ACKNOWLEDGMENTS

CITY STAFF
Jim Sanders, City Administrator
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Dennis McDaniel, Police Chief
John Schmitz, Parks Director
David Wilwerding, AICP, Community Development Director

STEERING COMMITTEE
Paula Dierenfeld, Mayor
Tom Cope, City Council Member
Rhonda Martin, City Council Member
Lindsey Andrews, Heartland Soles & Event Planner
Kelsey Clark, Johnston Chamber of Commerce
Lyle Danielson, Johnston Park Board
Greg Dockum, Johnston Community School Board
Laura Kacer, Johnston Community School District
Jill Morrill, Johnston Community School Board
Jason Scholbrock, Pioneer
Ginger Soelberg, Trails Committee

SNYDER & ASSOCIATES, INC.
Mark Perington, P.E., Principal in Charge
Mindy Moore, AICP, Project Manager/Planner
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Lauren Dietz, Planner/GIS
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INTRODUCTION

Background and Planning Process

What is Walkability?
INTRODUCTION

BACKGROUND
The Johnston Walkability Study addresses the community-wide connectivity of sidewalks, trails, and supporting facilities between neighborhoods, schools, parks, and business locations in Johnston, Iowa.

The project kicked off in April 2018 with the signing of Resolution No. 18-82.

RESOLUTION NO. 18-82
A RESOLUTION ACCEPTING THE AGREEMENT WITH SNYDER & ASSOCIATES FOR SERVICES PROVIDED FOR THE CITY OF JOHNSTON’S WALKABILITY STUDY

WHEREAS, The City of Johnston would like to fully explore opportunities to get its residents walking and biking more often; and

WHEREAS, a full study must happen to review the best practices moving forward in creating a safe environment for those users; and

WHEREAS, Snyder & Associates have a strong background in studying crosswalks, roadways, trails and other areas where pedestrians and bicyclists may encounter motorized vehicles; and

WHEREAS, Snyder & Associates has already worked with the Johnston Public Schools on their safety zones project; therefore

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF JOHNSTON, IOWA, that:
The Agreement with Snyder & Associates be PASSED AND APPROVED this 4th day of April, 2018.

PLANNING PROCESS
The study began by gathering input from various city departments, stakeholder groups representative of the community, community engagement events, and a map-based outreach website, Map.social. A Steering Committee, composed of a diverse group of Johnston Stakeholders, met three times to discuss the outcomes of these input methods, and ensure that the project was fulfilling the city’s goals. Using both community and steering committee input, network recommendations, policy recommendations, and an implementation plan have been established in line with the following goals:

PROJECT GOALS
1. Identify necessary infrastructure improvements and priorities.
2. Establish best practices for pedestrian facilities in existing and new development areas.
3. Ensure that pedestrian crossing treatments maximize pedestrian safety.
4. Consider maintenance needs and abilities with recommendations.

With these goals and gathered input in mind, Snyder has conducted a network analysis by reviewing current conditions, existing analyses of school walk zones, Iowa DOT crash records, and stakeholder input to identify gaps and deficiencies in the existing pedestrian environment. This analysis has produced a proposed future network map that the City of Johnston can use to program future infrastructure improvements.

Snyder has looked at policies and best practices regarding traffic calming, traffic engineering, subdivisions and commercial site plan ordinances, complete streets, and sidewalk programs. This research provides
Background and Planning Process

both an overview of current policies and recommendations for amendments to support a more pedestrian-friendly community.

Additionally, Snyder met with the Park Board, Tree Board, Planning and Zoning Commission, Johnston Community School Board, Johnston Trails Committee, and City Council to gain an understanding of how this walkability study can make a positive impact for each of these organizations. Meeting presentations and notes can be found in the appendices of this document.

Finally, an implementation plan has been established, laying out short- and long-term prioritization recommendations.

This document is a compilation of the processes and final outcome of this study, and concludes with a summary of likely costs that will be incurred with each type of project in addition to a description of potential funding opportunities through both private and public grant programs.

STUDY AREA

Johnston, Iowa is a city located just northwest of Des Moines with a current population of around 21,000 people. The population nearly doubled between 2000 and 2010, and is expected to grow by close to 6,000 people by 2030. With this predicted future growth in population, an extensive network of parks, a leading school district, major employment centers like Corteva Agriscience, and nearby access to regional trails, creating a comfortable and safe network for biking and walking is essential to maintaining a high quality of life for Johnston residents.
INTRODUCTION TO WALKABILITY

Walkability is a measure of the pedestrian friendliness of a neighborhood or community; this is based upon how easy it is to safely and efficiently walk from one place to another and how far destinations are from origins. Several factors need to be in place to create a walkable community.

First, there must be safe, connected, and ADA-compliant pedestrian infrastructure. This is the most essential factor necessary to promote walkability. For example, roadways must have sidewalks or sidepaths, signalized intersections should have pedestrian signals and push buttons, and businesses should have a path from the street sidewalk to the main entrance. The pedestrian facilities should enable multiple routes to reach the same destination, preferably exceeding motorized route options by providing trails and sidewalks on independent rights-of-way, cutting through cul-de-sacs, crossing creeks, and meandering through parks to provide vehicular-free shortcuts.

Second, the walking route must be comfortable and interesting. To make pedestrian routes more pleasurable, communities can implement street trees, public art, benches, and wayfinding signage. Even building facades factor in to interest and comfort since windows, retail displays, and sidewalk cafes are more interesting than blank walls or parking lots. To improve confidence in places of conflict with vehicle traffic, pedestrian countdown timers, refuge islands in streets, and traffic calming features assist.

Finally, there must be a purpose for the walk and the land use to support it. People who walk for transportation purposes need origins and destinations in close proximity to each other. Mixed land uses, denser housing and jobs, and neighborhood-oriented commercial and retail uses enable walking transportation trips. Children need safe walking routes to schools, parks, homes of friends and relatives, and even to groceries or convenience stores. People who walk for health and fitness purposes rely on infrastructure, comfort and interest to create a suitable walk, but they will further benefit from
What is Walkability?

parks and open spaces along their preferred routes as resting points or to incorporate additional types of exercise. Someone walking their dog may want to stop at a dog park or open space to throw a ball or Frisbee.

The Johnston Walkability Study Steering Committee brainstormed ideas of what makes a community walkable and identified the following factors:

PEDESTRIAN INFRASTRUCTURE

• Connections to destinations
• Facilities need to be well maintained, free of cracks and hazards
• Signals and signs located in appropriate spots
• Safe design
• Separation of cars and bicycles, appropriate
• Facilities for each corridor or crossing
• Ample facility/path width
• Limiting conflict points between bicycles and walkers
• Wayfinding signage

COMFORT AND INTEREST

• Pleasant, attractive, shady, interesting, and comforting vibe
• Seasonal maintenance such as snow and ice removal, tree trimming, weed control
• Access to amenities along trail such as restrooms, benches, and water
• A variety of facility types (natural trails for runners, walkers, and bikes)
• Tree lined paths provide comfort and safety, and slow traffic
• A variety of trees for aesthetics, using approved street trees
INTRODUCTION

What is Walkability?

PURPOSE AND LAND USE

- Destinations and attractions - need to have a reason to go somewhere
- Housing density
- Location of employment and job density
- Transportation walking trips and connections to transit (including lack of access to a vehicle)
- Recreational and fitness trips

Recognizing that this is not an exhaustive list of walkability factors, this study builds upon and refines these ideas through the evaluation of Johnston’s pedestrian network and recommendations for improvements.

One way to initially assess Johnston’s level of walkability is to use its walkability index determined by Walk Score. Walk Score is an organization founded in 2007 and dedicated to promoting walkable neighborhoods. Using a patented algorithm, the WalkScore.com website “analyzes hundreds of walking routes to nearby communities.” Each community or specific address receives the highest points for connected amenities within ¼-mile (about 5 minutes), with no points given after a 30-minute walk. Population density and infrastructure density are also considered and given a score. One critique of WalkScore is that it does not consider the condition of the sidewalk in the analysis. The points fall on a scale of 0-100, with 0-24 considered “Car-Dependent” and 90-100 considered a “Walker’s Paradise.” Since the Walk Score is heavily based upon whether or not “errands” require a car, it is primarily assessing the ability to walk for transportation purposes, and is not assessing the level of walkability solely for fitness or recreation purposes.

According to Walk Score, Johnston has an average Walk Score® of 21 on a 1-100 scale. Johnston’s score indicates that it is a heavily vehicle-dependent city. Within the Des Moines Metro, only Pleasant Hill has a lower Walk Score.

The scoring system updates every six months using data sources such as Google, Education.com, Open Street Map, the U.S. Census, Localeze, and places added by the Walk Score community.

Challenges to improving walkability for transportation purposes in Johnston include the network of minor arterial and collector roads, which are fed by neighborhood cul-de-sacs and looped local roads, and lower density residential development and vehicle-oriented commercial land uses.

<table>
<thead>
<tr>
<th>City</th>
<th>Walk Score®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnston</td>
<td>21</td>
</tr>
<tr>
<td>Windsor Heights</td>
<td>56</td>
</tr>
<tr>
<td>Des Moines</td>
<td>45</td>
</tr>
<tr>
<td>Waukee</td>
<td>40</td>
</tr>
<tr>
<td>Grimes</td>
<td>39</td>
</tr>
<tr>
<td>Altoona</td>
<td>35</td>
</tr>
<tr>
<td>Urbandale</td>
<td>32</td>
</tr>
<tr>
<td>West Des Moines</td>
<td>31</td>
</tr>
<tr>
<td>Ankeny</td>
<td>30</td>
</tr>
<tr>
<td>Pleasant Hill</td>
<td>17</td>
</tr>
</tbody>
</table>

Walk Score Index
What is Walkability?

Elements of Walkability

- Infrastructure
  - Physical Separation
    - Limiting conflict points
  - Safe Crossings
    - Pedestrian Refuges
    - Buttons
    - Countdown Timers
  - Sidewalks/Trails
    - ADA compliance
    - Path width
    - Complete Network
    - Paved and dirt paths
  - Traffic Calming
  - Signage
    - Wayfinding
    - Warning

- Purpose & Land Use

- Comfort & Interest
  - Resting Points
  - Terrain
  - Density (jobs)
  - Maintenance
    - Pavement/Bridge Conditions
    - Tree/Shrub trimming

- Proximity of different uses
- Recreation Destinations
- Density (jobs)
- Density (housing)
- Building Facades
- Aesthetics
- Landscaping
- Buffers
- Density (jobs)
EXISTING CONDITIONS

Johnston 2030 Comprehensive Plan
Geographic Information Systems (GIS) Data
Existing and Proposed Network
Destinations
Johnston Community Schools - Walk Zones
Crash Data
JOHNSTON 2030
The 2030 Comprehensive Plan places significant emphasis on multimodal transportation and walkability. The introduction states that “roads, sidewalks, trails, and mass transit will be the basis of a system that provides safe, convenient connections throughout the community and the surrounding area” (p. 10). Sidewalk expansion for mobility and trail connectivity was called out as an action step specifically in the High Density Residential, Mixed Use, Office Areas, East of Merle Hay, and Parks and Recreation sections of the plan.

As of the adoption of the comprehensive plan in 2010, roughly 70 miles of sidewalks existed within the city, with significant gaps identified east of Merle Hay from Beaver Creek to the Saylorville Dam, and smaller areas on the west side of town. As much of the East District (east of Merle Hay, south and west of NW Beaver Drive, and north of the southern corporate limits) lacks city utilities, the comprehensive plan determined that the best time to add sidewalk would be in coordination with CIP projects in that area.

Resident input placed a heavy emphasis on active living in Johnston, specifically saying that Johnston:

- Truly needs to be a multi-modal community that includes trails, sidewalks, and a transit station
- Needs to be pedestrian friendly
- Needs to add bike and walking trails throughout the community
- Should provide better connections to parks
- Should have a healthy lifestyle—be a community that supports walking
- Should be a gateway to regional trails
- Should preserve natural areas (p. 96).

<table>
<thead>
<tr>
<th>Shapefile</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Center Lines</td>
<td>-Public or private&lt;br&gt;-Directional prefix&lt;br&gt;-Street name&lt;br&gt;-Street type&lt;br&gt;-Directional suffix&lt;br&gt;-Full name</td>
</tr>
<tr>
<td>Destinations: Walkable Locations</td>
<td>-Points only&lt;br&gt;-Includes daycares, nursing homes, and ChildServe</td>
</tr>
<tr>
<td>Places of Worship</td>
<td>-Points only</td>
</tr>
<tr>
<td>Grocery Stores</td>
<td>-Points only</td>
</tr>
<tr>
<td>Zoning Districts</td>
<td>-Zone&lt;br&gt;-Ordinance references&lt;br&gt;-Planning and Zoning case number, if any</td>
</tr>
<tr>
<td>City Boundary</td>
<td></td>
</tr>
</tbody>
</table>
GEOGRAPHIC INFORMATION SYSTEMS (GIS) DATA

To facilitate an accurate analysis of the pedestrian infrastructure, the City of Johnston provided GIS-compatible shapefiles with the following attributes:

Parks information was sourced from the City of Des Moines GIS database, which includes parks throughout the metro area.

Des Moines Area Regional Transit Authority data was used to identify the location of bus routes number 5 and number 93, along with bus stop locations for each route in Johnston.
Exhibit 2.2 - Destinations (Merle Hay Road)
A 2015 mapping effort Snyder & Associates completed for the Johnston Community School District identified school walkshed boundaries and hazards defined by the school board.

The following maps of Existing Conditions and Destinations display the data collected.

**JOHNSTON COMMUNITY SCHOOLS - WALK ZONES**

Johnston has five elementary schools, two middle schools, and one high school, which together accommodate an estimated 7,000 students.

The Johnston Community School District has a Walk Zone policy that identifies a 1-mile-radius walk zone for students in grades K-9, and a 2-mile-radius walk zone for high school students. To determine safe walk zones, factors considered included safety hazards such as lack of designated road crossings, lack of sidewalks, inadequate signage, inadequate signal push-button placement, and the age of students within those walk zones.

For students outside their designated walk zone for their respective schools, the school district provides bus transportation at no additional cost to the student. Paid bus ridership is available for:

**Elementary Schools – Grades K-5, approximately 3,000 students**
- Beaver Creek
- Horizon
- Timber Ridge
- Wallace
- Lawson

**Middle Schools – approximately 2,200 students**
- Summit Middle - Grades 6-7
- Johnston Middle - Grades 8-9

**High School – approximately 1,600 students**
- Johnston High - Grades 10-12

EXISTING CONDITIONS

Johnston Community Schools - Walk Zones

FILE PATH: V:\Projects\2018\118.0337.01\GIS\Mxd_2018-05-02_Ex3_SchoolWalkZones8x11.mxd

SOURCES: Esri, HERE, Garmin. © OpenStreetMap contributors

Legend

- Schools
- Key Intersection
- Potential Crossing Guard
- Safety Hazards
- SchoolWalk Zone
- No Walking - Transportation Provided
- Incomplete Sidewalk Network

Exhibit 3.2 - Middle School and High School Walk Zones

Johnston Walkability Study | Johnston, Iowa | 5/8/2018
on a space-available, distance rubric basis for families within the walk zone who prefer bus transportation.

The following maps show the general walk zones used for elementary, middle, and high schools within the Johnston Community School District.

**CRASH DATA**

City-specific data for pedestrian-involved and

### Johnston Bicycle and Pedestrian Crash Data

<table>
<thead>
<tr>
<th>No.</th>
<th>Case Number</th>
<th>Date</th>
<th>Time</th>
<th>Address</th>
<th>Type</th>
<th>Severity</th>
<th>Injured Age</th>
<th>Injured Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2008447837</td>
<td>6/23/2008</td>
<td>9:38</td>
<td>5100 Block Of Merle Hay Road</td>
<td>Bike</td>
<td>Major Injury</td>
<td>47</td>
<td>F</td>
</tr>
<tr>
<td>2</td>
<td>2008450877</td>
<td>7/15/2008</td>
<td>17:29</td>
<td>Sb/Wb Nw 86Th St And Nw 54Th Ave</td>
<td>Ped</td>
<td>Minor Injury</td>
<td>30</td>
<td>F</td>
</tr>
<tr>
<td>3</td>
<td>2009506394</td>
<td>5/1/2009</td>
<td>17:44</td>
<td>6104 Four Pine St</td>
<td>Bike</td>
<td>Major Injury</td>
<td>8</td>
<td>M</td>
</tr>
<tr>
<td>4</td>
<td>2009518350</td>
<td>7/16/2009</td>
<td>17:05</td>
<td>62Nd/Crescent Chase</td>
<td>Bike</td>
<td>Possible Injury</td>
<td>71</td>
<td>M</td>
</tr>
<tr>
<td>5</td>
<td>2009545503</td>
<td>12/27/2009</td>
<td>13:00</td>
<td>6200 Block Nw 94Th St</td>
<td>Ped</td>
<td>Minor Injury</td>
<td>10</td>
<td>F</td>
</tr>
<tr>
<td>6</td>
<td>2010563783</td>
<td>3/23/2010</td>
<td>16:28</td>
<td>Merle Hay Road And Northglenn Dr</td>
<td>Bike</td>
<td>Major Injury</td>
<td>33</td>
<td>F</td>
</tr>
<tr>
<td>7</td>
<td>2010565715</td>
<td>4/8/2010</td>
<td>15:04</td>
<td>Merle Hay Rd And Pioneer Pkwy</td>
<td>Ped</td>
<td>Possible Injury</td>
<td>38</td>
<td>F</td>
</tr>
<tr>
<td>9</td>
<td>2010577677</td>
<td>6/15/2010</td>
<td>13:40</td>
<td>N Winwood Dr &amp; Merle Hay Rd</td>
<td>Bike</td>
<td>Minor Injury</td>
<td>20</td>
<td>M</td>
</tr>
<tr>
<td>10</td>
<td>2011640696</td>
<td>7/23/2011</td>
<td>14:40</td>
<td>Merle Hay Rd And Nw 62Nd Ave</td>
<td>Bike</td>
<td>Possible Injury</td>
<td>16</td>
<td>M</td>
</tr>
<tr>
<td>11</td>
<td>2013739308</td>
<td>5/12/2013</td>
<td>18:07</td>
<td>4700 Block Nw 62Nd Ave</td>
<td>Bike</td>
<td>Possible Injury</td>
<td>18</td>
<td>M</td>
</tr>
<tr>
<td>12</td>
<td>2013752854</td>
<td>7/12/2013</td>
<td>17:07</td>
<td>5100 Blk Merle Hay Rd</td>
<td>Ped</td>
<td>PDO</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>13</td>
<td>2014809881</td>
<td>6/5/2014</td>
<td>17:10</td>
<td>6055 Nw 49Th St</td>
<td>Ped</td>
<td>Minor Injury</td>
<td>8</td>
<td>F</td>
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<tr>
<td>14</td>
<td>2014810469</td>
<td>7/29/2014</td>
<td>16:20</td>
<td>5000-B Merle Hay Rd</td>
<td>Bike</td>
<td>Possible Injury</td>
<td>60</td>
<td>M</td>
</tr>
<tr>
<td>15</td>
<td>2015874009</td>
<td>8/14/2014</td>
<td>16:53</td>
<td>Pioneer Pkwy And Merle Hay Rd</td>
<td>Bike</td>
<td>Minor Injury</td>
<td>17</td>
<td>F</td>
</tr>
<tr>
<td>16</td>
<td>2015886156</td>
<td>10/25/2015</td>
<td>0:35</td>
<td>7600-B Nw Beaver Dr</td>
<td>Ped</td>
<td>Major Injury</td>
<td>33</td>
<td>M</td>
</tr>
<tr>
<td>17</td>
<td>20170981564</td>
<td>5/2/2017</td>
<td>7:21</td>
<td>Nw 63Rd Pi And Merle Hay Rd</td>
<td>Ped</td>
<td>Possible Injury</td>
<td>16</td>
<td>M</td>
</tr>
<tr>
<td>18</td>
<td>20171001946</td>
<td>8/29/2017</td>
<td>17:58</td>
<td>Nw 66Th Ave And Merle Hay Rd</td>
<td>Bike</td>
<td>Fatal</td>
<td>13</td>
<td>M</td>
</tr>
</tbody>
</table>
bicycle-involved crashes was analyzed utilizing the Iowa DOT’s Saver web application and ArcGIS. The following table and map display the bicycle and pedestrian crash data, including their locations.

Between 2008 and 2017, 11 of 17 crashes occurred along Merle Hay Road. A small cluster of three crashes occurred in the neighborhood east of Lawson Elementary School. There were six adult-involved bicycle crashes, versus five involving minors. Pedestrian crashes involving adults equaled those involving minors, with three of each during the identified time period. Most bicycle accidents were classified as Major, Minor, or Possible Injury. The majority of pedestrian crashes were classified as Minor or Possible Injury. The only Property Damage Only (PDO) crash involved a pedestrian. It is possible that other PDO crashes occurred but were not reported due to no injury or the minor nature of the damage. The Iowa DOT standards generally require $1,500 or more in damages to be identified to constitute a PDO report in their database.

The intersection of Merle Hay Road and Pioneer Parkway experienced two bicycle-involved crashes with minor injuries in 2010 and 2014. This is the only intersection where two incidents overlapped. The fatal incident was in August 2017 near the intersection of Merle Hay Road and NW 66th Avenue.
MAP.SOCIAL - DATA GATHERED

The map.social online mapping platform was used for public engagement related to walkability in Johnston. A summary of the data and comments received through this engagement activity are provided in the appendix. The comments have been copied verbatim from the input received, and are formatted in tables by category.

The map.social site allowed registered users to drop selected icons or draw lines onto an interactive base map and describe the issue associated with each location noted. The base map included the locations of existing trails and sidewalks, schools, parks, and planned sidewalk construction. Users could also upload small (less than 2MB) photos depicting the issue. Registered and unregistered users can view others’ input and vote up or down to indicate agreement or disagreement on others’ comments.

The following table shows the icons included for use on the website and the description of each. The following table shows the icons included for use on the website and the description of each.

**Map.social Icons**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✡</td>
<td>Pedestrian Destination</td>
<td>Places I would like to walk to</td>
</tr>
<tr>
<td>🚶</td>
<td>Favorite Pedestrian Routes</td>
<td>Places I like to walk</td>
</tr>
<tr>
<td>🛋</td>
<td>Gaps in Pedestrian Routes</td>
<td>Areas needing a sidewalk or trail to complete a connection</td>
</tr>
<tr>
<td>🚶️</td>
<td>Problematic Intersection or Crossing</td>
<td>Intersections or mid-block crossings that are difficult for pedestrians</td>
</tr>
<tr>
<td>🚶️</td>
<td>Pedestrian Safety Hazard</td>
<td>Areas that pose a safety concern to people walking</td>
</tr>
<tr>
<td>🚌</td>
<td>DART Stops Needing Improvements</td>
<td>DART stops that need a better waiting area or route to/from</td>
</tr>
<tr>
<td>🌿</td>
<td>Beautification Needed</td>
<td>Areas that are aesthetically unappealing to walk by/through</td>
</tr>
<tr>
<td>📘</td>
<td>Other</td>
<td>All other points</td>
</tr>
</tbody>
</table>
The link for the website was added to the City’s website on May 11, 2018, and was open until June 18, 2018 for comment. The City advertised the engagement period by distributing 500 small business-sized cards, via community email newsletters, and on sandwich board signs at parks and special events including the Mayor’s Ride, Coffee with a Cop, the Farmer’s Market and Johnston Green Days Festival. Volunteers at the Green Days Festival from June 15-16 passed out business cards with the website and took feedback in person. Eight new comments were received from 7 individuals and input into the “Admin” map on the website.

Articles were written in the Johnston Living magazine, the Johnston Register, and the Business Record. Notice was also distributed via Facebook and Twitter, with Facebook attracting 838 views, 5 shares, 3 comments, and 16 reactions; and Twitter receiving 5 retweets and 6 likes.

Initially, some users had difficulty navigating the website. The City and Snyder & Associates created a short instructional video to walk users through each step of registering, adding information to a map, and viewing and voting on others’ comments.

The resulting YouTube video had 37 views. Some people preferred to email in their comments rather than use the website. When this happened, Snyder & Associates added their comments to an “Admin” map on the map social site on their behalf. Comments from 15 individuals were input onto the Admin map.

In total, there were 66 individual contributors and 214 features added through the website. The types of features were broken down as shown here.

**Number and Type of Features Added**
The resulting map image shows a variety of icons representing each type of issue. When viewed online, users can zoom in and out to see the details related to each icon. To assess the data received, we have downloaded the input into GIS shapefiles and have included each in the appendix.

In addition to the locations and specific comments collected, the Map.social platform creates a word cloud that compiles the most commonly-used words from the comments added to the website. The image (shown above) shows the word cloud generated from this engagement activity. Unsurprisingly, sidewalks, trails, and parks are among the most popular words included in public comments.

The specific locations and associated comments from this engagement activity are included in both map and table form located in the appendix of this document, pages X-X.
MAP.SOCIAL - ANALYSIS AND RECOMMENDATIONS

To analyze the data gathered online, first we consolidated similar/identical lines and points into single features in the GIS database.

Next, we assigned various additional attributes to the table, such that it contains the following:

- **Project Type** – Each line feature is classified as a Corridor, Favorite Route, Sidewalk Gap, Trail Gap, or Other. Each point feature is classified as Crossing, Hazard, Beatification, Destination, or Other.
- **Work Category** – These include Education/Enforcement, Infrastructure, Maintenance, or Other.
- **Votes** – This is the sum of the “like” votes and the number of individual contributions of the same issue.
- **Urgency** – This is a Low, Medium, or High rating based upon city staff assessment of the need for the project and the number of votes. Anything that was not in compliance with the Americans with Disabilities Act (ADA) was given a “high” urgency rating.
- **Difficulty** – This is a Low, Medium, or High rating based upon a general assessment of obstacles such as terrain, right-of-way availability, existing or future development, and constructability.
- **Justification** – This represents the justification for moving forward with the project, including ADA Compliance, Safety, Connectivity, or Aesthetics.
- **Description** – This is a summary description of the issue, initially based upon the public comments and modified through the review process.
- **CIP** – This indicates whether or not the feature is currently addressed in the Capital Improvement.
- **Recommendation** – This is the recommendation of how to address the issue.

We presented the results of the online engagement to the Steering Committee and added a few more features based upon their feedback. We then met with City staff to review each feature, and also to add some missing features (e.g. missing sidewalks). We ended up with 170 unique features consisting of 101 line features and 69 point features.

**LINE FEATURES – TRAILS AND SIDEWALKS**

There are 34 trail gaps and 50 sidewalk gaps, additional line features are for Favorite Route, Corridor, or Other. Please refer to the Trail and Sidewalk Gaps – Urgency & Justification exhibit for more details.

Of the 34 trail gaps, there were 3 that were already existing and 6 that were not recommended to be constructed due to safety concerns or infeasibility (2 of these had alternative routes). Of the remaining, 14 were already noted in the CIP. That leaves 10 trail gaps that need to be addressed, 4 of these would be constructed upon development of the adjacent site.

Of the 50 sidewalk gaps, there were 2 that were already existing, 5 that were not recommended to be constructed, and 1 was outside the City’s boundary. Of the remaining, 31 were already noted in the CIP or to be constructed through the City’s Sidewalk Program. That leaves 11 sidewalk gaps that need to be addressed, 5 of which would be addressed in conjunction with development of the adjacent site.

Please refer to the Trail and Sidewalk Gaps – CIP Status exhibit for details on locations and recommendations.

**POINT FEATURES – CROSSINGS AND HAZARDS**

There are 26 crossing locations and 12 hazard locations identified in the study, additional point features are identifying Destinations, Beatification, and Other. Please refer to
the Crossing and Hazards – Urgency and Justification exhibit for more details.

Of the 26 crossing locations, 2 were not recommended to be constructed and 1 was recommended to be addressed through educational efforts (trail crossing of NW 60th Street by Van Dees Ice Cream). Of the remaining, 12 were already noted in the CIP to be improved. That leaves 11 crossings that need to be reviewed for improvements and potentially added to the CIP.

Of the 12 hazard locations, 1 was recommended to be addressed through educational efforts (mopeds on trail). Of the remaining, 3 were already in the CIP to be repaired. That leaves 8 hazards that need to be reviewed for improvements and potentially added to the CIP.

Please refer to the Crossings and Hazards – CIP Status exhibit for details on locations and recommendations.

SCHOOL ZONES
In addition to the city-wide analysis, we compared each school’s walk zone and crash data to the trails and sidewalk gaps and the crossings and hazards, which was presented to the school district in August 2018. Please refer to the exhibits for each school’s walking zones.

OVERALL RECOMMENDATIONS
The Recommendations exhibits include the entire city split into quadrants (northwest, northeast, southeast, and southwest), with all recommendations for trail and sidewalk gaps, crossings and hazards. It also includes crashes, and school walk zones for comparison of data.
Map - Social - Analysis and Recommendations

Legend:
Sidewalk Gaps
- High, ADA
- High, Connectivity
- Medium, Connectivity
- Low, Connectivity
Trail Gaps
- High, Connectivity
- Medium, Connectivity
- Low, Connectivity & Aesthetics
Other
- Johnston Boundary
- Waterbody
- Roads

FILE PATH: \orion.snyder-associates.com\volume\Projects\2018\118.0337.01\GIS\Mxd_2018-07-27_TrailSidewalkGap_UrgencyJustification.mxd
SOURCES: Iowa Geodata, Iowa DNR, Iowa DOT and the City of Johnston

Trail and Sidewalk Gaps - Urgency & Justification

Johnston Walkability Study | Johnston, Iowa | 10/25/2018
Map: Social - Analysis and Recommendations

Legend

Hazards
- High, ADA & Safety
- Medium, Safety
- Low, Safety

Crossings
- High, ADA & Safety
- Medium, Safety
- Medium, Connectivity
- Low, Safety

Other
- Johnston Boundary
- Waterbody
- Parks and Open Space
- Roads

Crossings and Hazards - Urgency & Justification
Johnston Walkability Study | Johnston, Iowa | 9/12/2018

FILE PATH: V:\Projects\2018\118.0337.01\GIS\Mxd_2018-07-27_Crossings_UrgencyJustification.mxd
SOURCES: Iowa Geodata, Iowa DNR, Iowa DOT and the City of Johnston
Map.social - Analysis and Recommendations

- NW 70TH AVE
- NW 62ND AVE
- NW 66TH AVE
- NW 54TH AVE
- FOXBORO RD
- PIONEER PKWY
- JOHNSTON DR
- NW 55TH AVE
- NW 64TH PL
- MERLE HAY RD
- NW BEAVER DR

**Legend**
- Hazard - Not in CIP
- Crossing - Not in CIP
- Other
  - Johnston Boundary
  - Waterbody
  - Parks and Open Space
  - Roads

**Crossings and Hazards - CIP Status**

Johnston Walkability Study | Johnston, Iowa | 9/12/2018

**Sources:** Iowa Geodata, Iowa DNR, Iowa DOT, and the City of Johnston
Horizon Elementary and Summit Middle Walk Zone
Map.social - Analysis and Recommendations

Timber Ridge Elementary Walk Zone
Map.social - Analysis and Recommendations

Johnston Middle Walk Zone
High School Walk Zone

Map.social - Analysis and Recommendations
Map: Social - Analysis and Recommendations

Legend
- **Schools**
  - Elementary Schools

- **Hazards**
  - High, ADA or Safety
  - Medium, Safety
  - Low, Safety

- **Crossings**
  - High, ADA or Safety
  - Medium, Safety
  - Medium, Connectivity
  - Low, Safety or Connectivity

- **Sidewalk Gaps**
  - High, ADA
  - High, Connectivity
  - Medium, Connectivity
  - Low, Connectivity

- **Trail Gaps**
  - High, Connectivity
  - Medium, Connectivity
  - Low, Connectivity or Aesthetics

- **Peo & Bike Crash Data**
  - Bicycle, Fatal
  - Bicycle, Major Injury
  - Bicycle, Minor Injury
  - Bicycle, Possible Injury
  - Pedestrian, Major Injury
  - Pedestrian, Minor Injury
  - Pedestrian, Property Damage Only
  - Pedestrian, Possible Injury

- **Other**
  - School Walk Zone
  - No Walking - Transportation Provided

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Hazard, Crossing, and Gap Recommendations
Northwest Johnston
Hazard, Crossing, and Gap Recommendations
Northeast Johnston
ORDINANCE AND POLICY REVIEW AND RECOMMENDATIONS

Definitions of “Trail”
Use of City Greenbelt, Open Space, & Recreation Trails
Bicycle Regulations
Speed Regulations
Sidewalk Regulations
Zoning - General Regulations
Site Plan Requirements
Subdivisions Regulation
Sidewalk Program
Complete Street Policy
Sidepath Trail vs. Wide Sidewalk vs. Standard Sidewalk Installation
Future Mobility Trends
Maintenance Guidelines
REVIEWED ORDINANCES AND POLICIES

Upon review of Johnston’s City Code of Ordinances and Policies, several of the policies reviewed are sufficiently addressing the needs of pedestrians. These include:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Ordinance</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>General Traffic Regulations</td>
</tr>
<tr>
<td>65</td>
<td>Stop or Yield Required</td>
</tr>
<tr>
<td>67</td>
<td>Pedestrians</td>
</tr>
<tr>
<td>135</td>
<td>Street Use and Maintenance</td>
</tr>
<tr>
<td>150</td>
<td>Trees</td>
</tr>
<tr>
<td>151</td>
<td>Tree Protection and Conservation</td>
</tr>
<tr>
<td>167</td>
<td>Zoning District Regulations: Residential, Agricultural and Conservation Districts</td>
</tr>
<tr>
<td>168</td>
<td>Zoning District Regulations</td>
</tr>
</tbody>
</table>

Additional policies reviewed may be modified to better clarify intent or improve conditions for walkability. These include the following and recommendations for modification are provided below:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Ordinance/Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>48, 76, 165</td>
<td>Definition of “Trail”</td>
</tr>
<tr>
<td>48</td>
<td>Use of City Greenbelt, Open Space, and Recreation Trails</td>
</tr>
<tr>
<td>63</td>
<td>Speed Regulations</td>
</tr>
<tr>
<td>76</td>
<td>Bicycle Regulations</td>
</tr>
<tr>
<td>136</td>
<td>Sidewalk Regulations</td>
</tr>
<tr>
<td>166</td>
<td>Zoning - General Regulations</td>
</tr>
<tr>
<td>171</td>
<td>Site Plan Requirements</td>
</tr>
<tr>
<td>180</td>
<td>Subdivisions Regulations</td>
</tr>
<tr>
<td>-</td>
<td>Sidewalk Program</td>
</tr>
<tr>
<td>-</td>
<td>Complete Street Policy</td>
</tr>
<tr>
<td>-</td>
<td>Sidepath Trail vs. Wide Sidewalk vs. Standard Sidewalk Installation</td>
</tr>
</tbody>
</table>
DEFINITION OF “TRAIL”

Upon review of Johnston’s City Code of Ordinances and Policies, several of the policies reviewed are sufficiently addressing the needs of pedestrians. These include:

The Code of Ordinances uses three terms and definitions of a “trail” as follows:

CHAPTER 48: USE OF CITY GREENBELT, OPEN SPACE AREAS AND RECREATION TRAILS
2. “Recreation trails” are defined as bicycle and pedestrian trails owned by the City for the public benefit of active and passive recreation and principally for bicycle and pedestrian activity and recreation.

CHAPTER 76: BICYCLE REGULATIONS
2. “Multi-use trail” means a way or place, the use of which is controlled by the City as an owner of real property, designated by the multi-use recreational trail maps, as approved by resolution by the City Council, and no multi-use trail shall be considered as a street or highway.

CHAPTER 165: ZONING GENERAL PROVISIONS AND DEFINITIONS
234. “Trail” means a walkway or bikeway designated with a paved surfaced pathway for travel by means other than by motorized vehicles.

RECOMMENDATION
The three terms should be listed together to indicate that they may be used interchangeably. Further, the definitions should be combined and revised into one definition that is suitable for all three chapters and any other instances of the word “trail” throughout the Code of Ordinances. The term “Shared Use Path” should also be included since that term is used by Iowa SUDAS.
CHAPTER 48: USE OF GREENBELT, OPEN SPACE AREAS AND RECREATION TRAILS

48.03 ALCOHOLIC BEVERAGES PROHIBITED. Wine, beer, and any other alcoholic beverages or drinks shall not be brought, transported or otherwise carried upon or consumed upon any greenbelt, open space areas or recreation trails.

RECOMMENDATION
Considering that trails are also part of the transportation network, and the City desires to encourage non-motorized transportation, this provision should be revised to allow the ability to carry alcoholic beverages along the trail network. The prohibition of carrying alcohol onto greenbelts and open space areas could remain, such that the alcohol is only allowed on the trail itself. Consumption would still be prohibited throughout.

The City has been working with area suburbs to consider prohibiting the use of tobacco on the trail system, particularly when the trail is located within park, greenbelt, or open space areas. An example of ordinance language pertaining to tobacco use is provided by the City of West Des Moines:

“Use Of Tobacco: No person, at any time, shall use tobacco of any kind while present on any city park property. Tobacco includes any product made or derived from tobacco that is intended for human use, including any component, part, or accessory of a tobacco product. This includes, but is not limited to, cigarettes, electronic smoking devices, cigarette tobacco, roll your own tobacco, smokeless tobacco, and dissolvable tobacco. “Electronic smoking devices” means any device that can be used to deliver an aerosolized solution that may or may not contain nicotine to the person inhaling from the device, including, but not limited to, an e-cigarette, e-cigar, e-pipe, vape pen, e-hookah, or other simulated smoking device. Nicotine products approved by the United States food and drug administration for tobacco cessation shall be allowed within city parks. (Ord. 2140, 3-21-2016)”

CHAPTER 76: BICYCLE REGULATIONS

76.12 BICYCLE LANES.
1. Whenever a bicycle lane has been established on a roadway, any person operating a bicycle upon the roadway at a speed less than the normal speed of traffic moving in the same direction may ride within the bicycle lane, except that such person may move out of the lane under any of the following situations:

D. When the bicycle lane does not include a marked shared lane.

RECOMMENDATION
It is not clear what is meant by, “When the bicycle lane does not include a marked shared lane.” A bicycle lane is a dedicated lane for cyclists and would not also be a shared lane, which is a dual vehicular and bicycle lane. This statement should be deleted.

CHAPTER 63: SPEED REGULATIONS

63.02 STATE CODE SPEED LIMITS.
The following speed limits are established in Section 321.285 of the Code of Iowa and any speed in excess thereof is unlawful unless specifically designated otherwise in this chapter as a special speed zone.
1. Business District – twenty (20) miles per hour.
2. Residence or School District – twenty-five (25) miles per hour.
3. Suburban District – forty-five (45) miles per hour.

RECOMMENDATION
The school district referenced above is defined in Section 321.1, subsection 70, of the Code of Iowa, as “the territory contiguous to and including a highway for a distance of two hundred feet in either direction from a schoolhouse in a city.” Section 321.285 also specified that the school district shall be marked by distinctive signs per the current Manual on Uniform Traffic Control Devices.
Speed Regulations

The City has the option of establishing a lower speed limit if deemed reasonable and safe. Per Section 321.290 of the Code of Iowa:

…
Whenever the council in any city shall determine upon the basis of an engineering and traffic investigation that any speed limit hereinbefore set forth is greater or less than is reasonable or safe under the conditions found to exist at any intersection or other place or upon any part of the city street system, except primary road extensions, said council shall determine and adopt by ordinance such higher or lower speed limit as it deems reasonable and safe thereat. Such speed limit shall be effective when proper and appropriate signs giving notice thereof are erected at such intersections or other place or part of the street.

The City may consider a lower speed limit within the defined school district area, and to enforce only during school start and end times. This proactive speed limit change would be justified by a reduced risk of fatal crash and injury. It is estimated that only 5 percent of pedestrians would die when struck by a vehicle traveling at 20 miles per hour or less. This compares with fatality rates of 40 percent for striking speeds of 30 miles per hour.²

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https://one.nhtsa.gov/people/injury/research/pub/hs809012.html#recommendations

The data used to create this interactive chart comes from Brian Tefft, a researcher at the AAA Foundation for Traffic Safety. He sent me the data from his 2011 report titled “Impact Speed and a Pedestrian’s Risk of Severe Injury or Death.” In the report, he estimates the risk of severe injury or death using data from a federal study of car crashes from 1994–1998.
A comparison of speed limits in a sample of school zones around the country reveals a range of 15 MPH to 25 MPH.

**A Sample of School Speed Limit Zone Values**

<table>
<thead>
<tr>
<th>State</th>
<th>Speed Limit in School Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>15 mph</td>
</tr>
<tr>
<td>Delaware</td>
<td>20 mph</td>
</tr>
<tr>
<td>Iowa</td>
<td>No fixed value. Locations are evaluated on a case-by-case basis, usually 10 mph below posted speed limit.</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>20 mph</td>
</tr>
<tr>
<td>Minnesota</td>
<td>No more than 30 mph below the established speed limit and no lower than 15 mph.</td>
</tr>
<tr>
<td>Montana</td>
<td>No fixed value. Locations are evaluated on a case-by-case basis.</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>10 mph under the posted speed limit.</td>
</tr>
<tr>
<td>New Jersey</td>
<td>25 mph</td>
</tr>
<tr>
<td>Ohio</td>
<td>20 mph</td>
</tr>
<tr>
<td>Oregon</td>
<td>20 mph</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>15 mph</td>
</tr>
<tr>
<td>South Dakota</td>
<td>15 mph</td>
</tr>
<tr>
<td>Texas</td>
<td><strong>85th Percentile Speed</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Suggested School Speed Limit</strong></td>
</tr>
<tr>
<td>Below 55 mph</td>
<td>Not more than 15 mph below 85th percentile speed or posted speed. Not to exceed a 35 mph school speed limit.</td>
</tr>
<tr>
<td>55 mph</td>
<td>20 mph below the 85th percentile speed or posted speed</td>
</tr>
<tr>
<td>Greater than 55  mph</td>
<td>Use buffer zone to transition to a 35 mph speed limit</td>
</tr>
<tr>
<td>Washington</td>
<td>20 mph</td>
</tr>
</tbody>
</table>

“Reduced School Area Speed Limits,” Safe Routes to School Briefing Sheets, ITE

Some parents may currently drive their children to school because they feel it is not safe to walk due to vehicular speeds, particularly where children need to cross the street. If sidewalk and street crossing infrastructure is sufficient, slowing the traffic may be the only additional safety improvement for those parents to allow their children to walk to school.

One challenge associated with lowering the school district speed limit would be enforcement, particularly upon the initial implementation. Speed feedback signs and police officers posted at schools would help to encourage motorist compliance.

Another challenge would be that other cities in the Des Moines metro area do not have school district speed limits lower than 25 MPH. Johnston would be the leader in this effort to improve safe routes to school through speed reduction beyond State Code requirements.
CHAPTER 136: SIDEWALK REGULATIONS

136.01 PURPOSE.
The purpose of this chapter is to enhance safe passage by citizens on sidewalks, to place the responsibility for the maintenance, repair, replacement or reconstruction of sidewalks upon the abutting property owner and to minimize the liability of the City.

RECOMMENDATION
While it is common municipal practice to place responsibility for sidewalks on abutting property owners, this seems contrary to the concept that sidewalks are a necessary part of a City’s infrastructure and benefit the community overall. Further, the financial responsibility of sidewalk construction and maintenance may unduly burden some property owners, such as those on corner lots, or those on limited or fixed incomes. The City’s Low to Moderate Income Program assists owner-occupied single family property owners with the cost of installation of a sidewalk to help alleviate the financial burden on these households. Further, per Chapter 425 of the Iowa Code, financial assistance for special assessments may be available to individuals sixty-five years in age or older, those who are totally disabled, or those with limited income. However, since sidewalk repair or replacement is not part of a typical monthly budget, many additional homeowners may not have the funds available for the necessary work. This may hinder the City’s ability to maintain safe walkability due to delayed maintenance.

Sidewalks could be funded, constructed, and maintained in the same manner as the street network, or similar to the City’s sidepath trails. An example city that has taken on responsibly for sidewalks is Austin, Texas. One of the main reasons they took on full responsibility was to ensure compliance with the Americans with Disabilities Act. They created the infographic on the next page to describe the sidewalk program. Alternatively, a cost share system could be implemented, where the adjacent property owner is only responsible for a portion of the overall cost and the City covers the remainder. The City may be more cost-efficient and effective at completing sidewalk repairs since they could have a city-wide contract for the work every year. The City’s current Sidewalk Program provides an option for the homeowners to have their sidewalk repaired or constructed under the City’s contract, and for the homeowner to pay for that through either direct payment or special assessment.

Corner property owners are alleviated of the additional burden of ADA-compliant ramps. The City’s current Sidewalk Program assigns responsibility for curb ramps to the City rather than the adjacent property owner.

136.04 RESPONSIBILITY FOR MAINTENANCE.
It is the responsibility of the abutting property owners to maintain in a safe and hazard-free condition any sidewalk outside the lot and property lines and inside the curb lines or traveled portion of the public street. (Code of Iowa, Sec. 364.12 [2c])

RECOMMENDATION
If the City does not choose to take on full responsibility for sidewalks, an option to encourage property-owner maintenance is to provide a reimbursement for concrete costs when making required repairs. Residents must pay up front for all materials and labor, and provide receipts for concrete in addition to a reimbursement request to the City.

Consider incorporating language about sediment control and cleanup to prevent accumulations of mud, dirt, leaves, or sand on the sidewalk. Also consider language requiring that trees, shrubs, and other vegetation be maintained such that they will not encroach into the walkway and impede pedestrian mobility.
Connecting Our Community
Let’s Take a Walk: A Look at Sidewalks in Austin

Sidewalk Program: Overview
The Public Works Department is responsible for building and repairing sidewalks all around Austin. The Americans with Disabilities Act (ADA) is a driving factor in making sure that the right-of-way along our streets is safe and accessible for everyone.

History: How Did We Get Here?
1990 - Americans with Disabilities Act (ADA) signed into law
1995 - City code updated; Sidewalk repairs are no longer landowner responsibility
1995-2012 - Bond allocated funding for sidewalk construction and rehabilitation
2006 - City of Austin sidewalk maintenance program initiated
2009 - Sidewalk Master Plan adopted
2012 - Transportation and Mobility Bond gives $25 million for sidewalks
2016 - Sidewalk Master Plan update adopted

2016 Sidewalk Master Plan
10 YEAR PLAN
$250 MILLION

ADDRESS PRIORITY SIDEWALKS WITHIN 1/4 MILE OF SCHOOLS, BUS STOPS, AND PARKS
- 390 miles of new sidewalks
- Both sides of moderate-to-high capacity roads
- One side of residential streets
- Includes public and private schools

What does that look like?
$35 million a year

IMPROVE AND MAINTAIN OUR EXISTING SIDEWALKS
- Inform the public on removing overgrown vegetation from sidewalks and roadways
- Provide stable and sufficient funding for repair and rehabilitation of existing sidewalks
- Assess condition of at least 10% of the existing sidewalk network annually

What does that look like?
$15 million a year

How Are Sidewalks Funded?
- BOND FUNDS (PRIMARY)
- CAP METRO (INTERLOCAL AGREEMENT)
- SIDEWALK FEE-IN-LIEU
- GRANTS

How Are Sidewalks Built?
- STREET & BRIDGE OPERATIONS
- CAPITAL IMPROVEMENT PROJECTS
- PRIVATE DEVELOPMENT

THE BIG PICTURE
We want to encourage walking as a viable mode of transportation, improve pedestrian safety, and enable people to walk to and from travel stops.

State of the Sidewalks
DID YOU KNOW?
- Public Works is currently responsible for 2,400 miles of existing sidewalks.
- The City of Austin is missing 2,280 miles of sidewalks.
- $1.64 billion is needed for construction and maintenance of new and existing sidewalks.

At the current funding rate, it will take 192 years to build and repair Austin’s sidewalk network.

While 20% of sidewalks are in good condition, 80% of existing sidewalks are in poor condition.
Approximately 40% of existing sidewalks have some type of overgrown vegetation blocking the pedestrian pathway.

20%
80%
Good Condition
Poor Condition

How Are Sidewalks Help Us
Reduce traffic congestion and improve air quality
Keep pedestrians safe throughout the city
Keep our city connected & accessible

★ BENEFITS ★
- The average person will walk half a mile to their destination if there’s a safe path to get them there. Walkability is frequently cited as one of the most sought-after features in a neighborhood.
- By investing in a network of dedicated walking paths to make active transportation feasible, attractive and safe, sidewalks will connect families to healthy food, children to schools and people from all backgrounds to jobs, public transportation and economic opportunities.

Engage: Make a Difference

KNOW THE RIGHT OF WAY, CLEAR THE RIGHT OF WAY
Clearing overgrown brush and vegetation on your property makes sidewalks safe and accessible for all.

GET INVOLVED
Be informed with local elections. Work with your elected mayor and council members. Join and engage in local government at City Hall by serving on a board or commission that is important to you.

LEARN MORE
The Sidewalk Master Plan and supporting City plans and policies are available through the Imagine Austin Plan and Complete Streets at austintexas.gov/sidewalks.

QUESTIONS?
Contact the Public Works Department at 512.974.7065 or dial 3-1-1 (out of area: 512.974.2000) to speak to an ambassador.
136.09 BARRICADES AND WARNING LIGHTS. Whenever any material of any kind is deposited on any street, avenue, highway, passageway or alley when sidewalk improvements are being made or when any sidewalk is in a dangerous condition, it shall be the duty of all persons having an interest therein, either as the contractor or the owner, agent, or lessee of the property in front of or along which such material may be deposited, or such dangerous condition exists, to put in conspicuous places at each end of such sidewalk and at each end of any pile of material deposited in the street, a sufficient number of approved warning lights or flares, and to keep them lighted during the entire night and to erect sufficient barricades both at night and in the daytime to secure the same. The party or parties using the street for any of the purposes specified in this chapter shall be liable for all injuries or damage to persons or property arising from any wrongful act or negligence of the party or parties, or their agents or employees or for any misuse of the privileges conferred by this chapter or of any failure to comply with provisions hereof.

RECOMMENDATION
Also consider language requiring that trees, shrubs, and other vegetation be maintained such that they will not encroach into the walkway and impede pedestrian mobility.

136.17 MERCHANDISE DISPLAY. It is unlawful for a person to place upon or above any sidewalk, any goods or merchandise for sale or for display in such a manner as to interfere with the free and uninterrupted passage of pedestrians on the sidewalk; in no case shall more than three (3) feet of the sidewalk next to the building be occupied for such purposes.

RECOMMENDATION
The City may want to consider modifying the 3 foot limitation to allow for additional area to be used in special circumstances, such as where the sidewalk widths are sufficient to accommodate the additional display area. Merchandise display can contribute to walkability by making the route more interesting, as long as the remaining walkway width is sufficient for ADA compliance and to comfortably accommodate the volume of pedestrians on the route.

This could be implemented with a permit through either administrative review or as a conditional use through planning and zoning board approval. Also consider clarifying if this applies only to display of abutting storefronts.

CHAPTER 166: ZONING – GENERAL REGULATIONS
166.32 OPEN SPACE AND LANDSCAPING REQUIREMENTS
3. Street trees planted in public street right-of-way shall not be counted toward fulfillment of the minimum site requirements set forth below.

RECOMMENDATION
The Code currently does not require street trees to be planted as part of site plan landscaping requirements, but states that street trees will not count toward those requirements.

The exception is under Chapter 169.09 Merle Hay Road Corridor Overlay Zoning District, which requires street trees in addition to regular site plan requirements, as follows:
In addition, street trees shall be required on all streets and spaced at fifty foot (50) intervals. The species selected should provide a shade canopy over the public right-of-way and shall be two (2) to two and one-half (2-1/2) inches caliper or greater in size at the time of planting.
Consider adding this requirement to all projects subject to site plan review to improve walkability throughout the City.

166.33 OFF-STREET PARKING AND LOADING. The requirements and regulations of this section apply to any development or redevelopment within the City.

1. Statement of Intent. It is the intent of this section to prevent traffic congestion and to provide for proper traffic safety by preserving the public thoroughfares for the unimpaired movement of pedestrian and vehicular traffic. Therefore, it shall be recognized that the requirements of this section are minimum and that in certain uses of land, these requirements may be inadequate. Where review of the site plans and intended land use indicate through the application of proven standards or experienced statistics that the requirements herein are inadequate for the specific land use adaptation, a greater requirement for off-street parking space is justified and may be required to preserve the intent of this section.

RECOMMENDATION
Consider requiring or incentivizing bicycle parking spaces to encourage biking for transportation and keep bicycles out of pedestrian walkways. Bicycle parking shall conform to the guidelines of the Association of Pedestrian and Bicycle Professionals as set forth in the Essentials of Bike Parking for placement and design standards. Incentivizing may come in the form of reduced vehicular parking spaces, reduced landscape area, or other concessions. Consider allowing bike corrals during warmer months to be placed within a required parking space and removed and stored during winter months.

CHAPTER 171: ZONING – SITE PLAN REQUIREMENTS

171.05 DESIGN STANDARDS. The standards of design are intended as minimum requirements so that the general arrangement and layout of the development requiring the site plan may be adjusted to address a variety of site conditions.

2. The proposed development shall have such entrances and exits upon public streets properly spaced and designed as are necessary for safety and the general welfare, and shall have such interior drives as are necessary for free movement of emergency vehicles; and shall have such pedestrian walkways as are necessary for safety and general the welfare. The following are guidelines for consideration in individual site plan requests. The case-by-case review would take into consideration existing entrances, the width of the property, and the traffic generation characteristics of the uses permitted in the district.

RECOMMENDATION
Consider more specific requirements for pedestrian walkways, such as requiring that they be distinctly separate from vehicular drive aisles and that they connect from adjacent sidewalks and trails to the front entrance of buildings.
CHAPTER 180: SUBDIVISION REGULATIONS

180.41 EASEMENTS.
Easements for public and private utilities, open space, walkways, and overland flowage shall be provided where needed. Such easements shall be a minimum of ten (10) feet total width for private utilities only, and fifteen (15) feet total width for combined private utility and walkway easements.

RECOMMENDATION
Since “walkway” is not defined, this could be misinterpreted to mean “trail,” especially since the definition of “Trail” in Chapter 165 includes the term “walkway” in the description. The term should be defined, or sidewalk should be used in its place for this section. Further, the need for 20-foot wide easements for trails should be added to this section.

180.42 IMPROVEMENTS REQUIRED
10. Sidewalks. The subdivider shall provide for the installation of sidewalks along all newly created lots, including sidewalks on adjacent existing streets. The sidewalks shall be built according to the standards and specifications of the City. The subdivider shall indicate in the application for approval of a preliminary or final plat those sidewalks that will be constructed at the time of installation of public improvements, and those that the subdivider would like the Council to defer until a later date. If the Council agrees to defer construction of the sidewalks, sidewalks shall be constructed at the time a principal structure is built upon the adjacent lot or lots or within five (5) years of plat approval, whichever is earlier. Notwithstanding the above, the Council may require the sidewalk’s construction at the time adjacent roadway construction takes place or at any other time as noted in the final plat approval. At the time sidewalk construction is required as provided above, such construction shall be completed at the sole cost and expense of the person or entity that owns the property or lot at the time of construction.

RECOMMENDATION
Consider identifying specific criteria for waivers—in the same vein as the Zoning Board of Adjustment does for variances—to help ensure that they are only awarded in appropriate circumstances. This criteria may be based upon the following:

Anticipated Pedestrian Traffic
- The potential pedestrian traffic in the area is so minimal that sidewalk aren’t warranted.
- The sidewalk will not contribute to pedestrian traffic flow in the area because it will not connect to existing sidewalk or trail infrastructure on both ends of the parcel frontage.
- The project is ½ mile or more away from any pedestrian generating uses (house of worship, bus stop, school, park, community center, commercial area, and recreational area).

Planned Street Reconstruction
- There are planned future street improvements which would destroy the sidewalk identified within the City’s CIP. In this case, a temporary sidewalk may be considered. Temporary sidewalks may be made of concrete, asphalt, planks, or a hard packed granular or asphalt milling surface. They should be ADA-compliant and maintained in a safe condition, but would not need to meet the thickness specifications of a permanent sidewalk.

Site Qualities
- A permanent alignment and profile cannot feasibly be set within public street right of way due to incompatible grade or other constraints. The factors to be considered should be consistent with Section 4 – Sidewalk Construction Deferral Guidelines of the City’s Sidewalk Program.
- In this case, an alternative route for pedestrians should be identified.
180.43-F.5. DEDICATION OF LAND OR EASEMENTS FOR TRAILS.

Where bike/pedestrian or recreational trails are indicated in the Comprehensive Plan, the developer shall be required to dedicate land or trail easements at least twenty (20) feet in width. This land or easements, if approved by the City Council, may serve to satisfy parkland dedication requirements.

RECOMMENDATION
Dedication should be given for any trail improvement, whether in the Comprehensive Plan or other adopted City plans, or in the case that the developer includes a trail that is not in a City plan but connects to and would be considered part of the City’s trail network.
SIDEWALK PROGRAM

GENERAL
This program will address the following situations:
• Sidewalks that have been previously deferred by action of the City Council
• Existing developments in which sidewalks have not been constructed
• Properties within existing developments where there are gaps in the continuity of the sidewalks due to lots that have not been developed.
• Existing sidewalks that need to be repaired or replaced.

RECOMMENDATION
The policy states that it addresses, “Properties within existing developments where there are gaps in the continuity of the sidewalks due to lots that have not been developed;” however, there is no language within the policy that specifies what the City is prescribing for these lots. Presumably, the sidewalk or trail will be constructed concurrent with development of the lot.

Consider amending the Sidewalk Program to require temporary sidewalks in situations where:
• the sidewalk gap is impeding mobility due to existing sidewalks on either end of the parcel frontage (or on one end in the case of corner lots), and
• development of the lot will not begin within the next 12 months.

Temporary sidewalks may be made of concrete, asphalt, planks, or a hard packed granular or asphalt milling surface. They should be ADA-compliant and maintained in a safe condition, but would not need to meet the thickness specifications of a permanent sidewalk.

DEFERRAL GUIDELINES
It is recognized that unique circumstances may exist that make it difficult to construct a sidewalk. In order to request consideration for a deferral from construction of a sidewalk, the property owner must submit a written request to the Public Works Director. In the request, the property owner must describe the hardship that would be created from the construction of a sidewalk.

RECOMMENDATION
As part of the review for a deferral from construction under this section, either an existing or planned alternative pedestrian route should be identified.

SECTION 4 - SIDEWALK CONSTRUCTION
COMPLETE STREETS POLICY

1.3 Design facilities to the best currently available standards and guidelines. The design of facilities for should follow design guidelines and standards that are commonly used, such as:

- AASHTO Guide for the Development of Bicycle Facilities;
- AASHTO’s A policy on Geometric Design of Highways and Streets;
- SUDAS: State Urban Design and Specifications Manual;
- Federal Highway Administration’s Manual on Uniform Traffic Control Devices for Streets and Highways;
- ITE Recommended Practice Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities; and,
- National Association of City Transportation Officials (NACTO) Urban Street Design Guide.

RECOMMENDATION

Consider adding National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide to the list of resources.

Consider formalizing a review process with staff, and potentially creating a new volunteer board or commission to review traffic safety and active transportation issues.

Complete Street Diagram, showing designated areas for drivers, cyclists, and pedestrians.
SIDEPATH TRAIL VS WIDE SIDEWALK VS SIDEWALK INSTALLATION

Sidepath trails are located along the side of a road, essentially functioning as a wide sidewalk. There currently is no ordinance or policy in Johnston specifying when an 8- or 10-foot wide sidepath trail should be installed parallel to a road instead of a typical sidewalk.

When planning for bicycle and pedestrian accommodations as part of an overall network, we can think of non-motorized routes in a hierarchical fashion similar to a street hierarchy. The “highways” link between communities and should be 10 to 12 feet wide; they have higher and faster users. The “arterials” may also be 10 feet wide, or 12 if a high volume of users is anticipated. For local trails, or those making short connections to particular destinations, a wide sidewalk of 8-feet may be sufficient.

Sidepath trails with few intersection or driveway interruptions often function well for bicyclists and pedestrians. However, each intersection or driveway creates a conflict point with motorists, and because bicyclists travel much faster than pedestrians, these conflict points are more problematic for bicyclists. Perhaps the most serious challenge is mitigating the danger associated with cyclists traveling against the vehicular traffic flow while on the sidepath.
**Figure 1**

Right turning Driver A is looking for traffic on the left. A contraflow bicyclist is not in the driver’s main field of vision.


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**Figure 2**

Left turning Driver B is looking for traffic ahead. A contraflow bicyclist is not in the driver’s main field of vision.


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**Figure 3**

Right turning Driver C is looking for left turning traffic on the main road and traffic on the minor road. A bicyclist riding with traffic is not in the driver’s main field of vision.

Right turning drivers (Driver A in Figure 1) look left more frequently than they look right, thus failing to notice cyclists coming from the right. Contra-flow cyclists must be diligent to not bike into the path of a car preparing to make a right turn. The risk for cyclists on the sidepath due to cars turning from the parallel roadway onto the intersecting street or driveway is also increased over those traveling with the direction of traffic on the street. Figures 2 and 3 depict these turning movements.

Overall, studies have shown that the crash rate of bicyclists using sidepath trails can be between 1.8 and 3 times higher than riding on a road. One study found that of cyclists on sidepaths, those traveling contra-flow had a 4 times greater risk than a cyclist traveling on-street in the direction of traffic.

### Studies Indicating Increased Crash Risk for Cyclists on Sidepaths

- **2.8 x greater than on minor road and 2.6 x greater than on major road**
  (Kaplan, J.A., USDOT, “Characteristics of the Regular Adult Bicycle User.” 1975-77)

- **1.8 x greater than on road**

- **2.5 x greater risk than on road and 3.0 x greater at intersections**
  (Pasanen and Rasanen. “Cycling Risks in the City of Helsinki.” Helsinki, Finland, 1999)

- **4 x greater for contra-flow sidepath than on road with traffic**
  (Hiles, Jeffrey A. Listening to Bike Lanes: Moving Beyond the Feud. September 1996)

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2 Summala, Pasanen, Rasanen, Sievanen. Helsinki, Finland, 1996
3 [http://www.bikexprrt.com/research/pasanen/helsinki.htm#txt5a](http://www.bikexprrt.com/research/pasanen/helsinki.htm#txt5a)
Additional challenges for cyclists associated with sidepaths include:

- Sidepath design encourages wrong-way riding on street where path begins or ends
- Signage and signals are not oriented toward contra-flow cyclists
- Creates difficult left turns for cyclists
- Vehicles may block path at street or driveway crossings, forcing the cyclists to stop or go around
- Cyclists may choose to bike in the vehicular lane regardless of the sidepath, which may cause confusion and frustration in motorists.
- Attempts to get cyclists to stop at street or driveways crossings are often inappropriate and ineffective.4

**RECOMMENDATION**

Generally, sidepath trails should not be considered the best solution for accommodating bicyclists without careful consideration of risks and alternatives. These same risks do not hold true for pedestrians along the same corridor, since they travel at a slower rate and can stop immediately. However, pedestrians may be at risk of crashing with fast-moving or high volumes of cyclists on sidepath trails. Planners must consider several factors when deciding whether a sidepath is an appropriate facility type for a particular corridor. They should consider:

**Traffic volume and speed**

- Lower speeds and lower traffic volumes are more conducive to on-street bicycle facilities than
- higher volume and speed roadways. Cyclists may be safer on the sidepath when vehicular speeds are over 40 mph.5

**Number/frequency of intersections & driveways**

- Each driveway or intersection creates multiple conflict points. Sidepaths are most appropriate when they parallel long stretches of roadway with no (or very limited or low volume) intersections, such as along a body of water, golf course, cemetery, or agricultural field. Sidepath designs which encourage the cyclists to slow down as they approach the intersection can help to mitigate the potential conflict.6

**Ability to accommodate bicyclists on the roadway**

- If cyclists can be safety accommodated on the roadway through shared lane markings or a type of bike lane appropriate for the speed of the roadway, then this on-street accommodation may be the preferred facility over the sidepath. Cyclists may also be safer on a sidepath when there are fewer road lanes;7 if there is only one lane in each direction, the motorists may be reluctant to pass into the oncoming lane to pass the cyclists. In this case, the motorist may pass too close to the cyclist. If there are two lanes, then the motorist can use the left lane to pass and provide plenty of room for the cyclist. Pedestrians may still need a wide sidewalk for accommodation.

**Ability for cyclists to use alternative route/parallel streets**

- If cyclists can easily take a parallel road to fulfill the same connection, providing an appropriate facility on the parallel route may be the preferred solution.

**Number of pedestrians**

- If there is a high volume of pedestrians along the corridor, such as in a downtown area, bicyclists are better accommodated on the street for the safety of the pedestrians and the convenience of the cyclists.

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4 AASHTO, Guide for the Development of Bicycle Facilities
6 ibid
7 ibid
**Number of cyclists**

- If the area is expected to have a high volume of cyclists, a facility dedicated specifically to cyclists, rather than shared with pedestrians, would be most appropriate.

**Anticipated Types of Cyclists**

- Different types of cyclists have different needs in terms of bicycle facility types. Strong and fearless cyclists will be more comfortable closer to traffic. Children and less experienced or less confident cyclists will be more comfortable on a buffered or separated facility. Some corridors may benefit from both an on-street bike lane and a wide sidewalk or sidepath to fully meet the needs of all users. Corridors near schools or parks that also lead to business districts would attract an array of types of cyclists.

**Location of destinations**

- Cyclists will want to be able to access destinations along the route. If a sidepath is the best solution, it should be on the same side as the destinations (however, this may be in conflict with the point about avoiding driveways and intersections). If destinations are on both sides of the roadway, a better solution may be to provide a bicycle facility on each side of the roadway as well.
FUTURE MOBILITY TRENDS

Innovations in transportation like vehicle sharing, self-driving cars, and lightweight electric vehicles (LEVs, like ebikes, unicycles, hoverboards, skateboards, and other small gadgets also referred to as “tiny transportation,” “little vehicles,” etc.) are making their way into many communities. While some of these transportation modes may be far from becoming the new norm of transportation, they appear and take off quickly in many communities. These sudden changes in the type of vehicles on the road have a tendency to cause many conflicts if there is no policy in place surrounding them. In order to be accommodating to the future of transportation, Johnston should consider looking into these new systems and considering what policies might look like once these vehicles become a part of the transportation system.

While there is no specific timeline as to when the community might begin expressing interest or even seeing some of these vehicles on city streets without prior approval, there are some steps that can be taken to prepare.

1) Assess the benefits – Due to the low cost and ease of use, LEVs support equitable mobility in a community. Because many are electric rather than gas-powered and they don’t contribute to vehicular congestion, they are eco-friendly. Their lightweight design is easy on the city’s pavement and they require little to no parking. Vehicle-share businesses also support a flexible transportation system and equitable mobility.

2) Alleviate the concerns – On bike/pedestrian shared spaces such as trails and some sidewalks, consider a speed limit regulation for motorized scooters and other motorized devices. Consider including scooters in your bicycle ordinances, establish parking regulations, and address yielding requirement between different modes using bikeways.

3) Regulate transportation-share businesses – If you want a scooter or bike share system in town, or you think one might just “pop up,” consider business operations and permitting requirements that would apply to such businesses to ensure the LEVs don’t become a nuisance on your trail, street, and sidewalk networks. Also consider regulations for vehicle-share programs.

4) Assess the infrastructure needs – People using LEVs for transportation will need safe places to ride. Preferably these places would be separated from both pedestrians and motor vehicles, or shared only in low-volume corridors. This system will look very similar to a bicycle-friendly community. Are there cracks or buckled pavement conditions that could be hazardous? Some LEVs, like scooters, are more susceptible to pavement conditions than cyclists. Are your trails and bike lanes wide enough for faster users to pass slower users?

5) Educate the public – Incorporate operation of LEVs into your trail rules and etiquette signage, bike education programs, and with driver’s education classes.

**MAINTENANCE GUIDELINES**

Trails, on-street bicycle facilities, and sidewalks require regular maintenance. People walking and biking are more susceptible than motor vehicles to pavement irregularities such as cracks, potholes, broken glass, or gravel. Johnston’s annual budget should cover regular maintenance and minor repairs of trails and bicycle facilities, such as those activities listed in the table below. The City should document compliance with the plan such that records can be provided in the case of any crashes or injuries that may occur on the trail, sidewalk, or street network.

<table>
<thead>
<tr>
<th><strong>Bicycle and Pedestrian Facility Maintenance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trail Inspections</strong></td>
</tr>
<tr>
<td>City staff should conduct an annual inspection of the overall trail system, including surfacing, amenities, bridges, and signage. An annual report should be prepared and work schedule developed to address trail-related repairs and improvements.</td>
</tr>
<tr>
<td><strong>Action items:</strong></td>
</tr>
<tr>
<td>• City trail staff should complete an annual trail system inspection in the spring of each year.</td>
</tr>
<tr>
<td>• An annual report should be prepared from the inspection to address trail repairs.</td>
</tr>
<tr>
<td>• A priority scale should be assigned to trail projects to address safety concerns first and enhancements throughout the season.</td>
</tr>
<tr>
<td>• Projects should be assigned to specific staff to ensure completion and documentation.</td>
</tr>
<tr>
<td>• Weekly inspections should be completed by trail staff during regular maintenance activities.</td>
</tr>
<tr>
<td>• Annually, trail surface cracking should be rated and appropriately scheduled for repair or replacement.</td>
</tr>
</tbody>
</table>

| **Plowing/Sweeping/Blowing**                    |
| Pedestrians are susceptible to slipping or tripping on snow, ice, and cut or fallen vegetation. Mown grass or fallen leaves that become wet can become a slip and fall hazard. Bicyclists often avoid shoulders, bike lanes and bridges filled with sand, gravel, broken glass and other debris; they will ride in the roadway to avoid these hazards, potentially causing conflicts with motorists. On bridges, debris is often swept to the curb edge or the jersey barrier wall, requiring cyclists to take a lane or share a narrow facility with cars. |
| **Action items:**                              |
| • Sweep trails, walkways and bikeways whenever there is an accumulation of debris on the facility. Extra sweeping may be necessary in the fall. |
| • Establish a seasonal sweeping schedule that prioritizes roadways with major bicycle routes and bridges. |
| • In curbed sections and bridges, sweepers should pick up debris; on open shoulders, debris can be swept onto gravel shoulders. |
| • Debris from the roadway should not be swept onto sidewalks, bikeways, or trails. |
| • Snow on the roadway shall not be plowed onto sidewalks or block crosswalks. |
| • Pave gravel driveway approaches to minimize loose gravel on paved bikeways, sidewalks, or trails. |
## Maintenance Guidelines

### Bicycle and Pedestrian Facility Maintenance

#### Pavement Markings

| Pavement markings help guide bicyclists to proper positioning in the roadway, direct pedestrians to safer crossing locations, and provide awareness of the potential for bicyclists and pedestrians to be in the area. Wet pavement markings can become slippery. Pavement markings can wear off quickly due to weather and vehicular travel. | Action items:  
• Repaint pavement markings at least annually, preferably in spring.  
• Consider twice a year applications for areas that have higher vehicular or bicycle/pedestrian volumes.  
• Painted pavement markings should include a silica broadcast for traction.  
• Consider longer-term durable pavement markings for less frequent maintenance. |

#### Roadway, Sidewalk or Trail Surface

| Bicycles and pedestrians are much more sensitive to subtle changes in roadway surface than motor vehicles. Ridges, cracks, and uneven transitions between materials can cause hazardous conditions. | Action items:  
• Crack sealing program  
• Ensure that on new roadway construction, the finished surface on bikeways does not vary more than \( \frac{1}{4} \)”.  
• Maintain a smooth surface on all bikeways that is free of potholes.  
• Maintain pavement so ridge buildup does not occur at the gutter-to-pavement transition, adjacent to railway crossings, or at manholes.  
• Replace broken sidewalk panels. |

#### Gutter-to-Pavement Transition

| On streets with concrete curbs and gutters, 1’ to 2’ of the curbside area is typically devoted to the gutter pan, where water collects and drains into catch basins. On many streets, the bikeway is situated near the transition between the gutter pan and the pavement edge. It is at the location that water can erode the transition, creating potholes and a rough surface for travel. The pavement on many streets is not flush with the gutter, creating a vertical transition between these segments. This area can buckle over time, creating hazardous environment for bicyclists. Since it is the most likely place for bicyclists to ride, this issue is significant for bike travel. | Action items:  
• Ensure that gutter-to-pavement transitions have no more than a \( \frac{1}{4} \)” vertical transition.  
• Examine pavement transitions during every roadway project for new construction, maintenance activities, and construction project activities that occur in streets.  
• Pave the full width of the bike lane to the curb with the same material. This may mean widening the gutter pan to at least 5’ feet to create a smooth bike lane. |
### Bicycle and Pedestrian Facility Maintenance

#### Drainage Grates and Culverts

<table>
<thead>
<tr>
<th>Drainage grates are typically located in the gutter area near the curb of a roadway. Many grates are designed with linear parallel bars spread wide enough that if a bicycle were to ride on them, the front tire would become caught and fall through the slot. Also, drainage grates and culverts that become clogged can cause hazardous flooding along bikeways and crosswalks.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action items:</strong></td>
</tr>
<tr>
<td>- Require all new drainage grates be bicycle-friendly, including grates that have horizontal slats or a grid pattern on them so that bicycle tires do not fall through.</td>
</tr>
<tr>
<td>- Inventory all existing drainage grates and replace hazardous grates as necessary.</td>
</tr>
<tr>
<td>- Inspect grates and culverts every fall and after storms to remove accumulation of debris that may block storm water flow.</td>
</tr>
</tbody>
</table>

#### Drainage

<table>
<thead>
<tr>
<th>Mud or algae from frequent ponding can be extremely slippery and hazardous to both bicycle and pedestrian traffic.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action items:</strong></td>
</tr>
<tr>
<td>- Grade adjacent shoulders and sod buildup for positive drainage.</td>
</tr>
<tr>
<td>- Add subdrains to encourage better subsurface drainage.</td>
</tr>
<tr>
<td>- Add rain gardens to handle storm water by infiltration when possible.</td>
</tr>
</tbody>
</table>

#### Pavement Overlays

<table>
<thead>
<tr>
<th>Pavement overlays are opportunities to improve conditions for cyclists by widening the paved area onto the shoulder or re-striping to include bike lanes. When repaving, a ridge should not be left in the area where cyclists ride (this occurs where an overlay extends part-way into a shoulder bikeway or bike lane).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action items:</strong></td>
</tr>
<tr>
<td>- Extend the overlay over the entire roadway surface to avoid leaving an abrupt edge.</td>
</tr>
<tr>
<td>- If there is adequate shoulder or bike lane width, it may be appropriate to stop at the shoulder or bike lane stripe, provided no abrupt ridge remains.</td>
</tr>
<tr>
<td>- Ensure that inlet grates, manhole and valve covers are within ¼ inch of the pavement surface.</td>
</tr>
<tr>
<td>- Pave gravel driveways to the property line to prevent gravel from spilling onto shoulders or bike lanes.</td>
</tr>
</tbody>
</table>

#### Landscaping

<table>
<thead>
<tr>
<th>Trails, bikeways and sidewalks can be rendered inaccessible or dangerous due to overgrown vegetation that can become an obstacle or block an otherwise clear line of sight.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action items:</strong></td>
</tr>
<tr>
<td>- Trim landscaping such that it does not impede passage or clear view, particularly at intersections and along curves.</td>
</tr>
<tr>
<td>- Keep a 2-foot minimum clear zone horizontal on each side of the trail and a 10-foot clear zone vertical.</td>
</tr>
<tr>
<td>- After major damage incidents such as storms or nearby construction, remove fallen trees or other debris from trails, bikeways, and sidewalks as quickly as possible.</td>
</tr>
</tbody>
</table>
## Bicycle and Pedestrian Facility Maintenance

### Signage

<table>
<thead>
<tr>
<th>Pedestrian and bicycle routes, including trails, incorporate signage for way-finding and regulations. Such signage is vulnerable to vandalism and wear, requiring regular maintenance and replacement. Most signage standards are covered in the Manual on Uniform Traffic Control Devices (MUTCD). Custom signage for the trail system is recommended in the 2006 Communication Master Plan for the Central Iowa Trails.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action items:</td>
</tr>
<tr>
<td>• Check regulatory and way-finding signage placed along bike and pedestrian routes for signs of vandalism, graffiti, or normal wear.</td>
</tr>
<tr>
<td>• Replace signage along the trail, pedestrian, and bikeway network on an as-needed-basis.</td>
</tr>
<tr>
<td>• Update maps as necessary</td>
</tr>
<tr>
<td>• Remain updated on changes to MUTCD standards and update signage accordingly.</td>
</tr>
</tbody>
</table>
IMPLEMENTATION PLAN

Policy and Ordinance Recommendations
Infrastructure Recommendations
  • High Urgency
  • Medium Urgency
  • Low Urgency
Conceptual Cost Opinions
Funding Opportunities
POLICY AND ORDINANCE RECOMMENDATIONS

The following table summarizes the recommendations detailed in the memo related to the review of City policies and ordinances. The table provides a timeframe and lead department for moving the recommendation forward.

Timeframes of 6 months pertain to changes that are expected to be non-controversial and simple to write and implement. They are not expected to require public engagement other than the typical meetings of boards, committees, or City Council that are required to adopt the change.

Timeframes of 1 year may require additional research or engagement of the public or outside parties, and may be slightly controversial.

Timeframes of 2 years are likely to require additional research and engagement with the public, and may be controversial.

There are two items which have timeframes of “Any - non-urgent.” This is for the recommendation of lowering school zone speed limit to 20 mph and for the City taking on full responsibility for sidewalks. These ideas would be unique in the metro area and may be highly controversial.

<table>
<thead>
<tr>
<th>Chapter/Policy</th>
<th>Recommendation</th>
<th>Timeframe</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapters 48, 76, 165 - Definition of “Trail”</td>
<td>Revise to a single definition</td>
<td>6 months</td>
<td>Parks</td>
</tr>
<tr>
<td>Chapter 48: Use of City Greenbelt, Open Space, and Recreation Trails; 48.03 Alcoholic Beverages Prohibited</td>
<td>Allow for closed container of alcohol on trails</td>
<td>6 months</td>
<td>Parks</td>
</tr>
<tr>
<td>Chapter 48: Use of City Greenbelt, Open Space, and Recreation Trails</td>
<td>Prohibit tobacco usage on trails</td>
<td>1 year</td>
<td>Parks, in coordination with area suburbs</td>
</tr>
<tr>
<td>Chapter 63: Speed Regulations</td>
<td>Review the feasibility of lowering school zone speed limits</td>
<td>Any – non-urgent</td>
<td>Public Works, in consultation with the Police Department and School District</td>
</tr>
<tr>
<td>Chapter/Policy</td>
<td>Recommendation</td>
<td>Timeframe</td>
<td>Lead</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Chapter 76: Bicycle Regulations; 76.12 Bicycle Lanes</td>
<td>Delete unclear statement</td>
<td>6 months</td>
<td>Parks</td>
</tr>
<tr>
<td>Chapter 136: Sidewalk Regulations</td>
<td>Take on full or partial responsibility for sidewalk construction and maintenance</td>
<td>Any – non-urgent</td>
<td>Public Works</td>
</tr>
<tr>
<td>Chapter 136: Sidewalk Regulations; 136.04 Responsibility for Maintenance</td>
<td>Add language regarding adjacent property owner responsibility to remove sediment and debris and to keep vegetation cut back.</td>
<td>6 months</td>
<td>Public Works</td>
</tr>
<tr>
<td>Chapter 136: Sidewalk Regulations; 136.09 Barriers and Warning Lights</td>
<td>Add language requiring a detour per Iowa SUDAS, Chapter 12.</td>
<td>6 months</td>
<td>Public Works</td>
</tr>
<tr>
<td>Chapter 136: Sidewalk Regulations; 136.17 Merchandise Display</td>
<td>Allow exceptions to the limitations of display based upon administrative review or conditional use permit</td>
<td>1 year</td>
<td>Public Works, Planning</td>
</tr>
<tr>
<td>Chapter 166: Zoning – General Regulations; 166.32 Open Space and Landscaping Requirements</td>
<td>Add requirement for street trees to landscaping requirements</td>
<td>1 year</td>
<td>Planning, in consultation with Public Works</td>
</tr>
<tr>
<td>Chapter 166: Zoning – General Regulations; 166.33 Off-Street Parking and Loading</td>
<td>Incentive the provision of bicycle parking</td>
<td>1 year</td>
<td>Planning</td>
</tr>
<tr>
<td>Chapter/Policy</td>
<td>Recommendation</td>
<td>Timeframe</td>
<td>Lead</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Chapter 171: Site Plan Requirements; 171.05 Design Standards</td>
<td>Add specific requirements that pedestrian walkways be separate from drive aisles between the front sidewalk or trail and the front door</td>
<td>1 year</td>
<td>Planning</td>
</tr>
<tr>
<td>Chapter 180: Subdivision Regulations; 180.41 Easements</td>
<td>Define “walkway” or revise to “sidewalk” and add 20-foot wide easements for trails.</td>
<td>1 year</td>
<td>Planning</td>
</tr>
<tr>
<td>Chapter 180: Subdivision Regulations; 180.42 Improvements Required</td>
<td>Adopt criteria for sidewalk waivers</td>
<td>2 years</td>
<td>Planning, Public Works, Parks</td>
</tr>
<tr>
<td>Chapter 180: Subdivision Regulations; 180.43-F.5 Dedication of Land or Easements for Trails</td>
<td>Revise to indicate that dedication of land and construction of trail improvements shall be given for any trail improvement, whether in the Comprehensive Plan or other adopted City Plan, or proposed by the developer and agreed by the City to be part of the network.</td>
<td>1 year</td>
<td>Planning, Public Works, Parks</td>
</tr>
<tr>
<td>Sidewalk Program (dated 3/6/2017); General</td>
<td>Add requirements for temporary sidewalks in certain circumstances</td>
<td>2 years</td>
<td>Public Works</td>
</tr>
<tr>
<td>Sidewalk Program (dated 3/6/2017); Construction Deferral Guidelines</td>
<td>Add requirement to identify an alternative pedestrian route when granting a deferral</td>
<td>1 year</td>
<td>Public Works</td>
</tr>
<tr>
<td>Complete Street Policy</td>
<td>Add NACTO Urban Bikeway Design Guide to the list of resources</td>
<td>6 months</td>
<td>Public Works</td>
</tr>
</tbody>
</table>
Changes to the City Code should be reviewed by any relevant boards and committees prior to being adopted by the City Council.

Policies which were previously approved by the City Council should return to City Council for approval of changes.

<table>
<thead>
<tr>
<th>Chapter/Policy</th>
<th>Recommendation</th>
<th>Timeframe</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Street Policy</td>
<td>Formulate review process and establish a complete street committee</td>
<td>1 year</td>
<td>Parks, Public Works, Planning</td>
</tr>
<tr>
<td>Sidepath Trail vs. Wide Sidewalk vs. Standard Sidewalk Installation</td>
<td>Identify list of criteria that should be reviewed when deciding on the width of a sidewalk or side-path trail.</td>
<td>6 months</td>
<td>Parks, Public Works, Planning</td>
</tr>
<tr>
<td>Future Mobility Trends</td>
<td>Investigate need for regulations addressing motorized and non-motorized vehicle share businesses, permitted uses on trails, and trail etiquette and signage.</td>
<td>1 year</td>
<td>Parks, Public Works, Planning</td>
</tr>
</tbody>
</table>
INFRASTRUCTURE RECOMMENDATIONS

Features which were rated as “High” urgency should be addressed as soon as possible due to safety concerns or non-compliance with ADA; this would be preferably within the next year. Features which were rated as “Medium” urgency should be addressed within 2-5 years. Features which were rated as “Low” urgency should be addressed as time and budget allows.

The exhibits on the following pages show maps of the recommendations corresponding with each level of urgency, and are followed by tables specifying the location and other qualities of each specific recommendation. The descriptions in the corresponding tables are adapted from public comments received on the map.social website.
Infrastructure Recommendations - High Urgency

Johnston Walkability Study | Johnston, Iowa | 10/31/2018

- NW 54TH AVE: Build sidewalk.
- NW 62ND AVE: Build sidewalk or trail.
- NW 54TH AVE: Review for crossing improvements.
- NW 86TH ST: Install ADA-compliant ramps.
- NW 86TH ST: Repair then replace bridge.
- NW 78TH AVE: Review for new crossing.
- NW 107TH ST: Review for crossing improvements.

Legend:
- Hazards: High, ADA & Safety
- Crossings: High, ADA & Safety
- Sidewalk Gaps: High, ADA & Safety
- Trail Gaps: High, Connectivity
- Other: Johnston Boundary, Waterbody, Parks and Open Space, Roads

SOURCES: Iowa Geodata, Iowa DNR, Iowa DOT, and the City of Johnston

FILE PATH: V:\Projects\2018\118.0337.01\GIS\Mxd_2018-09-17_UrgencyHIGH.mxd
## HAZARDS - HIGH URGENCY

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 59th Ct and driveway</td>
<td>Repair-sidewalk program</td>
<td>Maintenance</td>
<td>Low</td>
<td>Broken Sidewalk</td>
<td>No</td>
</tr>
<tr>
<td>Intersection of NW 62nd Ave and Meadow Crest Dr</td>
<td>Install ADA-compliant ramps</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>Narrow and rough ramps; lack of ADA ramps</td>
<td>Yes</td>
</tr>
<tr>
<td>Beaver Creek Bridge</td>
<td>Repair then replace bridge</td>
<td>Maintenance</td>
<td>High</td>
<td>Bridge is in poor condition, unsafe and abrupt approach</td>
<td>No</td>
</tr>
</tbody>
</table>

## CROSSINGS - HIGH URGENCY

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crowwing and N Winwood Dr</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Poor crossing south of Wallace Elementary</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 54th Ave and road to ball park</td>
<td>Review for crossing improvements-road diet</td>
<td>Infrastructure</td>
<td>Low</td>
<td>No crosswalk markings on north side of 54th to get to ball parks. Pooling water on sidewalk</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 62nd Ave and NW 59th Ct</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Need better pavement markings, signage</td>
<td>Yes</td>
</tr>
<tr>
<td>Windsor Pkwy and NW 93rd St</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Poor crossing</td>
<td>Yes</td>
</tr>
<tr>
<td>Winwood Dr and Merle Hay Rd</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Unsafe crossing. Timer is too short for peds to cross. Lacking markings and signage</td>
<td>Yes</td>
</tr>
<tr>
<td>Merle Hay Rd and Pioneer Pkwy</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>Walk button to cross Merle Hay Road is on the north side of Pioneer Parkway, difficult for bikes and peds</td>
<td>No</td>
</tr>
</tbody>
</table>
CROSSINGS - HIGH URGENCY (CONTINUED)

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Glenn Dr and parking lot</td>
<td>Review for new crossing</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>Kids run across North Glenn Dr to get to Library, lacking pavement markings, signage</td>
<td>Yes</td>
</tr>
<tr>
<td>North Glenn Dr and Merle Hay Rd</td>
<td>Ramps, timers, reconstruct - 2018</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>No crosswalk on south side of road</td>
<td>Yes</td>
</tr>
<tr>
<td>Windsor Pkwy and NW 100th St</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>High speed south to westbound traffic</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 62nd Ave and Merle Hay Rd</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>High</td>
<td>No Clear Crossing at 62nd and Merle Hay, poorly designed for bikes/peds</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 66th Ave and driveway</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>High</td>
<td>Unsafe crossing from north side of 66th to Soccer fields, lacking grade-separated crossing</td>
<td>No</td>
</tr>
</tbody>
</table>

SIDEWALK GAPS - HIGH URGENCY

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greendale Rd</td>
<td>Greendale Pl</td>
<td>Driveway</td>
<td>Sidewalk program</td>
<td>Low</td>
<td>Sidewalk gap on east side of Greendale Road</td>
<td>Yes</td>
</tr>
<tr>
<td>Merle Hay Rd</td>
<td>NW 64th Pl</td>
<td>Driveway</td>
<td>Build sidewalk - 2018</td>
<td>Low</td>
<td>Merle Hay Sidewalk Gap</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St</td>
<td>Chambery Blvd</td>
<td>Chambery Blvd</td>
<td>Sidewalk program - sidewalk or trail</td>
<td>Low</td>
<td>Missing sidewalk along 86th</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## SIDEWALK GAPS - HIGH URGENCY (CONTINUED)

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Glenn Way</td>
<td>Merle Hay Rd</td>
<td>Sidewalk/trail</td>
<td>Complete - 2018</td>
<td>Medium</td>
<td>No sidewalk to curb at SE corner</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 59th Ct</td>
<td>South of NW 62nd Ave</td>
<td>North of NW 61st Ave</td>
<td>Build sidewalk-program</td>
<td>Medium</td>
<td>Sidewalk gap missing due to communications device, needs to be ADA compliant</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St</td>
<td>Chambery Blvd</td>
<td>Chambery Blvd</td>
<td>Build sidewalks-program</td>
<td>Medium</td>
<td>Sidewalk gaps along Greendale Road</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 107th St</td>
<td>NE 18th St</td>
<td>E 1st St</td>
<td>Build sidewalk</td>
<td>Medium</td>
<td>107th Street Sidewalk Gap - east side</td>
<td>No</td>
</tr>
<tr>
<td>Pioneer Pkwy</td>
<td>NW 62nd Ave</td>
<td>Merle Hay Rd</td>
<td>Build sidewalk</td>
<td>Medium</td>
<td>Pioneer Pkwy needs trails and needs sidewalk gaps filled</td>
<td>Yes</td>
</tr>
<tr>
<td>Prairie Pl</td>
<td>NW 51st St</td>
<td>Prairie Pl</td>
<td>Build sidewalk-unscheduled</td>
<td>Medium</td>
<td>Missing sidewalk connection from Prairie Place and NW 51st Street</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 54th Ave</td>
<td>Existing sidewalk</td>
<td>NW 96th St sidewalk</td>
<td>Sidewalk program</td>
<td>High</td>
<td>Missing sidewalk on 54th Street</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 62nd Ave</td>
<td>Fire Station</td>
<td>Apartment Complex</td>
<td>Build sidewalk-development and program</td>
<td>High</td>
<td>Sidewalk gap between fire station and apt complex on north side of 62nd</td>
<td>No</td>
</tr>
<tr>
<td>Route Name</td>
<td>Starting</td>
<td>Ending</td>
<td>Recommendation</td>
<td>Difficulty</td>
<td>Currently in CIP</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
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<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Merle Hay Rd</td>
<td>North Glenn Dr</td>
<td>NW 64th Pl</td>
<td>Build trail - 2018</td>
<td>Medium</td>
<td>Yes</td>
<td>Merle Hay Trail Gap</td>
</tr>
<tr>
<td></td>
<td>Merle Hay Rd</td>
<td>NW Beaver Dr</td>
<td>Build trail</td>
<td>Medium</td>
<td></td>
<td>Trail gap, change existing sidewalk to trail</td>
</tr>
<tr>
<td></td>
<td>NW 62nd Ave</td>
<td></td>
<td>Build trail</td>
<td>Medium</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
## HAZARDS - MEDIUM URGENCY

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crab Apple Ln sidewalks</td>
<td>Repair-sidewalk program</td>
<td>Maintenance</td>
<td>Low</td>
<td>Sidewalks in this neighborhood need replacement</td>
<td>Yes</td>
</tr>
<tr>
<td>Trail off of Heatherbow</td>
<td>trail maintenance</td>
<td>Maintenance</td>
<td>Low</td>
<td>Trail needs repair, cracks, seal coating</td>
<td>No</td>
</tr>
<tr>
<td>Wellington Blvd and Brandywine Dr</td>
<td>Repair-sidewalk program</td>
<td>Maintenance</td>
<td>Low</td>
<td>Sidewalks in this neighborhood need replacement</td>
<td>Yes</td>
</tr>
<tr>
<td>Sidewalk at NW 62nd Ave and driveway #1</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>Narrow and rough ramps; lack of clear delination of ramp vs curb</td>
<td>No</td>
</tr>
<tr>
<td>Sidewalk at NW 62nd Ave and driveway #2</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Medium</td>
<td>Narrow and rough ramps; lack of clear delination of ramp vs curb</td>
<td>No</td>
</tr>
<tr>
<td>Trail off of Morningside Dr</td>
<td>Trail replacement</td>
<td>Maintenance</td>
<td>Medium</td>
<td>Large crack/gap in trail near top of hill.</td>
<td>No</td>
</tr>
</tbody>
</table>

## CROSSINGS - MEDIUM URGENCY

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnston Dr and trail</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Interurban Trail crossing needs improvement</td>
<td>No</td>
</tr>
<tr>
<td>Morningside Dr and Merle Hay Rd</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Unsafe intersection, high vehicle speed, unprotected ped and bike travel</td>
<td>No</td>
</tr>
<tr>
<td>NW 86th St and Wooded Point Dr</td>
<td>Review for crossing improvements</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Four lane road difficult for safe pedestrian crossing, Improve at-grade crossing</td>
<td>No</td>
</tr>
</tbody>
</table>
### Infrastructure Recommendations - Medium Urgency

#### CROSSINGS - MEDIUM URGENCY (CONTINUED)

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Currently in CIP</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 56th Ave and NW 86th St</td>
<td>NW Beaver Dr</td>
<td>Driveway</td>
<td>Build sidewalk on north side with development</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>NW 64th Pl and Merle Hay Rd</td>
<td>NW 62nd Ave</td>
<td>NW Beaver Dr</td>
<td>Build sidewalk on north side with development</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>NW 86th St and Windsor Pkwy</td>
<td>NW 64th Dr</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>SAH Traffic Dr and NW 86th</td>
<td>NW 64th Dr</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>NW Newgate Dr and NW 86th St</td>
<td>NW 56th Ave</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Pioneer Pkwy and Columbine Dr</td>
<td>NW Newgate Dr</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

#### SIDEWALK GAPS - MEDIUM URGENCY

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Currently in CIP</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 56th Ave</td>
<td>NW 62nd Ave</td>
<td>NW 86th St</td>
<td>Sidewalk trail to soccer fields</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

#### Infrastructure

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Currently in CIP</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 56th Ave</td>
<td>NW 62nd Ave</td>
<td>NW 86th St</td>
<td>Build sidewalk on north side with development</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>NW 64th Pl and Merle Hay Rd</td>
<td>NW 62nd Ave</td>
<td>NW 86th St</td>
<td>Build sidewalk on north side with development</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>NW 86th St and Windsor Pkwy</td>
<td>NW 64th Dr</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>SAH Traffic Dr and NW 86th</td>
<td>NW 64th Dr</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>NW Newgate Dr and NW 86th St</td>
<td>NW 56th Ave</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Pioneer Pkwy and Columbine Dr</td>
<td>NW Newgate Dr</td>
<td>NW 103rd St</td>
<td>Pedestrian crossing improvements</td>
<td>No</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

#### Description

- **Beaver Creek Elementary to Beaver Creek Trail Head is unsafe.**
- **Unsafe intersection, no marked crosswalks, signal too short.**
- **Poor crossing eastbound on Windsor Pkwy to reconnect with trail, must ride in street.**
- **Unsafe crossing at intersection of Newgate and 86th Street, recommended ped activated flashing beacon.**
- **Unsafe crossing at intersection of Newgate and 86th Street.**
- **Crossing Pioneer Parkway to get to Terra Park needs safety improvements.**
- **Windsor and 103rd Crossing could use all-way stop.**

#### Difficulty

- **Medium**

#### Recommendation

- Review for crossing improvements
- Review for new crossing
- Review for crossing improvements (N leg)
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements
- Review for crossing improvements

####Currently in CIP

- **No**

####Location

- **Beaver Creek Elementary to Beaver Creek Trail Head**
- **NW 62nd Ave and NW 86th St**
- **NW 64th Pl and Merle Hay Rd**
- **NW 86th St and Windsor Pkwy**
- **SAH Traffic Dr and NW 86th St**
- **NW Newgate Dr and NW 86th St**
- **Pioneer Pkwy and Columbine Dr**
- **Windsor Pkwy and NW 103rd St**
- **NW 56th Ave**
<table>
<thead>
<tr>
<th>Route Name</th>
<th>Difficulty</th>
<th>Recommendation</th>
<th>Description</th>
<th>Currently in CIP</th>
<th>Description Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 86th St</td>
<td>Low</td>
<td>build sidewalk - development</td>
<td>Missing sidewalk on west side of 86th</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St</td>
<td>Medium</td>
<td>Sidewalk program</td>
<td>Missing sidewalk - staff comment</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 54th Ct</td>
<td>Medium</td>
<td>build sidewalk unscheduled</td>
<td>No sidewalk along NW 54th court</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 64th Ave</td>
<td>Medium</td>
<td>build sidewalk unscheduled</td>
<td>Sidewalk gap to Dewey Park</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 64th Ave</td>
<td>Medium</td>
<td>build sidewalk unscheduled</td>
<td>Sidewalk gap, must walk on street</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 66th Pl</td>
<td>Medium</td>
<td>build sidewalk unscheduled</td>
<td>Sidewalk on north side with 2019 construction</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 70th St</td>
<td>Medium</td>
<td>build sidewalk unscheduled</td>
<td>No sidewalk on either side of inclined road, must bike on street</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 78th Ave</td>
<td>Medium</td>
<td>Sidewalk program</td>
<td>Sidewalk incomplete on west side</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 66th Pl</td>
<td>Medium</td>
<td>Sidewalk program</td>
<td>No sidewalk to get out of Eagle Ridge</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 66th Pl</td>
<td>Medium</td>
<td>Sidewalk program unscheduled</td>
<td>No sidewalks to get to Dewey Park</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 51st St</td>
<td>High</td>
<td>Sidewalk program unscheduled</td>
<td>No sidewalks to get to Eagle Ridge</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 52nd St</td>
<td>High</td>
<td>Sidewalk program unscheduled</td>
<td>No sidewalks to get to Dewey Park</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**SIDEWALK GAPS - MEDIUM URGENCY (CONTINUED)**
## Infrastructure Recommendations - Medium Urgency

### SIDEWALK GAPS - MEDIUM URGENCY (CONTINUED)

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 53rd St</td>
<td>NW 66th Ave</td>
<td>NW 66th Pl</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>53rd</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 54th Ct</td>
<td>Dead Cul-de-sac</td>
<td>Cobum Ln</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>54th Cul-de-sac</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 56th St</td>
<td>NW 66th Ave</td>
<td>NW 63rd Pl</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>56th</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 63rd Pl</td>
<td>Merle Hay Rd</td>
<td>NW 51st St</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>63rd</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 64th Pl</td>
<td>Dewey Park</td>
<td>NW 51st St</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>64th</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>West of vacant lot</td>
<td>East of vacant lot</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>vacant lot</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 66th Pl</td>
<td>NW 54th Ct</td>
<td>NW 52nd Ct</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>66th</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 68th St</td>
<td>NW 52nd Ct</td>
<td>NW 51st St</td>
<td>Sidewalk program-unscheduled</td>
<td>High</td>
<td>68th</td>
<td>Yes</td>
</tr>
<tr>
<td>NW Beaver Dr</td>
<td>Johnston Dr</td>
<td>Interstate 80</td>
<td>Build sidewalk-planned</td>
<td>High</td>
<td>Need connection from bridge safely</td>
<td></td>
</tr>
</tbody>
</table>

### TRAIL GAPS - MEDIUM URGENCY

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>100th Street crossing</td>
<td>Pond along NW 100th St</td>
<td>NW 100th St</td>
<td>Build trail connect trail to S - with road</td>
<td>Medium</td>
<td>Dead end trail from park, extend to 100th</td>
<td>Yes</td>
</tr>
<tr>
<td>Foxboro Rd</td>
<td>Huntingwood Ct</td>
<td>Chambery Blvd</td>
<td>Review for trail (or SLM)</td>
<td>Medium</td>
<td>Biking in street required, sidewalk is narrow, need trail connecting segments of existing trail</td>
<td>No</td>
</tr>
<tr>
<td>Route Name</td>
<td>Starting</td>
<td>Ending</td>
<td>Description</td>
<td>Difficulty</td>
<td>Recommendation</td>
<td>Currently in CIP</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>--------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Johnston Commons</td>
<td>Johnston Dr</td>
<td>Morningside Dr</td>
<td>Trail through Johnston Commons Connect Beaver Ave from main trail</td>
<td>Medium</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
<tr>
<td>Johnston Dr</td>
<td>NW Beaver Dr</td>
<td>NW Beaver Dr</td>
<td>Connect Beaver Ave from main trail</td>
<td>Medium</td>
<td>Build trail-planned</td>
<td>No</td>
</tr>
<tr>
<td>Johnston Public Works</td>
<td>NW 59th Ct</td>
<td>NW 50th St</td>
<td>Incomplete trails need to connect, lots of cars and bikes travel on narrow sidewalk-beaver to west</td>
<td>Medium</td>
<td>Build trail - 2019</td>
<td>No</td>
</tr>
<tr>
<td>Johnston Commons</td>
<td>NW 59th Ct</td>
<td>NW 50th St</td>
<td>Access to trail, Johnston Middle School Libary without having to cross Merle Hay</td>
<td>Medium</td>
<td>Build trail - 2019</td>
<td>No</td>
</tr>
<tr>
<td>Johnston Commons</td>
<td>NW 59th Ct</td>
<td>NW 50th St</td>
<td>Lacking connection along 70th between 86th and 100th</td>
<td>Medium</td>
<td>Build trail</td>
<td>No</td>
</tr>
<tr>
<td>Johnston Commons</td>
<td>NW 59th Ct</td>
<td>NW 50th St</td>
<td>No sidewalk on either side of inclined road, must bike on street</td>
<td>Medium</td>
<td>Build trail</td>
<td>No</td>
</tr>
<tr>
<td>Johnston Commons</td>
<td>NW 59th Ct</td>
<td>NW 50th St</td>
<td>Sidewalk gap from Crosshaven to Johnston High School</td>
<td>Medium</td>
<td>Build trail</td>
<td>No</td>
</tr>
<tr>
<td>Johnston Commons</td>
<td>NW 59th Ct</td>
<td>NW 50th St</td>
<td>Connect Horizon to JHS, connects 54th to bike path on 62nd</td>
<td>Medium</td>
<td>Build trail</td>
<td>No</td>
</tr>
<tr>
<td>NW 86th St Crescent</td>
<td>NW 86th St</td>
<td>NW 62nd Ave</td>
<td>East side of Beaver Drive, crucial to hook up with Neal Smith Trail</td>
<td>High</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St Crescent</td>
<td>NW 86th St</td>
<td>NW 62nd Ave</td>
<td>Non existent on east side of 86th</td>
<td>Medium</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St Crescent</td>
<td>NW 86th St</td>
<td>NW 62nd Ave</td>
<td>East side of Beaver Drive, crucial to hook up with Neal Smith Trail</td>
<td>High</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St Crescent</td>
<td>NW 86th St</td>
<td>NW 62nd Ave</td>
<td>East side of Beaver Drive, crucial to hook up with Neal Smith Trail</td>
<td>High</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St Crescent</td>
<td>NW 86th St</td>
<td>NW 62nd Ave</td>
<td>East side of Beaver Drive, crucial to hook up with Neal Smith Trail</td>
<td>High</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 86th St Crescent</td>
<td>NW 86th St</td>
<td>NW 62nd Ave</td>
<td>East side of Beaver Drive, crucial to hook up with Neal Smith Trail</td>
<td>High</td>
<td>Build trail</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### HAZARDS - LOW URGENCY

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trail between Kensington Cir and NW 54th Ct</td>
<td>Review drainage on site</td>
<td>Maintenance</td>
<td>Low</td>
<td>Stream erosion, water enters pathway</td>
<td>No</td>
</tr>
<tr>
<td>Trail off of South Dr</td>
<td>Review for signage</td>
<td>Infrastructure</td>
<td>Low</td>
<td>Signage/wayfinding unclear and in need of improvement</td>
<td>No</td>
</tr>
</tbody>
</table>

### CROSSINGS - LOW URGENCY

<table>
<thead>
<tr>
<th>Location</th>
<th>Recommendation</th>
<th>Work Category</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoney Creek CT and NW 54th Ave</td>
<td>Review for new ramp with sidewalk program</td>
<td>Infrastructure</td>
<td>Low</td>
<td>No ramp to cross from north side of 54th Ave to Stoney Creek Court</td>
<td>No</td>
</tr>
<tr>
<td>NW 86th St crossing I-80</td>
<td>Review for ped crossing on 86th</td>
<td>Infrastructure</td>
<td>High</td>
<td>Discussion of crossing at I-80 - outside city limits</td>
<td>No</td>
</tr>
</tbody>
</table>

### SIDEWALK GAPS - LOW URGENCY

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Recommendation</th>
<th>Difficulty</th>
<th>Description</th>
<th>Currently in CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Parking Lot</td>
<td>Library building</td>
<td>North Glenn Dr</td>
<td>build sidewalk through lot - Library</td>
<td>Low</td>
<td>Library access- need path across lot</td>
<td>No</td>
</tr>
<tr>
<td>Merle Hay Rd</td>
<td>NW 70th Ave</td>
<td>Trail</td>
<td>build sidewalk</td>
<td>Low</td>
<td>Merle Hay Gap</td>
<td>Yes</td>
</tr>
<tr>
<td>NW 48th St</td>
<td>Existing sidewalk on NW 48th Street</td>
<td>Existing sidewalk on NW 48th Street</td>
<td>build sidewalk-development</td>
<td>Low</td>
<td>Sidewalk gap, connect developments</td>
<td>No</td>
</tr>
<tr>
<td>Route Name</td>
<td>Starting</td>
<td>Ending</td>
<td>Description</td>
<td>Difficulty</td>
<td>Recommendation</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>--------</td>
<td>-------------</td>
<td>------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>NW 62nd Ave</td>
<td>Merle Hay Rd</td>
<td>NW Beaver Dr</td>
<td>Sidewalk needed on north side of road - Merle Hay to Beaver</td>
<td>Low</td>
<td>build sidewalk</td>
<td></td>
</tr>
<tr>
<td>NW 52nd Ct</td>
<td>Merle Hay Rd</td>
<td>52nd cul-de-sac</td>
<td>Sidewalk program - unscheduled</td>
<td>Medium</td>
<td>Sidewalk program - unscheduled</td>
<td></td>
</tr>
<tr>
<td>NW 64th Pl</td>
<td>Merle Hay Rd</td>
<td>Driveway</td>
<td>Build sidewalk at existing NW 66th Ave.</td>
<td>Medium</td>
<td>Build sidewalk development</td>
<td></td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>NW 66th Ct</td>
<td>Sidewalk program - unscheduled</td>
<td>High</td>
<td>Build sidewalk program - unscheduled</td>
<td></td>
</tr>
</tbody>
</table>

**SIDEWALK GAPS - LOW URGENCY (CONTINUED)**

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Description</th>
<th>Difficulty</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 62nd Ave</td>
<td>Merle Hay Rd</td>
<td>NW 64th Pl</td>
<td>Sidewalk needed on north side of road - Merle Hay to Beaver</td>
<td>Low</td>
<td>build sidewalk</td>
</tr>
<tr>
<td>NW 52nd Ct</td>
<td>Merle Hay Rd</td>
<td>NW 64th Pl</td>
<td>Sidewalk program - unscheduled</td>
<td>Medium</td>
<td>Sidewalk program - unscheduled</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>NW 66th Ave</td>
<td>Build sidewalk at existing NW 66th Ave.</td>
<td>Medium</td>
<td>Build sidewalk development</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>NW 54th Ct</td>
<td>Sidewalk program - unscheduled</td>
<td>High</td>
<td>Build sidewalk program - unscheduled</td>
</tr>
</tbody>
</table>

**TRAIL GAPS - LOW URGENCY**

<table>
<thead>
<tr>
<th>Route Name</th>
<th>Starting</th>
<th>Ending</th>
<th>Description</th>
<th>Difficulty</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW 62nd Ave</td>
<td>Merle Hay Rd</td>
<td>NW 63rd Pl</td>
<td>Trail loop around food destinations, change sidewalk to trail</td>
<td>Medium</td>
<td>Trail loop around food destinations, change sidewalk to trail</td>
</tr>
<tr>
<td>NW 52nd Ct</td>
<td>Merle Hay Rd</td>
<td>Beaver Creek</td>
<td>Sidewalk</td>
<td>Medium</td>
<td>Sidewalk</td>
</tr>
<tr>
<td>NW 64th Pl</td>
<td>Merle Hay Rd</td>
<td>Winwood Dr</td>
<td>Build trail - development</td>
<td>High</td>
<td>Build trail - development</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>NW 60th Ave</td>
<td>Sidewalk</td>
<td>Medium</td>
<td>Sidewalk</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>Longview Dr</td>
<td>Trail</td>
<td>High</td>
<td>Trail</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>86th St</td>
<td>Build trail - development</td>
<td>High</td>
<td>Build trail - development</td>
</tr>
<tr>
<td>NW 66th Ave</td>
<td>Merle Hay Rd</td>
<td>86th St connection</td>
<td>Need connection to 86th Street</td>
<td>High</td>
<td>Need connection to 86th Street</td>
</tr>
<tr>
<td>Route Name</td>
<td>Starting</td>
<td>Ending</td>
<td>Recommendation</td>
<td>Difficulty</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------------------------</td>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Connection by High School</td>
<td>NW 70th Ave</td>
<td>NW 62nd Ave</td>
<td>Build trail - with road</td>
<td>High</td>
<td>Need trail or sidewalk connection between 62nd and 70th, west of high school</td>
</tr>
<tr>
<td>New Valley Parkway segment</td>
<td>New Development</td>
<td>Valley Parkway</td>
<td>Build trail - development</td>
<td>High</td>
<td>Needs connection north to new development</td>
</tr>
<tr>
<td>Trail parallel to Merle Hay Rd</td>
<td>NW 63rd Pl</td>
<td>NW 62nd Ave</td>
<td>Build trail - development</td>
<td>High</td>
<td>Extend trail to Library, suggested route</td>
</tr>
</tbody>
</table>
**INTERSECTION SAFETY**

Intersections should be designed to accommodate bicyclists, pedestrians and motorists in a safe and efficient manner. Designs for intersections should reduce conflicts between users by increasing visibility, identifying the right-of-way for each user, and making it clear to each user where they should be located within the intersection.

For uncontrolled crossings where the recommendation is “Review for Crossing Improvements,” the City should consult the Federal Highway Administration Guide to Improve Uncontrolled Crossings and the associated Field Guide for Selecting Countermeasures at Uncontrolled Intersections.

For controlled crossings, where the recommendation is “Review for Crossing Improvements,” the City may also consider the countermeasures listed in Table 2.

---

**Table 1. Application of Pedestrian Crash Countermeasures by Roadway Feature, FHWA Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations**

*One lane in each direction

1. High-visibility crosswalk markings, parking restriction on crosswalk approach, adequate nighttime lighting levels
2. Raised crosswalk
3. Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4. In-Street Pedestrian Crossing sign
5. Curb extension
6. Pedestrian refuge island
7. Pedestrian Hybrid Beacon
8. Road Diet

The presence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

---

*One lane in each direction with two-way left-turn lane
## Table 2 - Safety Issues Addressed Per Countermeasure, FHWA Field Guide for Selecting Countermeasures at Uncontrolled Intersections

<table>
<thead>
<tr>
<th>Pedestrian Crash Countermeasure for Uncontrolled Crossings</th>
<th>Safety Issue Addressed</th>
<th>Conflicts at crossing locations</th>
<th>Excessive vehicle speed</th>
<th>Inadequate conspicuity/visibility</th>
<th>Drivers not yielding to pedestrians in crosswalks</th>
<th>Insufficient separation from traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crosswalk visibility enhancement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-visibility crosswalk markings*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking restriction on crosswalk approach*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved nighttime lighting*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Street Pedestrian Crossing sign*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curb extension*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised crosswalk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian refuge island</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian Hybrid Beacon</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road Diet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*These countermeasures make up the STEP countermeasure “crosswalk visibility enhancements.” Multiple countermeasures may be implemented at a location as part of crosswalk visibility enhancements.

Table 2 - Safety Issues Addressed Per Countermeasure, FHWA Field Guide for Selecting Countermeasures at Uncontrolled Intersections
ENHANCED VISIBILITY CROSSWALKS

More prominent crosswalk markings improve visibility of the crosswalk area for motorists. The pavement markings also indicate to motorists that they are required to stop for pedestrians that are in the crosswalk. Stop bars may also be painted in advance of the crosswalk to guide motorists to the proper stopping position.

The ladder and continental styles are generally preferred over the standard parallel lines because they are more visible and they enable a greater amount of paint to remain visible over time, as more paint is outside the vehicular wheel path.

PEDESTRIAN COUNTDOWN TIMERS

A pedestrian countdown timer can be used as an enhancement to a signalized intersection. Some pedestrians feel like they need to rush across an intersection when the flashing “Don’t Walk” signal illuminates. Actually, when the flashing red signal appears, there are still several second remaining to safely cross, but the signal doesn’t convey that. Pedestrian countdown timers can be used in lieu of standard Walk/Don’t Walk signals. The countdown timers show the number of second remaining to safely cross the street before the “don’t walk” signal illuminates. This can give pedestrians greater confidence in crossing the intersection and lessen anxiety associated with the feeling that they must rush across.

ACTIVE WARNING BEACONS (RECTANGULAR RAPID FLASHING BEACONS - RRFB)

Active warning beacons are user-actuated amber flashing lights that supplement warning signs at unsignalized intersections or mid-block crosswalks. Beacons can be actuated either manually by a push button or passively through radar detection. Warning beacons can be installed on either two-lane or multi-lane roadways. Warning beacons should be used to alert drivers to yield where bicyclists and pedestrians have the right-of-way crossing a
road. Rectangular rapid-flashing beacons have a vehicle yielding compliance of approximately 70% higher than a standard beacon.

**HAWK SIGNALS**

A pedestrian hybrid beacon is defined in the MUTCD as “a special type of hybrid beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.”

These hybrid beacons are also known as HAWK (High-Intensity Activated Crosswalk) signals. These can be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants, or at a location that meets traffic signal warrants under sections 4C.05 (Warrant 4, Pedestrian Volume) and/or 4C.06 (Warrant 5, School Crossing) if a decision is made not to install a traffic control signal.

An engineering study is required in order to determine whether a traffic signal installation is warranted. In the case that is determined that a traffic signal is not warranted but warrants 4 and 5 are met then consideration should be given to HAWK signal guidelines installation.

**RAISED CROSSWALKS/RAISED INTERSECTIONS**

Adding a raised crosswalk can help slow vehicles down and bring more attention to the pedestrians crossing because they increase the conspicuity of pedestrians, by raising them a few inches to be more centered in the driver’s field of vision. These raised crosswalks, also called speed tables, may be built with distinctive pavers or other materials that help both drivers and pedestrians delineate the location of the crosswalk. A pedestrian crossing or speed hump sign should be included along the street’s edge to notify the driver of the upcoming raised crosswalk.

Entire intersections can also be raised, which highlights the intersection as a conflict area, causes users to slow, and, brings awareness to multiple users in the intersection.
PEDESTRIAN REFUGE ISLAND

A pedestrian refuge island is a curb-protected space in the center of the street for pedestrians, and sometimes for bicyclists. They can be used at both controlled and uncontrolled pedestrian crossings. They allow pedestrians to cross one direction of vehicular travel and then wait within the refuge to cross the opposite direction of vehicular travel. These islands may be used where there are only two vehicular lanes if there is sufficient space, but they are most useful on wider or multi-lane streets. They generally should be at least 56 feet wide, but are preferred to be 8 to 10 feet wide.

CURB EXTENSION

Curb extensions, also referred to as bulb outs or neckdowns, are areas where the curb is extended to allow for dedicated pedestrian space. They are used to shorten the length of the crosswalk for pedestrians. This also narrows the road for vehicular traffic, which may cause motorists to reduce their speed. They can be used at roadway intersections or midblock crossings. They are particularly useful where there is on-street parking so that pedestrians can wait outside the line of parked cars and be more visible to approaching vehicles.
CONCEPTUAL COST OPINIONS

For general budgeting purposes, conceptual, pre-design costs can provide a basis. There are numerous factors that can impact the cost of a particular improvement, so the more that is known about the project, the more refined the cost opinion can become.

<table>
<thead>
<tr>
<th>Trail Type</th>
<th>Heuristic Cost per Mile</th>
<th>Elements</th>
<th>Modification Factor</th>
<th>Resulting Cost per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved Trail - 10’ wide (independent alignment)</td>
<td>$450,000</td>
<td>Former RR Grade</td>
<td>0.5</td>
<td>$225,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flat Terrain</td>
<td>0.7</td>
<td>$315,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rolling Terrain</td>
<td>1</td>
<td>$450,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hilly Terrain</td>
<td>1.5</td>
<td>$675,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Along Streambank</td>
<td>1.8</td>
<td>$810,000</td>
</tr>
<tr>
<td>Paved Sidewalk - 10’ wide</td>
<td>$325,000</td>
<td>Along urban roadway</td>
<td>1</td>
<td>$325,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Along rural roadway</td>
<td>1.6</td>
<td>$520,000</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sidewalk</th>
<th>Heuristic Cost per Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved Sidewalk - 5’ wide</td>
<td>$20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crosswalk Items</th>
<th>Heuristic Unit Costs</th>
<th>Unit</th>
<th>Life Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard/Parallel Markings</td>
<td>$300 - $1,500</td>
<td>Per crosswalk</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Continental Markings (24 inch markings/24 inch spacing)</td>
<td>$750 - $1,500</td>
<td>Per crosswalk</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Crosswalk Warning Signs</td>
<td>$1,000 - $1,750</td>
<td>Per crosswalk</td>
<td>5-10 years</td>
</tr>
<tr>
<td>Pedestrian Countdown Timers (add to existing poles)</td>
<td>$1,500 - $2,000</td>
<td>Per crosswalk</td>
<td>15-20 years</td>
</tr>
<tr>
<td>Accessible pedestrian signals/pushbuttons (add to existing poles)</td>
<td>$3,000 - $5,000</td>
<td>Per crosswalk</td>
<td>15-20 years</td>
</tr>
<tr>
<td>Rectangular Rapid Flash Beacon (RRFB)</td>
<td>$10,000 - $20,000</td>
<td>Per crosswalk</td>
<td>5-10 years</td>
</tr>
<tr>
<td>Pedestrian Hybrid Beacon (HAWK Signal)</td>
<td>$90,000 - $175,000</td>
<td>Per crosswalk</td>
<td>15-20 years</td>
</tr>
<tr>
<td>Raised Crosswalk</td>
<td>$10,000 - $25,000</td>
<td>each</td>
<td>20 years</td>
</tr>
<tr>
<td>Raised Intersection</td>
<td>$50,000 - $100,000</td>
<td>each</td>
<td>20 years</td>
</tr>
<tr>
<td>Pedestrian Refuge Island</td>
<td>$5,000 - $40,000</td>
<td>each</td>
<td>20 years</td>
</tr>
<tr>
<td>Curb Extension</td>
<td>$5,000 - $20,000</td>
<td>each</td>
<td>20 years</td>
</tr>
</tbody>
</table>
FUNDING OPPORTUNITIES
Funding for infrastructure improvements can come from a variety of sources. Local funding is a primary source of funds, but state and federal funding sources may be available depending on the details of the project. For larger projects, a combination of funding sources is often necessary. Sometimes, private individuals, families, and companies choose to donate land or dollars to develop particular projects that they can view as a legacy or significant improvement to the community’s quality of life. With regards to pedestrian infrastructure, private donations are most likely to be associated with trail projects and amenities such as benches, drinking fountains, and landscaping.

CITY FUNDING
Currently, the City’s CIP dedicates $500,000 per year to “Sidewalks” with the focus on ADA-compliance related to curb ramps and implementing the citywide sidewalk program.

When individual roadway or intersection projects are identified within the CIP, pedestrian accommodations are included within the project budget as needed. Trail projects may be budgeted for individually as well.

When applying for grants, a significant investment that is greater than the minimum match required indicates to application review committees that the city places a high priority on completing the project. This commitment should be officially documented in some way, such as through the Capital Improvement Program or a resolution from the City Council.

DONATIONS
A trails or bike/pedestrian-targeted “Friends” group could be developed for the trail, bikeway, or pedestrian system overall, or for targeted projects, as necessary. “Friends” groups often assist City staff in mutually defined goals of fundraising efforts, and sometimes programmatic efforts. In any case, a “fundraising committee” may be formed, representing a variety of interested parties, to lead fundraising efforts.

Donations from private sources typically help to leverage state and federal grant dollars. Even small contributions from local private sources help make applications for grant programs more compelling, as they indicate strong local support for the project. Also, potential donors/grantors prefer to see evidence that there will be enough funding in place for a project to be completed.

When deciding who to contact for private support, the fundraising committee should first identify which individuals, companies, and/or nonprofits, and organizations would benefit the most from the proposed project. The committee could begin implementing this step by approaching adjacent property owners to seek a letter (or letters) of support for the project.

The committee could then move on to companies located nearby that maybe be able to contribute financially or in-kind. Incentive programs could be used to encourage their workforces to utilize the trails and on-street network as an alternative means of transportation to work.

The committee should also develop a structure for recognizing various levels of support on the project. For example, a trail, route, or amenity could be named for a major donor. Other donors could be recognized through temporary or permanent signage, a list on the City’s website, an announcement via social media, or at a public ribbon cutting. The possibilities for recognition are as unlimited as the committee members’ imaginations.

The committee should also request support from groups and individuals, even if those individuals do not have funding or resources that they can contribute to the project. For example, daycares, places of worship, bicycling/running clubs, and the school district may all see a benefit to the project but not have resources to contribute. In this case, the committee should request a letter
Funding Opportunities

of support that indicates how that group will benefit. These letters may be included in grant applications.

PRIVATE FUNDING OPPORTUNITIES

AARP Community Challenge
This grant program funds projects that improve transportation and mobility options, which may include permanent and temporary improvements for connectivity, walkability, bikeability, and access to transit. Applications are due in May, awardees are notified in June, and projects must completed by November.

America Walks Community Change Grants
This grant program funds projects that create healthy, active, and engaging places to live, work and play. With a $1500 maximum award, projects may be small, but impactful and able to be completed within a year of award.

Prairie Meadows Community Betterment Grant
This statewide program awards grants between $100 and $99,999. A variable amount of funds, which may be near $2 million, is available to be awarded in four categories: Arts & Culture, Economic Development, Education, and Health and Human Services. Trails are eligible under the Economic Development category. The Community Betterment Grant requires that the project be completed within a year.

Prairie Meadows Legacy Grant
Prairie Meadows also offers a Legacy Grant for requests of $100,000 to $1 million, which must have at least 50 percent of the project budget secured. The applicant cannot apply for both the Community Betterment Grant and the Legacy Grant for the same project.

PeopleForBikes Community Grant Program
This national program awards up to $10,000 to worthy projects and programs that support bicycling. The grant cannot fund more than 50 percent of the project budget. The program is competitive, with only 10 to 15 percent of proposals being funded. There are two grant cycles each year, with applications opening in June for the fall submittal, and in December for the spring submittal. The process requires a letter of interest prior to submitting a full application.

Wellmark MATCH Grant
Matching Assets to Community Health (MATCH), is a grant awarded by the Wellmark Foundation to promote policies and projects that help communities in Iowa and South Dakota create safe, healthy, and active environments. Two challenge grant opportunities are available—the Large MATCH and Small MATCH. The Large MATCH program awards up to $100,000 that must have a $1 to $1 local contribution. The Small MATCH program awards up to $25,000, requiring a 50% local contribution. For example, a $50,000 large grant must have a local match of $50,000; a $10,000 small grant must have a $5,000 local match. Applications are due in March each year.

PUBLIC FUNDING OPPORTUNITIES

Community Attraction and Tourism (CAT) – Iowa Economic Development Authority
The CAT program is designed to assist communities in the development of multiple purpose attraction, recreation, education, entertainment, and cultural facilities. The program received a $5 million appropriation for FY 2019. CAT funding is limited to 45% of total project costs and must be the “last dollar” to complete the project. Awards are typically closer to 10-20% of project costs. Applications are reviewed by the Enhance Iowa Board quarterly. The board policy is to not award more than $1 million to a single project. Broad local support, both philosophical and financial, is necessary for a CAT application to be successful.

Federal Recreational Trails – Iowa DOT
The Federal Recreational Trails program typically provides about $1 million annually for projects in Iowa, with a maximum award of 80 percent of the project cost. Applications are due on October 1 each year.
Iowa Clean Air Attainment Program (ICAAP) – Iowa DOT
The ICAAP program is intended to finance projects and programs that result in attaining or maintaining the National Ambient Air Quality Standards (NAAQS) of the 1990 Clean Air Act Amendments. The focus is on reducing volatile organic compounds, nitrogen oxides, carbon monoxide, and, under certain conditions, particulate matter. This may be done by reducing motor vehicle congestion. To the extent that walking and biking can replace vehicular trips, some trail, bikeway, and sidewalk projects may be eligible for this funding. The maximum award is 80 percent of the project cost. Applications are due on October 1 of each year.

Iowa Great Places – Iowa Department of Cultural Affairs
The Iowa Department of Cultural Affairs provides up to $400,000 per award to communities and nonprofit organizations. Communities must demonstrate a strong vision for innovation, and strive to enhance community vitality and quality of life while maintaining its unique character. Awardees are designated as an Iowa Great Place. The average award is $185,000. Letters of intent are usually due by May 1, with a grant application deadline in early June.

Pedestrian Curb Ramp Construction – Iowa DOT
Projects must be located on an Iowa DOT primary road. In Johnston, a recent annexation brings a portion of Highways 415 and 141 into the city boundaries. This program is to assist with compliance with the Americans with Disabilities Act, primarily by constructing curb ramps. The maximum award is $250,000. The program can award up to 100% of the project cost. Letters of request are accepted by the Iowa DOT District Engineer year-round.

Resource Enhancement and Protection Grant (REAP) – Iowa Department of Natural Resources
REAP funds are appropriated by the Iowa Legislature and divided amongst various categories, with 15% going to City Parks and Open Space. Projects may be for the acquisition, establishment and maintenance of natural parks, preserves and open spaces. Grants may include expenditures for multipurpose trails, rest room facilities, shelter houses and picnic facilities, museums, parks, preserves, parkways, city forests, city wildlife areas as well as other open space oriented acquisition and development projects. Cities with a population between 10,001 and 25,000 are eligible for up to $125,000 per project. Applications are due on August 15 each year.

Regional Transportation Alternatives Program (TAP) – Des Moines Area Metropolitan Planning Organization (MPO)
TAP is also known as the Surface Transportation Block Grant Set-Aside Program. It provides funding for programs and projects such as on- and off-road pedestrian and bicycle facilities, improving non-driver access to public transportation through infrastructure, environmental mitigation, and safe routes to schools. Each year, approximately $1.2 million is available in TAP funding through the Des Moines Area MPO.

Statewide Transportation Alternatives Program (TAP) – Iowa DOT
TAP is a portion of the Federal Surface Transportation Program (STP) funding received by the State of Iowa. Applicants compete on a statewide level for a portion of the TAP fund, which may be used for a wide array of projects, including trails and other bicycle and pedestrian facilities. Projects should be statewide or multi-regional. Projects which connect Johnston to other communities or regional destinations would be better candidates than projects which the benefits are internal to the city.

State Recreational Trails – Iowa DOT
The amount of State Recreational Trails funding varies from year to year, but it is often between $1 million and $3 million. The maximum award
is 75 percent of the project cost. Applications are due on July 1 of each year.

**Surface Transportation Block Grant Program (STBG) – Des Moines Area MPO**
The intent of the STBG programs is to preserve and improve the conditions and performance on any federal-aid highway, bridge, public road, pedestrian and bicycle infrastructure and transit capital projects. Each year, approximately $12 million is available in STBG funding for the Greater Des Moines region. The maximum award is 80 percent of the project cost. Applications are due in December for funds to be programmed in the federal fiscal year 5 years out.

**Traffic Safety Improvement Program (TSIP) – Iowa DOT**
The TSIP provides funds within the following three categories:
- Site-specific - construction or improvement of traffic safety and operations at a specific site or corridor with a crash history.
- Traffic control devices - purchase of materials for installation of new traffic control devices, such as signs, signals or pavement markings; or replacement of obsolete signs or signals
- Research, studies and public information - transportation safety research, studies or public information initiatives, such as signing or pavement marking research, driver education/information, work zone safety, and crash data analysis improvements.

The program can award up to $500,000 and no match is required. Applications are due on August 15 each year.

**Urban State Traffic Engineering Program (U-STEP) – Iowa DOT**
Projects must be located on an Iowa DOT primary road. In Johnston, a recent annexation brings a portion of Highways 415 and 141 into the city boundaries. An engineering analysis of the project area is required. U-STEP can award up to $200,000 for a spot improvement, such as a crosswalk or intersection, and up to $400,000 for linear improvements. The program can award up to 55% of the project cost. Letters of request are accepted by the Iowa DOT District Engineer year-round.
## Funding Opportunities

<table>
<thead>
<tr>
<th>Due Date</th>
<th>Program</th>
<th>Project Types</th>
<th>Max Award</th>
<th>Match Required</th>
<th>Date Funds Available</th>
<th>Completion Date</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 15 (quarterly thru year)</td>
<td>Community Attraction and Tourism (CAT)</td>
<td>trails, tourism</td>
<td>10-20% of the final negotiated project cost, not to exceed $1 Million</td>
<td>At least 65% of funds must be secured, grant is last dollar in</td>
<td>Upon award</td>
<td>As per the grant agreement</td>
<td><a href="https://www.iowaeconomicdevelopment.com/Enhance">https://www.iowaeconomicdevelopment.com/Enhance</a></td>
</tr>
<tr>
<td>February</td>
<td>Prairie Meadows Community Betterment</td>
<td>trails, economic development</td>
<td>$99,999</td>
<td>none</td>
<td>July</td>
<td>Within 12 months</td>
<td><a href="https://www.prairiemeadows.com/community/betterment-grants">https://www.prairiemeadows.com/community/betterment-grants</a></td>
</tr>
<tr>
<td>February</td>
<td>Prairie Meadows Legacy</td>
<td>trails, economic development</td>
<td>$100,000 - $1M</td>
<td>75%</td>
<td>July</td>
<td>As per the grant agreement</td>
<td><a href="https://www.prairiemeadows.com/community/legacy-grants">https://www.prairiemeadows.com/community/legacy-grants</a></td>
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<tr>
<td>April and October</td>
<td>PeopleforBikes Community Grant</td>
<td>trails, bicycle infrastructure</td>
<td>$10,000</td>
<td>50%</td>
<td>December</td>
<td>Provide updates every 6 months</td>
<td><a href="http://peopleforbikes.org/our-work/community-grants/">http://peopleforbikes.org/our-work/community-grants/</a></td>
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<tr>
<td>May</td>
<td>Wellmark MATCH Grant</td>
<td>safe, healthy, and active community improvements</td>
<td>$75,000</td>
<td>100%</td>
<td>December</td>
<td>2 years</td>
<td><a href="https://www.wellmark.com/foundation/traditional-grants.html">https://www.wellmark.com/foundation/traditional-grants.html</a></td>
</tr>
<tr>
<td>May 1</td>
<td>Iowa Great Places</td>
<td>trails, quality of life improvements</td>
<td>$400,000 ($185,000 average)</td>
<td>100%</td>
<td>October</td>
<td>As per the grant agreement</td>
<td><a href="https://iowaculture.gov/about-us/about/grants/iowa-great-places">https://iowaculture.gov/about-us/about/grants/iowa-great-places</a></td>
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<tr>
<td>May 16</td>
<td>AARP Community Challenge</td>
<td>transportation and mobility options; permanent and temporary improvements for connectivity, walkability, bikeability, and access to transit</td>
<td>several thousand for larger projects</td>
<td>none</td>
<td>July 18</td>
<td>November</td>
<td><a href="https://www.aarp.org/livable-communities/about/info-2017/aarp-community-challenge-submission-instructions.html">https://www.aarp.org/livable-communities/about/info-2017/aarp-community-challenge-submission-instructions.html</a></td>
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<tr>
<td>July 1</td>
<td>State Recreational Trails</td>
<td>trails</td>
<td>None specified (highest award was $780,000)</td>
<td>25%</td>
<td>Upon authorization</td>
<td>As per the grant agreement</td>
<td><a href="http://www.iowadot.gov/systems_planning/fedstate_rectrails.htm">http://www.iowadot.gov/systems_planning/fedstate_rectrails.htm</a></td>
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<tr>
<td>August 15</td>
<td>Resource Enhancement and Protection (REAP) City Parks &amp; Open Spaces</td>
<td>trails, restrooms, parkways</td>
<td>$125,000 (for cities with populations between 10,001 and 25,000)</td>
<td>none</td>
<td>October</td>
<td>As per the grant agreement (~2 years)</td>
<td><a href="http://www.iowadnr.gov/Conservation/REAP/REAP-Funding-at-Work/City-Parks-Open-Spaces">http://www.iowadnr.gov/Conservation/REAP/REAP-Funding-at-Work/City-Parks-Open-Spaces</a></td>
</tr>
<tr>
<td>Due Date</td>
<td>Program</td>
<td>Project Types</td>
<td>Max Award</td>
<td>Match Required</td>
<td>Date Funds Available</td>
<td>Completion Date</td>
<td>Website</td>
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<tr>
<td>August 15</td>
<td>Traffic Safety Improvement Program (TSIP)</td>
<td>traffic safety improvements</td>
<td>$500,000</td>
<td>none</td>
<td>July 1</td>
<td>As per the grant agreement</td>
<td><a href="https://iowadot.gov/traffic/traffic-and-safety-programs/tsip/tsip-program">https://iowadot.gov/traffic/traffic-and-safety-programs/tsip/tsip-program</a></td>
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<tr>
<td>October 1</td>
<td>Federal Recreational Trails</td>
<td>trails</td>
<td>$5,000 min – no upper limit (highest award was $490,000)</td>
<td>20%</td>
<td>Upon authorization</td>
<td>As per the grant agreement</td>
<td><a href="http://www.iowadot.gov/systems_planning/fedstate_rectrails.htm">http://www.iowadot.gov/systems_planning/fedstate_rectrails.htm</a></td>
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<tr>
<td>October 1</td>
<td>Iowa Clean Air Attainment Program (ICAAP)</td>
<td>highway/street, transit, bicycle/pedestrian</td>
<td>None specified (minimum request $20,000 per project)</td>
<td>20%</td>
<td>None specified</td>
<td>As per the grant agreement</td>
<td><a href="https://iowadot.gov/systems_planning/grant-programs/iowa-clean-air-attainment-program-icaap">https://iowadot.gov/systems_planning/grant-programs/iowa-clean-air-attainment-program-icaap</a></td>
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<tr>
<td>November 2</td>
<td>America Walks Community Change Grants</td>
<td>projects creating healthy, active, and engaged places to live, work, and play</td>
<td>$1,500</td>
<td>none</td>
<td>December</td>
<td>Following calendar year</td>
<td><a href="http://americawalks.org/">http://americawalks.org/</a></td>
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<tr>
<td>December 1</td>
<td>Statewide STP TAP</td>
<td>trails, pedestrian, bicycle improvements, safe routes to schools, access to transit</td>
<td>None specified</td>
<td>20%</td>
<td>Upon authorization</td>
<td>As per the grant agreement</td>
<td><a href="https://iowadot.gov/systems_planning/grant-programs/transportation-alternatives">https://iowadot.gov/systems_planning/grant-programs/transportation-alternatives</a></td>
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<tr>
<td>December 7</td>
<td>DMAMPO TAP</td>
<td>trails, pedestrian, bicycle improvements, safe routes to schools, access to transit</td>
<td>None specified</td>
<td>20%</td>
<td>FFY 2023</td>
<td>As per the grant agreement</td>
<td><a href="https://dmampo.org/ffy-2023-transportation-alternatives-program/">https://dmampo.org/ffy-2023-transportation-alternatives-program/</a></td>
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<tr>
<td>December 7</td>
<td>Surface Transportation Block Grant Program (STBG)</td>
<td>federal-aid routes, bridges, public roads, pedestrian and bicycle infrastructure, transit capital improvements</td>
<td>None specified</td>
<td>20%</td>
<td>FFY 2023</td>
<td>As per the grant agreement</td>
<td><a href="https://dmampo.org/funding/surface-transportation-program/">https://dmampo.org/funding/surface-transportation-program/</a></td>
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<tr>
<td>Letters of request accepted all year</td>
<td>Urban-State Traffic Engineering Program (U-STEP)</td>
<td>solve traffic operation and safety problems on primary roads</td>
<td>$200,000 for spot improvements, $400,000 for linear improvements</td>
<td>45%</td>
<td>None specified</td>
<td>As per the grant agreement</td>
<td>Contact Iowa DOT District Engineer</td>
</tr>
<tr>
<td>Letters of request accepted all year</td>
<td>Pedestrian Curb Ramp Construction</td>
<td>assist cities in complying with the Americans with Disabilities Act (ADA) on primary roads</td>
<td>$250,000</td>
<td>none</td>
<td>None specified</td>
<td>As per the grant agreement</td>
<td>n/a</td>
</tr>
</tbody>
</table>
APPENDICES

Presentations and Meeting Notes

• Steering Committee Meeting #1
• Steering Committee Meeting #2
• Steering Committee Meeting #3
• Park Board and Tree Board
• Planning and Zoning Commission
• Johnston Community School Board
• Trails Committee
• Johnston City Council

Map Social Data

• Pedestrian Destinations
• Favorite Pedestrian Routes
• Gaps in Pedestrian Routes
• Pedestrian Safety Concerns
• Problematic Intersection or Street Crossing
• Beautification Needed
• Other
• Overall Comments
MAY 8, 2018

JOHNSTON WALKABILITY STUDY

STEERING COMMITTEE MEETING #1

Scope of Work

Meetings & Engagement
- Steering Committee Meetings (x3)
- Board/Commission/Events (x4)
- Map Social media engagement

Network Analysis
- Existing Conditions
- School Walk Zones
- Safety Data
- Proposed Network

Policy Review & Best Practices
- Traffic Calming
- Walkability
- Multimodal & Commercial Site Plan Ordinances
- Complete Streets
- Sidewalk Program

Implementation Plan
- Prioritization Plan
- Order of Magnitude Cost Opinions
- Grant Funding Opportunities

Examples of “no future plans”

NW 66th, Coburn, 51st
Sidewalk Gap – no future plans

Pioneer Parkway
Trail Gap – no future plans

NW 61st Ave
Sidewalk Gap – no future plans

Destinations

Walkable = daycare, nursing homes, ChildServe

Destinations – Merle Hay

Walkable = daycare, nursing homes, ChildServe
Elements School Walk Zones
- Beaver Creek
- Horizon
- Timber Ridge
- Wallace
- Lawson

Middle and High School Walk Zones
- Summit Middle = Grades 6-7
- Johnston Middle = Grades 8-9
- Johnston High School = Grades 10-12

Bicycle and Pedestrian Crash Data
- 2008-2017
- 11 bicycle crashes
- 7 pedestrian crashes
- 4 female
- 9 male
- 2 at Merle Hay and Pioneer Parkway (both bicycle)


Areas of Concern
- Currently - City Staff
- Need to Add =
- Committee
- Public
APPENDIX

Steering Committee Meeting #1 Presentation and Meeting Notes

Let's Make Johnston More Walkable!
Walkability Study

Map Social
www.cityofjohnston.com/walk.

Distribution
• Business cards
• Community email newsletters
• Scrolling display in City Hall
• Library kiosks
• School emails
• Committee members
• Events
  • Mayor’s Ride
  • Coffee with a Cop
  • Farmer’s Market
  • Green Days

Timeframe
• Now – June 8? (or 18?)

Vision and Goal Setting

What makes a community walkable?

What can we improve through this project?

Upcoming Meetings

June – tentatively between June 25 – 29
• Map Social findings
• Proposed draft network / improvement areas
• Ordinances & policies

July – Boards and Committees
• Park Board
• Trails Subcommittee
• Planning and Zoning Commission
• Senior Citizens Advisory Board
• Pioneer Subcommittee

September – tentatively between Sept 17 – 21
• Final network / improvement areas
• Priorities
• Funding & implementation

QUESTIONS?
The first Johnston Walkability Study Steering Committee met on May 8, 2018 at 5:30 pm at Johnston City Hall. The following members were in attendance:

<table>
<thead>
<tr>
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<th>Representing</th>
<th>May 8, 2018</th>
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<tr>
<td>Dierenfeld</td>
<td>Paula</td>
<td>Mayor</td>
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<td>Cope</td>
<td>Tom</td>
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<td>Rhonda</td>
<td>City Council Member</td>
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<tr>
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<td>Kacer</td>
<td>Laura</td>
<td>Johnston School District</td>
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<td>JCSD</td>
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<td>Scholbrock</td>
<td>Jason</td>
<td>Pioneer</td>
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<tr>
<td>Soelberg</td>
<td>Ginger</td>
<td>Trails Committee</td>
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<td>Project Manager/Planner</td>
<td>X</td>
</tr>
<tr>
<td>Foss</td>
<td>Jared</td>
<td>Planner/GIS</td>
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The following is a compilation of the questions and comments the committee had throughout the presentation and map analysis session.

**Existing Pedestrian Facilities and Gaps**

- The current map indicates Pioneer Parkway as a future trail with no plans. This is incorrect. The City is under contract with FOTH to develop a concept starting at 62nd to Merle Hay. This may be a trail or bicycle lanes.
- Sidewalks north of 62nd and west of Dewey Park will be evaluated and allow for future connections.

**School Walk Zones**

- Hazards identified in the school walk zones are all defined differently. There was no specific criteria evaluated when identifying these areas. Many of them relate to lack of infrastructure, inadequate signage or button placement, or wrong infrastructure in place.

**Pedestrian and Bicycle Crash Data**

- The police chief explained that there were likely more property damage only crashes, but these were not reported with the DOT. The DOT standards are generally $1,500 or more in damages to be required for reporting, therefore you will not see many of these. Most of the crashes reported have physical injuries.
- How do we measure these “near misses” that are not reported? Are there patterns or locations that these take place?
- Ginger provided some insight on a recent Des Moines Register article stating the Perils of Walking. The article stated that pedestrian injuries/fatalities has gone up 46% in the last 10 years. Distractions are mostly to blame. Ginger passed along the article link: desmoinesregister.ia.newsmemory.com/publink.php?shareid=21e6e92ad

**Areas of Concern**

- A lot of runners use the Pioneer Parkway corridor. There is no sidewalk/trail along this corridor forcing the runners to use the grass, resulting in a worn path from 62nd to Merle Hay.
- The Terra Park walkway leads to some destinations but needs access from 62nd. The cross country teams utilize this route often.
- How does all of this fit in with the complete streets policy of the City? When should there be a sidewalk and when should there be a trail?
- Windsor east of 97th Street
- Augustine Crossing
- North Glenn
Map Social

The overall feedback for the Map Social site was positive. The city plans to promote the site to avid trail and sidewalk users by placing temporary signage along trails and high traffic routes. Data collection will be open until June 18th.

Vision and Goal Setting

What Makes a Community Walkable?

Infrastructure
- Connections to destinations
- Facilities need to be well maintained, free of cracks and hazards
- Signals and signs located in appropriate spots
- Safety
- Separation of cars and bicycles, appropriate facilities
- Facility/path width
- Limiting biking and walking conflicts

Comfort
- Routes need have a pleasant, attractive, shady, interesting and comforting vibe
- Snow and ice removal, seasonal treatments
- Access to amenities along trail, restrooms, benches, water
- Provide a variety of facility types (soft trails for runners, walkers)
- Wayfinding signage
- Tree lined paths provide comfort, safety, and slow traffic. Provide a variety of trees for aesthetics and use approved street trees.

Land Use
- Destinations. We need to have a reason to go somewhere.
- Surrounding land uses provide destinations, attractions
- Housing Density
- Demographics of neighborhoods, need for transportation
- Location of employment and job density
What can we improve through this project?

- We are focused on infrastructure and policies as they relate to walking. Land use change would need to come through a land use plan.
- Walking for fitness and recreation are likely the most appropriate goal and greatest demand for the project. Focus on these types of connections. Walking for transportation is less of a goal.
- Johnston is a very affluent community, most families have 1-3 cars and can drive most places. How can we influence them to utilize alternate transportation?
- Many students old enough to bike to school alone or with a friend, but too young to drive utilize these routes to get to school.
- Would Merle Hay be used for biking and walking more with infrastructure changes? If you build it, will they come? Generally, when communities build a safe and attracting bike or pedestrian facility, more people will use it. There is latent demand for this type of infrastructure.
- The four-way stop at Horizon Elementary has been a great addition. Utilize more of these intersection treatments.
- We need to look closely at deferred sidewalks (those which Council has agreed to allow private developers to delay construction), to be sure that Council does request their construction at some point in the future.
- How does sidewalk/trail snow clearance policy relate to school walkability?
  - The City code states that in the typical event, the public has 48 hours to clear their sidewalk. The City clears their priority trails and sidewalks in 24 hours and non-priority trails and sidewalks in the 48 hour timeframe. Many times it depends on the timing of the snow and whether school is in session. The City maintains trail or sidewalk over 5 feet wide, unless it is private trail.

**Meetings Schedule**

Future Steering Committee meetings will continue to be at 5:30 pm. Next meeting is planned for late June. In July, Snyder & Associates, Inc., will plan to meet with the Parks Board, Tree Board, Trails Subcommittee, P&Z, Senior Citizens Advisory Board, Pioneer Subcommittee and the school board, prior to a presentation with the City Council in August to voice the feedback received from each group.

**Map Discussions**

- Landlocked for kids that live in dense housing away from library
- Concern area across from new retirement community along Windsor
- Apartment complex along Windsor needs to complete the gap
- Pedestrian movement at I-80 interchange
- Augustine and 86th - hard to cross in to neighborhood and school
- Missing sidewalk along Pioneer
- Beaver Drive, NW 70th Street intersection
Agenda

MAP SOCIAL RESULTS

- ADDRESSING THE FINDINGS

- ORDINANCE AND POLICY REVIEW AND RECOMMENDATIONS

Map Social Outreach Summary

- Open May 11 – June 18
- 500 business cards
- Committee members
- Community email newsletters
- Johnston Living magazine
- Johnston Register
- Business Record
- Social Media
  - Facebook – 838 views; 5 shares; 3 comments; 16 reactions
  - Twitter – 5 retweets; 6 likes
  - YouTube – 37 views
- Events
  - Mayor’s Ride
  - Coffee with a Cop
  - Farmer’s Market
  - Green Days

Results

- 51 + 9 (admin) = 60 contributors
- 214 features
Destinations
36 FEATURES
- Parks (Terra & Dewey) x12 + 38 likes
- Library x6 + 15 likes
- Schools x4 + 8 likes
- Van Dees x2 + 6 likes
- Starbucks x8 likes
- Panera x5 likes

Favorite Routes
15 FEATURES
- Around neighborhoods x5
- Terra Park x3
- Shady Route
- Library
- Van Dees
- Starbucks
- Panera
- Link to Neal Smith/Kempton Bridge

Gaps in Routes
102 FEATURES
- Pioneer Pkwy x4 + 15 likes
- Merle Hay-west side x6 + 14 likes
- NW Beaver Dr x6 + 7 likes
- NW 107th St x5 + 7 likes

Pedestrian Safety Hazard
21 FEATURES
- Lack of Sidewalks x5
- Pavement/Bridge Maintenance x17 likes
- Crossings
- Behavior (mopeds, alertness, pick up after pet) x7 likes
- Speed limit x5 likes

Problematic Intersection or Crossing
23 FEATURES
- Crossing 86th St north of 62nd Ave x4 + 12 likes
- Crossing Merle Hay Rd @ Pioneer Pkwy (button north trail south) x7 likes
- Missing Sidewalk @ NW 86th St x12 likes

Beautification Needed
8 FEATURES
- Land Use Related x3 + 5 likes
- Landscape/Amenities
9 FEATURES
Route/Facility Issue  
-  
Wayfinding signage  
-  
Habitat Preservation  
-  
Creek Access

Other
- Duck access
- Duck access from bike trail
- Bike trailHEADWAY
- Bike trailHEADWAY from bike trail
- Bike trailHEADWAY
- Bike trailHEADWAY from bike trail
- Bike trailHEADWAY
- Bike trailHEADWAY from bike trail

ADA Compliance
Miss Wheelchair Iowa: Accessibility Map
ChildServe Accessibility

Organizing the Data
General vs. Specific
Enforcement Issues
Education Issues
Policy Related
Minor Maintenance Issues
Major Maintenance Issues
Capital Improvements

Addressing the Findings

Pedestrian Hazard
Urgency
Difficulty
Project Type
Justification

Example
Merle Hay Road and S Winwood Drive
**Definition of “Trail”**

**CHAPTER 48 – USE OF CITY GREENBELT, OPEN SPACE AREAS AND RECREATION TRAILS**

“Recreation Trail” are defined as bicycle and pedestrian trails owned by the City for the public benefit of active and passive recreation and principally for bicycle and pedestrian activity and recreation.

**CHAPTER 76 – BICYCLE REGULATIONS**

“Multi-use trail” means a way or place, the use of which is controlled by the City as an owner of real property, designated by the multi-use recreational trail maps, as approved by resolution by the City Council, and no multi-use trail shall be considered as a street or highway.

**CHAPTER 165 – ZONING**

“Trail” means a walkway or bikeway designated with a paved surface pathway for travel by means other than by motorized vehicles.

**RECOMMENDATION**
- Consolidate to 1 definition

---

**Ordinance And Policy Review**

**Trails**
- alcohol
- tobacco

**Speed Regulation**
- school zones

**Bicycle Regulations**
- bike lane vs. shared lane
- responsibility
- marked shared lane

**Sidewalk Regulations**
- no bicycles
- bicycle parking

**Zoning – General Regulations**
- frontage
- large parking

**Zoning – Site Plan Requirements**
- criteria for waivers

**Subdivision Regulations**
- guidance document

**Complete Street Policy**
- issues
- what to Consider

**Trails – Alcohol and Tobacco**

48.03 ALCOHOLIC BEVERAGES PROHIBITED
Wine, beer, and any other alcoholic beverages or drinks shall not be brought, transported or otherwise carried upon or consumed upon any greenbelt, open space areas or recreation trails.

**RECOMMENDATION**
- Allow unopened alcohol along trail
- Prohibit smoking

**School Zone Speed Limits**

63.02 STATE CODE SPEED LIMITS

The following speed limits are established in Section 321.285 of the Code of Iowa and any speed in excess thereof is unlawful unless specifically designated otherwise in this chapter as a special speed zone.

1. Business District – twenty (20) miles per hour.
2. Residence or School District – twenty-five (25) miles per hour.
3. Suburban District – forty-five (45) miles per hour.

**RECOMMENDATION**
- Reduce speed limit in school zones during before/after school hours
School Zone Speed Limits

<table>
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<tr>
<th>State</th>
<th>Old Speed Limit</th>
<th>Recommended New Speed Limit</th>
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<tbody>
<tr>
<td>Arizona</td>
<td>15 mph</td>
<td>20 mph</td>
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<td>Delaware</td>
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<td>Maryland</td>
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<td>Washington</td>
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*Reduced School Area Speed Limits,* Safe Routes to School Briefing Sheets, ITE.

Speed vs Risk of Fatality

25 mph reduced to 20 mph results in 5% less risk (for ages 15+).

Considerations:
- Compliance and Enforcement
- Different from rest of metro
- Proactive
- Leader
- Transition - signage, education
- Potential of additional children walking

Sidewalk Responsibility

136.01 PURPOSE

The purpose of this chapter is to enhance safe passage by citizens on sidewalks, to place the responsibility for the maintenance, repair, replacement or reconstruction of sidewalks upon the abutting property owner and to minimize the liability of the City.

RECOMMENDATION
- Take on full responsibility
- Or
- Take on partial responsibility
  - ADA Ramps
  - Portion of cost (e.g., concrete only)

Why or Why Not?

**Why?**
- Sidewalks are a necessary aspect of City’s infrastructure and benefit the community overall
- To share the financial responsibility through property taxes
- Sidewalk costs may burden some property owners such as those on:
  - corner lots
  - limited or fixed incomes
- To ensure safe walkability and adequate maintenance
- To ensure ADA compliance

**Why Not?**
- Different than rest of metro
- Increase CIP needs
- Potentially increase staff needs
- Potentially need to raise property taxes (or identify other funding mechanism)

Sidewalk Regulations - Detours

136.09 BARRICADES AND WARNING LIGHTS

It shall be the duty of all persons ... to put in conspicuous places at each end of such sidewalk and at each end of any pile of material deposited in the street, a sufficient number of approved warning lights or flares, and to keep them lighted during the entire night and to erect sufficient barricades both at night and in the daytime to secure the same.

RECOMMENDATION

When a sidewalk is blocked such that pedestrian passage is not safe or ADA compliant, a detour route should be provided.
Sidewalk Regulations - Merchandise

136.17 MERCHANDISE DISPLAY
- In no case shall more than three (3) feet of the sidewalk next to the building be occupied for such purposes.

RECOMMENDATION
- Allow for additional area to be used in special circumstances, such as where the sidewalk widths are sufficient to accommodate the additional display area.
- Implement with a permit through either administrative review or as a conditional use through Planning and Zoning Board approval.
- Clarify if this applies only to display of abutting storefronts

Zoning-General Regulations

166.27 FENCES, WALLS, AND VISION CLEARANCE
- Fences and walls are limited to a maximum height of six feet except in the following areas where fences and walls shall not exceed 2½ feet if solid or four feet if 70% transparent, such as a chain link fence:
  1) Between the front property line and the front building setback line when extended to the full width of the lot (applies to both frontages on a corner lot).
  2) On a double frontage lot, the additional height restriction would apply to the side from which driveway access is obtained.

RECOMMENDATION
- Require a minimum setback from the edge of sidewalk to a fence
OR
- Require that the sidewalk to be a foot wider when a fence abuts it
ALSO
- Requiring that gates open into the yard, away from the sidewalk

Zoning - General Regulations

166.33 OFF-STREET PARKING AND LOADING

RECOMMENDATION
- Consider Bike Parking Spaces (requirement or incentive)
- Follow Essentials of Bike Parking - Association of Pedestrian and Bicycle Professionals

Incentivizing:
- reduced vehicular parking spaces
- reduced landscape area
- other concessions
- Allow bike corrals during warmer months to be placed within a required parking space and removed and stored during winter months

Subdivision Regulations - Easements

180.41 EASEMENTS
Minimum of 10 feet total width for private utilities only, and 15 feet total width for combined private utility and walkway easements...

RECOMMENDATION
- Define walkway or use sidewalk in its place
- Include minimum 20-foot wide easements for trails

Subdivision Regulations - Waivers

180.42 IMPROVEMENTS REQUIRED
10. Sidewalks. ...If the Council agrees to defer construction of the sidewalks, sidewalks shall be constructed at the time a principal structure is built upon the adjacent lot or lots or within five (5) years of plat approval, whichever is earlier. Notwithstanding the above, the Council may require the sidewalk’s construction at the time adjacent roadway construction takes place or at any other time as noted in the final plat approval.

Recommendation
- Establish criteria for waivers
### Complete Streets Policy

- Add National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide to the list of resources
- Formalize a review process with staff
- Creating a new volunteer board or commission to review traffic safety and active transportation issues (or expand duties of a current board)

### What is a Sidepath?

Sidepaths are bidirectional shared use paths that run adjacent to the roadway, often along busy roads deemed inhospitable for biking.

- Source: AASHTO (2012)

### When Could a Sidepath be Used?

- Along high-speed/volume roads
- For short distances to connect sections of a path in independent rights-of-way
- Along roads with very few roadway/driveway crossings
- Where their termination points sit at streets that are accommodating to bicyclists or other connecting paths

### Challenges with Sidepaths

- Encourage wrong-way riding on streets where the path begins/ends
- Additional road crossings may be required
- Left turns are difficult for cyclists
- Aisle turns are difficult for cyclists
- Signage and signals are not oriented toward contra-flow cyclists
- Path width often constrained by existing objects
- Bicyclists are not within normal visual scanning area of turning vehicles

- Source: AASHTO (2012)

### Visibility Concerns

- Source: AASHTO (2012)
Vehicular Conflicts

Bicyclists cross faster than pedestrians

Attempts to get cyclists to stop are difficult and ineffective

Stopped motor vehicles on side streets or driveways may block the path.

Source: AASHTO (2012)

Where Should Cyclists Ride?

Ups and downs of ramps

Conflict with pedestrians

Conflict with slower cyclists

Some bicyclists may find the road cleaner, safer, and more convenient. Motorists may believe bicyclists should use a sidepath.

Source: AASHTO (2012)

When Considering a Sidepath...

Traffic volumes & speed
- If high, facilities separated from the road are preferred
- Buffer between road and sidepath

Number/frequency of intersections & driveways
- If high, move cyclists to street or other path
- Slow cyclists at intersections & notify drivers

Ability to accommodate bicyclists on the roadway
- Shared lanes, bike lanes, separated lanes, etc.
- Number of travel lanes

Ability for cyclists to use alternative route/parallel streets
- Consider bicycle facilities on parallel route

Number of pedestrians or bicyclists
- If high, move cyclists to bike-only facility

Anticipated types of cyclists
- Strong & Fearless, Enthused & Confident, Interested but Concerned

Location of destinations
- Consider need to cross the street

Example: Highway Sidepath

Limited driveway/roadway crossings
Wide separation from roadway
Only a two-lane roadway

Example: Sidepath and Bike Lane

Space provided for both walkers and cyclists

Ability for children/less experienced riders to use the sidepath while more experienced cyclists have access to the bike lane

Example: Highway Sidepath

Limited driveway/roadway crossings
Wide separation from roadway
Only a two-lane roadway

Upcoming Meetings

July

Boards and Committees
- Park Board
- Trails Subcommittee
- Planning and Zoning Commission
- Senior Citizens Advisory Board
- Pioneer Subcommittee

September
tentatively between Sept 17-18; or 24-28

- Network / improvement areas
- Priorities
- Funding & implementation
QUESTIONS?
Meeting Notes

To:  Johnston Walkability Study Steering Committee          Date:  6/28/2018

From:  Mindy Moore, AICP, Project Manager

CC:  Mark Perington, PE

RE:  JOHNSTON WALKABILITY STUDY STEERING COMMITTEE MEETING #2

The second Johnston Walkability Study Steering Committee met on June 26, 2018 at 5:30 pm at Johnston City Hall. The following members were in attendance:

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<tbody>
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<tr>
<td>Dierenfeld         Paula            D              Mayor</td>
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<td>Soelberg           Ginger             G              Trails Committee</td>
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<td>Perington          Mark               P        Principal In Charge</td>
<td>x</td>
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<tr>
<td>Moore              Mindy              M        Project Manager/Planner</td>
<td>x</td>
</tr>
<tr>
<td>Mauck              Zoey               M        Planner/Intern</td>
<td>x</td>
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The following is a compilation of the questions and comments the committee had throughout the presentation.

**Map Social**
- No comments received about DART issues.
- We are not assuming that all of the issues have been found.
- Review of each of the maps
- Additional item not noted in map.social - 62nd Street Trail, by Wallace, has some narrow and rough curbs at ramp locations; a clear delineation of trail ramps should help people to avoid hitting the curb

**Addressing the Map Social Findings**
- Review of each of the maps and pass out maps and comments also assessing: urgency, difficulty, project type, and justification of each item for:
  - Favorite Routes
  - Difficult Crossing
  - Pedestrian Hazards
  - Beautification
  - Other
- Network gaps map is still being developed due to the high number of comments included
- ADA accessibility and safety should be primary focus of need – making those items high priority.
- How is “difficulty” of implementation defined? What factors combine to establish these levels? Cost? Design?
- More retirement homes/communities are being added around Johnston, so ADA will be more important.
- Utility box blocking the addition of a sidewalk in front of Johnston Dentistry. Utility can be moved to allow sidewalk to continue straight.
- The intersection at NW Beaver and 66th is nice for bikes crossing
Ordinance and Policy Review/Recommendations

A. Trail definition –
   - Code has 3 definitions of trail that should be revised to one definition.
   - Is a trail defined by width or a “designation”?
     - Parks maintains every “trail” that is 6 feet or greater
     - Should consider SUDAS definition as well – which says that typical width is 10 feet and that widths can be narrowed to 8 feet in certain circumstances. (Chapter 12B-2)

B. Trails
   - Consider allowing closed containers of alcohol on trails to support transportation use of trails
   - Waukee, Urbandale, and Clive currently looking into an ordinance to prohibit tobacco on trails
   - West Des Moines has a tobacco-related ordinance currently

C. Bicycle Regulation
   - No existing bike lanes or shared lanes in Johnston at this time
   - The confusing phrase in the ordinance may be deleted.

D. Speed Regulation – School Zones
   - Consider 20 mph school zone speed limits to lower the risk of fatality and injury if a crash occurs
   - Need law enforcement input to see what effect slower school zone speeds would have
   - Just one of many tools needed to slow down traffic. Complete streets needed too.
   - Is there a study available about child pedestrian fatality, or pedestrian fatality specifically within school zones?
   - Sometimes parents are part of the problem, dropping their kid(s) off and then speeding to work.
   - Slow school zone traffic may lead to speeding traffic through residential areas to avoid the slowed route

E. Sidewalk Regulations
   - Consider the City taking on full or partial sidewalk responsibility
   - City is developing a sidewalk program that specifies a shared responsibility, such that the City would be responsible for the ADA ramps and turn space.
   - Policy change (ADA ramps, corners, steep sections)
   - New sidewalks will be added in areas without them and the property owners will be assessed for the cost
   - There might be no public sidewalks adjacent to private businesses, especially those that would be selling merchandise on the sidewalk.
   - Sidewalk closures/detours
     - Need more regulation/better definition on type of closure that would require a detour (number of days closed, etc.)
     - Instances of bad/no sidewalk detours provided along Merle Hay Road during construction
- Requirements should include “reasonable detour route” and “reviewed by city officials”

F. Zoning Regulations
- Fences are allowed to be constructed on the front and corner property lines.
- There should be a buffer between the fence and the sidewalk. A problem results if vegetation grows along the fences (shrubs, vines, etc encroach on walking space).
- City already requires that the sidewalk be constructed 1-foot from the property line, so this might not be that significant of an issue.

G. Zoning – site plan requirements
- Bike parking – city currently encourages, but does not require or incentivize, bike parking
- Also need safe bike route to bike parking area from the street/trail.
- Need safe pedestrian passage from the adjacent sidewalk/trail to the front of building
- Many people live across from library, need better crossing across the street and across the parking lot for those walking/biking.

H. Subdivision Regulations
- Silt fence during construction could be required to be 4’ from curb instead of 2’. Will also have to comply with erosion control regulations for silt fence placement.
- Would appreciate having a list of criteria for approving sidewalk waivers by the city
- Consider temporary surface for sidewalk (2” concrete? limestone? asphalt?) for when there is a gap in the system that is awaiting construction.

I. Complete Streets Policy
- Add NACTO to list of guidance documents; consider formalizing the review process and creating a board/commission to review Active Transportation issues.
- Include policy on wayfinding signage

J. Sidepath Trail vs. Sidewalk Installation
- More clarification on terminology (sidepath, trail, sidewalk, etc.) A sidepath is a particular type of trail that runs parallel to the roadway.
- Discussion of when to install a sidepath vs a sidewalk or bike lane.

Next Steps
- Map.social data – need to consolidate like items
  - Consolidate like items
  - Compare to staff input
  - Compare to current plans in CIP
  - May require a staff working meeting for review

- Meetings
  - July and August - Trails Subcommittee, Pioneer Subcommittee, Senior Citizens Advisory Board, Park Board, and P&Z.
  - September (tentatively between Sept. 17-18 or Sept. 24-29) - Steering Committee meeting
APPENDIX

Steering Committee Meeting #3 Presentation and Meeting Notes

JOHNSTON WALKABILITY STUDY

Steering Committee Meeting #3
October 2, 2018

But first, Scooters…

Policies - Implementation

<table>
<thead>
<tr>
<th>Ordinance Chapter/Policy</th>
<th>Recommendation</th>
<th>Updated</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 48; 136.09 - Definition of “Sidewalk”</td>
<td>Revise to a single definition</td>
<td>6 months</td>
<td>Parks</td>
</tr>
<tr>
<td>Chapter 48; 136.09 - Definition of “Trail”</td>
<td>Allow for closed container of alcohol on trails</td>
<td>6 months</td>
<td>Parks</td>
</tr>
<tr>
<td>Chapter 48; 136.09 - Definition of “Trail”</td>
<td>Prohibit tobacco usage on trails</td>
<td>2 year</td>
<td>Parks, in coordination with area suburbs</td>
</tr>
<tr>
<td>Chapter 63; 136.04 - Responsibility for Maintenance</td>
<td>Lower school zone speed limits</td>
<td>Any – non-urgent</td>
<td>Public Works, in consultation with the Police Department and School District</td>
</tr>
<tr>
<td>Chapter 76; 165.12 – Bicycle Lanes</td>
<td>Delete unclear statement</td>
<td>6 months</td>
<td>Public Works</td>
</tr>
<tr>
<td>Chapter 136; 136.09 - Responsibility for Maintenance</td>
<td>Take on full or partial responsibility for sidewalk construction and maintenance</td>
<td>Any – non-urgent</td>
<td>Public Works</td>
</tr>
<tr>
<td>Chapter 136; 136.09 - Responsibility for Maintenance</td>
<td>Add language regarding adjacent property owner responsibility to remove sediment and debris and to keep vegetation cut back.</td>
<td>6 months</td>
<td>Public Works</td>
</tr>
<tr>
<td>Chapter 136; 136.09 - Responsibility for Maintenance</td>
<td>Add language requiring a detour per Iowa SUDAS, 6 months</td>
<td>Public Works</td>
<td></td>
</tr>
</tbody>
</table>

Map.Social Recommendations
**APPENDIX**

Steering Committee Meeting #3 Presentation and Meeting Notes

---

**Enhanced Visibility Crosswalks**

- **Pedestrian Crosswalk Countermeasures for Improved Visibility**
  - **Safety Issues Addressed**
    - **Crosswalks in heavy traffic**
    - **High-visibility crosswalk markings**
    - **Pedestrian countdown timers**
    - **Pedestrian refuge islands**
    - **Pedestrian hybrid beacon**
    - **Crosswalk visibility enhancement**

*These countermeasures may be implemented at the discretion of the VTO, depending on the specific needs of the location.

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**Rectangular Rapid Flashing Beacon (RRFB)**

- **Texas**
  - Source: Texas A&M Transportation Institute

---

**Pedestrian Countdown Timers**

- **Texas**
  - Source: Texas A&M Transportation Institute

---

**Speed Limit**

- **Standard Configuration**
  - 
  - **Vehicles AADT < 2,000**
  - **Vehicles AADT 2,000-4,000**
  - **Vehicles AADT 4,001-9,000**
  - **Vehicles AADT > 9,000**

---

**Rectangular Rapid Flashing Beacon (RRFB)**

- **Fort Dodge**
  - Source: Texas A&M Transportation Institute
**Crosswalk Improvement Costs**

<table>
<thead>
<tr>
<th>Crosswalk Item</th>
<th>Heuristic Unit Costs</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Standard/Parallel Markings</td>
<td>$100 - $2,000</td>
<td>each leg/approach</td>
</tr>
<tr>
<td>Continential Markings</td>
<td>$600 - $6,000</td>
<td>each leg/approach</td>
</tr>
<tr>
<td>Crosswalk Warning Signs</td>
<td>$300 - $600</td>
<td>per pair</td>
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<tr>
<td>Pedestrian Countdown Timers</td>
<td>$300 - $800</td>
<td>per signal</td>
</tr>
<tr>
<td>Rectangular Rapid Flash Beacon</td>
<td>$10,000 - $20,000</td>
<td>per pair</td>
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<tr>
<td>Pedestrian Hybrid Beacon (HAWK)</td>
<td>$75,000 - $150,000</td>
<td>each</td>
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<tr>
<td>Raised Crosswalk</td>
<td>$2,000 - $20,000</td>
<td>each</td>
</tr>
<tr>
<td>Raised Intersection</td>
<td>$25,000 - $100,000</td>
<td>each</td>
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<tr>
<td>Pedestrian Refuge Island</td>
<td>$2,000 - $40,000</td>
<td>each</td>
</tr>
<tr>
<td>Curb Extension</td>
<td>$2,000 - $20,000</td>
<td>each</td>
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</tbody>
</table>

**Trail and Sidewalk Costs**

<table>
<thead>
<tr>
<th>Trail Type</th>
<th>Heuristic Cost per Mile</th>
<th>Elements</th>
<th>Modification Factor</th>
<th>Resulting Cost per Mile</th>
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</thead>
<tbody>
<tr>
<td>Paved Trail - 10' wide (independent alignment)</td>
<td>$450,000</td>
<td>Former RR Grade</td>
<td>0.5</td>
<td>$225,000</td>
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<tr>
<td></td>
<td></td>
<td>Flat terrain</td>
<td>0.7</td>
<td>$315,000</td>
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<tr>
<td></td>
<td></td>
<td>Rolling terrain</td>
<td>1</td>
<td>$450,000</td>
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<tr>
<td></td>
<td></td>
<td>Hilly terrain</td>
<td>1.5</td>
<td>$675,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Along streambank</td>
<td>1.8</td>
<td>$810,000</td>
</tr>
<tr>
<td>Paved Sidewalk - 10' wide</td>
<td>$325,000</td>
<td>Along urban roadway</td>
<td>1.6</td>
<td>$520,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Along rural roadway</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Funding**

- Local
- State / Federal
- Donations / Private
- Private Grants

**Maintenance Guidelines**

- Trail Inspections
- Plowing/Sweeping/Blowing
- Pavement Markings
- Riding/walking surface
- Gutter to Paveement Transitions
- Drainage Grates and Culverts
- Drainage
- Pavement Overlays
- Signage
- Landscaping

**Upcoming Meeting**

- Finalize Document
- City Council
  - Implementation Plan
  - Edits as necessary
  - November 5, 2018
Meeting Notes

To: Johnston Walkability Study Steering Committee

From: Mindy Moore, AICP, Project Manager

CC: Mark Perington, PE

RE: JOHNSTON WALKABILITY STUDY STEERING COMMITTEE MEETING #3

The third Johnston Walkability Study Steering Committee met on October 2, 2018 at 5:30 pm at Johnston City Hall. The following members were in attendance:

<table>
<thead>
<tr>
<th>Community Representatives</th>
<th></th>
<th>Representing</th>
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<tbody>
<tr>
<td>Last</td>
<td>First</td>
<td></td>
<td>October 2, 2018</td>
</tr>
<tr>
<td>Dierenfeld</td>
<td>Paula</td>
<td>Mayor</td>
<td></td>
</tr>
<tr>
<td>Cope</td>
<td>Tom</td>
<td>City Council Member</td>
<td></td>
</tr>
<tr>
<td>Martin</td>
<td>Rhonda</td>
<td>City Council Member</td>
<td></td>
</tr>
<tr>
<td>Andrews</td>
<td>Lindsey</td>
<td>Heartland Soles &amp; event planner</td>
<td></td>
</tr>
<tr>
<td>Clark</td>
<td>Kelsey</td>
<td>Johnston Chamber of Commerce</td>
<td></td>
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<tr>
<td>Danielson</td>
<td>Lyle</td>
<td>Johnston Park Board</td>
<td></td>
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<tr>
<td>Dockum</td>
<td>Greg</td>
<td>School Board</td>
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<tr>
<td>Kacer</td>
<td>Laura</td>
<td>Johnston School District</td>
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<tr>
<td>Morrill</td>
<td>Jill</td>
<td>JCSD</td>
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<tr>
<td>Scholbrock</td>
<td>Jason</td>
<td>Pioneer</td>
<td></td>
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<tr>
<td>Soelberg</td>
<td>Ginger</td>
<td>Trails Committee</td>
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<table>
<thead>
<tr>
<th>City of Johnston Staff</th>
<th></th>
<th>Title</th>
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<tr>
<td>Last</td>
<td>First</td>
<td></td>
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</tr>
<tr>
<td>Sanders</td>
<td>Jim</td>
<td>City Administrator</td>
<td></td>
</tr>
<tr>
<td>Greiner</td>
<td>Matt</td>
<td>Public Works Director</td>
<td></td>
</tr>
<tr>
<td>McDaniel</td>
<td>Dennis</td>
<td>Police Chief</td>
<td></td>
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<tr>
<td>Schmitz</td>
<td>John</td>
<td>Parks Director</td>
<td></td>
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<tr>
<td>Wilwerding</td>
<td>David</td>
<td>Community Development Director</td>
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<table>
<thead>
<tr>
<th>Snyder &amp; Associates, Inc.</th>
<th></th>
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<td>Last</td>
<td>First</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perington</td>
<td>Mark</td>
<td>Principal In Charge</td>
<td></td>
</tr>
<tr>
<td>Moore</td>
<td>Mindy</td>
<td>Project Manager/Planner</td>
<td></td>
</tr>
</tbody>
</table>

x indicates attendance present.
The following is a compilation of the presentation along with questions and comments the committee had throughout the presentation.

**Scooters and Mobility**
Electrical scooters and similar devices, include electric assist bicycles, are making their way into our communities. Scooter share businesses have led to problems in larger cities across the country, often with scooters left in pedestrian walkways.

Current ordinances which prohibit motorized devices would make these types of devices in violation when used on our trail and sidewalk networks. The City may want to assess regulations related to where these devised may be used, and how they should operate (speed, yield to pedestrians, trail etiquette, etc.). Devices may be used as mobility device for persons with mobility disabilities without any changes to ordinances.

**Policies**
For polices that were discussed at the prior meeting, we have assigned a timeframe and responsible party. This needs to be reviewed by staff.

**Map. Social Recommendations**
A master map shows all of the locations for gaps, hazards, and crossings and recommendations for each item. Snyder will revise the exhibit to be sure to display the connection between the sidewalk that dead ends from Prairie Place to NW 51st Street. (This is in the data set, but too small to appear on exhibit.)

The data is also displayed by Urgency and Justification. Separate maps display the items that are not currently in the CIP.

**Priorities**
A set of three maps depicts the urgency of each trail, sidewalk, crossing, or hazard. Urgency levels are high, medium, or low. High urgency items may be already programed within the coming year, related to safety, have a high number of public comments, or related to ADA compliance.

**Intersection/Crossings**
For recommendations that indicate to “Review for Crossing Improvements” guidance can be provided by the FHWA chart for uncontrolled intersections. Some of these items may apply to controlled intersections as well. A summary of these intersection treatment is provided. Many of these treatment are already in place in Johnston.

**Funding**
Heuristic cost estimates of trail/mile, sidewalk/foot, and a range for various types of intersection enhancement is provided. There is a funding table of public and private sources. Different funding sources have different priorities, such as health, safety, economic development, transportation, recreation, etc. Projects may be able to receive funding from a variety of sources.
A new program to look into is the Urban Wildlife Refuge Partnership. Contact person is Cheryl Groom from the USE Fish and Wildlife Service (Cheryl_groom@fws.gov).

**General Q&A**

Can we develop a cost opinion for implementing the overall plan (or each urgency level)? We could develop a heuristic cost for the trails and sidewalk elements. Some of these would also be funded by the adjacent property owner. It would be more difficult to establish a cost for the crossings. While there is a table which provides potential crossing treatment, there is still a lot of variability in which treatment may be implemented. Further, multiple intersections should be reviewed in relation to each other along the same corridor.

For the priorities, can we identify the “low hanging fruit,” items that are easier or less costly to achieve, but that will make a positive impact and show progress? Possibly, from within the items that are identified as high or medium urgency, we could create a subset of items that could be considered “low hanging fruit.” Snyder will discuss with staff.

Items in the CIP get re-adjusted each year as priorities shift over time. This plan may help keeps some items from being delayed within the CIP.

Can we create a table of each item in addition to the maps? The maps are in GIS, which uses an attribute table to describe each feature. This can be exported into an Excel spreadsheet for further manipulation or display. We would need to add a description of the location for each item (e.g. Intersection of Merle Hay Road and Pioneer Parkway) for the table to make sense on its own. Since this takes some time, we’d prefer that staff review the details of the maps first, we can make final edits, and then export the data to Excel. Ultimately, staff will take ownership of the GIS data upon completion of the project and be able to manage the data however necessary.

Particular crossings mentioned:
- 86th & Newgate
- Pioneer Parkway (various)

**Next Steps**
- Review Implementation Plan and Final Document layout
  - Staff review and comment
  - Draft to Committee
- Meetings
  - November 5, 2018 City Council
JULY 17, 2018
JOHNSON WALKABILITY STUDY
PARK BOARD AND TREE BOARD

Agenda
- SCOPE OF WORK & WALKABILITY
- EXISTING CONDITIONS
- MAP SOCIAL RESULTS
- ADDRESSING THE FINDINGS
- ORDINANCE AND POLICY REVIEW AND RECOMMENDATIONS

Scope of Work
- Meetings & Engagement
  • Steering Committee Meetings (x3)
  • Board/Commission/Events (x6)
  • Map Social online engagement
- Network Analysis
  • Existing Conditions
  • School Walk Zones
  • Safety Data
  • Proposed Network
- Policy Review & Best Practices
  • Traffic Calming
  • Traffic Engineering
  • Subdivision & Commercial Site Plan Ordinances
  • Sidewalk Program
  • Prioritization Plan
- Implementation Plan
  • Order of Magnitude Cost Opinions
  • Grant Funding Opportunities

Walkability and Scope
What makes a community walkable? What can we improve through this project?

EXISTING CONDITIONS
APPENDIX

**Park Board and Tree Board Presentation**

**Existing and Proposed Network**

**Destinations**

- Existing Network:
  - Daycare, nursing homes, ChildServe

**Bicycle and Pedestrian Crash Data**

- 2008-2017
- 11 bicycle crashes
- 7 pedestrian crashes
- 8 females
- 9 males
- 2 at Merle Hay and Pioneer Parkway (both bicycle)

**Map.Social Engagement and Results**

**Map.Social Outreach Summary**

- Open May 11 – June 18
- 500 business cards
- Committee members
- Community email newsletters
- Johnston Living magazine
- Johnston Register
- Business Record
- Social Media
  - Facebook – 828 views; 5 shares; 3 comments; 16 reactions
  - Twitter – 5 retweets; 6 likes
  - YouTube – 37 views
- Events
  - Mayor’s Ride
  - Coffee with a Cop
  - Farmer’s Market
  - Green Days

**Walkability Study**

- Cornerstone project seeks to reduce walkability study in the city
- Johnston seeks comments in walkability study
- jazzwalk study starts in Johnston
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
- Johnston seeks comments in walkability study
Results

51 + 16 (admin) = 67 contributors
214 features

Gaps in Routes

102 FEATURES
Merle Hay Rd - west side
- x6 + 14 likes
NW Beaver Dr
- x6 + 7 likes
Pioneer Pkwy
- x4 + 15 likes
NW 107th St
- x3 + 7 likes

Pedestrian Safety Hazard

21 FEATURES
- Lack of Sidewalks
  - West Merle Hay Road - 21 likes
- Pavement/Bridge Maintenance
  - x6 + 7 likes
- Crossings
  - x5 + 11 likes
- Behavior (speed, alertness, pick up after pet)
  - 3 likes
- Speed limit
  - 3 likes

Problematic Intersection or Crossing

23 FEATURES
- Crossing 86th St north of 62nd Ave
  - x4 + 12 likes
- Crossing Merle Hay Rd @ Pioneer Pkwy (button north / trail south)
  - 7 likes
- Missing Sidewalk @ NW 86th St
  - 6 likes

ADA Compliance

Miss Wheelchair Iowa: Accessibility Map

ChildServe Accessibility
As an employee of ChildServe, it is important that the children, specifically ones in wheelchairs, are able to access parks, stores, and neighborhoods in the Johnston area.

ADDRESSING THE FINDINGS
Organizing the Data

- General vs. Specific
- Enforcement Issues
- Education Issues
- Policy Related
- Minor Maintenance Issues
- Major Maintenance Issues
- Capital Improvements

Engagement Results

- 214 features
- Staff + Steering Committee = 147 unique features

Example – Problematic Point
Urgency & Justification

- 17 “likes”
- Comments:
  - dangerous
  - no clear crossing
  - many accidents
  - poorly designed for bikes/peds
- 1 bike crash reported
- possible injury

Example – Problematic Corridor
Urgency & Justification

- 40+ “likes”
  - Trail Gap
  - Favorite Route
- Comments:
  - Concern about safety (children’s safety)
  - 3 bike crashes – fatal, major and minor injury
  - 1 ped crash – possible injury
- Future Trail Planned

Merle Hay Corridor
ORDINANCE & POLICY RECOMMENDATIONS

Trails – Alcohol and Tobacco

48.03 ALCOHOLIC BEVERAGES PROHIBITED
Wine, beer, and any other alcoholic beverages or drinks shall not be brought, transported or otherwise carried upon or consumed upon any greenbelt, open space areas or recreation trails.

RECOMMENDATION
- Allow unopened alcohol along trail
- Prohibit tobacco usage

Sidewalk Regulations - Detours

136.09 BARRICADES AND WARNING LIGHTS
...it shall be the duty of all persons ...to put in conspicuous places at each end of such sidewalk and at each end of any pile of material deposited in the street, approved warning lights or flares, and to keep them lighted during the entire night and in the daytime to secure the same.

RECOMMENDATION
When a sidewalk is blocked such that pedestrian passage is not safe or ADA compliant, a detour route should be provided.

Zoning - Site Plan Requirements

171.05 DESIGN STANDARDS
Shall have such pedestrian walkways as are necessary for safety and general the welfare

RECOMMENDATION
Requires pedestrian walkways that:
- Are separate from vehicular drive aisles
- Connect between adjacent sidewalks and trails to the front entrance(s)

Complete Streets Policy

Add National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide to the list of resources

Formalize a review process with staff

Creating a new volunteer board or commission to review traffic safety and active transportation issues (or expand duties of a current board)
Sidepath Trail vs. Sidewalk

What is a Sidepath Trail?

Sidepaths Trails are bidirectional shared use paths that run adjacent to the roadway, often along busy roads deemed inhospitable for biking.

When Could a Sidepath Trail be Used?

- Along high-speed/volume roads
- Along roads with very few roadway/driveway crossings
- For short distances to connect sections of a path in independent rights-of-way
- Where their termination points sit at streets that are accommodating to bicyclists or other connecting paths

Visibility Concerns

Vehicular Conflicts

Bicyclists cross faster than pedestrians
Attempts to get cyclists to stop are difficult and ineffective

Stopped motor vehicles on side streets or driveways may block the path.

Where Should Cyclists Ride?

- Ups and downs of ramps
- Conflict with pedestrians
- Conflict with slower cyclists
- Some bicyclists may find the road cleaner, safer, and more convenient. Motorists may believe bicyclists should use a sidepath.
When Considering a Sidepath…

- Traffic volumes & speed
  - If high, facilities separated from the road are preferred
  - Buffer between road and sidepath
- Number/frequency of intersections & driveways
  - If high, move cyclists to street or other path
  - Buffer between road and sidepath
- Ability to accommodate bicyclists on the roadway
  - Limited driveway/roadway crossings
- Buffer between road and sidepath
- Ability for cyclists to use alternative route/parallel streets
  - Consider bicycle facilities on parallel route
- Number of pedestrians or bicyclists
  - Wide separation from roadway
- Anticipated types of cyclists
  - Only a two-lane roadway
- Location of destinations
  - Consider need to cross the street

Example: Highway Sidepath Trail

- Limited driveway/roadway crossings
- Wide separation from roadway
- Only a two-lane roadway

Example: Sidepath and Bike Lane

- Space provided for both walkers and cyclists
- Ability for children/less experienced riders to use the sidepath trail while more experienced cyclists have access to the bike lane

Upcoming Meetings

- July - August Boards and Committees
  - Park Board/Tree Board
  - Planning and Zoning Commission (7/31)
  - Senior Citizens Advisory Board (8/7)
  - Trails Subcommittee (TBD)
  - School Board (TBD)
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  - Network / improvement areas
  - Priorities
  - Funding & implementation

QUESTIONS?
JOHNSON WALKABILITY STUDY
PLANNING & ZONING COMMISSION

JULY 30, 2018

JOHNSTON WALKABILITY STUDY
PLANNING & ZONING COMMISSION

Scope of Work

Meetings & Engagement
- Steering Committee Meetings
- Board/Commission/Events
- Map Social online engagement

Network Analysis
- Existing Conditions
- School Walk Zones
- Safety Data
- Proposed Network

Policy Review & Best Practices
- Traffic Calming
- Traffic Engineering
- Subdivision & Commercial Site Plan Ordinances
- Sidewalk Program

Implementation Plan
- Prioritization Plan
- Order of Magnitude Cost Opinions
- Grant Funding Opportunities

Walkability and Scope

What makes a community walkable?
What can we improve through this project?

EXISTING CONDITIONS

- Safe Crossings
  - Ped Refuges
  - Buttons
  - Countdown timers

- Physical Separation
  - Limiting conflict points

- Sidewalks/Trails
  - ADA compliance
  - Path width
  - Complete network
  - Treed and landscaped

- Traffic Calming

- Safety Data

- Proximity of different uses

- Purpose & Land Use

- Comfort & Interest

- Terrain

- Density (jobs)

- Infrastructure

- Transportation

- Building facades

- Aesthetics

- Landscaping

- Buffers

- Weather

- Maintenance

- Resting Points

- Recreational facilities

- Proximity of different uses

- Density (housing)

- Density (jobs)

- Aesthetics

- Landscaping

- Maintenence
Existing and Proposed Network

Destinations

Walkable = daycare, nursing homes, ChildServe

Bicycle and Pedestrian Crash Data

- 2008-2017
- 11 bicycle crashes
- 7 pedestrian crashes
- 8 female
- 9 male
- 2 at Merle Hay and Pioneer Parkway (both bicycle)

MAP.SOCIAL ENGAGEMENT AND RESULTS

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  - Green Days

Walkability study starts in Johnston

Input Options
Results

51 + 16 (admin) = 67 contributors
214 features

Gaps in Routes

102 FEATURES
Merle Hay Rd-west side
• x6 + 14 likes
NW Beaver Dr
• x6 + 7 likes
Pioneer Pkwy
• x4 + 15 likes
NW 107th St
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21 FEATURES
• Lack of Sidewalks
  • West Merle Hay Road – 21 likes
• Pavement/Bridge Maintenance
• Crossings
• Behavior
• Speed limit
• 3 likes

Pedestrian Safety Hazard

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ADA Compliance

Miss Wheelchair Iowa: Accessibility Map

ChildServe Accessibility

As an employee of ChildServe, it is important that the children, specifically those in wheelchairs, are able to access parks, stores, and neighborhoods in the Johnston area.

Created: 2018-06-28
Modified: 2018-08-16

0 Features

Planning and Zoning Commission Presentation
Organizing the Data

- General vs. Specific
- Enforcement Issues
- Education Issues
- Policy Related
- Minor Maintenance Issues
- Major Maintenance Issues
- Capital Improvements

Engagement Results

214 features + Staff + Steering Committee + 2nd Staff Review = 166 unique features (96 lines + 70 points)

Hazards and Crossings – Urgency & Justification

- 17 “likes”
- Comments:
  - dangerous
  - no clear crossing
  - many accidents
  - poorly designed for bikes/peds
- 1 bike crash reported
  - possible injury

62nd & Merle Hay Intersection

Trail and Sidewalk Gaps – Urgency & Justification

- 23 trail gaps
- 40 sidewalk gaps

Gaps – Not in CIP

- 10 trail gaps
- 12 sidewalk gaps
Merle Hay Corridor

- 40+ "likes"
  - Trail Gap
  - Favorite Route
- Comments:
  - Concern about safety (children’s safety)
  - 3 bike crashes – fatal, major and minor injury
  - 1 ped crash – possible injury
- Future Trail Planned

Ordinance And Policy Review

<table>
<thead>
<tr>
<th>Trail Definition</th>
<th>consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trails</td>
<td>alcohol</td>
</tr>
</tbody>
</table>

Speed Regulation

- school zones

Bicycle Regulations

- bike lane vs. shared lane

Sidewalk Regulations

- responsibility
- detours

Zoning - General Regulations

- fences
- bicycle parking

Zoning - Site Plan Requirements

- criteria for waivers
- easements

Subdivision Regulations

- path from sidewalk to door

Complete Street Policy

- issues
- what to consider

Ordinance And Policy Review

Trails – Alcohol and Tobacco

48.03 ALCOHOLIC BEVERAGES PROHIBITED

Wine, beer, and any other alcoholic beverages or drinks shall not be brought, transported or otherwise carried upon or consumed upon any greenbelt, open space areas or recreation trails.

RECOMMENDATION

- Allow unopened alcohol along trail
- Prohibit tobacco usage

Sidewalk Regulations - Detours

136.09 BARRICADES AND WARNING LIGHTS

...it shall be the duty of all persons to put in conspicuous places at each end of such sidewalk and at each end of any pile of material deposited in the street, a sufficient number of approved warning lights or flares, and to keep them lighted during the entire night and to erect sufficient barricades both at night and in the daytime to secure the same.

RECOMMENDATION

When a sidewalk is blocked such that pedestrian passage is not safe or ADA compliant, a detour route should be provided.

Zoning - Site Plan Requirements

171.05 DESIGN STANDARDS

Shall have such pedestrian walkways as are necessary for safety and general the welfare

RECOMMENDATION

Requires pedestrian walkways that:

- Are separate from vehicular drive aisles
- Connect between adjacent sidewalks and trails to the front entrance(s)
Complete Streets Policy

Add National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide to the list of resources

Formalize a review process with staff

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Sidepath Trail vs. Sidewalk

What is a Sidepath Trail?

Sidepaths Trails are bidirectional shared use paths that run adjacent to the roadway, often along busy roads deemed inhospitable for biking.

When Could a Sidepath Trail be Used?

- Along high-speed/volume roads
- Along roads with very few roadway/driveway crossings
- For short distances to connect sections of a path in independent rights-of-way
- Where their termination points sit at streets that are accommodating to bicyclists or other connecting paths

Visibility Concerns

Vehicular Conflicts

Bicyclists cross faster than pedestrians

Attempts to get cyclists to stop are difficult and ineffective

Stopped motor vehicles on side streets or driveways may block the path.

Source: AASHTO (2012)
Where Should Cyclists Ride?

- Ups and downs of ramps
- Conflict with pedestrians
- Conflict with slower cyclists

Some bicyclists may find the road cleaner, safer, and more convenient. Motorists may believe bicyclists should use a sidepath.

Source: AASHTO (2012)

When Considering a Sidepath...

| Traffic volumes & speed | • High, facilities separated from the road are preferred
| Number/frequency of intersections & driveways | • High, move cyclists to sidepath or other path
| Ability to accommodate bicyclists on the roadway | • Slow cyclists at intersections & notify drivers
| Number of pedestrians or bicyclists | • Slow cyclists at intersections & notify drivers
| Anticipated types of cyclists | • Strong & Fearless, Enthusiastic & Confident, Interested but Concerned
| Location of destinations | • Consider need to cross the street

Example: Highway Sidepath Trail

- Limited driveway/roadway crossings
- Wide separation from roadway
- Only a two-lane roadway

Example: Sidepath and Bike Lane

- Space provided for both walkers and cyclists
- Ability for children/less experienced riders to use the sidepath trail while more experienced cyclists have access to the bike lane

Upcoming Meetings

- July - August Boards and Committees
  - Park Board/Tree Board (7/17)
  - Planning and Zoning Commission (7/30)
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  - School Board (8/6)
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- Steering Committee Meeting tentatively between Sept 17-18; or 24-28
  - Network / Improvement Areas
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  - Funding & Implementation

QUESTIONS?
AUGUST 06, 2018

JOHNSTON WALKABILITY STUDY
JOHNSTON COMMUNITY SCHOOL BOARD
Results
51 + 16 (admin) = 67 contributors
214 features

Engagement Results
214 features + Staff + Steering Committee
2nd Staff Review
166 unique features (96 lines + 70 points)

Trail and Sidewalk Gaps — Urgency & Justification
23 trail gaps
40 sidewalk gaps

Hazards and Crossings — Urgency & Justification

Beaver Creek Walk Zone

Horizon Elementary and Summit Middle Walk Zone
School Zone Speed Limits

63.02 STATE CODE SPEED LIMITS

The following speed limits are established in Section 321.285 of the Code of Iowa and any speed in excess thereof is unlawful unless specifically designated otherwise in this chapter as a special speed zone.

1. Business District – twenty (20) miles per hour.
2. Residence or School District – twenty-five (25) miles per hour.
3. Suburban District – forty-five (45) miles per hour.

RECOMMENDATION - Reduce speed limit in school zones during before/after school hours.

School Zone Speed Limits

<table>
<thead>
<tr>
<th>State</th>
<th>Speed Limit in School Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>25 mph</td>
</tr>
<tr>
<td>Delaware</td>
<td>20 mph</td>
</tr>
<tr>
<td>Iowa</td>
<td>20 mph</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>20 mph</td>
</tr>
<tr>
<td>Minnesota</td>
<td>No more than 10 mph below the established speed limit and not lower than 15 mph</td>
</tr>
<tr>
<td>Nebraska</td>
<td>30 mph within the posted speed limit</td>
</tr>
</tbody>
</table>

*Reduced School Area Speed Limits. “Safe Routes to School Briefing Sheets, ITE*
Speed vs Risk of Fatality

25 mph reduced to 20 mph results in 5% less risk (for ages 15+)

Considerations:
- Compliance and Enforcement
- Different from rest of metro
- Proactive
- Leader
- Transition - signage, education
- Potential of additional children walking

QUESTIONS?
Scope of Work

Meetings & Engagement
- Steering Committee Meetings (x3)
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What makes a community walkable?

- Safe Crossings
- Ped Refuges
- Buttons
- Countdown timers

Physical Separation
- Limiting conflict points

Traffic Calming
- Signage
- Wayfinding

Infrastructure
- Sidewalks/Trails
- Building facades

Walkability
- Purpose & Land Use
- Proximity of different uses

Comfort & Interest
- Weather
- Aesthetics

Recreation Destinations
- Density (jobs)

Maintenance
- Snow/ice removal

Purpose & Land Use
- Density (residential)

Building facades
- Landscape

Landscape
- Buffers

Aesthetics
- Weather

Density (residential)
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EXISTING CONDITIONS
APPENDIX  Trails Committee Presentation

Existing and Proposed Network

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Bicycle and Pedestrian Crash Data
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- 11 bicycle crashes
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- NW 107th St • x5 + 7 likes

Pedestrian Safety Hazard

21 FEATURES
- Lack of Sidewalks • West Merle Hay Road – 21 likes
- Pavement/Bridge Maintenance • x7 + 1 likes
- Crossings • x5 + 11 likes
- Behavior (speeds, alertness, pick up after pet) • x3 likes
- Speed limit • x3 likes

Problematic Intersection or Crossing

23 FEATURES
- Crossing 86th St north of 62nd Ave • x4 + 12 likes
- Crossing Merle Hay Rd @ Pioneer Pkwy (button north / trail south) • x4 likes
- Missing Sidewalk @ NW 86th St • x5 likes

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Organizing the Data

General vs. Specific
Enforcement Issues
Education Issues
Policy Related
Minor Maintenance Issues
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It shall be the duty of all persons to put in conspicuous places at each end of such sidewalk and at each end of any pile of material deposited in the street, a sufficient number of approved warning lights or flares, and to keep them lighted during the entire night and to erect sufficient barricades both at night and in the daytime to secure the same.

RECOMMENDATION
When a sidewalk or trail is impeded due to construction activities, temporary accommodations should be developed. Iowa SUDAS, Chapter 12 provides guidance.

Zoning – General Regulations

166.32 OPEN SPACE AND LANDSCAPING REQUIREMENTS
Street trees planted in the public street right-of-way shall not be counted toward fulfillment of the minimum site requirements set forth below.

RECOMMENDATION
Copy section 169.09 Merle Hay Road Corridor Overlay – In addition, street trees shall be required on all streets and paced at 50-foot intervals. The species selected should provide a shade canopy over the public right-of-way and shall be 2 to 2 1/2 inches caliper or greater in size at the time of planting.

Zoning - Site Plan Requirements

171.05 DESIGN STANDARDS
Shall have such pedestrian walkways as are necessary for safety and general the welfare

RECOMMENDATION
Requires pedestrian walkways that:
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Bicyclists cross faster than pedestrians

Attempts to get cyclists to stop are difficult and ineffective

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Where Should Cyclists Ride?

Ups and downs of ramps

Conflict with pedestrians

Conflict with slower cyclists

Source: AASHTO (2012)

When Considering a Sidepath...

| Traffic volumes & speed                     | • If high, facilities separated from the road are preferred
|                                            | • Buffer between road and sidepath
| Number/frequency of intersections & driveways | • If high, move cyclists to street or other path
|                                             | • Slow cyclists at intersections & notify drivers
| Ability to accommodate bicyclists on the roadway | • Shared lanes, bike lanes, separated lanes, etc.
|                                             | • Number of travel lanes
| Ability for cyclists to use alternative route/parallel streets | • Consider bicycle facilities on parallel route
| Number of pedestrians or bicyclists        | • If high, move cyclists to bike-only facility
| Anticipated types of cyclists              | • Strong & Fearless, Enthused & Confident, Interested but Concerned
| Location of destinations                   | • Consider need to cross the street

Example: Highway Sidepath Trail

Limited driveway/roadway crossings
Wide separation from roadway
Only a two-lane roadway

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JOHNSTON WALKABILITY STUDY

City Council
November 5, 2018

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Meetings & Engagement
- Steering Committee Meetings (x3)
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Network Analysis
- Existing Conditions
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EXISTING AND PROPOSED NETWORK

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  - x5 +7 likes
- Behavior
  - mopeds, alertness, pick up after pet – 3 likes
- Speed limit
  - 3 likes

PEDESTRIAN SAFETY HAZARD

21 FEATURES
- Lack of Sidewalks
- Pavement/Bridge Maintenance
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Education Issues
Policy Related
Maintenance Issues
Capital Improvements
Engagement Results

214 features
+ Staff
+ Steering Committee
2nd Staff Review
= 166 unique features
(96 lines + 70 points)

Legend
Points of Interest
(!) Beautification Needed
(!) Problematic Intersection or Crossing
(!) Pedestrian Destination
(!) Pedestrian Safety Hazard
Areas of Interest
Corridor of Concern
Sidewalk Gap
Trail Gap
( ) Farmer's Pedestrian Route
( ) Acreage
( ) Johnston Boundary
( ) Roads

Walkability Recommendations

Infrastructure Recommendations - High Urgency

Infrastructure Recommendations - Medium Urgency

Infrastructure Recommendations - Low Urgency

INFRASSTRUCTURE AND COSTS
### Trail and Sidewalk Costs

<table>
<thead>
<tr>
<th>Trail Type</th>
<th>Heuristic Cost per Mile</th>
<th>Elements</th>
<th>Modification Factor</th>
<th>Resulting Cost per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved Trail - 10' wide</td>
<td>$450,000</td>
<td>Former RR Grade 0.5</td>
<td>0.5</td>
<td>$325,000</td>
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<tr>
<td>(Independent alignment)</td>
<td></td>
<td>Flat terrain 0.7</td>
<td>0.7</td>
<td>$315,000</td>
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<tr>
<td></td>
<td></td>
<td>Rolling terrain 1</td>
<td>1</td>
<td>$450,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hilly terrain 1.5</td>
<td>1.5</td>
<td>$675,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Along streambank 1.8</td>
<td>1.8</td>
<td>$810,000</td>
</tr>
<tr>
<td>Paved Sidewalk - 10' wide</td>
<td>$325,000</td>
<td>Along urban roadway 1</td>
<td>1</td>
<td>$325,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Along rural roadway 1.6</td>
<td>1.6</td>
<td>$520,000</td>
</tr>
</tbody>
</table>

### Enhanced Visibility Crosswalks

- **High-visibility crosswalk markings**
- **Pedestrian markings**
- **Imagery nightlights**
- **Symbolic crosswalk signs and yield (signs only)**
- **Crosswalk warning signs**
- **Pavement marking**

**Est Construction Cost:**
- Standard: $100 – $2,000 per crosswalk
- Continental: $750 – $1,500 per crosswalk

**Lifecycle:** 1 – 3 years

- **Est. Construction Cost:** $1,000 – $1,750 per crosswalk warning signage
  - **Lifecycle:** 5 – 10 years

### Pedestrian Countdown Timers

**Est Construction Cost:** $1,500 – $2,000 / signal

**Lifecycle:** 15 – 20 years

### Rectangular Rapid Flashing Beacon (RRFB)

**Est Construction Cost:** $10,000 – $20,000 / pair

**Lifecycle:** 5 – 10 years
### HAWK Signals

**Ankeny - High Trestle Trail**

- Est Construction Cost: $90,000 - $175,000
- Lifecycle: 15 - 20 years

### Raised Crosswalk

**Midblock – Des Moines**

- Driveway - Minneapolis

- Est Construction Cost: $10,000 - $25,000
- Lifecycle: 20 years

### Raised Intersection

**Cambridge, MA**

- **New Jersey**

- Est Construction Cost: $50,000 - $100,000
- Lifecycle: 20 years

### Pedestrian Refuge Island

**Est Construction Cost: $5,000 - $40,000**

- Lifecycle: 20 years

### Curb Extensions

**Mid Block - Johnston**

- Est Construction Cost: $5,000 - $20,000
- Lifecycle: 20 years

### Funding Calendar

<table>
<thead>
<tr>
<th>Due Date</th>
<th>Program</th>
<th>Project Types</th>
<th>Max Award</th>
<th>Match Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 15 (quarterly thereafter)</td>
<td>Community Attraction and Tourism (CAT)</td>
<td>trails, tourism</td>
<td>10-20% of the final total, not to exceed $1 Million</td>
<td>50%</td>
</tr>
<tr>
<td>February</td>
<td>Periodic Meadows Community Investment (PMCI)</td>
<td>trails, economic development</td>
<td>$56,500</td>
<td>50%</td>
</tr>
<tr>
<td>April 1</td>
<td>Moscow-Madison Community Pathway (MCP)</td>
<td>trails, bicycle infrastructure</td>
<td>$3,000</td>
<td>50%</td>
</tr>
<tr>
<td>May 15</td>
<td>Waterway Mitigation Grant</td>
<td>trails, quality of life improvements</td>
<td>$150,000</td>
<td>100%</td>
</tr>
<tr>
<td>May 16</td>
<td>Iowa Great Places</td>
<td>trails, quality of life improvements</td>
<td>$150,000</td>
<td>100%</td>
</tr>
<tr>
<td>May 16</td>
<td>AARP Community Challenge</td>
<td>transportation and mobility projects, permanent and temporary improvements for communities, walkability, bicyclability, and access to transit</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>July 1</td>
<td>State Recreational Trails</td>
<td>None specified</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>August 15</td>
<td>Resource Enhancement and Protection (REAP)</td>
<td>trails, restrooms, parks</td>
<td>$25,000 (per site with projects between 10,001 and 25,000)</td>
<td>50%</td>
</tr>
<tr>
<td>August 16</td>
<td>Traffic Safety Improvement Program (TSIP)</td>
<td>traffic safety improvements</td>
<td>$150,000</td>
<td>50%</td>
</tr>
<tr>
<td>October 15</td>
<td>Federal Recreational Trails</td>
<td>None specified</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>October 17</td>
<td>Iowa Clean Air Assistance Program (IAAAP)</td>
<td>highways/interstate, transit, bicyclists</td>
<td>None specified</td>
<td>20%</td>
</tr>
<tr>
<td>November 2</td>
<td>America Walks Community Change Grants</td>
<td>projects creating healthy, active, and engaged places to live, work, and play</td>
<td>None specified</td>
<td>100% of grant awarded</td>
</tr>
<tr>
<td>December 1</td>
<td>Statewide BTIP</td>
<td>trails, pedestrian, bicycle improvements, safe routes to schools, access to transit</td>
<td>None specified</td>
<td>20%</td>
</tr>
<tr>
<td>December 7</td>
<td>EZMAPS TIP</td>
<td>trails, pedestrian, bicycle improvements, safe routes to schools, access to transit</td>
<td>None specified</td>
<td>20%</td>
</tr>
<tr>
<td>December</td>
<td>Surface Transportation Block Grant Program (STBG)</td>
<td>trails, pedestrian, bicycle improvements, safe routes to schools, access to transit</td>
<td>None specified</td>
<td>20%</td>
</tr>
</tbody>
</table>
Zoning – General Regulations

166.32 OPEN SPACE AND LANDSCAPING REQUIREMENTS

Street trees planted in the public street right-of-way shall not be included in the calculation of the minimum site requirements set forth below.

RECOMMENDATION

Copy section 169.09 Merle Hay Road Corridor Overlay –

In addition, street trees shall be required on all streets and placed at 50-foot intervals. The species selected should provide a shade canopy over the public right-of-way and shall be 2 to 2 ½ inches caliper or greater in size at the time of planting.

Sidepath Trail vs. Sidewalk

Sidepaths Trails are bidirectional shared use paths that run adjacent to the roadway, often along busy roads deemed inhospitable for biking.

Challenges with Sidepath Trails

- Encourage wrong-way riding on streets where the path begins/ends
- Additional road crossings may be required
- Signage and signals are not oriented toward contra-flow cyclists
- Left turns are difficult for cyclists
- Path width often constrained by existing objects
- Bicyclists are not within normal visual scanning area of turning vehicles

Source: AASHTO (2012)

Zoning - Site Plan Requirements

171.05 DESIGN STANDARDS

Shall have such pedestrian walkways as are necessary for safety and general the welfare

RECOMMENDATION

Requires pedestrian walkways that:
- Are separate from vehicular drive aisles
- Connect between adjacent sidewalks and trails to the front entrance(s)
When Considering a Sidepath…

<table>
<thead>
<tr>
<th>Traffic volumes &amp; speed</th>
<th>Traffic volumes &amp; speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>If high, facilities separated from the road are preferred</td>
<td>Buffer between road and sidepath</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number/frequency of intersections &amp; driveways</th>
<th>Number/frequency of intersections &amp; driveways</th>
</tr>
</thead>
<tbody>
<tr>
<td>If high, move cyclists to street or other path</td>
<td>Slow cyclists at intersections &amp; notify drivers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability to accommodate bicyclists on the roadway</th>
<th>Ability to accommodate bicyclists on the roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared lanes, bike lanes, separated lanes, etc.</td>
<td>Number of travel lanes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability for cyclists to use alternative route/parallel streets</th>
<th>Ability for cyclists to use alternative route/parallel streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider bicycle facilities on parallel route</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of pedestrians or bicyclists</th>
<th>Number of pedestrians or bicyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>If high, move cyclists to bike-only facility</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anticipated types of cyclists</th>
<th>Anticipated types of cyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong &amp; Fearless, Enthusiastic &amp; Confident, Interested but Concerned</td>
<td>Consider need to cross the street</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location of destinations</th>
<th>Location of destinations</th>
</tr>
</thead>
</table>

Maintenance Guidelines

- Trail Inspections
- Plowing/Sweeping/Blowing
- Pavement Markings
- Riding/walking surface
- Gutter to Pavement Transitions
- Drainage Grates and Culverts
- Drainage
- Pavement Overlays
- Signage
- Landscaping

QUESTIONS?
PEDESTRIAN DESTINATIONS

To first assess the network, we need a clear understanding of what types of destinations people are trying to reach. This also helps us understand if most walking is done for transportation or recreational purposes. The map.social results shows that most people were waking to parks (e.g. Terra, Dewy, Morningside, Lew Clarkson, Green Meadows) and many were walking to the library. Schools were also a popular destinations as were Van Dees Ice Cream, Starbucks, and Panera Bread.

<table>
<thead>
<tr>
<th>Destination</th>
<th># of Mentions</th>
<th># of Up Votes</th>
<th># of Down Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panera Bread / Johnston Station shops</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Van Dees Ice Cream</td>
<td>2</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Dewey Park</td>
<td>3</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Park in Green Meadows</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Schools</td>
<td>4</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Public Library</td>
<td>7</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Morningside Park</td>
<td>2</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Walgreens</td>
<td>1</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>Downtown</td>
<td>1</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Terra Park</td>
<td>3</td>
<td>24</td>
<td>–</td>
</tr>
<tr>
<td>Softball Fields</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Bridge over Beaver Creek</td>
<td>1</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Lew Clarkson Park</td>
<td>1</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Starbucks</td>
<td>1</td>
<td>8</td>
<td>–</td>
</tr>
<tr>
<td>Parks near NW 107th &amp; NW 78th</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Heartland Stables</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pioneer Hi-Bred International</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Map.social Data - Pedestrian Destinations

Legend
- Pedestrian Destination
- Schools
- Library
- City Boundary
- Waterbody
- Parks and Open Space
- Roads

Heartland Stables
Neighborhood to Parks
Neighborhoods to High School
Pioneer Hi-Bred
Terra Park
Lew Clarkson Park
Starbucks
Morningside Park
Dewey Park
Downtown Johnston
Van Dees
Panera / Johnston Station
Softball Fields
FAVORITE PEDESTRIAN ROUTES

In addition to destinations, the routes that people currently enjoy walking indicate the characteristics that create a pleasant walking route, including a combination of purpose and comfort. Most of the favorite routes are short, local routes. The reasons for walking varied – some were purely recreational, while others had a clear destination in mind. A couple of respondents noted the connection to the Neal Smith Trail for regional connectivity.

<table>
<thead>
<tr>
<th>Title</th>
<th>Comment</th>
<th># of Up Votes</th>
<th># of Down Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood</td>
<td>Neighborhood route</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Pioneer Parkway</td>
<td>needs bike lanes and sidewalks now!</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>common route</td>
<td>wife and toddler do this weekly+ sadly most of it is on the road</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>winding, tree-shaded sidewalk</td>
<td>This is a great example of a good ped route, the sidewalk is set back from the street and it is well shaded with good tree cover. It is also fun since it winds through the trees, a real hidden gem</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Home to Library</td>
<td>Bike/walk to Johnston Public Library</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>East side Beaver</td>
<td>Crucial to hooking up with Neil Smith and rest of Johnston</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Bent Tree Loop</td>
<td>Sidewalk on Ridgeview dr to trail. Loop up to Horizon school and then return via NW 96th, NW 54th, NW 93rd to Bent Tree Villas’ N. Entrance.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Eagle Ridge Development to Neal Smith Trail</td>
<td>We love the access over the Kempton Bridge for bikes now.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Terra Lake walk</td>
<td>Home to Terra Lake Park and back</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Home to Panera Bread</td>
<td>Panera walk</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Walking</td>
<td>Neighborhood Route</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Wallace, Walgreens etc.</td>
<td>Walking</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Van Dees Route</td>
<td>Ice Cream</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Terra Park</td>
<td>Park</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Starbucks walk</td>
<td>3-4 Times a week walk to Starbucks and back</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
GAPS IN PEDESTRIAN ROUTES

This topic had the most comments by far, with 102 individual lines added to the map.social platform. As such, the map does not have each comment listed on it, but a heat map has been added to identify areas of significance regarding pedestrian gaps.

The most common areas were the west side of Merely Hay Road (6 mentions, 14 likes), Pioneer Parkway (4 mentions, 15 likes), NW Beaver Drive (6 mentions, 7 likes), and NW 107th Street (5 mentions, 7 likes).

<table>
<thead>
<tr>
<th>Title</th>
<th>Comment</th>
<th># of Up Votes</th>
<th># of Down Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Trail/Sidewalk</td>
<td>No trail along Pioneer Parkway</td>
<td>6</td>
<td>–</td>
</tr>
<tr>
<td>Pioneer Parkway</td>
<td>Sidewalk/Trail badly needed along Pioneer Pkway...very dangerous route!</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>Anne’s Trail Gap</td>
<td>Make a trail connection between Merle Hay and Beaver</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>Merle Hay Gap</td>
<td>Merle Hay Gap</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>trail gap</td>
<td>Lack of sidewalk on the west side of Merle Hay requires walking/running/biking on grass, snow, mud, or busy street</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>West Merle Hay Road</td>
<td>Sidewalks West Merle Hay</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>sidewalk gap 3</td>
<td>Anyone coming from Green Meadows development has to cross busy road or run/bike along road to get to Terra Park. Very Awkward and dangerous.</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>Trail System Access</td>
<td>Access to trail system without crossing Merle Hay Rd</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>Amy’s Sidewalk Gap 2</td>
<td>Sidewalks needed from Crosshaven to JHS</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Sidewalk/Bike Path needed</td>
<td>Sidewalk/Bike Path needed to connect 54th St to the bike path on 62nd. Also, 100th St towards Urbandale is a natural connector to the Inter-Urban and Walnut Creek bike trails. As the area construction completes, expect increased bicycle and pedestrian traffic.</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>No sidewalk</td>
<td>Busiest Street with out a sidewalk</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>107th Street</td>
<td>Missing sidewalk</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>missing sidewalk</td>
<td>Sidewalk is incomplete (west side) or nonexistent (east side) of 86th</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Missing bike path here</td>
<td>Need a sidewalk or bike path on Beaver please :) it would be nice to bike to lower Beaver or to NW 70th paths.</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Bike path here please!</td>
<td>It would be awesome to link up to the Neal Smith trails and soccer complex from Beaver. Thanks!</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>missing sidewalk north of horizon</td>
<td>include good setback from road 10ft+ where possible and include trees</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>random 10ft of missing sidewalk</td>
<td>this section is missing</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Needs Sidewalk</td>
<td>Add a sidewalk along NW 107th St. to connect neighborhood to NW 70th Ave. It’s dangerous to walk in the street.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>no trail or sidewalk</td>
<td>can’t safely come into Johnston over the bridge</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>trail dead ends</td>
<td>needs to connect</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>sidewalk gap 3</td>
<td>Coming from Merle Hay road to Terre Pkg no sidewalk or direct route to connect with Terre Park trailhead</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>No sidewalk near Lawson Elementary</td>
<td>How on earth is there no sidewalk next to an elementary school? This is absurd.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Amy’s Sidewalk Gap 3</td>
<td>A direct sidewalk route on 107th Street from 70th Ave to 82nd St.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>NW beaver drive sidewalks</td>
<td>No sidewalks to Dewey park or a associated bike or walking paths. Trail will be completed in a few years, but still no sidewalks for east of Merle Hay older neighborhoods and our taxes are the same as all of Johnston.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>No sidewalks</td>
<td>No sidewalks</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Beaver Drive Trail Extension</td>
<td>South/East of 70th St</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>NW 78th Gap in Sidewalk 2</td>
<td>No sidewalk on either side of inclined road, ditch on one side of road forces people to walk/bike on street</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>NW 78th</td>
<td>Missing sidewalk</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>NW 78th Gap in Sidewalk</td>
<td>No Sidewalk on either side of rode</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Sidewalk gap</td>
<td>A sidewalk is needed along 78th Ave to connect between Chesterfield Heights and the Crosshaven Development</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>gap in pedestrian route between trail/park</td>
<td>have to walk 1 block of 54th ct (which needs policing on speed control, especially due to abundance of road parking just north of 64th. and then you have to walk another block east before being able to get to a sidewalk, again where there is an abundance of road side parking which means you are walking with your child in the middle of the road.</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Add sidewalk</td>
<td>Sidewalk connection needed</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>missing sidewalk</td>
<td>Keep a good setback from the road and include trees with most on the south side</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>missing sidewalk</td>
<td>where possible, set back from road, 10+ feet or more, add trees</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>dead end trail from park</td>
<td>extend to future sidewalk on 100th north of horizon</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>JMS to Library</td>
<td>It would be really nice to connect Wallace/JMS to the library with a safer and more pleasant route.</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Add Sidewalk</td>
<td>Connect neighborhood and allow safer access to trail that leads to park.</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>library access</td>
<td>sidewalk/bike trail needed to reach library</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Missing sidewalk west side of 86th street</td>
<td>Sidewalks is missing on the west side of 86th street north of NW 53rd Place</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Need sidewalk connection to NW Beaver</td>
<td>Need a connection from Northglenn Way to future NW Beaver trail. Currently the only connection is to walk west to intersection with Merle Hay Road</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Need Sidewalk on North Side</td>
<td>Sidewalk is Needed on the North Side of this Road to Prevent Unnecessary road crossings.</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Sidewalk Needed</td>
<td>Sidewalk Needed on West Side of Road</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Sidewalk Needed on North Side of Road</td>
<td>Lacking continuity along 70th between 86th and 100th street. Maybe this will improve with road repairs but 70th must be crossed several times to keep on pavement. Many people run, walk and bike along this area. This am I saw four people the short time I was ran by the area.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>sidewalk gap</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access from Merle Hay to city bike path</td>
<td>Merle Hay/Johnston Station route</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Merle Hay to Johnston Library</td>
<td>No continuous sidewalk along Merle Hay to Johnston Library, very dangerous!!</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Deb’s sidewalk gap</td>
<td>no safe bike/ped connection to get to library</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Amy’s Sidewalk Gap</td>
<td>Need to connect Horizon to JHS</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Sidewalk / Bike path needed</td>
<td>Some type of cyclist/pedestrian path is needed on NW Beaver between 70th and the bike trail on 66th towards Sycamore. There is an excellent path along 70th, but no protected path to connect to the Sycamore area...which then allows cyclists and pedestrians access to the broader network of trails</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>No Crosswalk</td>
<td>No crosswalk on southern side of road</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>No Trail</td>
<td>Trail has been &quot;planned&quot; for the 10 years i have lived here</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>No sidewalks</td>
<td>No sidewalks</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Biking in street required</td>
<td>Trail dumps into street on Foxboro and cyclists must ride in street for several blocks to reconnect to trail. Sidewalk is quite narrow. Drivers very unfriendly and give very narrow width for cyclists. Several experiences with this area last summer!</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>86th Street</td>
<td>Needs connection to 86th</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Green Meadows to Lew Clarkson</td>
<td>Softball</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Green Meadows to Pioneer</td>
<td>Work</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Missing Sidewalk</td>
<td>The Sidewalk runs directly into a wooden fence... No easy option to get to the street to continue to NW Beaver Dr.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Dewey Park To Beaver Dr</td>
<td>Connect Dewey Park To Beaver Dr.</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Route to Door - Library</td>
<td>need a pedestrian path across parking lot to front door</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Sidewalk Gap</td>
<td>no sidewalk due to communications device. need a sidewalk to be ADA compliant</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>NW 107th</td>
<td>No sidewalk on NW 107th to connect to 70th ave</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Needs to connect to Urbandale</td>
<td>incomplete unsafe area to travel</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Incomplete unsafe area for pedestrians</td>
<td>really poorly laid out from a city perspective</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Incomplete trails linking to each other</td>
<td>really poor planning from the city. Lots of cars and bikes travel on narrow sidewalk</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>How dumb is the city for not having sidewalks here</td>
<td>There is a school here with 0 sidewalks or bike path on a major connecting east west route.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A child died here.</td>
<td>This one is completely on poor planning with no connection from the library along a major north south intersection</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>this would greatly open up safety for access</td>
<td>likely private property, haven’t looked at the assessors page. bad planning allowing that house to build on 66th there where a road/walkway would have been really nice to have to connect park to community to the north</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Missing sidewalk</td>
<td>Difficult to get over to Green Meadows without this complete.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Neighborhood trail</td>
<td>Would be helpful to Horizon parents for walkers from this Johnston/Grimes neighborhood</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connection to Beaver Ave Bridge Trail</td>
<td>Connection to Beaver Ave Bridge</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connect Developments</td>
<td>Connection needs between developments</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connect Development trail to main trail</td>
<td>No safe route to travel between development trail and main bike trail</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Change Merle Hay/62nd Sidewalks to Bike Trail</td>
<td>Busy road esp with more school children walking to school, establishment of a bike trail on this corridor would promote safety</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Extend Trail to Library</td>
<td>Extend trail to city hall and fire station with cross near library across Merle Hay</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connect Development Trail to Beaver Ave</td>
<td>Connect Development Trail to Beaver Ave</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Pioneer Parkway to Trail</td>
<td>Connection to Pioneer Parkway, adds a safe connection for townhome and Pioneer Parkway residents to access main trail.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connection to Beaver Ave from main trail</td>
<td>Connection to beaver Ave, would add safe bike route to softball fields</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Softball Fields Loop</td>
<td>Loop around softball fields between Beaver Ave and Johnston Dr</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connection to Softball Fields</td>
<td>Extend trail to Softball fields</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Beaver Ave Trail Extension</td>
<td>Continue Beaver Ave Trail southeast</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Loop around Vandees and Cactus Bobs</td>
<td>Loop around food destinations</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Connection to Dewey Park</td>
<td>Connection to Dewey Park Loop</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Beaver to Dewey Park</td>
<td>Connection to Dewey Park from Beaver Ave</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Beaver to Soccer Fields</td>
<td>Safe ravel to soccer fields</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>River Crossing</td>
<td>Add a bike bridge by soccer fields and connect to existing trail</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Sidewalk needed</td>
<td>Gap in sidewalk on east side of street</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>sidewalk gap 2</td>
<td>62 nd between the fire station and the apartment complex on the north side. Either have to cross the road or go around area through neighborhood with school buses and lots of traffic.</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
## Map.social Data - Gaps in Pedestrian Routes

<table>
<thead>
<tr>
<th>Title</th>
<th>Comment</th>
<th># of Up Votes</th>
<th># of Down Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sue - sidewalk gap 3</td>
<td>Coming from Merle Hay road to Terra Pk no sidewalk or direct route to connect with Terra Park trailhead</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>sidewalk gap 4</td>
<td>Wish list would be some west connection between 62nd and 70th along 141 or at least west of high school.</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Sidewalk gap 2</td>
<td>connection to Heartland Stables</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No Sidewalk</td>
<td>There is no sidewalk to get out of the Eagle Ridge neighborhood. When my husband takes our children in a bike trailer, he has a very hard time getting to the sidewalk at Beaver and Eagle Ridge Dr to press the signal button.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gaps in sidewalk on Greendale Rd</td>
<td>Greendale Rd/Pioneer Pkwy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Missing sidewalk</td>
<td>54th Street Sidewalk Gap</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NW 54th Ct Sidewalk</td>
<td>NW 54th Ct Sidewalk</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NW Beaver</td>
<td>Missing sidewalk</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Valley Pkwy</td>
<td>Needs connection to north</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Missing Sidewalk</td>
<td>The Sidewalk come to an end without any notice.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Johnston Commons Trail</td>
<td>Trail access from North Johnston Commons</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dewey Park Trail</td>
<td>Dewey Park Trail Connection</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No sidewalk</td>
<td>No sidewalk on west side of 86th</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No sidewalk</td>
<td>No sidewalk</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Highland Summit</td>
<td>Our neighborhood (off NW 107th Street) is relatively new and small. It’s not connected to any other sidewalks outside of the neighborhood. The pedestrian and bicycle mobility is virtually non-existent. We’d appreciate it very much if the connectivity and mobility for our neighborhood can be improved soon.</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Map.social Data - Gaps in Pedestrian Routes
PEDESTRIAN SAFETY CONCERNS

The safety concerns addressed different types of issues and fell into a few categories:

• Infrastructure – Items related to presence of pedestrian facilities. For example, lack of sidewalks along the west side of Merle Hay Road was considered a safety hazard as well as a “gap” as noted in the prior map. Crosswalks were also a noted concern.
• Maintenance – Items related to condition of existing infrastructure. Comments were particularly related to pavement conditions and bridge maintenance.
• Behavior – Items related to behavior of individuals. This included a variety of behaviors, such as mopeds on the trail, motorist alertness at intersection, and responsibility for picking up after one’s pet.
• Policy – Items related to city policy or ordinance. For example, one comments noted a speed limit concern.

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</thead>
<tbody>
<tr>
<td>Excessive Speed</td>
<td>This is a residential neighborhood. Speed Should be 35 until you get west to Camp Dodge Entrance.</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>No markings</td>
<td>No markings on the road going across road to ball park. The sidewalk on east side does not drain water. have to walk through the mud.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Grimes/Johnston corner</td>
<td>Round-about</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>West Merle Hay Road</td>
<td>No sidewalks</td>
<td>21</td>
<td>–</td>
</tr>
<tr>
<td>fixit</td>
<td>no sidewalk (Merle Hay Rd)</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>problematic crossing</td>
<td>62nd and Merle Hay poorly designed crossings for bikes and pedestrians</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>bridge maintenance</td>
<td>Very poor repair with broken planks and rotten wood. Very scary to run can not imagine getting a bike across.</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Broken sidewalk</td>
<td>The sidewalk is broken around the manhole</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Merle Hay/62nd: Improve driver alertness</td>
<td>I’ve witnessed many near accidents involving bikers and pedestrians. Drivers don’t seem particularly alert or watchful. Many don’t even turn their heads to look for oncoming traffic.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Crossing Needed</td>
<td>Those on the South Side of 62nd Do Not Have a Safe Crossing Point to Get into the Trail Head on the North Side of the Road.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>-----------------------------</td>
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<td>-----------------</td>
</tr>
<tr>
<td>Soccer Fields</td>
<td>Wondering why a bridge wasn’t created when Beaver Ave/Kempton Bridge was re-constructed to allow for pedestrians to cross the soccer fields. Instead we have police officers directing traffic every weekend.</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Missing Sidewalk w rough terrain</td>
<td>I have fallen here, my son has fallen off his bike here. This section could cause a serious injury. The ground is uneven, and if you do not know the sidewalk has a random section missing, it’s hard to see.</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Mopeds on the Trail</td>
<td>I often see you people driving mopeds on the bike trails. This section is especially bad.</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>problematcic crossing</td>
<td>by feed store and sr. housing, no clear crossings, People walking to Walgreens, etc.</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Green Meadows</td>
<td>neighborhood sidewalks needing replacement</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Green Meadows West</td>
<td>neighborhood sidewalks needing replacement</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Merle Hay - children’s safety</td>
<td>concern about children’s safety along Merle Hay</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Curb in sidewalk ramp</td>
<td>It’s a split walk with a divider curb about 2 feet long in between the entrance. I’ve witnessed 2 accidents there, where they thought the whole entrance was open. I had to call an ambulance for the one guy. Bikers come across the street &amp; hit that divider head on. It needs to be removed or painted yellow</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>GreenMeadowsWest_pavement</td>
<td>There is a bike trail that runs thorough the big prairie area in Green Meadows West. The trail is asphalted. This may be low on city priorities, but sealing cracks and seal coating the path might help to delay its deterioration. Some of the cracks are growing quite wide. I hope this helps.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>large gap in trailway</td>
<td>have caught stroller wheel on this many times and even fell over with toddler once. near top of hill by sidewalk</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>dog poop</td>
<td>neighbors around here could use some policing...</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5766 Northglenn Dr, Johnston</td>
<td>The bike trail just West of the Mid American Compound was badly damaged by heavy equipment and needs repaired for safety reasons. Thanks (Note: This item was added as a comment without an associated feature on the map)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
## PROBLEMATIC INTERSECTION OR STREET CROSSING

There were several crossing locations noted as problematic. Many of these points were associated with crossing Merle Hay Road and NW 86th Street.

<table>
<thead>
<tr>
<th>Title</th>
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<th># of Down Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newgate &amp; 86th Crossing</td>
<td>Crossing 86th street</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Crossing 62nd/86th street any direction</td>
<td>No cross walks...crossing signal too short (and we are fast walkers)...cars turning not looking</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Missing sidewalk</td>
<td>Sidewalk is missing between the apartments and new commercial development</td>
<td>8</td>
<td>–</td>
</tr>
<tr>
<td>problematic crossing</td>
<td>walk button is on north. Problematic for walkers and bikers.</td>
<td>7</td>
<td>–</td>
</tr>
<tr>
<td>Bad intersection for bicycles</td>
<td>This doesn’t connect to the trails well. No way to safely get to Dewey park or Library</td>
<td>7</td>
<td>–</td>
</tr>
<tr>
<td>Must ride in street</td>
<td>Crossing eastbound on Windsor Pkwy to reconnect with trail at park on Windsor Dr requires riding on street</td>
<td>6</td>
<td>–</td>
</tr>
<tr>
<td>Missing sidewalk</td>
<td>A section of the sidewalk is missing next to Johnston dentist</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>Missing sidewalk connection</td>
<td>Missing sidewalk connecting Prairie Place and NW 51st Street</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>Morningside &amp; Merle Hay</td>
<td>closest park to Johnston Commons is an unprotected intersection. To make things worse cars are often traveling 10 mph over the posted speed of 35.</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>crossing at Augustin</td>
<td>Crossing between Green Meadow north, Beaver Creek grade school to Augustin development and Beaver Creek trail head along river. There is a lot of traffic esp with 70th being torn up. VERY dangerous but only way to connect to beautiful trail and for school kid in Augustin development to cross for school.</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Title</td>
<td>Comment</td>
<td># of Up Votes</td>
<td># of Down Votes</td>
</tr>
<tr>
<td>-------</td>
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<td>----------------</td>
</tr>
<tr>
<td>Heidi’s Comment</td>
<td>The cross walk at Merle Hay Road and Winwood Drive as you leave Bishop Drumm, heading across the street to go to VAN DEES! The timer for the walk is not long enough for families to cross to go get ice cream. The light turns to Don’t Walk about midway through and everyone panics...the adults, the kids, etc. It’s very dangerous for walking families and bike riding families. The time needs to be doubled during the spring and summer when Van Dees is open.</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>No pedestrian Crossing</td>
<td>No crossing if going west. (NW 70th Ave trail)</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>No sidewalk exit/ ramp</td>
<td>There is no ramp/exit in the sidewalk here in order to cross the street on a bike, wheelchair or stroller</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>Add pedestrian activated flashing crosswalk</td>
<td>four lane road difficult for safe pedestrian crossing (Wooded Point Dr @ NW 86th)</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>add pedestrian activated flashing ped crossing</td>
<td>wide four lane road difficult to cross safely (Newgate @ NW 86th)</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>faraway crossing</td>
<td>dangerous crossing for bikes (@ Lawson?)</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Soccer fields</td>
<td>dangerous crossing with new trail coming soon</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Crossing between Fareway and VanDees</td>
<td>Adding a Ped Crossing light would be helpful esp in summer months</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Pioneer Pkwy Crossing</td>
<td>Crossing to get to Terra park needs safety improvement</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>North Glen Drive-Library</td>
<td>kids run across the street in a random path to get to library; add painted crosswalk?</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>62nd Crossing to Walgreens</td>
<td>people crossing from apartments to Walgreens need better delineated crossing point</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
BEAUTIFICATION NEEDED

Recognizing that aesthetics contributes to walkability, the survey allowed comments regarding areas needing beautification.

Some of these comments were related to the land use of the area, such as the strip mall, an unwelcome business, and an unsightly fenced yard.

Other comments were related to landscaping, signage, and maintenance.

<table>
<thead>
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</table>
Map: Social Data - Beautification Needed

- Add "Welcome to Johnston" sign
- Erosion control / talk to channel
- Back-up onto path
- Business not suitable for neighborhood
- Strip mall unsightly
- Add doggy poop bag station / trash bin
**OTHER**

A few items did not seem to fit in the pre-defined categories. This included comments on routes, wayfinding signage, creek access, and habitat protection.

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</tr>
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<tbody>
<tr>
<td>Duck Habitat</td>
<td>Stop cutting back the brush here as ducks raise young here every year.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Safe bike route to NW 66th</td>
<td>Need clear route from trails north to NW 66th</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>Very Abrupt bridge entrance</td>
<td>Eastbound bridge entrance is unsafe and quite abrupt.</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>maintain</td>
<td>trail needs to be repaired and widened</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>no signs nor routes clear</td>
<td>throughout the city more signage is needed and several 911 trail signs are broken.</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>new development here</td>
<td>roadway missing fro map.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Narrow Sidewalk</td>
<td>Sidewalk is very narrow.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Directional Sign</td>
<td>This map is a little confusing - a pointing sign would help avoid walking/riding on Pioneer. (personal experience)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>south of Johnston Drive</td>
<td>A useful access to Beaver Creek?</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
OVERALL COMMENTS

There were two particularly noteworthy comments that did not point to a particular location. Both of these comments relate to the importance of providing accessible routes for individuals of all ages and abilities.