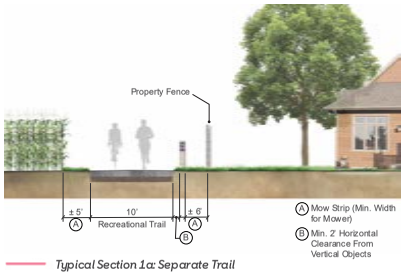


AASHTO Spatial requirements for bicyclist.

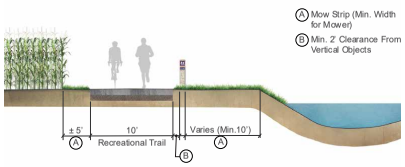
Separate trails for multi-use are generally limited to "human power" activities that include bicycling, walking, and running, though many communities will allow the use of golf carts to accommodate users who are not physically capable of utilizing the trail by means of human power.

While separate trail segments need to be designed to allow emergency and maintenance vehicles, other vehicles should not be allowed on the trail. Collapsible bollards located at access points to which only emergency and city officials have a key are common methods to control access by unauthorized vehicles.

Site amenities located along the trail segments improve the quality of the users' experience. Site amenities include trash receptacles, benches, restrooms, water fountains, water bottle refill stations, bike racks, interpretive signage, and vertical or pavement mileage markers. In addition, segments that are located outside of the urbanized area that are naturalized with native prairie and trees (that are appropriate for the site conditions) will provide many benefits besides adding to the enjoyment of the user. Benefits include: improving water quality and the micro-climate, managing stormwater, providing shade, reducing maintenance needs, and providing wildlife habitat.

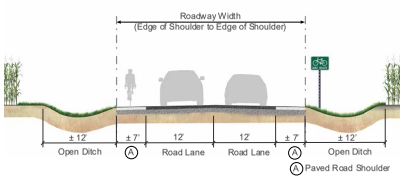


Typical Section 1a: Separate Trail

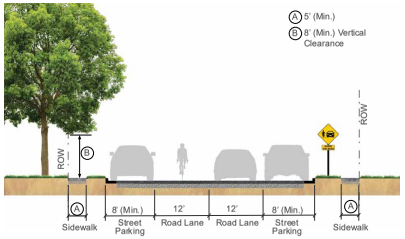


Typical Section 1b: Separate Trail Along Creek/Drainageway

Existing Image of Mudd Creek corridor from 1st Ave. looking west.



Typical Section 4: Designated County Bike Route



Typical Section 5: Sharrow (Shared Roadway)

Proposed separate path concept showing a 10'-wide concrete path with 2' mowed shoulder, pavement mileage markings, interpretive signage, paved offline seating area with bench and trash receptacle. The existing weedy volunteer vegetation and scrub shrub is replaced with native prairie and shade tree plantings appropriate for location.

Durant

Pedestrian Systems: Trails

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, ASLA, PLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Pedestrian Systems Summary

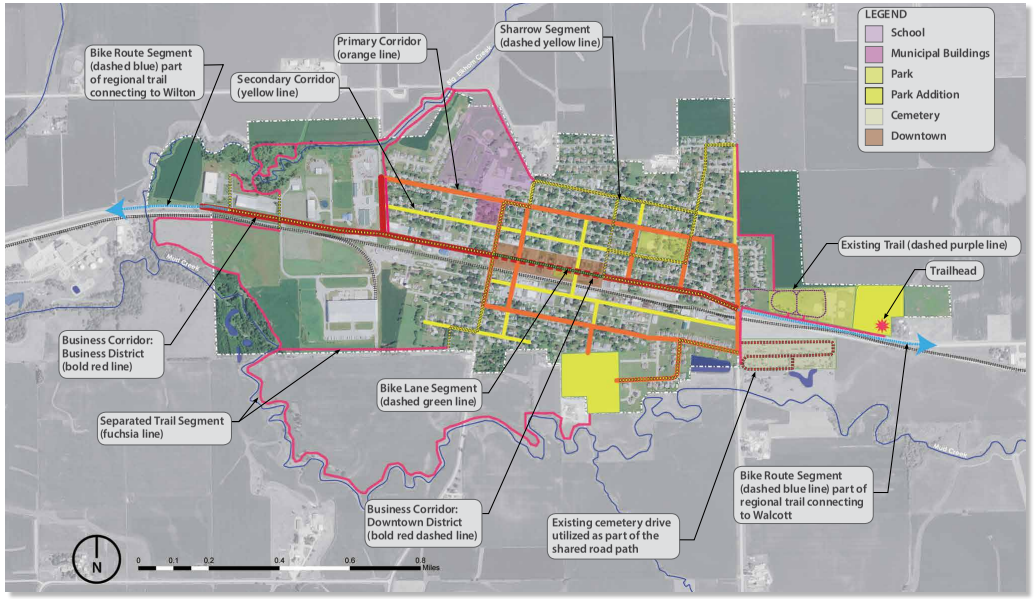
Map 12a on board 12 illustrates how the proposed trail and sidewalk systems (see boards 10 and 11) will integrate. This integrated system will provide the community members, regardless of age, with safe and accessible connections to places they want or need to go. Other benefits include creating stronger linkages between the north and south sides of town and creating low-to-no cost healthy recreation and transportation opportunities.

Bioregional impact such as soils, water-table depths, flooding frequency and other bioregional attributes all have an impact on project designs. During the planning process bioregional mapping (boards 2a through 2h) is reviewed to get a general understanding of the site characteristics. As the design process progresses, field observations and more detailed investigations will need to be made to verify the preliminary findings and determine the most feasible route.

The community expressed its desire to have a looped trail system around the town and along the creek corridors and waterways, since these would be the most scenic routes and also provide the least amount of impact to property owners and farm fields. The route selected is shown on Map 12a found on board 12. Issues with being located along a creek corridor generally include flooding, silty soils (poor for construction), and sometimes high water tables, all things that can greatly impact construction costs, permitting needs, project schedules, the life-span of the project, and future maintenance.

The separated trail route shown on Map 12a is overlaid on Maps 12b and 12c on board 12 and has been color coded according to risk of flooding, and risk of being located in too high of a water-table. Based on these two maps, the main threat for the preferred route is flooding. While many trails are located in floodplains, it would be the goal to design the trail on higher ground outside of the 100-year floodplain. For trails located within a floodplain, a paved surface (asphalt or concrete) is recommended for easier clean-up if/when flooding occurs. An alternative to the riskier segments is shown in purple on both maps, however, these alternative routes have more impact to land owners and may not be as scenic.

Issues that need to be considered when designing and constructing projects in undeveloped areas is permitting. Construction within the floodplain, or along stream corridors may require additional professional investigations for the presence of regulated aquatic resources, significant archaeological/historical artifacts, and/or Threatened and Endangered Species. If project impacts meet certain criteria or thresholds, then permitting is required from various regulating agencies, including the Iowa Department of Natural Resources and the United States Army Corps of Engineers. Conditions of a permit may require mitigation (constructing what you are destroying in another location), limiting construction to certain months, as well as various other requirements, all which can quickly increase project costs and lengthen or postpone the project schedule.



Map 12a: Proposed Pedestrian Systems Master Plan showing overall connectivity provided by the proposed sidewalk and trail improvements.

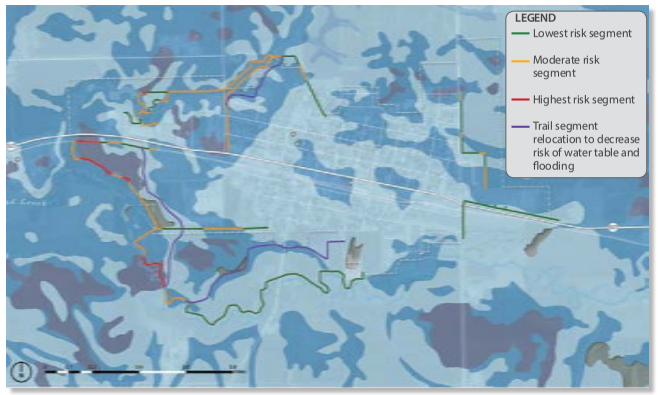
Pedestrian Systems Summary

Map 12a above illustrates how the proposed trail and sidewalk systems (see Boards 10 and 11) will integrate. This integrated system will provide the community members, regardless of age, with safe and accessible connections to places they want or need to go. Other benefits include creating stronger linkages between the north and south sides of town and creating low-to-no cost healthy recreation and transportation opportunities.

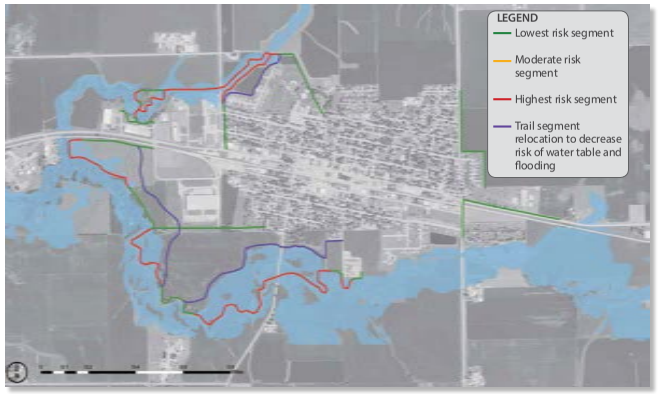
Bioregional Impact: Soils, water-table depths, flooding frequency and other bioregional attributes all have an impact on project designs. During the planning process bioregional mapping (Boards 2a through 2h) is reviewed to get a general understanding of the site characteristics. As the design process progresses, field observations and more detailed investigations will need to be made to verify the preliminary findings and determine the most feasible route.

The community expressed its desire to have a looped trail system around the town and along the creek corridors and waterways, since these would be the most scenic routes and also provide the least amount of impact to property owners and farm fields. The route selected is shown on Map 12a. Issues with being located along a creek corridor generally include flooding, silty soils (poor for construction), and sometimes high water tables, all things that can greatly impact construction costs, permitting needs, project schedules, the life-span of the project, and future maintenance.

The separated trail route shown on Map 12a is overlaid on Maps 12b and 12c and has been color coded according to risk of flooding, and risk of being located in too high of a water-table. Based on these two maps, the main threat for the preferred route is flooding. While many trails are located in floodplains, it would be the goal to design the trail on higher ground outside of the 100-year floodplain. For trails located within a floodplain, a paved surface (asphalt or concrete) is recommended for easier clean-up if/when flooding occurs. An alternative to the riskier segments is shown in purple on both maps, however, these alternative routes have more impact to land owners and may not be as scenic.



Map 12b: Proposed Separated Trail segment overlaid on the Depth to Water-table Map



Map 12c: Proposed Separated Trail segment overlaid on the Flood Plain Map

Durant

Pedestrian Systems: Entire

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
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Iowa's Living Roadways community visioning

Corridors & Business District

Primary Corridor Enhancements

Primary corridors are residential streets that serve as main routes to points of interest throughout town.

Seventh Street: Seventh Street is one of the main routes that students take to get to the Durant schools. Residents indicated their concern for the safety of student pedestrians because there are no sidewalks in the block between 1st Ave. and 3rd Ave. and there are a lot of vehicles that use the street. To increase the comfort of students who are walking and biking, the sidewalk width along 7th St. is proposed to be 6 feet wide. ADA-compliant curb ramps, along with painted and signed crosswalks, will further improve the pedestrian experience.

Pedestrian and vehicular lighting is proposed for both safety and way-finding. Banners on the lights along 7th St. that incorporate the school logo and colors will enhance the identification of the corridor leading to the school.

Fifth Avenue: Fifth Avenue on the south side of 5th Street (Hwy. 6) is one of the main routes that residents on the south side of town use to access the Business Corridor, school, city parks, library, and municipal buildings. The primary concern of residents is for the safety of pedestrians due to the condition of the sidewalks and railroad pedestrian crossing.

The enhancements proposed and illustrated above include: 6' wide sidewalk, wider pedestrian railroad crossing to match the travelway of the sidewalk, vehicular and pedestrian lights for nighttime safety, banners to assist with wayfinding, railway crossing safety signage for pedestrians, replacement of gravel along roadway edge with maintained grass, and reduction of access drives near the intersections to enhance safety and improve circulation.

Key Concept Components

- Designated pedestrian crossings appropriately marked and signed
- Traffic control signage properly placed at intersections to clearly identify vehicular right of way and promote controlled circulation
- Crosswalk pavement markings and vehicular and pedestrian regulatory signage in accordance with the *Manual of Uniform Traffic Control Devices* (MUTCD)
- Decorative pedestrian and vehicular lighting, themed banners, and way-finding signage
- Complete sidewalk system that is of consistent width, in good repair and, at minimum, connects to the Business Corridor and Secondary Corridor sidewalk systems
- ADA compliant sidewalks
- Coordination with the Cedar, Scott and Muscatine County Engineers, as applicable

Design Expertise Recommended
Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Civil Engineer, and Electrical Engineer.

Project Scope and Cost Opinion
The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Seventh Street (Primary Corridor)

Refer to OPC Costs for the Primary Corridor where Seventh Street is listed under the East-West corridor section on Page 78.

OPC COSTS: Fifth Avenue (Primary Corridor)

Refer to OPC Costs for the Primary Corridor where Fifth Avenue is listed under the North-South corridor section on Page 79.

Business Corridor Enhancements: Business District

The Business District is one part of the Business Corridor; the other part is the Downtown District, which is addressed on boards 14 and 15. The Business District is Located on either side of the Downtown District and serves as the primary gateway. The proposed concept is to create a unified Business Corridor where the streetscape character established in the downtown is extended into the Business District. As illustrated above on board 13, this is accomplished by: 6' wide sidewalks on each side of the street, pedestrian and vehicular lighting to highlight the area at night as well as provide for nighttime safety, permeable paving for the on-street parking area to assist in storm-water management, deciduous street trees in the grass boulevards to provide shade and enhance aesthetics, painted crosswalk at intersections for safety, and banners and way-finding signage to guide visitors.

Key Concept Components

- Designated pedestrian crossings appropriately marked and signed
- Traffic control signage properly placed along the corridor
- Crosswalk pavement markings, vehicular and pedestrian regulatory and way-finding signage in accordance with the *Manual of Uniform Traffic Control Devices* (MUTCD) and Iowa Department of Transportation requirements
- Decorative pedestrian and vehicular lighting, themed banners, and way-finding signage
- Complete sidewalk system that is of consistent width, in good repair and, at minimum, connects to the Downtown District, Primary Corridor and Secondary Corridor sidewalk systems
- ADA compliant sidewalks
- Permeable paving in the parking areas to match that used in the downtown district
- Street trees planted in the grass boulevard between the edge of the road and sidewalk
- Coordination with the Cedar, Scott and Muscatine County Engineers as applicable
- Coordination with the Iowa Department of Transportation as applicable

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Civil Engineer, and Electrical Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept

drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

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OPC COSTS: Business District

Refer to OPC for Business Corridor: Business District on Page 76.

Existing 7th St. corridor looking east from 1st Ave.

Existing 5th Ave. corridor south of 5th St. & RR tracking looking north

Pedestrian safety signage

Existing 5th St. looking east photo taken between 12th & 13th Ave.

Proposed Concept: This Primary Corridor incorporates improvements to enhance connectivity, safety, accessibility, and way-finding. Refer to board 10 for additional information on sidewalks and Primary Corridors.

Seventh Street (Primary Corridor) Enhancements

Seventh Street is one of the main routes that students take to get to the Durant schools. Residents indicated their concern for the safety of student pedestrians because there are no sidewalks in the block between 1st Ave. and 3rd Ave. and there are a lot of vehicles that use the street. To increase the safety of students who are walking and biking, the sidewalk width along 7th St. is proposed to be 6 feet wide. ADA-compliant curb ramps, along with painted and signed crosswalks, will further increase pedestrian safety.

Pedestrian and vehicular lighting is proposed for both safety and way-finding. Banners on the lights along 7th St. that incorporate the school logo and colors will enhance the identification of the corridor leading to the school.

Proposed Concept: This Primary Corridor incorporates improvements to enhance connectivity, safety, accessibility, way-finding, and aesthetics. Refer to board 10 for additional information on sidewalks and Primary Corridors.

Fifth Avenue (Primary Corridor) Enhancements

Fifth Avenue on the south side of 5th Street (Hwy. 6) is one of the main routes that residents on the south side of town use to access the Business Corridor, school, city parks, library, and municipal buildings. The primary concern of residents is for the safety of pedestrians due to the condition of the sidewalks and railroad pedestrian crossing.

The enhancements proposed and illustrated above include: 6' wide sidewalk, wider pedestrian railroad crossing to match the travelway of the sidewalk, vehicular and pedestrian lights for nighttime safety, banners to assist with way-finding, railway crossing safety signage for pedestrians, replacement of gravel along roadway edge with maintained grass, and reduction of access drives near the intersections to enhance safety and improve circulation.

Proposed Concept: This edit illustrates the streetscape elements that are proposed to be carried out from the Downtown District.

Business District

The Business District is one part of the Business Corridor; the other part is the Downtown District, which is addressed on Boards 14 and 15. The Business District is located on either side of the Downtown District and serves as the primary gateway.

The proposed concept is to create a unified Business Corridor where the streetscape character established in the downtown is extended into the Business District. As illustrated above, this is accomplished by: 6' wide sidewalks on each side of the street, pedestrian and vehicular lighting to highlight the area at night as well as provide for nighttime safety, permeable paving for the on-street parking area to assist in storm-water management, deciduous street trees in the grass boulevards to provide shade and enhance aesthetics, painted crosswalk at intersections for safety, and banners and way-finding signage to guide visitors.

Durant

Corridors & Business District

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
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Iowa's Living Roadways community visioning

Business Corridor: Downtown District

Downtown District Enhancements

The Downtown District is one of two districts located along the business corridor and begins at the intersection of 5th Street and 5th Avenue and ends at the intersection of 5th Street and 9th Avenue. The second district along the business corridor is the Business District (see board 13). While both the Downtown and Business Districts are equally important to the economic vitality of Durant, the Downtown District has a higher concentration of pedestrian traffic and businesses.

Establishing a streetscape that is both functional and aesthetic is critical to having a thriving downtown. The streetscape must be able to effectively accommodate both vehicular and pedestrian traffic while being inviting to both the businesses and visitors. The way to successfully achieve this is by implementing a Complete Streets design approach.

The Complete Streets design approach takes into account all users of all ages and abilities, regardless of their mode of transportation. Complete Streets enable safe, convenient and comfortable travel. The proposed concept plan shown on board 14, including the associated concepts shown on board 15, illustrates this approach.

Some of the benefits of the proposed concept include: improved accessibility, connectivity, safety, and enhanced way-finding, circulation, aesthetics, and function of the downtown area. Incorporation of greenspace/vegetation, street trees, and storm-water management amenities are also accomplished.

Implementing the proposed enhancements should be part of the city's overall revitalization plan and efforts for attracting businesses, tourists, and potential residents to Durant. Future plans by the city to reconstruct the 5th Street corridor provide the perfect opportunity to incorporate the concepts proposed on the boards for both the Downtown and Business Districts.

Key Concept Components

- "Bump-Outs" to assist in traffic calming, increase safety of pedestrians by shortening the travel way to cross the street, and incorporate greenspace
- Reconstruction of high curb with steps of appropriate tread and rise, with handrail
- ADA compliant sidewalks, ramps, and parking
- Decorative permeable paving for on-street parking areas to delineate the parking from the travelway, aid in aesthetics, and help manage stormwater
- Designated pedestrian crossings appropriately "marked" by decorative colored pavement that integrates with streetscape for a unified appearance
- Storm-water planters to aid in storm-water management
- Street trees and herbaceous greenery incorporated into storm-water planters to aid

in stormwater treatment as well as to improve the streetscape aesthetics and provide shade
- Bike lane to increase user comfort and draw cyclists into the downtown area
- Traffic control signage properly placed
- Crosswalks, pavement markings and vehicular and pedestrian regulatory signage in accordance with the *Manual of Uniform Traffic Control Devices* (MUTCD)
- Complete sidewalk system that is of consistent width, in good repair and, at minimum, connects to the Business District, Primary Corridor and Secondary Corridor sidewalk systems
- Decorative pedestrian and vehicular lighting, banners, hanging baskets, way-finding signage for aesthetics, branding, establishing importance
- Designated bike lane for increased accessibility to the downtown and increase user comfort
- High curbs replaced by steps of proper tread and rise, and handrails – all for improved accessibility and aesthetics
- Overhead utility wires buried to provide a "cleaner" look
- Mural paintings on blank building walls that depict Durant's heritage, identity and uniqueness
- Coordinated site amenities (benches, trash receptacles, and bike racks) for user comfort and branding; color and style to match decorative lighting
- Coordination with the Cedar County Engineer, as applicable
- Coordination with the Iowa Department of Transportation, as applicable

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Civil Engineer, Traffic Engineer, Structural Engineer and Electrical Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

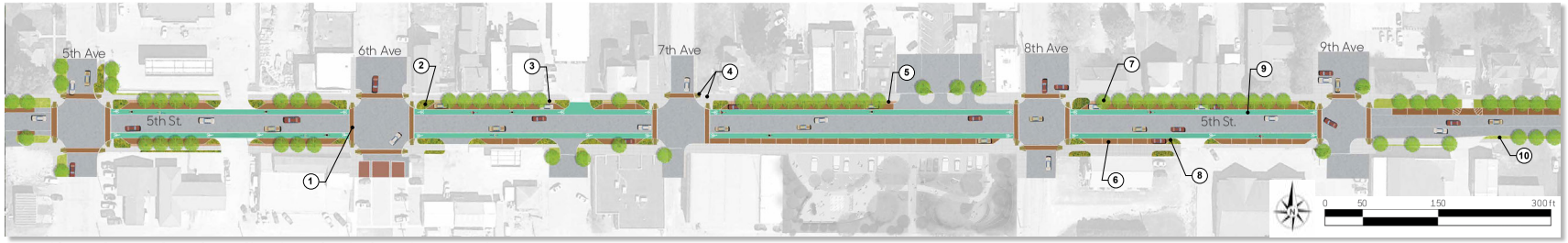
Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Downtown District

Refer to OPC Costs for Business Corridor: Downtown District on Page 75 .

Existing aerial (plan view) of the Downtown District.



Proposed Concept: Downtown District Concept Plan utilizing a Complete Streets design approach

Downtown District Enhancements:

The Downtown District is one of two districts located along the business corridor and begins at the intersection of 5th Street and 5th Avenue and ends at the intersection of 5th Street and 9th Avenue. The second district along the business corridor is the Business District (see board 13). While both the Downtown and Business Districts are equally important to the economic vitality of Durant, the Downtown District has a higher concentration of pedestrian traffic and businesses.

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Some of the benefits of the proposed concept include: improved accessibility, connectivity, safety, and enhanced way-finding, circulation, aesthetics, and function of the downtown area. Incorporation of greenspace/vegetation, street trees, and storm-water management amenities are also accomplished.

Implementing the proposed enhancements should be part of the city's overall revitalization plan and efforts for attracting businesses, tourists, and potential residents to Durant. Future plans by the city to reconstruct the 5th Street corridor provide the perfect opportunity to incorporate the concepts proposed on the boards for both the Downtown and Business Districts.

DRAWING NOTES FOR PROPOSED DOWNTOWN DISTRICT CONCEPT PLAN

1. CROSSWALK: DECORATIVE PAVEMENT (BRICK OR COLORED STAMPED CONCRETE) WITH CONTRASTING COLOR BANDING; ADA COMPLIANT
2. MULCHED PLANTING AREA IN "BUMP-OUT" WITH SHORT PLANTINGS TO ALLOW VISIBILITY. PLANTED "BUMP-OUTS" ALLOW FOR PLANTINGS TO HIGHLIGHT DOWNTOWN AREA AND AID IN TRAFFIC CALMING.
3. STEPS WITH APPROPRIATE RISE AND TREAD TO TRANSITION FROM BUILDINGS TO STREET; HANDRAILS FOR SAFETY
4. ADA-COMPLIANT SIDEWALKS AND RAMPS AT STREET CROSSINGS
5. DECORATIVE PAVEMENT BETWEEN PLANTERS TO PROVIDE A "TRANSITION ZONE" BETWEEN PEDESTRIAN AND VEHICULAR PAVEMENT.
6. PERMEABLE PAVING FOR PARKING STALLS; PROVIDE REQUIRED NUMBER OF HANDICAPPED STALLS AND APPROPRIATELY IDENTIFY
7. DECIDUOUS STREET TREES PLANTED IN STORM-WATER PLANTERS TO HIGHLIGHT STREETSCAPE, PROVIDE SHADE AND IMPROVE AESTHETICS. TREES PLANTED OUTSIDE OF THE SIGHT TRIANGLE TO ALLOW FOR VISIBILITY. SELECT TREES THAT ARE APPROPRIATE FOR STREETSCAPES AND STORM-WATER PLANTERS AS APPLICABLE.
8. STORM-WATER PLANTER WITH CURB CUTS TO CATCH, TREAT AND MANAGE STORM-WATER RUNOFF
9. SEPARATE DELINEATED BIKE LANE WITH BIKE MARKINGS TO INCREASE CYCLING SAFETY
10. EXISTING PAVEMENT/GRAVEL REPLACED WITH MAINTAINED GRASS OR GRASS AREA WIDENED TO ENHANCE SAFETY, CIRCULATION AND AESTHETICS IN BUSINESS DISTRICT.

Durant

Downtown District – Part 1

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
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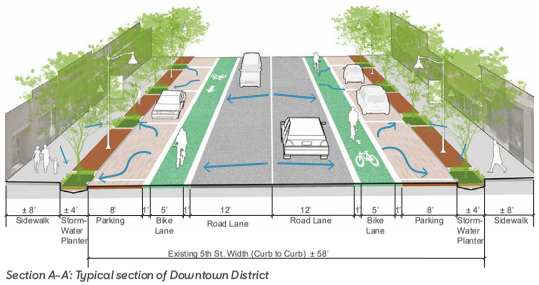
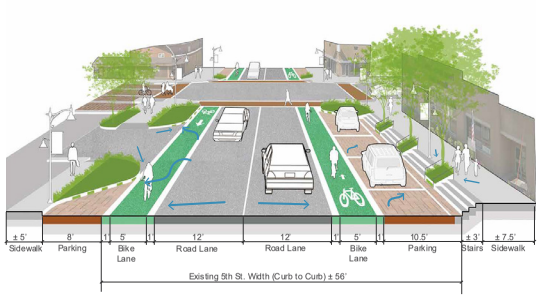
Iowa's Living Roadways community visioning

Proposed Downtown Concept plan showing locations of sections



Section A-A': Typical section of Downtown District



Section B-B': Typical section of Downtown District showing treatment of area with steps

Proposed Downtown Elements

The typical sections and image edit on this board illustrate the proposed enhancements for the downtown. These enhancements include:

- ADA-compliant sidewalks, ramps, and parking
- Decorative permeable paving for on-street parking areas to delineate the parking from the travelway, aid in aesthetics, and help manage stormwater
- Decorative pavement for crosswalks to integrate with streetscape for a unified look
- "Bump-Outs" to assist in traffic calming, increase safety of pedestrians by shortening the travel way to cross the street, and incorporate greenspace
- Storm-water planters to aid in storm-water management, incorporate street trees and herbaceous greenery

Existing photo taken from 5th St., west of 6th Ave. looking southeast

Ⓐ *Proposed concept: This edit illustrates the typical downtown enhancements that are proposed, includin a mural on Jeff's Market*

- Decorative pedestrian and vehicular lighting, banners, hanging baskets, way-finding signage for aesthetics, branding, establishing importance
- Designated bike lane for increased accessibility and safety of bicyclist
- High curbs replaced by steps with handrails for accessibility and aesthetics
- Overhead utility wires buried to provide a "cleaner" look
- Mural paintings on blank building walls that depict Durant's heritage, identity and uniqueness
- Coordinated site amenities (benches, trash receptacles, and bike racks) for user comfort and branding; color and style to match decorative lighting

Durant

Downtown District – Part 2

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
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Iowa's Living Roadways community VISIONING

Pythian Sisters Park Enhancements

Pythian Sisters Park is located in the Downtown District at the intersection of 5th St. and 8th Ave. This park serves as a downtown green space and site for the weekly Farmers Market that begins in May and runs through mid -September each year.

The design goals for the concept plan include preserving the existing healthy trees, electrical outlet services, Veterans Memorial Plaza, and southern fence while incorporating elements that will provide a downtown public gathering space that allows for both active and passive recreational activities for all ages and abilities.

To achieve these goals we have proposed the following primary enhancements: 1) spray fountain and large freestanding letters spelling Durant which can be played on as well as serve as a backdrop for photos; 2) outdoor climbing wall to encourage fitness; 3) seatwalls integrated into planters and movable tables and chairs to provide a quiet and comfortable place for rest, eating, and small group gatherings; 4) outdoor amphitheater that can be used for performances; 5) sculpture garden that showcases the art of local artists and community artworks; and 6) permeable grass grid to provide stable areas where Farmers Market vendors can set up and park their vehicles, yet maintain a "green" look when not in use.

Key Concept Components

- Permeable grass pavers for Farmers Market parking
- Movable table and chairs to allow for outdoor eating and activities
- Planters with integrated seatwall to provide ample seating without having empty benches
- Variable and lit spray fountain for colling off and to serve as a backdrop for photos and the large "DURANT" letters
- Large "DURANT" letters to provide backdrop for photos
- Outdoor climbing wall with poured in place rubber surfacing
- Sculpture garden highlighting local talent
- Outdoor amphitheater for use by public, organizations and school
- Preserve existing veterans memorial and healthy trees

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Civil Engineer, Structural Engineer and Electrical Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

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TBD = To Be Determined			

OPC COSTS: Pythian Sisters Park Enhancement

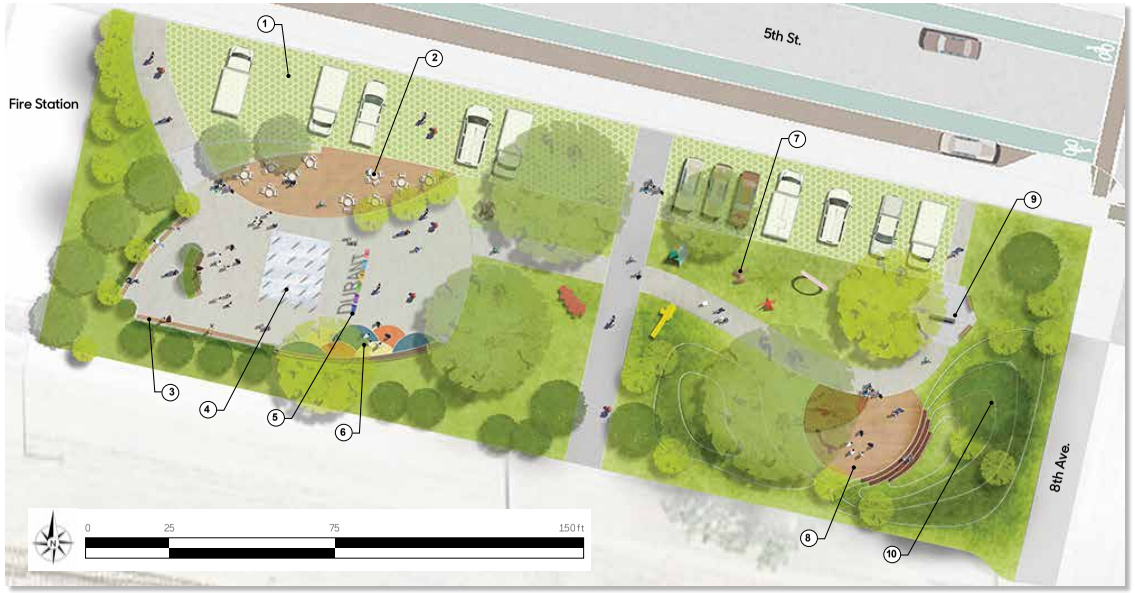
Pythian Sisters Park (See Board #16 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Permeable Grass Paving (Drawing Note 1)					***$ 64,757.60***
Topsoil Stripping, Stockpile and Re-spread, 6"	6355	SF	$ 0.40	$ 2,542.00	
Earth Excavation	145	CY	$ 15.00	$ 2,175.00	
Geotextile Fabric	707	SY	$ 4.75	$ 3,358.25	
Aggregate Base Course,8"	707	SY	$ 12.30	$ 8,696.10	
Setting Sand, 1-1/2"	6355	SF	$ 1.00	$ 6,355.00	
Grass Paver	6355	SF	$ 5.75	$ 36,541.25	
Grass Seeding, 40% of Paver	2545	SF	$ 2.00	$ 5,090.00	
Spray Fountain (Drawing Note 4) - WITHOUT Utilities					***$ 24,833.30***
Spray Jets					*$ 9,500.00*
Spray jet Kit, 16 jets	1	LS	$ 9,500.00	$ 9,500.00	
Pavement and Surfacing					*$ 15,333.30*
Topsoil Stripping, Stockpile and Re-spread, 6"	422	SF	$ 0.40	$ 168.80	
Earth Excavation	9	CY	$ 15.00	$ 135.00	
Geotextile Fabric	47	SY	$ 4.75	$ 223.25	
Aggregate Base Course,6"	47	SY	$ 9.75	$ 458.25	
PCC Concrete, 6"	422	SF	$ 8.00	$ 3,376.00	
Poured In Place Anti-Slip Colored Surfacing, Standard Color	422	SF	$ 26.00	$ 10,972.00	
Utilities					*TBD*
Gray-Water System	TBD	TBD	TBD	TBD	
Electrical	TBD	TBD	TBD	TBD	
Water	TBD	TBD	TBD	TBD	
Durant Letters (Drawing Note 5)					***$ 48,981.00***
Large Letters					***$ 45,000.00***
Large Letters	6	EA	$ 5,000.00	$ 30,000.00	
LED Lighting	1	LS	$15,000.00	$ 15,000.00	
Electrical Service	1	LS	TBD	TBD	
Foundation					*$ 3,981.00*
Earth Excavation	3	CY	$ 21.00	$ 63.00	
Concrete Footing	9	CY	$ 400.00	$ 3,600.00	
Aggregate Base Course	9	Ton	$ 27.00	$ 243.00	
Backfill	3	CY	$ 25.00	$ 75.00	
Rock Climbing Wall (Drawing Note 6)					***$53,181.65***
Rock Climbing Panels					*$ 26,250.00*
Modular Panels, 20' long x 12' Tall	15	EA	$ 1,250.00	$ 18,750.00	
Handholds	15	Set	$ 500.00	$ 7,500.00	
Surfacing					*$ 13,084.65*
Poured In Place Rubber Surfacing, 12' Fall Height, Stnd. Color	326	SF	$ 30.00	$ 9,780.00	
Topsoil Stripping, Stockpile and Re-spread, 6"	326	SF	$ 0.40	$ 130.40	
Earth Excavation	10	CY	$ 15.00	$ 150.00	
Geotextile Fabric	37	SY	$ 4.75	$ 175.75	
Aggregate Base Course, 4"	37	SY	$ 6.50	$ 240.50	
PCC Concrete, 6"	326	SF	$ 8.00	$ 2,608.00	
Free Standing Concrete Wall, 20' Long x 12' Tall	9	CY	$ 800.00	$ 7,200.00	*$ 7,200.00*
Wall Foundation					*$ 6,647.00*
Earth Excavation	54	CY	$ 21.00	$ 1,134.00	
Concrete Footing	10	CY	$ 400.00	$ 4,000.00	
Aggregate Base Course	19	Ton	$ 27.00	$ 513.00	
Backfill	40	CY	$ 25.00	$ 1,000.00	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Amphitheater (Drawing Note 8)					***$ 39,602.75***
Concrete Seating					*$ 7,086.50*
Topsoil Stripping, Stockpile and Re-spread	2	CY	$ 21.00	$ 42.00	
Earth Excavation	9	CY	$ 15.00	$ 135.00	
Concrete, seat and footing	10	CY	$ 400.00	$ 4,000.00	
Geotextile Fabric	14	SY	$ 4.75	$ 66.50	
Aggregate Base Course	19	Ton	$ 27.00	$ 513.00	
Backfill	7	CY	$ 50.00	$ 350.00	
PVC Perforated Subdrain Pipe, 4"	110	LF	$ 18.00	$ 1,980.00	
Earthwork - Bermed and Grass Areas East of Main Center SW					*$ 12,265.00*
Topsoil Stripping, Stockpile and Re-spread	115	CY	$ 21.00	$ 2,415.00	
Fill & Grading	350	CY	$ 21.00	$ 7,350.00	
Seeding	0.2	AC	$12,500.00	$ 2,500.00	
Amphitheater Decorative Sidewalk Pavement					*$ 12,156.50*
Topsoil Stripping, Stockpile and Re-spread	15	CY	$ 21.00	$ 315.00	
Earth Excavation	10	CY	$ 15.00	$ 150.00	
Geotextile Fabric	86	SY	$ 4.75	$ 408.50	
Aggregate Base Course,4"	86	SY	$ 6.50	$ 559.00	
PCC Decorative Concrete, 6"	766	SF	$ 14.00	$ 10,724.00	
Sidewalk pavement east of existing main walkway					*$ 8,094.75*
Topsoil Stripping, Stockpile and Re-spread, 6"	815	SF	$ 0.40	$ 326.00	
Earth Excavation	15	CY	$ 15.00	$ 225.00	
Geotextile Fabric	91	SY	$ 4.75	$ 432.25	
Aggregate Base Course, 4"	91	SY	$ 6.50	$ 591.50	
PCC Pavement, 6"	815	SF	$ 8.00	$ 6,520.00	
Outdoor Seating Eating Area (Drawing Note 2)					***$ 25,653.55***
Pavement					*$ 15,803.55*
Topsoil Stripping, Stockpile and Re-spread, 6"	992	SF	$ 0.40	$ 396.80	
Earth Excavation	15	CY	$ 15.00	$ 225.00	
Geotextile Fabric	115	SY	$ 4.75	$ 546.25	
Aggregate Base Course, 4"	115	SY	$ 6.50	$ 747.50	
PCC Colored Concrete, 6"	992	SF	$ 14.00	$ 13,888.00	
Site Amenities					*$ 9,850.00*
Movable Outdoor Commercial Tables	10	EA	$ 245.00	$ 2,450.00	
Movable Outdoor Commercial Chairs	40	EA	$ 125.00	$ 5,000.00	
Trash Receptacle	2	EA	$ 1,200.00	$ 2,400.00	
Seating and Pedestrian Pavement (Drawing Note 3 and Gray Park Pavement) WITHOUT Storm Sewer					***$ 185,209.75***
Plaza pavement west of existing main walkway					*$ 39,739.50*
Topsoil Stripping, Stockpile and Re-spread	75	CY	$ 21.00	$ 1,575.00	
Earth Excavation	50	CY	$ 15.00	$ 750.00	
Geotextile Fabric	450	SY	$ 4.75	$ 2,137.50	
Aggregate Base Course, 4"	450	SY	$ 6.50	$ 2,925.00	
PCC Pavement, 6"	4044	SF	$ 8.00	$ 32,352.00	
Sidewalk pavement west of existing main walkway					*$ 9,384.25*
Topsoil Stripping, Stockpile and Re-spread	20	CY	$ 21.00	$ 420.00	
Earth Excavation	15	CY	$ 15.00	$ 225.00	
Geotextile Fabric	97	SY	$ 4.75	$ 460.75	
Aggregate Base Course, 4"	97	Ton	$ 6.50	$ 630.50	
PCC Colored Concrete, 6"	116	SF	$ 14.00	$ 1,624.00	
PCC Pavement, 6"	753	SF	$ 8.00	$ 6,024.00	
Seatwall with Integral Planter					*$ 77,313.00*
PCC Concrete Wall	24	CY	$ 800.00	$ 19,200.00	
Topsoil Stripping, Stockpile and Re-spread	21	CY	$ 21.00	$ 441.00	
Earth Excavation	146	CY	$ 15.00	$ 2,190.00	
PCC Concrete Footing	76	CY	$ 600.00	$ 45,600.00	
Aggregate Base Course	46	Ton	$ 27.00	$ 1,242.00	
Landscape Fill Soil	48	CY	$ 180.00	$ 8,640.00	
Site Amenities					*$ 6,400.00*
Benches, 6'	2	EA	$ 2,000.00	$ 4,000.00	
Trash Receptacle	2	EA	$ 1,200.00	$ 2,400.00	

Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Landscaping for Seatwall with Integral Planter					***$ 22,151.00***
Aggregate	20	Ton	$ 27.00	$ 540.00	
Choker Stone	10	Ton	$ 32.00	$ 320.00	
Topsoil/Planting Mix	17	CY	$ 60.00	$ 1,020.00	
Non-woven Geotextile Fabric Membrane	28	SY	$ 7.00	$ 196.00	
Longitudinal PVC Perforated Subdrain Pipe, 4"	215	LF	$ 12.00	$ 2,580.00	
PVC Pipe, Wall drain, 4"	54	LF	$ 15.00	$ 810.00	
PVC Pipe, Overflow, 6"	125	LF	$ 32.00	$ 4,000.00	
Inlet for Overflow	1	LS	$ 3,200.00	$ 3,200.00	
Storm Sewer Hookup	TBD	TBD	TBD	TBD	
Perennial Flowers/Ornamental Grasses (18" O.C.)	265	EA	$ 35.00	$ 9,275.00	
Shredded Hardwood Mulch	6	CY	$ 35.00	$ 210.00	
Landscape (Not in Seatwall with Integral Planter)					*$ 27,760.00*
Deciduous Ornamental and Street Trees	29	EA	$ 425.00	$ 12,325.00	
Topsoil/Planting Mix	6	CY	$ 60.00	$ 360.00	
Perennial Flowers/Ornamental Grasses	73	EA	$ 35.00	$ 2,555.00	
Shredded Hardwood Mulch	8	CY	$ 35.00	$ 280.00	
Steel Edging (around Trees)	440	LF	$ 24.00	$ 10,560.00	
PCC Accent Mowing Edge	80	LF	$ 21.00	$ 1,680.00	
Earthwork - Grass Areas West of Main Center SW					*$ 2,462.00*
Finish Grading	1	LS	$ 750.00	$ 750.00	
Seeding	6848	SF	$ 0.25	$ 1,712.00	
Remaining Park WITHOUT Utility Costs & Sculpture					***$ 137,240.75***
Sculpture					*TBD*
Site Amenities					*$ 18,400.00*
Trash Receptacles	2	EA	$ 1,200.00	$ 2,400.00	
Benches, 6'	8	EA	$ 2,000.00	$ 16,000.00	
PCC Bench Pad					*$ 3,840.75*
Topsoil Stripping, Stockpile and Re-spread	10	CY	$ 21.00	$ 210.00	
Earth Excavation	5	CY	$ 15.00	$ 75.00	
Geotextile Fabric	43	SY	$ 4.75	$ 204.25	
Aggregate Base Course, 4"	43	SY	$ 6.50	$ 279.50	
PCC Pavement, 6"	384	SF	$ 8.00	$ 3,072.00	
Decorative Bollard Lighting	50	EA	$ 2,300.00	$115,000.00	*$ 115,000.00*
Survey					***TBD***
Site Survey	1	LS	TBD	TBD	
Mobilization, Erosion Control, And Traffic Control					***$ 86,919.05***
Mobilization (10%)	1	LS	$57,946.04	$ 57,946.04	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$28,973.02	$ 28,973.02	
				IMPROVEMENTS SUBTOTAL	*$ 666,379.40*
				CONTINGENCY (20%)	*$ 133,275.88*
				DESIGN/ENGINEERING FEES (15%)	*$ 119,948.29*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 919,603.58***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***



Proposed Concept: Pythian Sisters Park Enhancement Master Plan

Existing aerial photo of Pythian Sisters Park located in the SW corner of the intersection of 5th St. and 8th Ave.

Drawing Notes For Pythian Sisters Park Enhancement Master Plan

1. PERMEABLE GRASS PAVERS FOR FARMERS MARKET PARKING .
2. MOVABLE TABLES AND CHAIRS ON DECORATIVE PAVING TO ALLOW FOR OUTDOOR EATING AND ACTIVITIES
3. PLANTER WITH INTEGRATED SEATWALL
4. VARIABLE, LIT SPRAY FOUNTAIN FOR VISUAL AND AUDITORY INTEREST AS WELL AS FOR COOLING OFF; ALSO SERVES AS A UNIQUE BACKDROP FOR BOTH PHOTOS AND FOR THE LARGE CITY LETTERS
5. LARGE CITY LETTERS FOR CITY IDENTIFICATION AND TO PROVIDE A BACKDROP FOR PHOTOS
6. OUTDOOR CLIMBING WALL WITH POURED-IN-PLACE RUBBER SURFACING IN BRIGHT COLORS AND EYE CATCHING DESIGN
7. SCULPTURE GARDEN TO DISPLAY COMMUNITY ARTWORK
8. OUTDOOR AMPHITHEATER
9. PRESERVE EXISTING VETERANS MEMORIAL
10. PRESERVE EXISTING TREES

NOTE: ALL PAVING MATERIALS AND CONNECTIONS OF DIFFERENT TYPES OF PAVEMENT TO BE ADA COMPLIANT

5. *Large City Letters*

1. *Permeable Grass*

2. *Movable Tables and Chairs*

4. *Variable Spray Fountain*

6. *Outdoor Climbing Wall*

7. *Sculpture Garden*

8. *Outdoor Amphitheater*

Pythian Sisters Park

Pythian Sisters Park is located in the Downtown District at the intersection of 5th St. and 8th Ave. This park serves as a downtown green space and site for the weekly Farmers Market that begins in May and runs through mid-September each year.

The design goals for the concept plan include preserving the existing healthy trees, electrical outlet services, Veterans Memorial Plaza, and southern fence while incorporating elements that will provide a downtown public gathering space that allows for both active and passive recreational activities for all ages and abilities.

To achieve these goals we have proposed the following primary enhancements: 1) spray fountain and large freestanding letters spelling Durant which can be played on as well as serve as a backdrop for photos; 2) outdoor climbing wall to encourage fitness; 3) seatwalls integrated into planters and movable tables and chairs to provide a quiet and comfortable place for rest, eating, and small group gatherings; 4) outdoor amphitheater that can be used for performances; 5) sculpture garden that showcases the art of local artists and community artworks; and 6) permeable grass grid to provide stable areas where Farmers Market vendors can set up and park their vehicles, yet maintain a "green" look when not in use.

Durant
Pythian Sisters Park

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Feldhan Park Expansion

Feldhan Park is one of Durant's many assets. It currently has a looped trail system, restored prairie, picnic shelters, and baseball fields for community games. The trail is lined with trees and there are benches throughout the park.

Based on the public input received, the following needs were identified: more sports fields, more playgrounds for children, and more parking spaces. The proposed concept plan addresses theses needs and desires as well as issues and opportunities that the design team observed during the site visit.

The goal of the concept plan is to create a functional and cohesive park that is reflective of the needs and desires of the community and does not look like it was planned and developed in a piecemeal fashion. It is the intent to preserve and enhance the existing park, while expanding and creating recreational features and opportunities for the new undeveloped expansion area. The drawing notes to the left highlight the proposed elements and the photos in the upper right show examples of some of the proposed amenities.

Key Concept Components

- Pergola with vines for shade and seats for rest and to view the existing prairie/wetland
- Interpretive signage along the trail to educate about the ecosystems, flora, and fauna of the park
- Children's playground designed with zones for different age groups (encompasses all ages)
- Restroom and resting plaza
- Splash pad with a large shelter adjacent to provide shade and a place to rest
- Bioswale to collect stormwater from the baseball field and outlet into existing prairie/ wetland
- Bleachers for game watching (typical for every baseball field and the soccer field)
- Tot lot with black chain link fence around its perimeter; gate controlled; allows parents to watch games and young children playing in tot lot.
- Path delineated with mileage painted on pavement so users can see how far they walk per lap
- Raised crosswalk to calm traffic and increase pedestrian safety
- Bocce ball field with two adjacent shelters for shade and gathering
- Additional restrooms with drinking fountains
- Two new sports fields: (1) U-12 soccer field and (1) baseball field
- Paved (concrete or asphalt) parking lot with pavement markings, green islands and the required number of handicapped accessible parking stalls marked and signed
- Seasonal wetland for storm-water quality & management as well as to provide habitat for wildlife

- Dog park with dog water fountain and three playground areas: 1) active dogs, 2) over 25 lbs, and 3) 25 Lbs and under
- Custom built tree house for imaginative play and physical fitness; structure is stand alone
- East end of park to serve as trail head for the trail system

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Geotechnical Engineer, Structural Engineer, Civil Engineer and Electrical Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Feldhan Park Expansion

Feldhan Park (See Board #17 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Pergola (Drawing Note 1)					***$ 100,777.25***
Pergola					*$ 50,320.00*
Pergola, Complete	740	SF	$ 68.00	$ 50,320.00	
Pavement Under Pergola					*$ 15,342.25*
Topsoil Stripping, Stockpile and Re-spread, 6"	1615	SF	$ 0.40	$ 646.00	
Earth Excavation	10	CY	$ 15.00	$ 150.00	
Geotextile Fabric	125	SY	$ 4.75	$ 593.75	
Aggregate Base Course, 4"	125	SY	$ 6.50	$ 812.50	
PCC Concrete, 5"	1095	SF	$ 12.00	$ 13,140.00	
Flagstone Walk to Pergola, Complete	520	SF	$ 42.00	$ 21,840.00	*$ 21,840.00*
Vines Plantings for Pergola					*$ 4,075.00*
Vine Plants, Warranty	1	LS	$ 1,500.00	$ 1,500.00	
Shredded Hardwood Mulch	5	CY	$ 35.00	$ 175.00	
Steel Edging, Commercial Grade	100	LF	$ 24.00	$ 2,400.00	
Site Amenities					*$ 9,200.00*
Benches	4	EA	$ 2,000.00	$ 8,000.00	
Trash Receptacle	1	EA	$ 1,200.00	$ 1,200.00	
Interpretive Signage (Drawing Note 2)					***$ 24,500.00***
Interpretive Signage	10	EA	$ 2,450.00	$ 24,500.00	*$ 24,500.00*
Children's Zoned Playground (Drawing Note 3)					***$ 172,622.50***
Playground Equipment					*$ 120,000.00*
Playground Equipment	1	LS	$ 120,000.00	$ 120,000.00	
Playground Surfacing					*$ 32,142.50*
Topsoil Stripping, Stockpile and Re-spread, 6"	8700	SF	$ 0.40	$ 3,480.00	
Earth Excavation, 3"	85	CY	$ 15.00	$ 1,275.00	
Geotextile Fabric	970	SY	$ 4.75	$ 4,607.50	
Eng. Wood Fiber Safety Mulch (ADA Compliant)	278	CY	$ 50.00	$ 13,900.00	
Rubber Curb Edging for Playground Surfacing	370	LF	$ 24.00	$ 8,880.00	
Site Amenities					*$ 20,480.00*
Benches	8	EA	$ 2,000.00	$ 16,000.00	
Amenity Pads	320	SF	$ 14.00	$ 4,480.00	
Restroom and Resting Plaza (Drawing Note 4)					***$ 212,087.50***
Restroom Structure					***$ 81,400.00***
Restroom Structure	740	SF	$ 110.00	$ 81,400.00	
Utilities (Electricity, Sanitary Sewer, Water, etc.)	TBD	TBD	TBD	TBD	
Plaza and New Sidewalks					
Topsoil Stripping, Stockpile and Re-spread, 6"	7475	SF	$ 0.40	$ 2,990.00	*$ 114,777.50*
Earth Excavation	70	CY	$ 15.00	$ 1,050.00	
Geotextile Fabric	830	SY	$ 4.75	$ 3,942.50	
Aggregate Base Course, 4"	830	SY	$ 6.50	$ 5,395.00	
PCC Concrete, 5"	7475	SF	$ 12.00	$ 89,700.00	
Site Amenities					*$ 11,700.00*
Round Picnic Tables, Commercial Grade	6	EA	$ 1,500.00	$ 9,000.00	
Trash Receptacle	1	EA	$ 1,200.00	$ 1,200.00	
Bike Rack	1	EA	$ 1,500.00	$ 1,500.00	
Landscaping around Restroom					*$ 4,210.00*
Shredded Hardwood Mulch	2	CY	$ 35.00	$ 70.00	
Perennial Flowers/Ornamental Grasses (18" O.C.)	108	EA	$ 35.00	$ 3,780.00	
Planting Soil Mix	5	CY	$ 60.00	$ 300.00	
Earth Excavation	4	CY	$ 15.00	$ 60.00	
Splash Pad and Shelters (Drawing Note 5)					***$ 367,081.00***
Splash Pad					*$ 175,000.00*
Splash Pad	1	LS	$ 175,000.00	$ 175,000.00	
Splash Pad Pavement					*$ 82,841.00*
Topsoil Stripping, Stockpile and Re-spread, 6"	2690	SF	$ 0.40	$ 1,076.00	
Earth Excavation	50	CY	$ 15.00	$ 750.00	
Geotextile Fabric	300	SY	$ 4.75	$ 1,425.00	
Aggregate Base Course, 6"	300	SY	$ 9.75	$ 2,925.00	
PCC Concrete, 6"	2690	SF	$ 12.00	$ 32,280.00	
Poured In Place Anti-Slip Colored Surfacing, Standard Color	2690	SF	$ 16.50	$ 44,385.00	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Site Amenities					*$ 109,240.00*
Picnic Shelter	2	EA	$ 35,000.00	$ 70,000.00	
Picnic Tables	8	EA	$ 1,800.00	$ 14,400.00	
Benches	7	EA	$ 2,000.00	$ 14,000.00	
Bike Rack	2	EA	$ 1,500.00	$ 3,000.00	
PCC Amenity Pads, Complete	560	SF	$ 14.00	$ 7,840.00	
Bio-Swale (Drawing Note 6)					***$ 51,744.60***
Bio-Swale (+/- 436' x +/- 9 = 3924 SF)					*$ 51,744.60*
Topsoil Stripping, Stockpile, and Re-spread, 6"	3924	SF	$ 0.40	$ 1,569.60	
Earth Excavation	365	CY	$ 15.00	$ 5,475.00	
Amended Soil	460	CY	$ 60.00	$ 27,600.00	
Shredded Hardwood Mulch	40	CY	$ 35.00	$ 1,400.00	
Native Grass and Forb Plugs	3925	EA	$ 4.00	$ 15,700.00	
Tot-Lot (Drawing Note 9)					***$ 111,082.75***
Toddler Play Ground (Tot Lot)					*$ 60,112.00*
Toddler Playground Equipment	1	LS	$ 50,000.00	$ 50,000.00	
Black Chain-link Perimeter Fence with Lockable Gate	316	LF	$ 32.00	$ 10,112.00	
Playground Surfacing					*$ 26,219.50*
Topsoil Stripping, Stockpile and Re-spread, 6"	6180	SF	$ 0.40	$ 2,472.00	
Earth Excavation	115	CY	$ 15.00	$ 1,725.00	
Geotextile Fabric	690	SY	$ 4.75	$ 3,277.50	
Eng. Wood Fiber Safety Mulch	230	CY	$ 81.50	$ 18,745.00	
Site Amenities					*$ 21,960.00*
Trash Receptacle	1	EA	$ 1,200.00	$ 1,200.00	
Benches	8	EA	$ 2,000.00	$ 16,000.00	
PCC Amenity Pads, Complete	340	SF	$ 14.00	$ 4,760.00	
Sidewalk Access to Playground from existing Walk					*$ 2,791.25*
Topsoil Stripping, Stockpile and Re-spread, 6"	200	SF	$ 0.40	$ 80.00	
Earth Excavation	2	CY	$ 15.00	$ 30.00	
Geotextile Fabric	25	SY	$ 4.75	$ 118.75	
Aggregate Base Course, 4"	25	SY	$ 6.50	$ 162.50	
PCC Concrete, 5"	200	SF	$ 12.00	$ 2,400.00	
Pavement Markings (Drawing Note 10)					***$ 850.00***
Pavement Markings (every 0.10 mile)	1	LS	$ 850.00	$ 850.00	*$ 850.00*
Re-Constructed Parking Lot (Drawing Notes 12 & 16)					***$ 442,640.00***
Existing Pavement Removal					*$ 35,990.00*
Demolition	5705	SY	$ 6.00	$ 34,230.00	
Concrete Curb	320	LF	$ 5.50	$ 1,760.00	
New Vehicular Asphalt Pavement				$ -	*$ 381,890.00*
Earth Excavation	1422	CY	$ 15.00	$ 21,330.00	
Geotextile Fabric	5690	SY	$ 3.00	$ 17,070.00	
Aggregate Base Course, 6"	5690	SY	$ 15.00	$ 85,350.00	
Asphalt Paving, 4"	5690	SY	$ 38.00	$ 216,220.00	
Raised Crosswalk, Complete	1	LS	$ 40,000.00	$ 40,000.00	
ADA Compliant Detectable Warning Panel	32	SF	$ 60.00	$ 1,920.00	
Parking Lot Storm Drainage					*TBD*
PCC Concrete Curb and Gutter	TBD	LF	TBD	TBD	
Storm Sewer, Complete (inlets/outlets, fittings, earthwork, etc.)	TBD	TBD	TBD	TBD	
Pavement Markings and Traffic Control Signage					*$ 9,805.00*
Pavement Markings, Stall Lines	2060	LF	$ 1.75	$ 3,605.00	
Pavement Markings, HC Logo	10	EA	$ 75.00	$ 750.00	
ADA Aisle Way Pavement Hatching	9	EA	$ 50.00	$ 450.00	
ADA Parking Lot Signage	10	Sets	$ 375.00	$ 3,750.00	
Traffic Control Signage	5	EA	$ 250.00	$ 1,250.00	
Interior Parking Islands					*$ 14,955.00*
Amended Soil	160	CY	$ 60.00	$ 9,600.00	
Deciduous Trees	10	EA	$ 425.00	$ 4,250.00	
Lawn Seeding	5000	SF	$ 0.20	$ 1,000.00	
Shredded Hardwood Mulch	3	CY	$ 35.00	$ 105.00	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Bocce (Drawing Note 13)					**$ 79,366.00**
Site Prep and Grading	1	LS	$ 750.00	$ 750.00	*$ 750.00*
Bocce Field					*$ 3,046.00*
Regulation Size (Aggregate base, Ground Oyster Shells)	1	LS	$ 2,500.00	$ 2,500.00	
4"x 4" Pressure Treated Posts	210	LF	$ 2.60	$ 546.00	
Site Amenities					*$ 71,640.00*
Shelters	2	EA	$ 30,000.00	$ 60,000.00	
Benches	4	EA	$ 2,000.00	$ 8,000.00	
PCC Amenity Pads, Complete	160	SF	$ 14.00	$ 2,240.00	
Trash Receptacle	1	EA	$ 1,400.00	$ 1,400.00	
Landscaping					*$ 3,930.00*
Deciduous Trees	9	EA	$ 425.00	$ 3,825.00	
Shredded Hardwood Mulch	3	EA	$ 35.00	$ 105.00	
Restroom With Drinking Fountain (Drawing Note 14)					**$ 76,250.00**
Site Prep and Grading	1	LS	$ 2,500.00	$ 2,500.00	*$ 2,500.00*
Restroom Structure					**$ 61,600.00**
Restroom Structure	560	SF	$ 110.00	$ 61,600.00	
Utilities (Electricity, Sanitary Sewer, Water, etc.)	1	LS	TBD	TBD	
Site Amenities					**$ 12,150.00**
Benches	2	EA	$ 2,000.00	$ 4,000.00	
Trash Receptacle	1	EA	$ 1,400.00	$ 1,400.00	
ADA accessible Water Fountain	1	EA	$ 6,750.00	$ 6,750.00	
Sports Fields (Drawing Note 15					**$ 173,710.00**
Site Prep and Grading	1	LS	$ 5,000.00	$ 5,000.00	*$ 5,000.00*
Baseball Field					*$ 136,210.00*
Baseball Field (native soil, screened topsoil, infield lime, seed)	1	EA	$ 55,000.00	$ 55,000.00	
12' High Backstop Fencing with Overhang	1	LS	$ 10,000.00	$ 10,000.00	
8' Chain-link Fence (in front of dugouts)	80	LF	$ 30.00	$ 2,400.00	
4' Chain-link Fence (surrounding Field)	854	LF	$ 15.00	$ 12,810.00	
Dugout Bench	4	EA	$ 1,000.00	$ 4,000.00	
Dugout Shelters	2	EA	$ 12,000.00	$ 24,000.00	
Spectator Bleachers	1	LS	$ 28,000.00	$ 28,000.00	
U-12 Soccer Field Complete	1	LS			*$ 32,500.00*
Soccer Goal Posts	1	Pair	$ 2,500.00	$ 2,500.00	
Seeding	1	LS	$ 2,000.00	$ 2,000.00	
Spectator Bleachers	1	LS	$ 28,000.00	$ 28,000.00	
New Parking Lot (Drawing Note 16)					**$ 318,855.80**
New Vehicular Asphalt Pavement					*$ 279,118.80*
Topsoil Stripping, Stockpile and Re-spread, 6"	40972	SF	$ 0.40	$ 16,388.80	
Earth Excavation	510	CY	$ 15.00	$ 7,650.00	
Geotextile Fabric	4555	SY	$ 3.00	$ 13,665.00	
Aggregate Base Course, 6"	4555	SY	$ 15.00	$ 68,325.00	
Asphalt Paving, 4"	4555	SY	$ 38.00	$ 173,090.00	
Parking Lot Storm Drainage					**$ 22,320.00**
PCC Concrete Curb and Gutter	1860	LF	$ 12.00	$ 22,320.00	
Storm Sewer, Complete (inlets/outlets, fittings, earthwork, etc.)	1	LS	TBD	TBD	
Pavement Markings and Traffic Control Signage					*$ 9,385.00*
Pavement Markings, Stall Lines	2020	LF	$ 1.75	$ 3,535.00	
Pavement Markings, HC Logo	11	EA	$ 75.00	$ 825.00	
ADA Aisle Way Pavement Hatching	8	EA	$ 50.00	$ 400.00	
ADA Parking Lot Signage	11	Sets	$ 375.00	$ 4,125.00	
Traffic Control Signage	2	EA	$ 250.00	$ 500.00	
Interior Parking Island Landscaping					*$ 8,032.00*
Topsoil Stripping, Stockpile and Re-spread, 6"	3320	SF	$ 0.40	$ 1,328.00	
Grading and Planting Prep	1	LS	$ 800.00	$ 800.00	
Deciduous Trees	12	EA	$ 425.00	$ 5,100.00	
Lawn Seeding	3320	SF	$ 0.20	$ 664.00	
Shredded Hardwood Mulch	4	CY	$ 35.00	$ 140.00	

Description	Estimated Quantity	Unit	Estimated Unit Cost	Estimated Line Total	Estimated Totals
Seasonal Wetland (Drawing Note 17)					***$31,850.00***
Seasonal Wetland and Prairie					*TBD*
Wetland and Prairie Restoration	TBD	TBD	TBD	TBD	
Site Amenities					*$ 31,850.00*
Benches	7	EA	$ 2,000.00	$ 14,000.00	
PCC Amenity Pads, Complete	300	SF	$ 14.00	$ 4,200.00	
Trash Receptacle	1	EA	$ 1,400.00	$ 1,400.00	
Interpretive Signage	5	EA	$ 2,450.00	$ 12,250.00	
Storm Drainage					*TBD*
Culverts, Drainage Control Structures, Outlets, Inlets	1	LS	TBD	TBD	
Dog Park (Drawing Note 18)					***$ 110,502.70***
Fences and Gates					*$ 31,926.00*
Dog Fence, 6'	1062	LF	$ 23.00	$ 24,426.00	
Pedestrian Gates	6	EA	$ 500.00	$ 3,000.00	
Maintenance Equipment Gates	3	EA	$ 1,500.00	$ 4,500.00	
Site Amenities					***$ 61,780.00***
Dog Relief Station	3	EA	$ 2,500.00	$ 7,500.00	
Human and Dog Water Fountain	1	EA	$ 880.00	$ 880.00	
Dog Play Equipment	1	LS	$ 40,000.00	$ 40,000.00	
Trash Receptacles	1	EA	$ 1,400.00	$ 1,400.00	
Benches	6	EA	$ 2,000.00	$ 12,000.00	
Utilities (Water, Electricity, Etc.)	1	LS	TBD	TBD	
Aggregate Paths in Dog Park					*$ 16,796.70*
Topsoil Stripping, Stockpile and Re-spread, 6"	6198	SF	$ 0.40	$ 2,479.20	
Geotextile Fabric	690	SY	$ 4.75	$ 3,277.50	
Aggregate Base Course, 4"	690	SY	$ 6.50	$ 4,485.00	
Aggregate Surface Course, 2"	690	SY	$ 9.50	$ 6,555.00	
Custom Built Tree House for Imaginative Play (Drawing Note 18)					***TBD***
Stand Alone Custom Built Treehouse					*TBD*
Structure	1	LS	TBD	TBD	
Accessible Access Route	1	LS	TBD	TBD	
Natural Play Area Around Tree House	1	LS	TBD	TBD	
East Side of Center Parking Lot (Existing)					***$ 861,157.75***
Sidewalks					*$ 861,157.75*
Topsoil Stripping, Stockpile and Re-spread, 6"	61785	SF	$ 0.40	$ 24,714.00	
Earth Excavation	575	CY	$ 15.00	$ 8,625.00	
Geotextile Fabric	6865	SY	$ 4.25	$ 29,176.25	
Aggregate Base Course, 4"	6865	SY	$ 6.50	$ 44,622.50	
PCC Concrete, 5"	61785	SF	$ 12.00	$ 741,420.00	
ADA Compliant Detectable Warning Panel	210	SF	$ 60.00	$ 12,600.00	
Landscaping					*TBD*
Deciduous Trees, Flowering Ornamental	TBD	EA	TBD	TBD	
Deciduous Trees	TBD	EA	$ 425.00	TBD	
Shredded Hardwood Mulch	TBD	EA	$ 35.00	TBD	
No Mow Turf, Lawn, Prairie	TBD	TBD	TBD	TBD	
Survey					***TBD***
Site Survey	1	LS	TBD	TBD	
Mobilization, Erosion Control, And Traffic Control					***$ 313,507.79***
Mobilization (5%)	1	LS	$ 156,753.89	$ 156,753.89	
Erosion Control, Traffic Control & Safety (5%)	1	LS	$ 156,753.89	$ 156,753.89	
				IMPROVEMENTS SUBTOTAL	*$ 3,448,585.64*
				CONTINGENCY (20%)	*$ 689,717.13*
				DESIGN/ENGINEERING FEES (15%)	*$ 620,745.41*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 4,759,048.18***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Proposed Concept: Feldhan Park expansion concept master plan

Existing aerial photo of Feldhan Park located along Hwy. 6 (5th St.) on the east edge of Durant

Drawing Notes For Feldhan Park Expansion Concept Master Plan

1. PERGOLA WITH VINES FOR SHADE AND SEATS FOR REST AND TO VIEW THE EXISTING PRAIRIE/WETLAND
2. INTERPRETIVE SIGNAGE ALONG THE TRAIL TO EDUCATE ABOUT THE ECOSYSTEMS, FLORA, AND FAUNA OF THE PARK
3. CHILDREN'S PLAYGROUND DESIGNED WITH ZONES FOR DIFFERENT AGE GROUPS (ENCOMPASSES ALL AGES)
4. RESTROOM AND RESTING PLAZA
5. SPLASH PAD WITH A LARGE SHELTER ADJACENT TO PROVIDE SHADE AND A PLACE TO REST
6. BIOSWALE TO COLLECT STORMWATER FROM THE BASEBALL FIELD AND OUTLET INTO EXISTING PRAIRIE/WETLAND
7. EXISTING BASEBALL FIELD
8. BLEACHERS FOR GAME WATCHING (TYPICAL FOR EVERY BASEBALL FIELD AND THE SOCCER FIELD)
9. TOT LOT WITH BLACK CHAIN LINK FENCE AROUND ITS PERIMETER; GATE CONTROLLED; ALLOWS PARENTS TO WATCH GAME AND YOUNG CHILDREN PLAYING IN TOT LOT.
10. PATH DELINEATED WITH MILEAGE PAINTED ON PAVEMENT SO USERS CAN SEE HOW FAR THEY WALK PER LAP
11. EXISTING CONCESSION STAND BUILDING
12. RAISED CROSSWALK TO CALM TRAFFIC AND INCREASE PEDESTRIAN SAFETY
13. BOCCE BALL FIELD WITH TWO ADJACENT SHELTERS FOR SHADE AND GATHERING
14. RESTROOM WITH DRINKING FOUNTAIN
15. TWO NEW SPORTS FIELDS: (1) U-12 SOCCER FIELD AND (1) BASEBALL FIELD
16. "GREEN" PARKING LOT WITH REQUIRED NUMBER OF HANDICAPPED MARKED AND ACCESSIBLE PARKING STALLS
17. SEASONAL WETLAND FOR STORM-WATER QUALITY & MANAGEMENT AS WELL AS TO PROVIDE HABITAT FOR WILDLIFE
18. DOG PARK WITH DOG WATER FOUNTAIN AND THREE PLAYGROUND AREAS: 1) ACTIVE DOGS, 2) OVER 25 LBS, AND 3) 25 LBS AND UNDER
19. CUSTOM BUILT TREE HOUSE FOR IMAGINATIVE PLAY AND PHYSICAL FITNESS; STRUCTURE IS STAND ALONE

Picnic Shelter

Restroom

Pergola

Splash Pad

Surface Marked Trail

Tree House

Childrens Playground (Ages 5 yr. - 12 yr.)

Tot Lot (Ages 2 yr. - 5 yr.)

Dog Park

Feldhan Park Expansion:

Feldhan Park is one of Durant's many assets. It currently has a looped trail system, restored prairie, picnic shelters, and baseball fields for community games. The trail is lined with trees and there are benches throughout the park.

Based on the public input received, the following needs were identified: more sports fields, more playgrounds for children, and more parking spaces. The proposed concept plan addresses theses needs and desires as well as issues and opportunities that the design team observed during the site visit.

The goal of the concept plan is to create a functional and cohesive park that is reflective of the needs and desires of the community and does not look like it was planned and developed in a piecemeal fashion. It is the intent to preserve and enhance the existing park, while expanding and creating recreational features and opportunities for the new undeveloped expansion area. The drawing notes to the left highlight the proposed elements and the photos in the upper right show examples of some of the proposed amenities.

Durant

Feldhan Park Expansion

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

14th Avenue Enhancements

14th Ave. & 5th Street Intersection

This intersection was identified as an intersection of concern because of the large number of pedestrians that cross it daily as part of their exercise/recreational route. With all of the proposed enhancements, it can be anticipated that there will be more need for pedestrians to cross this intersection in the future.

Only one pedestrian crossing is proposed for 5th St. due to safety concerns of having two at this intersection. The pedestrian traffic paralleling 5th St. will cross 14th Ave. to get to the 5th St. crossing. 14th Ave. has less traffic and the traffic has to stop at the intersection. A new pedestrian railroad crossing (width of trail) will be required. All signage and pavement markings will need to follow MUTCD requirements.

Key Concept Components

- Designated pedestrian crossings appropriately marked and signed
- Traffic control signage properly placed
- Crosswalk pavement markings, vehicular and pedestrian regulatory and way-finding signage in accordance with the *Manual of Uniform Traffic Control Devices* (MUTCD) and Iowa Department of Transportation requirements; coordinate work with DOT & County
- ADA compliant sidewalks and trails leading to and from intersection crossing
- New railroad crossing for trail, with proper pedestrian warning signage
- Coordination with the Cedar, Scott and Muscatine County Engineers, as applicable
- Coordination with the Iowa Department of Transportation, as applicable

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect and Civil Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition,

the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: 14th Ave. & 5th St. Intersection

14th Avenue Enhancements (See Board #18 for Visual)					9/20/2019
Description	***Estimated Quantity***	***Unit***	***Estimated Unit Cost***	***Estimated Line Total***	***Estimated Totals***
14th Ave. & 5th St. Intersection					***$ 4,250.00***
Crosswalks					*$ 1,750.00*
5th Street	1	LS	$ 1,000.00	$ 1,000.00	
14th Avenue South 5th St.	1	LS	$ 750.00	$ 750.00	
14th Avenue North 5th St. (Seal Coat cannot be painted)	TBD	TBD	TBD	TBD	
Signage					*$ 2,500.00*
Pedestrian Traffic Signs	6	EA	$ 250.00	$ 1,500.00	
Vehicular Traffic Signs (Crosswalk Ahead)	4	EA	$ 250.00	$ 1,000.00	
Survey					*TBD*
Site Survey	1	LS	TBD	TBD	
Sidewalk & Trails Improvements					*Note 1*
Mobilization, Erosion Control, And Traffic Control					***$ 850.00***
Mobilization (10%)	1	LS	$ 425.00	$ 425.00	
Erosion Control, Traffic Control & Safety (10%)	1	LS	$ 425.00	$ 425.00	
				IMPROVEMENTS SUBTOTAL	*$ 5,100.00*
				CONTINGENCY (20%)	*$ 1,020.00*
				DESIGN/ENGINEERING FEES (15%)	*$ 918.00*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 7,038.00***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Tri-County Point and Raised Crosswalk

Durant is located at the intersection of three Iowa counties: Cedar, Scott, and Muscatine. This unique spot is located on the centerline of 14th Ave. A bronze monument is proposed to designated this landmark. The monument would be embedded into the decorative pavement pedestrian walkway of the raised crosswalk. The red dot on the monument would be positioned to mark the exact intersection of the three counties. An interpretation sign in the northwest quadrant of the 3rd St. and 14th Ave. intersection would discuss the Tri-County history.

A raised crosswalk is integrated into this design in order to calm traffic and increase pedestrian safety. Raised crosswalks are designed to accommodate the intended traffic, including emergency vehicles and semis.

Key Concept Components

- Raised decorative pavement crosswalk to calm traffic and enhance user comfort
- Flat monument marking the location where all three counties meet embedded in pavement of raised crosswalk
- Interpretive signage to discuss the significance of the tri-county marker
- Coordination with Muscatine, Cedar, and Scott County engineers, as applicable

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect and Civil Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Tri-County Point & Raised Crosswalk

14th Avenue Enhancements (See Board #18 for Visual)					9/20/2019
Description	***Estimated Quantity***	***Unit***	***Estimated Unit Cost***	***Estimated Line Total***	***Estimated Totals***
Tri- County Point and Raised Crosswalk					***$ 40,600.00***
Sidewalk & Trails Improvements					*Note 1*
Raised Crosswalk					*$ 35,650.00*
Raised Crosswalk	1	LS	$ 35,000.00	$ 35,000.00	
Embedded Tri-County Plaque - See Note 2	1	LS	$ 650.00	$ 650.00	
Signage					*$ 4,950.00*
Pedestrian Traffic Signs	2	EA	$ 250.00	$ 500.00	
Vehicular Traffic Signs (Raised Crosswalk Ahead)	2	EA	$ 250.00	$ 500.00	
Pavement Markings, Symbols for Raised Crosswalk	1	LS	$ 1,000.00	$ 1,000.00	
Interpretive Signage	1	LS	$ 2,450.00	$ 2,450.00	
Interpretive Signage Pad	1	LS	$ 500.00	$ 500.00	
Survey					*TBD*
Site Survey	1	LS	TBD	TBD	
Mobilization, Erosion Control, And Traffic Control					***$ 8,120.00***
Mobilization (10%)	1	LS	$ 4,060.00	$ 4,060.00	
Erosion Control, Traffic Control & Safety (10%)	1	LS	$ 4,060.00	$ 4,060.00	
				IMPROVEMENTS SUBTOTAL	***$ 48,720.00***
				CONTINGENCY (20%)	***$ 9,744.00***
				DESIGN/ENGINEERING FEES (15%)	***$ 8,769.60***
				TOTAL OPC COST WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 67,233.60***

ANTICIPATED COST RANGE: ***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Note 1: See Opinions of Cost for Boards 10 and 11 regarding 5th Street and 14th Ave. enhancements for sidewalks, RR Crossing, and trail.
Note 2: 4" Dia. Circle Engraved Bronze Concrete Monument to mark point of intersection used in estimate Vs. Customized plaque ($$$$) other option is a rectanglular bronze plaque (i.e.: 36" x 28" Rectangle Bronze Plaque, materail only, +/- $5,000)

Founders Plaza

The Founders Plaza is proposed to pay tribute to the founders as well as honor those who have made major contributions of their time and/or resources to the city. The plaza will included benches, a water fountain, bronze statues of the two founders on an engraved base, and decorative bricks that can be engraved with the names of contributers and areas of concrete where they can have their handprints embedded into the concrete pavement.

Key Concept Components

- Decorative bricks engraved with the names of contributers and areas of concrete for embedding handprints
- Sculpture of founders on engraved granite base
- Sculpture manufacturer may need up to 6 month lead time from order to shipping
- Site amenities: benches, drinking fountain, trash receptacle
- Formal landscape to create background and buffer from adjacent property
- Mowing edge around planting area for easier maintenance
- Coordination with Cemetery/land owner

Design Expertise Recommended

Projects may require help beyond the capacity of the visioning committee or available city staff. For this improvement project, the committee should expect to involve the following design professionals: Landscape Architect, Civil Engineer and Structural Engineer.

Project Scope and Cost Opinion

The following cost opinion is for conceptual design based on estimated quantities and contracted material and installation of improvements. These costs may be reduced with donated materials or materials provided at reduced cost and volunteer labor, when appropriate. Area takeoffs, square footages, and linear footages used to calculate and quantify amounts are approximate and, because they are based off of concept drawings, various assumptions were made that may impact costs. These assumptions will be resolved during the subsequent design phase when the cost estimates are refined.

A site survey should be provided prior to the design and construction of the following projects to validate and verify the quantities shown in these cost opinions. In addition, the cost opinion will need to be updated during subsequent design phases in order to reflect the final design, specific materials, products, final scope and quantities, quality and current bid environment.

Abbreviations used in the following opinions of probable cost include:

AC = Acre	CF = Cubic Foot	CY = Cubic Yard	EA= Each
LF = Linear Foot	LS = Lump Sum	SF = Square Foot	SY=Square Yard

OPC COSTS: Founders Memorial

14th Avenue Enhancements (See Board #18 for Visual)					9/20/2019
Description	*Estimated Quantity*	*Unit*	*Estimated Unit Cost*	*Estimated Line Total*	*Estimated Totals*
Founders Plaza					***$ 166,060.60***
Decorative Pavement					*$ 60,748.60*
Topsoil Stripping, Stockpile and Re-spread, 6"	2074	SF	$ 0.40	$ 829.60	
Earth Excavation	50	CY	$ 15.00	$ 750.00	
Geosynthetic Fabric	230	SY	$ 4.75	$ 1,092.50	
Aggregate Base Course, 10"	2074	SY	$ 15.00	$ 31,110.00	
Sand Setting Bed, 1"	1690	SF	$ 0.75	$ 1,267.50	
Bricks for Engraving	1690	SF	$ 13.90	$ 23,491.00	
PCC Accent Concrete Banding	384	SF	$ 5.75	$ 2,208.00	
Site Amenities					*$ 93,950.00*
Benches	4	EA	$ 1,500.00	$ 6,000.00	
Trash Receptacle	1	EA	$ 1,200.00	$ 1,200.00	
ADA accessible Water Fountain	1	EA	$ 6,750.00	$ 6,750.00	
Founders Statues	1	LS	$ 65,000.00	$ 65,000.00	
Granite Statue Base with Engraved History	1	LS	$ 15,000.00	$ 15,000.00	
Landscaping					*$ 5,830.00*
Deciduous Ornamental Trees	3	EA	$ 425.00	$ 1,275.00	
Evergreen Upright Shrubs	12	EA	$ 125.00	$ 1,500.00	
Evergreen Shrubs	15	EA	$ 65.00	$ 975.00	
Planting Prep	720	SF	$ 2.50	$ 1,800.00	
Shredded Hardwood Mulch	8	CY	$ 35.00	$ 280.00	
Hardscape					*$ 2,772.00*
PCC Accent Mowing Edge (around Planting)	132	LF	$ 21.00	$ 2,772.00	
Utilities					*TBD*
LED Lighting of the statues	TBD	TBD	TBD	TBD	
Electrical Installation and Extension	TBD	TBD	TBD	TBD	
Water and Sanitary Services	TBD	TBD	TBD	TBD	
Land					*TBD*
Easement or Acquisition (+/- 60' W x +/- 115' L)	0.16	AC	TBD	TBD	
Survey					*TBD*
Site Survey	1	LS	TBD	TBD	
Finish Grading & Seeding					*$ 2,760.00*
Finish Grading	6900	SF	$ 0.20	$ 1,380.00	
Seeding	6900	SF	$ 0.20	$ 1,380.00	
Sidewalk & Trails Improvements					*Note 1*
Mobilization, Erosion Control, And Traffic Control					***$ 33,212.12***
Mobilization (10%)	1	LS	$ 16,606.06	$ 16,606.06	
Erosion Control, Traffic Control & Safety (10%)	1	LS	$ 16,606.06	$ 16,606.06	
				IMPROVEMENTS SUBTOTAL	*$ 199,272.72*
				CONTINGENCY (20%)	*$ 39,854.54*
				DESIGN/ENGINEERING FEES (15%)	*$ 35,869.09*
				TOTAL OPC COSTS WITHOUT TBD COSTS & ASSOCIATED PROFESSIONAL FEES*	***$ 274,996.35***
				ANTICIPATED COST RANGE	***TBD***

**** TBD and Utility Costs (i.e. electrical, water, gray water, sanitary and storm sewer, etc.) and all associated professional service fees are not included, in addition, costs for items/services that are shown as a percentage of the construction work costs may be impacted by the TBD costs and will need to be adjusted to reflect new construction cost totals.***

Note 1: See Opinions of Cost for Boards 10 and 11 regarding 5th Street and 14th Ave. enhancements for sidewalks, RR Crossing, and trail.

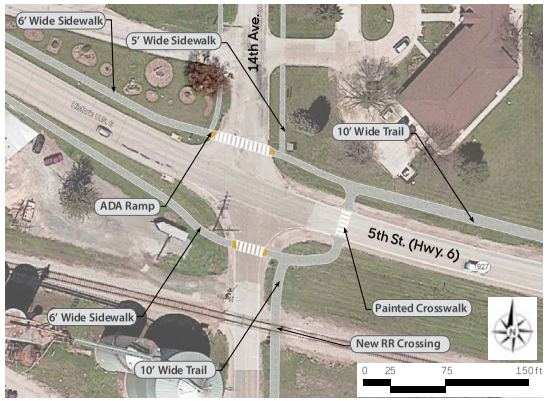
Existing aerial photo of 14th Ave. and 5th St. (Hwy. 6)

North side of 3rd St. & 14th Ave. intersection looking north.

Tri-County marker enlargement

Typical section of raised crosswalk

Existing: East side of 14th Ave. just to the north of the cemetery entrance looking north.



Proposed Concept: A separate pedestrian railroad crossing , marked and signed crosswalks enhance safety

14th Ave. & 5th Street Intersection

This intersection was identified as an intersection of concern because of the large number of pedestrians that cross it daily as part of their exercise/recreational route. With all of the proposed enhancements, it can be anticipated that there will be more need for pedestrians to cross this intersection in the future.

Only one pedestrian crossing is proposed for 5th St. due to safety concerns of having two at this intersection. The pedestrian traffic paralleling 5th St. will cross 14th Ave. to get to the 5th St. crossing. 14th Ave. has less traffic and the traffic has to stop at the intersection. A new pedestrian railroad crossing (width of trail) will be required. All signage and pavement markings will need to follow MUTCD requirements.

Proposed Concept: A raised crosswalk calms traffic and a bronze monument mark the Tri-County point

Tri-County Point and Raised crosswalk

Durant is located at the intersection of three Iowa counties: Cedar, Scott, and Muscatine. This unique spot is located on the centerline of 14th Ave.. A bronze monument is proposed to designated this landmark. The monument would be embedded into the decorative pavement pedestrian walkway of the raised crosswalk. The red dot on the monument would be positioned to mark the exact intersection of the three counties. An interpretation sign in the northwest quadrant of the 3rd St. and 14th Ave. intersection would discuss the Tri-County history.

A raised crosswalk is integrated into this design in order to calm traffic and increase pedestrian safety. Raised crosswalks are designed to accommodate the intended traffic, including emergency vehicles and semis.

Proposed concept: "Founders Plaza" includes monuments of city founders, seating, and decorative pavement

Founders Plaza

"In 1854, a town is laid out and platted by Mr. Brayton and Mr. Durant donates $800.00 for the erection of a schoolhouse. Mr. Brayton names the new town "Durant" in honor of his esteemed friend."

The Founders Plaza is proposed to pay tribute to the founders as well as honor those who have made major contributions of their time and/or resources to the city. The plaza will included benches, a water fountain, bronze statues of the two founders on an engraved base, and decorative bricks that can be engraved with the names of contributers and areas of concrete where they can have their hand-prints embedded into the concrete pavement.

Durant

14th Ave. Enhancements

Flenker Land Architecture Consultants, LLC
Landscape Architect: Meg K. Flenker, PLA, ASLA, CPESC, CPSWQ
Interns: Haoyue (Karma) Yang and Jue Jue (JJ) Wai Hin Thaw
Iowa State University | Trees Forever | Iowa Department of Transportation

Iowa's Living Roadways community visioning

Implementation Strategies

Implementation Overview

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

Professional Involvement

It is the design team's intent to continue providing Durant with professional consulting services of significant future development and enhancement of community resources Expertise from a team of allied professions may be needed to successfully design and implement several of the improvement projects identified. A landscape architecture consultant is best suited to lead and manage the design process. This helps ensure that the community's goals and designer's intent are fully integrated into the improvement projects. An architect, civil engineer, electrical engineer, and structural engineer can all be managed with sub-consultant agreements under the landscape architect's prime agreement with the city.

Design Process

The graphics shown on board 19 (Implementation) illustrate the multi-stage process generally involved to take a project from a "vision" to implementation. This process is referred to as the "Design Process." The specifics of each stage of the process, including the amount of effort and detail required, will be dependent upon a number of factors, including: project size, scope, complexity, project schedule, and funding sources. Projects that are developed through the Community Visioning Program and presented on these boards are the beginning of this design process.

The graphics shown on board 19 illustrate the progression of an actual streetscape project that was initially conceptualized through the of a city's participation in the ILR Community Visioning program then continued to progress through the entire design process until being constructed and completed.

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. Many of the larger projects may also be completed in phases as funds become available. By reviewing the available resources and developing an implementation plan, the community can move forward towards realizing the fruits of its vision.

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

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

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

Action Plan

What happens next? This is a common question that almost every community asks when completing the Community Visioning Program. It is recommended that project implementation be approached using the following basic action plan.

Year 1

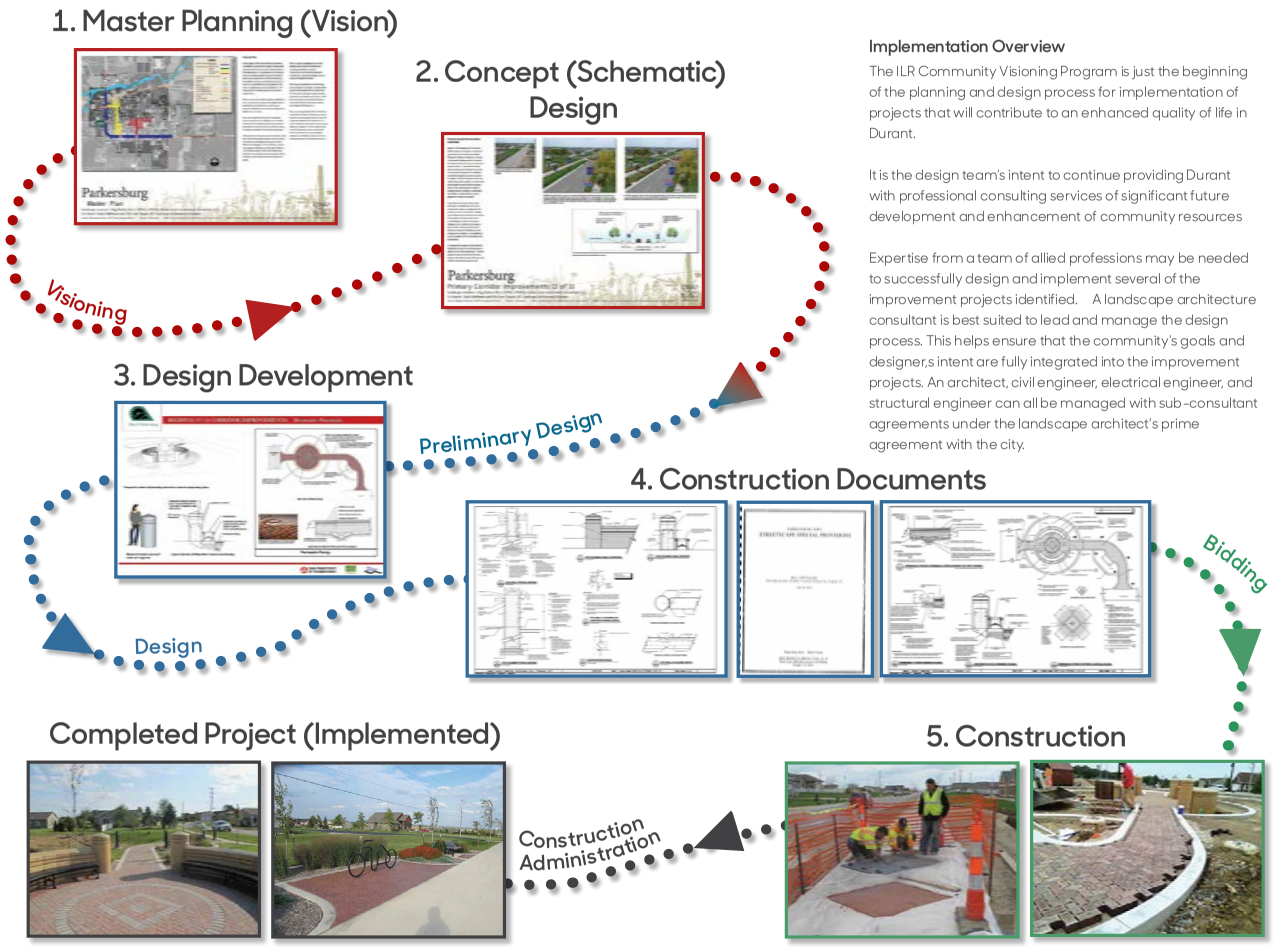
Task	Task Summary
1	Schedule monthly steering committee meetings, confirm understanding of scope and estimated costs of identified projects, and ***prioritize the top three projects for design refinement and implementation.***
2	Determine the most practical first project for implementation and ***identify all applicable and eligible grant funding opportunities.***
3	Utilizing Community Visioning deliverables and assistance from Trees Forever and a landscape architect, ***submit application(s) for eligible and related grant programs.***
4	Upon a successful grant application and securing funding, ***develop a schedule for project design, bidding, and construction, and select and execute a contract with a landscape architect as the lead design consultant.***

Year 2

5	Reassess top three priority projects based on grant application success and ***repeat Task 2-4 for a second project.***

Year 3 and Subsequent Years

6	Reassess top three priority projects based on grant application success and ***repeat Task 2-4 for next project.***



Durant

Implementation

Implementation Overview

The ILR Community Visioning Program is just the beginning of the planning and design process for implementation of projects that will contribute to an enhanced quality of life in Durant.

It is the design team's intent to continue providing Durant with professional consulting services of significant future development and enhancement of community resources

Expertise from a team of allied professions may be needed to successfully design and implement several of the improvement projects identified. A landscape architecture consultant is best suited to lead and manage the design process. This helps ensure that the community's goals and designer,s intent are fully integrated into the improvement projects. An architect, civil engineer, electrical engineer, and structural engineer can all be managed with sub-consultant agreements under the landscape architect's prime agreement with the city.

The graphics on this board illustrate the multi-stage process generally involved to take a project from a "vision" to implementation. This process is referred to as the "Design Process." The specifics of each stage of the process, including the amount of effort and detail required, will be dependent upon a number of factors, including: project size, scope, complexity, project schedule, and funding sources.

Projects that are developed through the Community Visioning Program and presented on these boards are the beginning of this design process.

Action Plan

What happens next? This is a common question that almost every community asks when completing the Community Visioning Program. It is recommended that project implementation be approached using the following basic action plan.

YEAR 1

TASK 1 Schedule monthly steering committee meetings, confirm understanding of scope and estimated costs of identified projects, and **prioritize the top three projects for design refinement and implementation.**

TASK 2 Determine the most practical first project for implementation and **identify all applicable and eligible grant funding opportunities.**

TASK 3 Utilizing Community Visioning deliverables and assistance from Trees Forever and a landscape architect, **submit application(s) for eligible and related grant programs.**

TASK 4 Upon a successful grant application and securing funding, **develop a schedule for project design, bidding, and construction, and select and execute a contract with a landscape architect as the lead design consultant. Stage 3 of the design process then begins.**

YEAR 2

TASK 1 Reassess top three priority projects based on grant application success and **repeat Task 2-4 for a second project.**

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Community Project Funding Options

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

Funding Opportunities

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

Funding Sources

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

Grant Programs

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

Appendix A

Lighting

The following is taken from *Project for Public Spaces* which is a non-profit organization that is focused on creating and sustaining public spaces to build stronger communities. This is a good recap of what the design team has tried to emphasize during the visioning process. Here is the excerpt:

In many situations, particularly when people are concerned about security, there is a tendency to over-light a park, plaza, street, or other public space. But in fact, too much lighting can be just as bad as too little lighting. The key to developing a good plan is to relate lighting to the evening functions of a particular space, because in the larger view, street lighting is more than just a technical requirement, a security need, or a design element. It can be thought of and utilized in terms of how the type, placement, and wattage affect how a street is perceived and used.

Although its primary purpose is nighttime visibility for security and safety, successful street lighting takes into account the human users of the street, not simply the requirements set by local DOT and public works agencies. For instance, one way to emphasize pedestrian activity over automobile traffic is to replace standard overhead street lights with smaller-scale, more frequently spaced fixtures geared to pedestrians.

WHY IS LIGHTING IMPORTANT?

- **Increases safety** in areas that people use, such as doorways and bus stops.
- **Aids in geographic orientation**, as people can use well-lit focal points (fountains, buildings, bridges, towers, sculpture, et al.) as landmarks to help them find their way.
- **Highlights the identity and history of an area**, for well-lit historic details draw attention to the uniqueness of an area.
- **Creates a sense of drama**.

WHAT ARE THE WAYS TO USE LIGHTING?

- **As a traffic-calming device**: The difference between a pedestrian-lit street and a highly illuminated highway automatically signals drivers that they have entered a new and different zone and compels them to slow their driving speed.
- **Signage**: Well-lit maps, along with directional and informational signage, are essential to providing orientation at night.
- **Architectural details**: Lighting entrances, archways, cornices, columns, and so forth can call attention to the uniqueness of a building, place, or district and bring a sense of drama to the experience of walking at night.
- **Focal points**: Lighted sculpture, fountains, bridges, towers, and other major

elements in a district, especially those visible to passing pedestrians and vehicles, provide another form of wayfinding.

- **Edges**: The edges of a park or plaza - particularly any interesting gateposts, fences, and specimen trees visible from the adjacent street -should be lit to help define and identify the interior space. Buildings located on the edges of a park can also have seasonal lights, bringing attention to the larger district beyond the park.
- **Retail displays**: Lighting retail displays, even when stores are closed, not only provides ambient light for the street, but also encourages window-shopping. This tactic can help to increase the number of people on a street, which is a major contributor to security.
- **Landscaping**: Trees lit with small white "bee" lights have become a popular sight in many cities even outside the holiday season, perhaps because they impart a magical feeling and bring positive attention to streets and public spaces
- **Transit stops**: People feel more secure when bus, train, or trolley stops are well-lit. Lighting also draws attention to and encourages use of such amenities.
- **Entrances:** Careful evening lighting around building entrances -- especially in residential building doorways -- contributes to the safety of a district even more than indiscriminate use of bright lighting that is not focused on areas of use.

HOW MUCH LIGHTING IS ENOUGH?

Different sources of illumination vary significantly with respect to the quality of light they provide. This, in turn, has a dramatic effect upon the appearance and safety of the street at night. High-pressure sodium, the light source typically used in city street-light fixtures, casts a yellowish-orange glow that results in poor color rendition; it compromises visual clarity and detracts enormously from the overall quality of the nighttime urban environment. By contrast, metal halide as a light source produces a soft, white glow that renders color accurately; it offers better visual clarity, improves reaction time for vehicles, and requires less wattage for the same perceived visibility. Quality of light is also influenced by quantity of light -- or more specifically, by the relationship between the brightness of a light and one's distance from it. Light becomes more diffuse farther away from the source, so for a given brightness, there is a range of heights within which the source should be located to create the desired quality of light.

Height of the luminaire: Although luminaire mounting heights have typically increased over the past few decades as lamp technology has allowed for higher and brighter road lights, the result is often lighting designed for the car or the parking lot, not for the person walking on the side of the street. Reducing the luminaries' height and adjusting it to the scale of the person on the sidewalk, calls for more fixtures, which in turn means that the luminaries, the poles, and their placement can have an impact on the streetscape.

Type and wattage: However, as a luminaire's height is lowered, the lamp's brightness must be adjusted so that it does not create excessive glare for pedestrians. At the same

time, the wattage must also be capable of adequately lighting the road. For instance, 9-foot luminaires might be augmented with overhead lights because, depending on the street width, the wattage needed to light the street would create a blinding glare for the pedestrian.

HOW FAR APART SHOULD LIGHTS BE SPACED?

In addition to the height of the light source, appropriate spacing of light fixtures is critical to achieving consistent illumination of streets and sidewalks, and to preventing the pedestrian from encountering intervals of darkness. Consistent light coverage is important, particularly along the sidewalk, because the perception of light is relative to its surroundings. Therefore, a poorly lit area will seem so much darker in contrast to a brightly lit area nearby.

The minimum required space between lights might meet lighting standards but may or may not achieve the desired effect. For example, a typical DOT lighting scheme for an average street 40′ in width (two traffic and two parking lanes) would have 25′ to 40′ cobra head lights every 125′-150′, staggered on either side of the street. An alternative to this vehicle-oriented scheme is to reduce the height of the fixtures to 13′ and place them every 50′ and opposite each other.

Sidewalk Placement: In addition to the technical criterion of the lights themselves, the distribution of light posts along the street can have a dramatic effect on the nature of the street and its secondary uses.

- **Staggered arrangement**: Staggering light posts across the street from each other allows for an arrangement that is less formal, and can potentially use fewer lights, since there will be some overlap illumination.
- **Opposite arrangement**: Light fixtures that are aligned directly across the street from each other set up a more formal condition. Opposite arrangement allows for spanning the street with banners or holiday lights.
- **Sensitivity to existing conditions**: Although a standard distance between streetlights might be specified (say, every 40′ or 50′), make allowances to respond to existing or recommended circumstances, such as a street café, compatibility or conflict with existing traffic signals, benches, bus stops, and telephones.
- **More closely spaced light posts** create a stronger edge along the sidewalk, reinforcing the sidewalk itself as an exterior habitable space.
- **Using more numerous and closely spaced light fixtures** is one way of lowering the wattage, and therefore potential glare, of each fixture.

Street scale is an important factor in determining the appropriate configuration of streetlight fixtures. Broad avenues require fixtures of a different scale from narrow side streets, because the arc of light created by a source varies with its height from the ground. Very wide streets may also require that the light source be extended further over the roadbed. Getting light back onto the sidewalk, on the other hand, requires a pedestrian

fixture at a lower height.

Photometric analysis is an important means of determining the appropriate spacing of light fixtures to ensure that light is spread evenly where it is needed.

OTHER FACTORS

A. Street Character

Special conditions relating to street character are also important considerations in determining an appropriate fixture. Qualities such as the architectural or historical character of the building or park edge, the existence and density of a tree canopy, and the degree of ambient light are all factors. Each of these characteristics can strongly impact the effectiveness and appropriateness of various light fixtures and must be included in the analysis of lighting concepts.

For instance, if the main use of the street is to channel a rapid flow of traffic (e.g. a highway or major arterial), the recommended light level would differ from that of a low-traffic residential street - which should in turn differ from a pedestrian-oriented downtown street. Street lighting that is implemented as part of an overall streetscape design in conjunction with other elements, such as benches, bus stops, and waste receptacles, will reflect the pedestrian-oriented quality of the street, and can potentially enable the off-street area (sidewalks, plazas, pocket parks) to be more conducive to pedestrian and merchant activities.

B. Compatibility and Coordination

The choice of light fixtures must meet the community's preferences, based on the character of the street and surrounding neighborhood. Factors to consider include number of luminaires per post (single, double, or lighting standards with three or more); materials, colors, and finishes; and historical or contemporary style. Finally, in order to design the street as a public space, light fixtures should be conceived of as part of a coordinated line of amenities - not pieced together from a variety of incongruous components. They should appear compatible with litter receptacles and other street furniture.

In addition, different light fixtures that serve different purposes should relate to one another as part of a family of fixtures. This means that, in a given family, each of the fixture components (base, pole, luminaire) should have stylistic compatibility, while varying in form according to functional requirements. In addition, items that are attached to the fixtures (signs, signals, signal box, etc.) should coordinate in appearance, and the systems for attaching them should be integrated as parts of a whole, rather than being sloppily fastened on as an afterthought.

C. Existing Conditions

Ultimately, every situation has a different set of variables, and the light levels must be considered for each specific location. In addition to dealing with the characteristics described above, lighting levels and an overall lighting plan must be derived from a number of existing conditions (listed below), with other desired factors also taken into account.

- street width
- sidewalk width
- path width (in parks or plazas)
- typical height of buildings
- number, placement, and types of trees
- types of paved surfaces
- roadway geometries
- length of the block

ARE THERE SECONDARY FUNCTIONS FOR LIGHTPOLES?

- **Individual pole decorations or banners**: These can utilize single or double attachments to the post. The luminaire height may affect the length of a side banner, which typically may hang as low as 9'. (So, for instance, a 3' to 4' banner could be hung below a 13' luminaire.) Attachments should be carefully detailed to complement the lighting style and materials.
- **Street-spanning banners or decorations for holidays or special events**: Span-wires to support accessory street ornamentations must be located at least 15' to 30' above street level. The height must be sufficient to clear automobiles and trucks, while also relating to the surrounding height of buildings and/or the character of open spaces. Note that street-spanning banners are not allowed by all city codes, and careful attention must be paid to wind loads and attachments.
- **Planters:** Best is either a non-irrigated, hanging planter or an irrigated model with an enclosed pipe within the light pole
- **Additional electrical capacity** may also be needed to assist in street, tree, and/or event lighting.

Added by FLAC:

- **Speakers:** These may be added if the city desires to play holiday music, or music year round to aid in the users experience while in the downtown district; also can be used for community events / announcements.

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