# CEDAR RAPIDS COMPREHENSIVE TRAILS PLAN

January 2012

CEDAR RAPIDS
City of Five Seasons

SHIVEHATTERY
ARCHITECTURE + ENGINEERING


CEDAR TRAILS
CEDAR TRAILS

# TABLE OF CONTENTS

# PROJECT BACKGROUND

The aging of the baby-boomer population, the increase in overall health cost - much driven by obesity, the economic downturn - all resulting in a chorus for a more sustainable life style, have created a new demand for a transportation system that addresses the concerns of pedestrians and bicycles. For decades the transportation dollars from taxpayers has gone to providing roadways designed to accommodate motorized vehicles. Many roadways discriminate against non-motorized uses.

The last time gas prices had a significant impact on our driving habits here in the United States, bicycling was largely thought of as a recreational activity and the few accommodations constructed were off road trails.

As the world has become smaller and more of us are moving to urban centers the demand for roadways that support many modes of transportation is increasing. The most obvious and cost effective method to achieve equity is to modify existing roadways and/or construct cycle and pedestrian accommodations with new roadways. The Cedar Rapids City Council on August 12, 2009 by Resolution No. 0782-08-09 agreed to develop a Comprehensive Trails Plan. The plan is to create a multi-modal network to connect neighborhoods and other destinations in the City. The goal was also to provide a strategy for pro-active implementation and long term maintenance.

The most recent trail planning document adopted by the Cedar Rapids City Council was MATS, the Metro Area Trails System. This document identified a system of primarily recreational trails in a wheel and spoke like configuration which provided the basis for periodic updates since it's adoption in 1993. These updates were created by the Bicycle Advisory Committee (BAC) and have been incorporated into this planning process.

Cedar Rapids currently has a recreational trails system, however it lacks a comprehensive system of trails for commuting, recreation and accessing life style services. It has been a commonly agreed upon tenet throughout this project that true multi-modal connectivity needs to consider all levels of pedestrian and bicycle users. While some routes may be primarily recreational in orientation, the expressed need is to establish walking and biking as legitimate and equal forms of transportation as motorized vehicles. When we introduce these modes to the current motorized based network of roadways we need to assure that the basic safety and efficiency of the existing transportation network stays intact.

Key strategies of the plan are to create a trails network accessible within ten minutes walking time of every household in Cedar Rapids. This network will be defined by maps, signage and have a nomenclature assigned to it. Many of the segments will involve the redefinition of existing streets. This redefinition could be as simple as adding signage and roadway markings. In some cases it may involve surface overlays and upgrades, widening or sidewalk development. The ultimate goal of the Primary Connectivity Network is to increase walking and biking to work, school, shopping, church and other community activities. It is time to make non-motorized transportation safe and convenient.

It is the intent of the Trails Steering Committee to implement policy in regards to community design during the development of the Cedar Rapids Comprehensive Trails Plan. This process will not only identify a multimodal network it will provide bus access, work place secure bicycle parking, shower facilities and other amenities designed to promote non-motorized transportation.

The Trails Steering Committee is comprised of individuals from Linn Area Mountain Bike Association (LAMBA), Rockwell Collins Commuters Club, Cedar Rapids Bicycle Ambassadors Group, Cedar Rapids Community School District Safe Routes to School, Corridor Metropolitan Planning Organization, Cedar Valley Running Association, City of Cedar Rapids, Healthy Linn Care Network, City of Marion, Linn County Trail Association, Coe College, representatives of Kaizen Event, and Neighborhood Planning Process Sessions.

Funding for developing and maintenance is the key to the success of the Cedar Rapids Comprehensive Trails Plan.

*"...bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities..."*

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Title 23 U.S.C. §217

*"...regardless of regional, climate and population density differences, it is important that pedestrian and bicycle facilities be integrated into transportation systems"*

Ray LaHood, United States Secretary of Transportation, US Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. March 11, 2010

# EXECUTIVE SUMMARY

## RECOMMENDATIONS

1. Create a staff level position to be manager of bicycle, pedestrian and ADA facilities for implementing the Cedar Rapids Comprehensive Trails Plan.

2. Officially adopt the "Cedar Trails" brand or developed alternate "brand" for the Primary Connectivity Network.

3. Adopt, utilize and update the Cedar Trail Segment Schedules (pages 27-112) as working documents.

4. Create preliminary plans and detailed cost opinions for the priority trail segments in the Phase 1 plan.

5. Adopt a development philosophy consistent with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and the current transportation legislation. This means that all public streets are envisioned to be "complete streets."

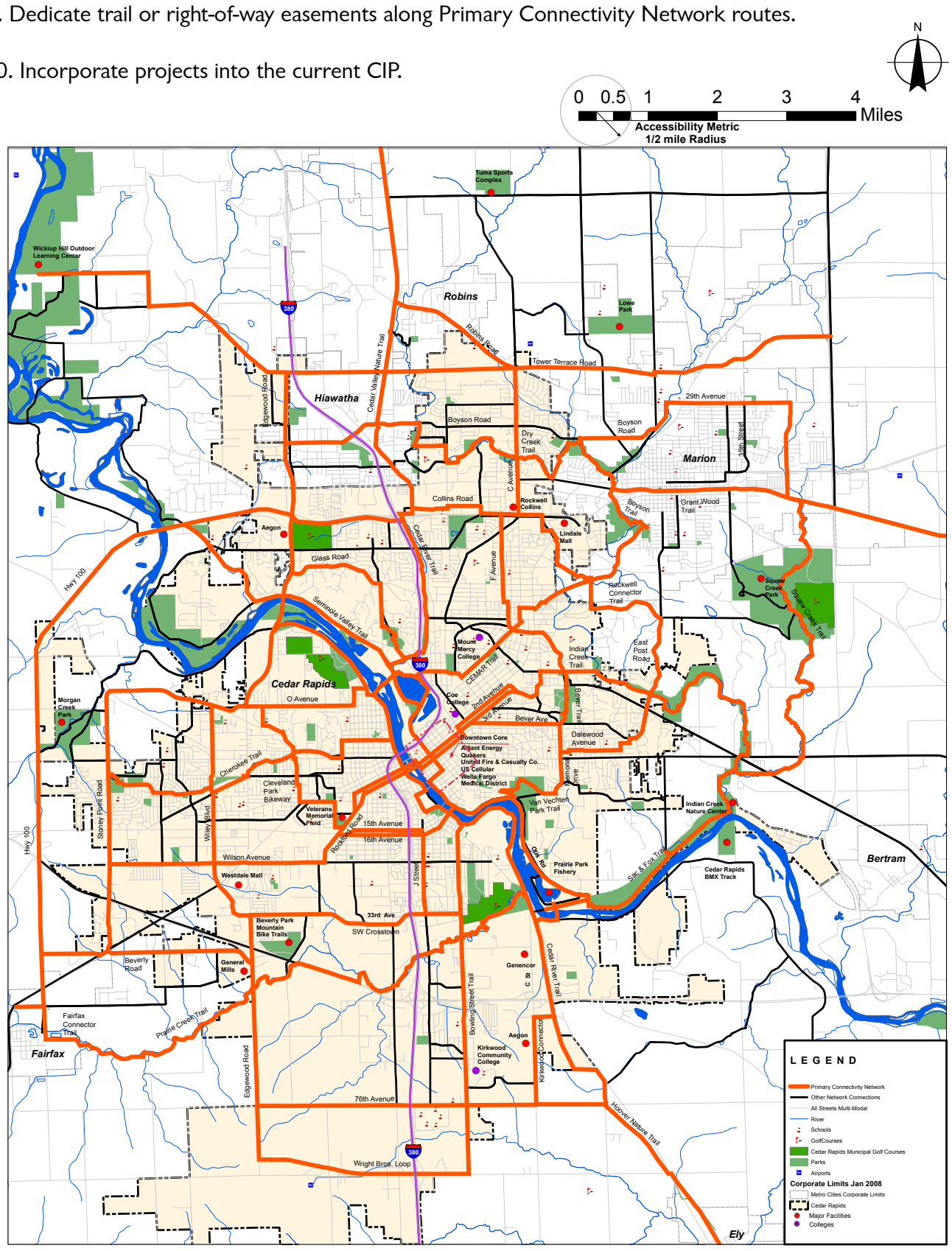
6. Dedicate a consistent allocation to the Capital Improvement Plan (CIP) for multi-modal connectivity. Proactively pursue grant opportunities.

7. Maintenance - Establish a policy of best management practices and consistent funding sufficient for long term maintenance.

8. Adopt design guidelines for the development of bicycle and multi-use facilities.

9. Dedicate trail or right-of-way easements along Primary Connectivity Network routes.

10. Incorporate projects into the current CIP.



# DATA GATHERING/RESEARCH

The following reports, documents and other resources have been collected, reviewed and incorporated into the Cedar Rapids Comprehensive Trails Plan.

**CITY OF CEDAR RAPIDS GENERAL INFORMATION**
City of Cedar Rapids Departments Roles & Responsibilities
Internal Memorandum to City of Cedar Rapids City Council - Bicycle Friendly Status
City of Cedar Rapids Resolution No. 0501-05-09 to be designated as Bicycle Friendly Community

**TRAILS**
Linn County Regional Planning Commission – County Trail Plan Corridors
Funding Policy
Funding Sources for Trails
CEMAR Trail Phase 1 (Cedar River Trail to 29th Street) Spreadsheet
Function of Trails
Parking Lot Issues-Trails
Trail Development and Management Process Policy Issues - April 1, 2009-Draft
Cedar Rapids Life Cycle Plan for Trails and Bicycle Route Comprehensive Plan - April 1, 2009
Marion Master Trails Plan Executive Summary-2006
Cedar Rapids Comprehensive Trails Plan
Cedar Rapids Comprehensive Trails Plan Kaizen Event Report Out-LEAN Event - May 20, 2009
Priority Trails Cedar Rapids Metropolitan Area 2005 (By LCRPC)
2040 Transportation Plan for the Cedar Rapids Metropolitan Area – July 28, 2005
JCCOG Metropolitan Bicycle Master Plan – June 2009 Draft

**BICYCLE ADVISORY COMMITTEE (BAC)**
BAC General Information
Bicycle Friendly Community Action Plan
Bicycle Friendly Community - Citizen Feedback
Bicycle Friendly Community Action Plan June 2009-Short Term w-comments
Bicycle Friendly Community Action Plan June 2009-Mid Term w-comments
Bicycle Friendly Community Action Plan June 2009-Long Term
BAC Meeting Summaries - 4/15/09, 4/22/09, 4/29/09, 5/6/09, 6/24/09, 7/8/09, 7/15/09, and 8/5/09
BAC Email Info-Newsletter August 2009
**BAC Preliminary Bicycle Facility Plan-6/3/09**
**BAC Priority Bicycle Facility Plan-6/3/09**
**BAC Priority Bike Path with Street Widths-6/3/09**
(Bold indicates this document is a map)

**OTHER RESOURCES COLLECTED**
AASHTO, the American Association of State Highway and Transportation Officials - http://www.transportation.org/
NACTO, Urban Bikeway Design Guide
MATS, Metro Area Trails System, MATS Committee, Don Thomas, Chairman, February 1993
American Discovery Trail - National Trail Feasibility Study - Volume 1, Environmental Assessment, National Park Service, 1995
American Discovery Trail - National Trail Feasibility Study - Volume 2, Description of the Trail Corridor, National Park Service, 1995
The American Discovery Trail - Explorer's Guide, Reese Lukei, Jr, 1995
Manual on Uniform Traffic Control Devices - http://mutcd.fhwa.dot.gov/index.htm
US Department of Transportation - http://www.dot.gov/
Federal Highway Administration - http://safety.fhwa.dot.gov/ped_bike/bike/index.htm
Iowa DOT Bicycling Web Site - www.iowabikes.com
Iowa Trails 2000 - http://www.iowabikes.com/trails/
Iowa DOT Bicycle Accommodation Guidance - http://www.iowabikes.com/trails/AppendixC.html
Iowa DOT's Paved Shoulder Guidelines - ftp://165.206.203.34/design/dmanual/03c-04.pdf
A Handbook for Local Communities: Connecting People and Trails: Local Community Planning for Bicyclists and Pedestrians - http://www.iowabikes.com/trails/ped-bikeHandbook/TOC.html
Iowa Statewide Urban Design and Specifications - www.iowasudas.org
Pedestrian and Bicycle Information Center - http://www.bicyclinginfo.org/
Bikeability Checklist - http://www.bicyclinginfo.org/cps/checklist.cfm
BIKESAFE Bicycle Countermeasure Selection System - http://www.bicyclinginfo.org/bikesafe/tools.cfm
Bicycle Facility Selection Guide - http://www.bicyclinginfo.org/de/bike_selection.cfm
Bicycle Parking Guidelines - http://www.bicyclinginfo.org/de/parkguide.cfm
Bike Lane Design Guide - http://www.bicyclinginfo.org/de/bikelaneguide.cfm
Bicycle Level of Service (BLOS) - http://www.bikelib.org/roads/blos/index.htm
BLOS Calculator - http://www.bikelib.org/roads/blos/losform.htm
Coordination with Neighborhood Planning Process (NPP) and Parks and Rec Plan

# OPPORTUNITIES & CONSTRAINTS

In order to work toward or achieve connectivity throughout the City of Cedar Rapids, there first needs to be a focus on what is a basic approachable and attainable network of existing streets, separated trails and probable short range projects consisting of new streets, overlays and other improvements.

Defining a primary connectivity network has been a very public process involving a broad range of interests. Prior to this project there have been many divergent maps, reports and opinions trying to achieve a similar result. This comprehensive plan will seek to achieve a common strongly supported vision. This vision will be supported by a realistic and specific plan of action. There will be many challenges trying to establish the primary connectivity network, particularly when it comes to re-purposing existing roadways.

## CONSTRAINTS

- Uneven and narrow roadways with variable right-of-way widths.
- Absence of paved shoulder or sidewalk
- Pavement repair needed
- Narrow paved shoulders and poor sight lines with high speed traffic
- Unsafe islands for 2-3 idle bicyclists
- Narrow sidewalks
- Railroad crossings
- Lack of accessible ramps
- Many motorists do not yield to cyclists/pedestrians
- Non-perpendicular (skewed) crossings
- Poor or missing signage
- No crossing - cyclists must stop or yield to motorists
- Missing required stop signs
- Maintenance, snow removal/sweeping
- Adequate clearance
- ADA accessible gradients
- Painted crossing - motorists may yield to cyclists/pedestrians

*Absence of paved shoulder or sidewalk*

*Pavement repair needed*

*Narrow sidewalk*

## OPPORTUNITIES

- Several existing maps identifying potential routes
- Some good connections to surrounding communities exist and/or being planned
- Connecting to quality park and recreation systems
- Connecting to quality school systems and higher education facilities
- Cedar River corridor and natural systems
- Connectivity network being a directive of the City Council
- Public support for new facilities and amenities identified in Neighborhood Planning Process Parks and Recreation Master Plan and update to 2040 Long Range Transportation Plan

# PLAN DEVELOPMENT

## ACCESSIBILITY METRIC

Consider the average resident of the City of Cedar Rapids. Most have immediate access to a street serving the purpose of connecting us all to each other, to work, school, church, recreation and the services we need to live our lives. There is constant pressure to keep those streets maintained. They must transport the family automobiles, the garbage truck, delivery vehicles, emergency vehicles and in some cases public transportation buses and more.

The direction from the Cedar Rapids City Council was to provide multi-modal connectivity. This means these same streets must serve pedestrian and bicyclists in a safe and efficient way. Some do - Many do not. Ultimately all streets should be constructed this way - Complete streets. In order to develop a first level of connectivity we need to create a logical network.

What is a reasonable distance or amount of time that we can expect a Cedar Rapidian to have access to a Primary Connectivity Network? If money were no object, ultimately this connectively should be right outside your door. Looking at several maps developed by various groups, connectivity networks of varying intensity and similar sized communities around the country to gave a sense of perspective. The intensity that seemed most logical resulted in a accessibility metric of one half mile or a ten minute walk. This metric is consistent with planning efforts in other communities. This metric was recommended and was carried forward, amended and confirmed through public process.

## CONNECTIVITY—NETWORK WORTHY SEGMENT

In order to select the individual segments that connect to make the Primary Connectivity Network we established the following criteria:

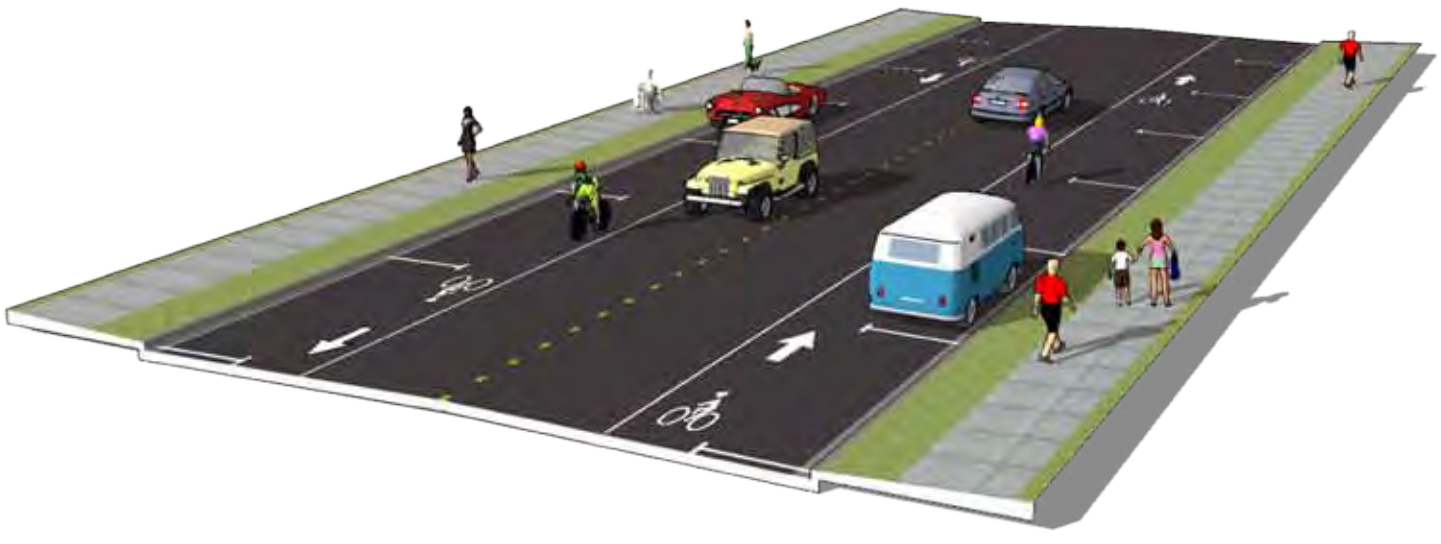
1. There are usually segments identified on early or plans
2. Is the most logical route connecting identified destinations (compared to other parallel routes)
3. Will need to have provisions for all types of pedestrians and levels of bicyclists
4. Will need to have “sharrows”, shared roadways and sidewalks at a minimum
5. Avoids most difficult physical barriers, i.e. topography, freeways, railroads, river crossings
6. Must have interconnectivity, i.e. no cul-de-sacs or spurs
7. Will have kiosks, bus stops and/or trailhead locations.

These criteria were recommended and carried forward, amended and confirmed through public process.

## TYPES OF MULTI-USE TRAILS

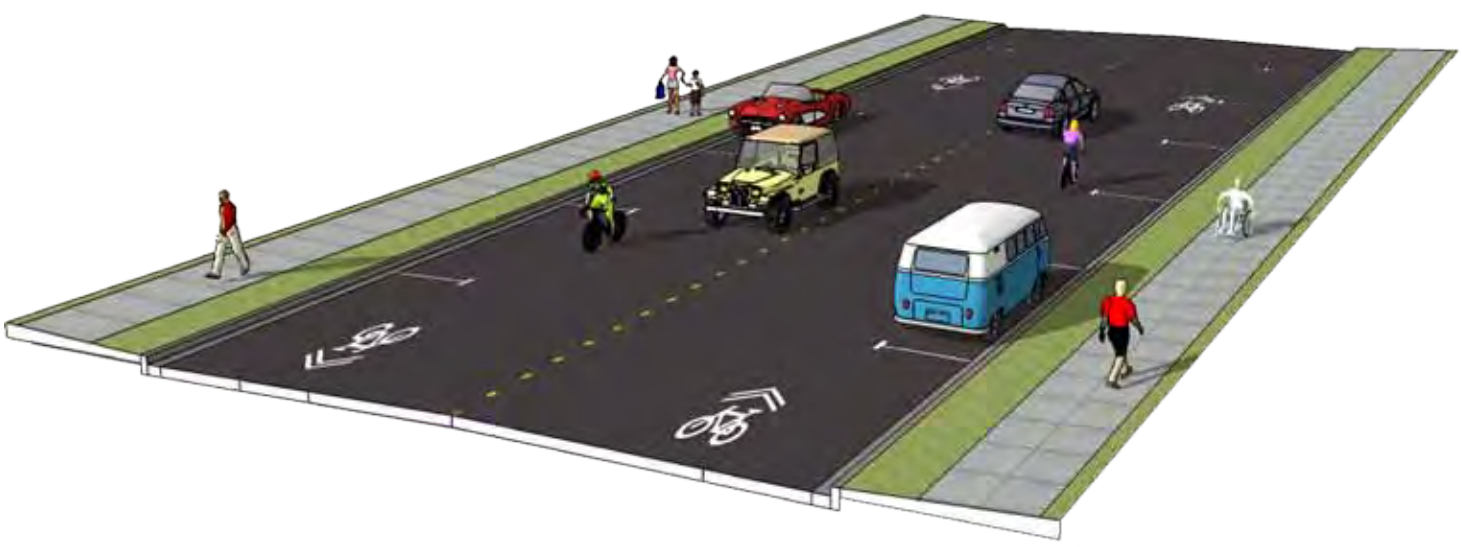
Typical trail types were influenced by right-of-way widths, existing paving widths, the absence or presence of sidewalks and the motorized traffic volumes and speeds, creating a wide range of interconnectivity variables. Recommended trail types are as follows:

**BIKE LANE (WITH PARKING):** A portion of a roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicycles.



**BIKE LANE (NO PARKING):** A portion of a roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicycles.

**SHARROW (WITH PARKING)**: Also known as a shared roadway. Bicyclists and motorists ride in the same travel lanes, typically 14'-16'. They are usually wide enough to accommodate normal traffic, a motorist may have to cross over into the adjacent travel lane to pass a cyclist. Shared roadways are common on neighborhood residential streets, on rural roadways and low traffic volume highways.



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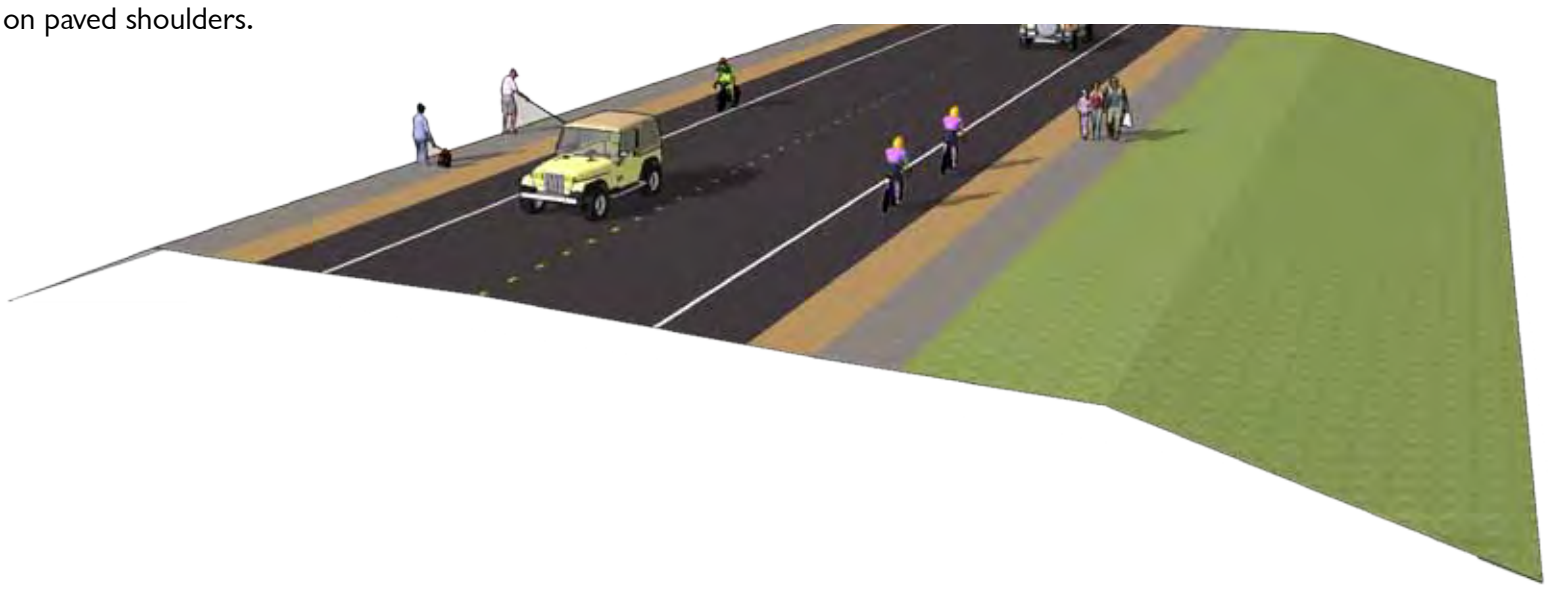
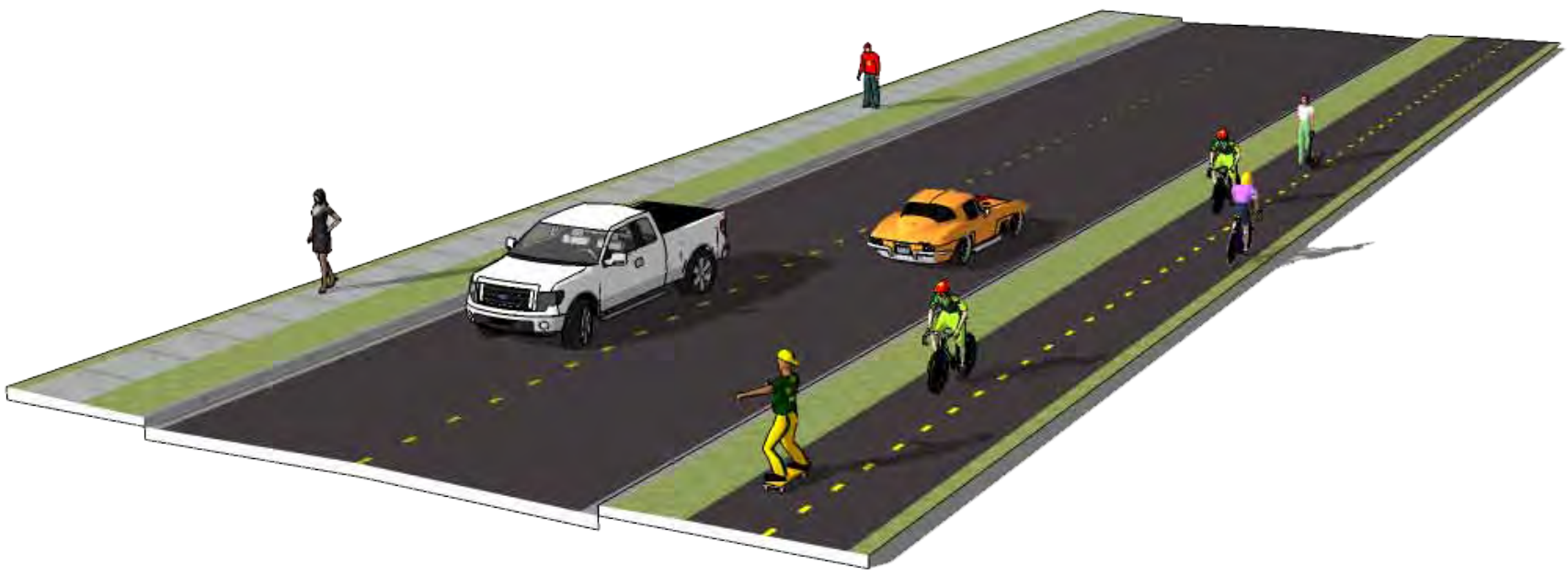
# PLAN DEVELOPMENT

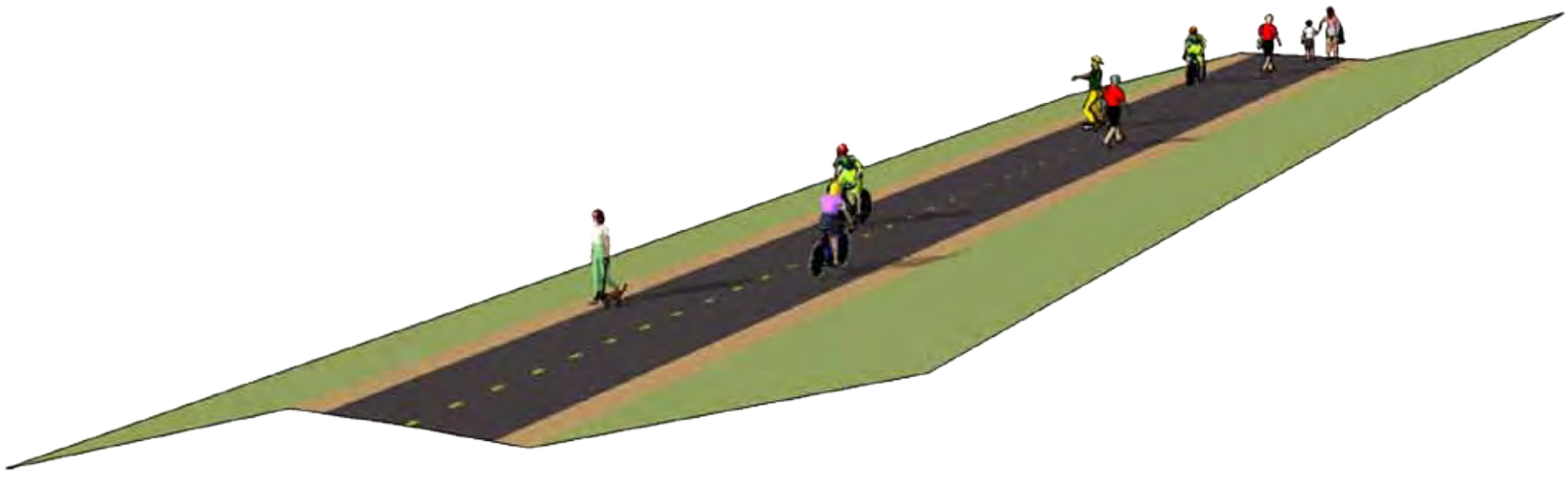
**PAVED SHOULDER:** Also known as shoulder bikeway that provides a suitable area for bicycling, reducing conflicts with faster moving motor vehicle traffic. Most bicycle travel on the rural state highway system, and on many county roads, is accommodated on paved shoulders.



**MULTI-USE PATH:** Any corridor that is physically separated from motorized vehicular traffic by an open space or barrier, and is either within the highway right-of-way or within an independent right-of-way. Besides bicycles these paths may also be shared by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.



**SEPARATED TRAIL OR GREENWAY:** A trail established along a natural corridor, such as a river, stream, ridgeline, rail-trail, canal, or other route for conservation, recreation or alternative transportation purposes. Greenway trails can connect parks, nature preserves, cultural facilities, and historic site with business and residential areas.



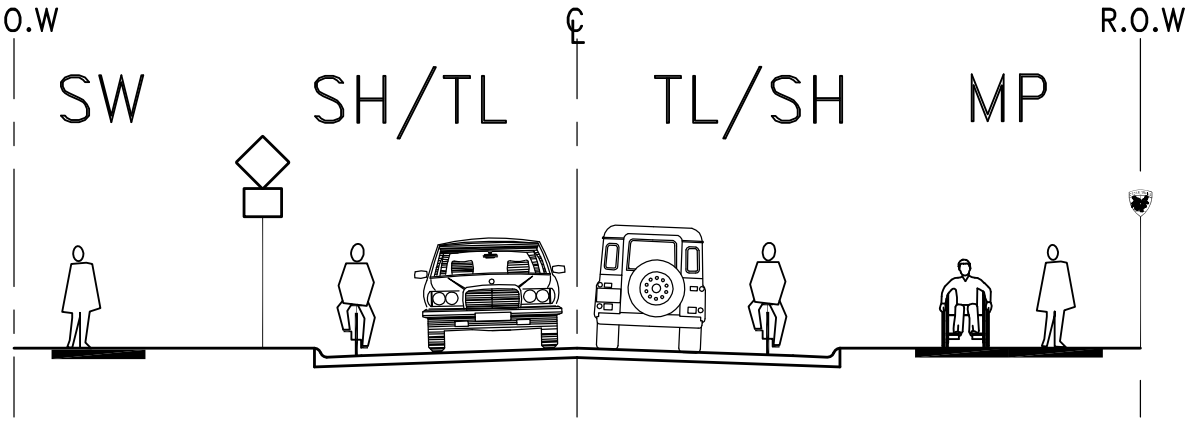
These types of trails were recommended and carried forward, amended and confirmed through public process.

# TYPICAL SECTIONS

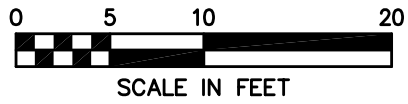
The following typical sections illustrate the many various right-of-ways that exist in the City of Cedar Rapids.

| TYPICAL SECTION LEGEND | | | |
|---|---|---|---|
| Key | Description | Key | Description |
| BL | BIKE LANE | SW | SIDEWALK |
| SH | SHARROW | MP | MULTI-USE TRAIL |
| TL | TRAVEL LANE | CLT | CENTER LEFT TURN |
| P | PARKING | | |

## A




- SHARED ROADWAY
- NO PARKING OR ONE-SIDE ONLY
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDES
- REQUIRED “SHARE THE ROAD” SIGNAGE

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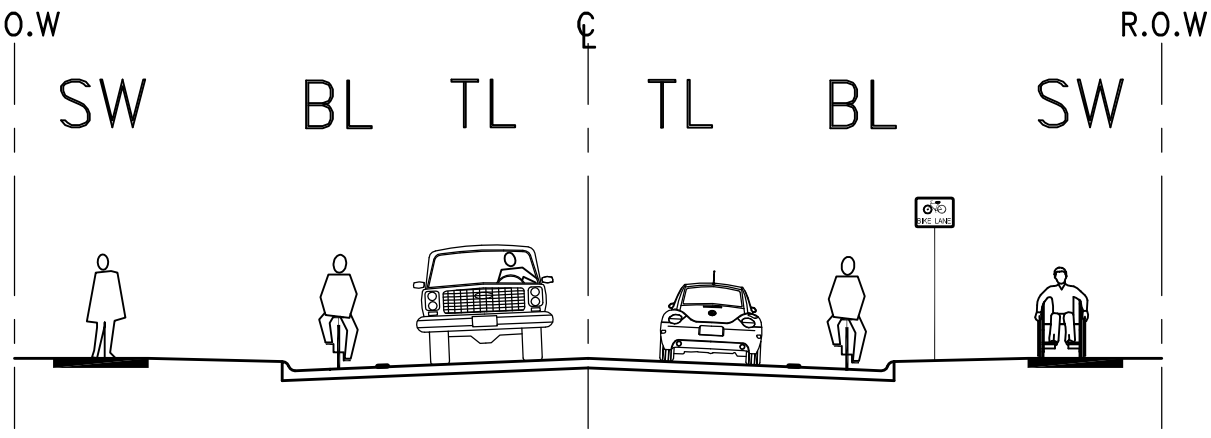
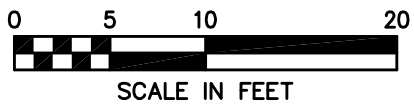
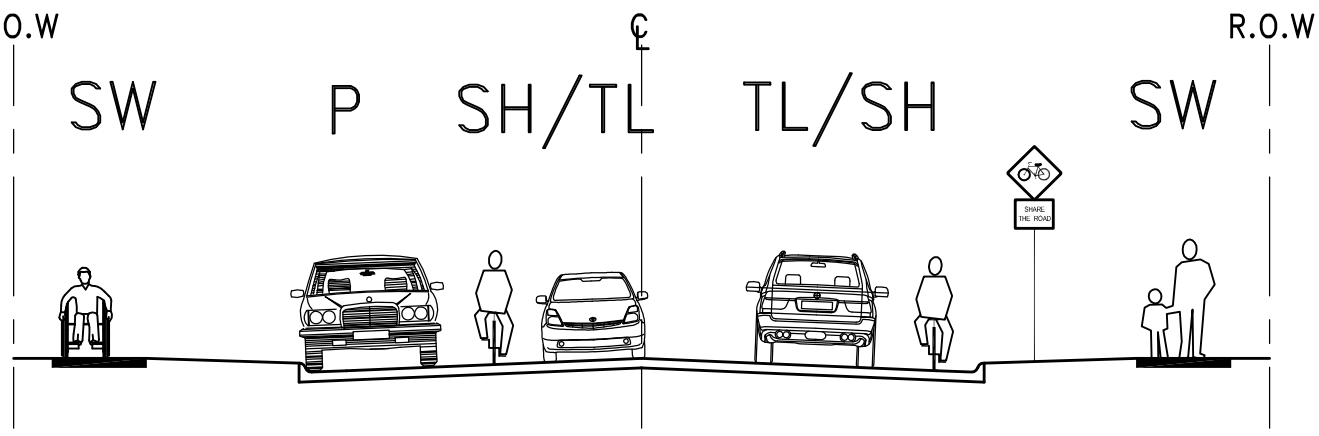


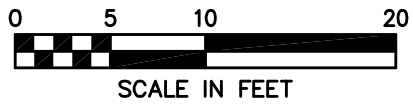

- BIKE LANE
- NO PARKING OR ONE-SIDE ONLY
- CR STANDARD SIDEWALK (OR ONE-SIDE MP)
- REQUIRED “BIKE LANE” SIGNAGE




## C




- SHARED ROADWAY
- ONE-SIDE PARKING, MINIMUM
- CR STANDARD SIDEWALK (OR ONE-SIDE MP)
- REQUIRED “SHARE THE ROAD” SIGNAGE

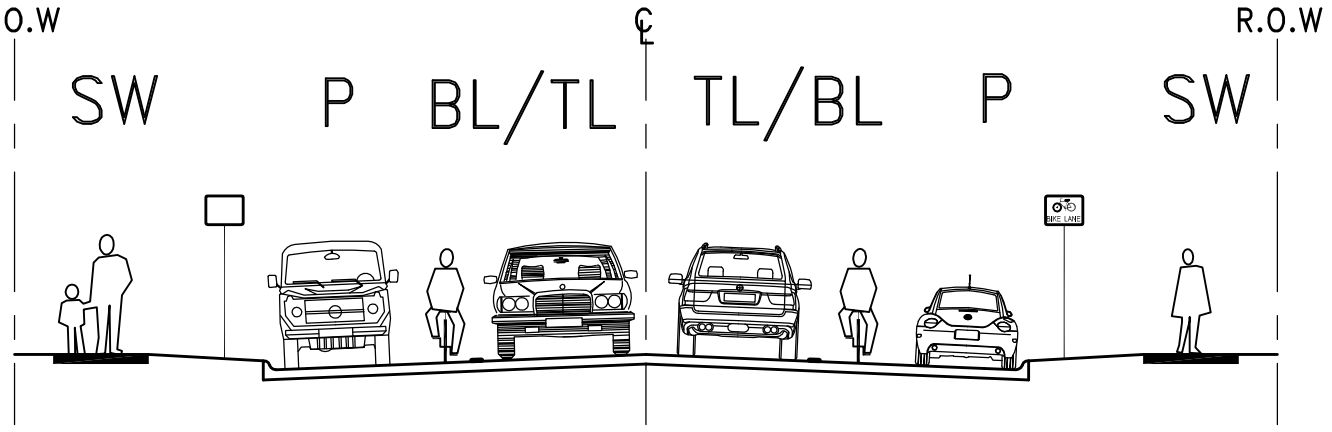


# PLAN DEVELOPMENT

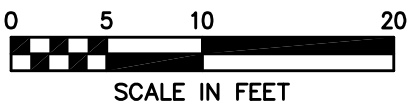
## TYPICAL SECTIONS

| TYPICAL SECTION LEGEND | | | |
|---|---|---|---|
| Key | Description | Key | Description |
| BL | BIKE LANE | SW | SIDEWALK |
| SH | SHARROW | MP | MULTI-USE TRAIL |
| TL | TRAVEL LANE | CLT | CENTER LEFT TURN |
| P | PARKING | | |

**D**




- BIKE LANE (OR SHARED ROADWAY)
- PARKING BOTH SIDES
- CR STANDARD SIDEWALK (OR ONE-SIDE MP)
- REQUIRED “BIKE LANE” SIGNAGE (OR “SHARE THE ROAD”)

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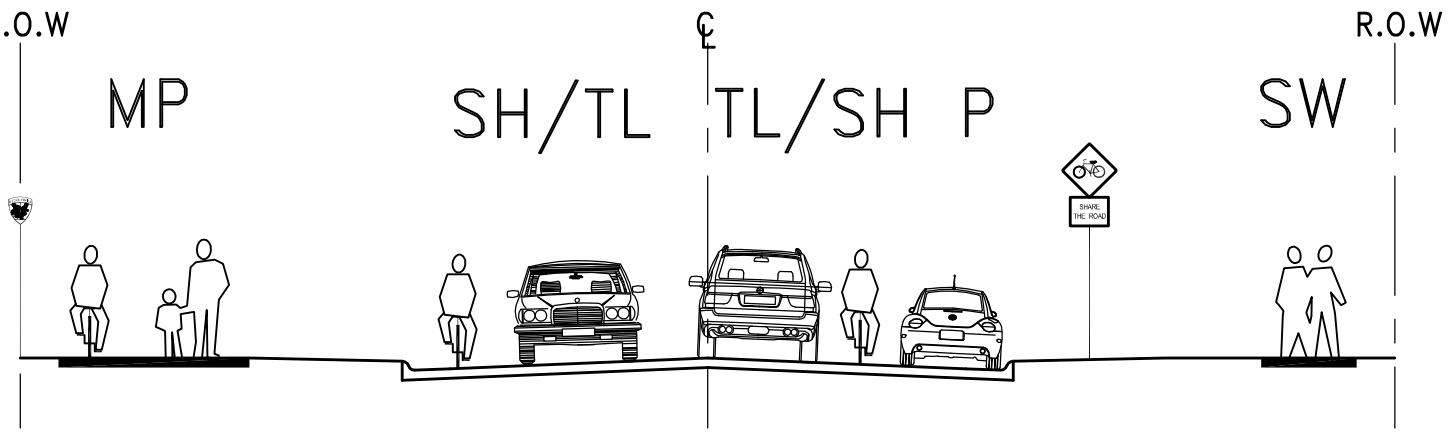
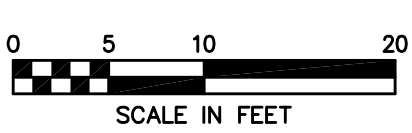



- SHARED ROADWAY
- NO PARKING OR ONE-SIDE ONLY
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED “SHARE THE ROAD” SIGNAGE

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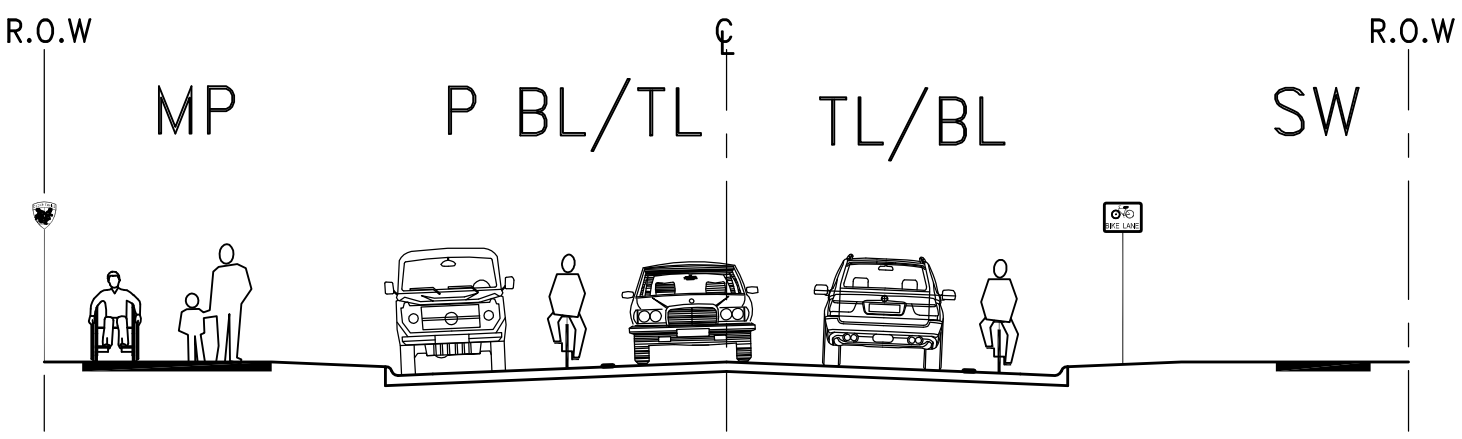
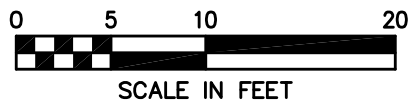


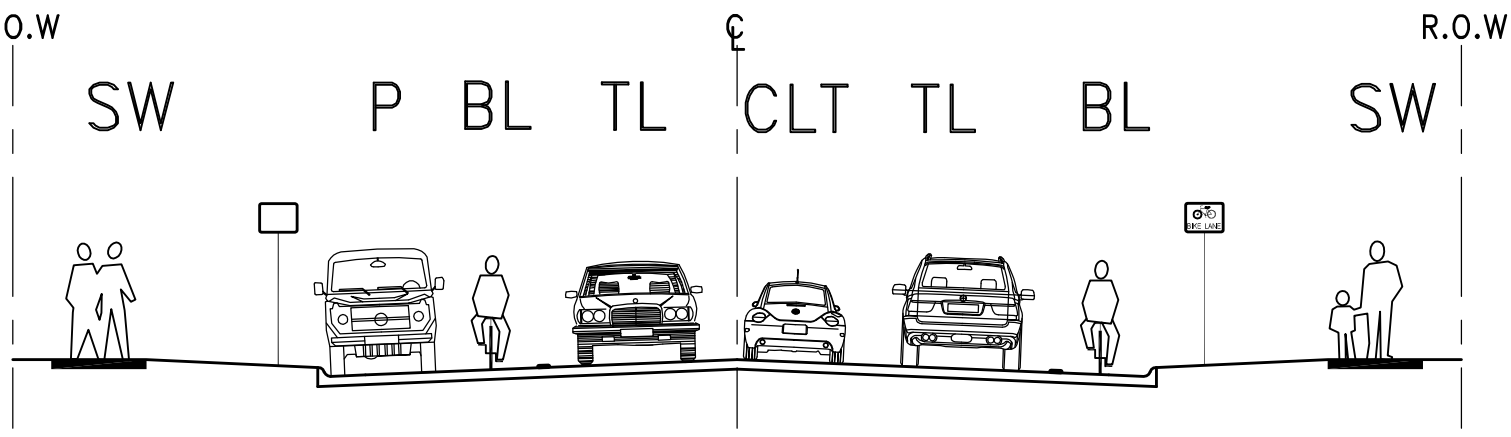

- BIKE LANE
- ONE=SIDE PARKING ONLY WITH 2 TRAFFIC LANES
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED “BIKE LANE” SIGNAGE



## TYPICAL SECTIONS

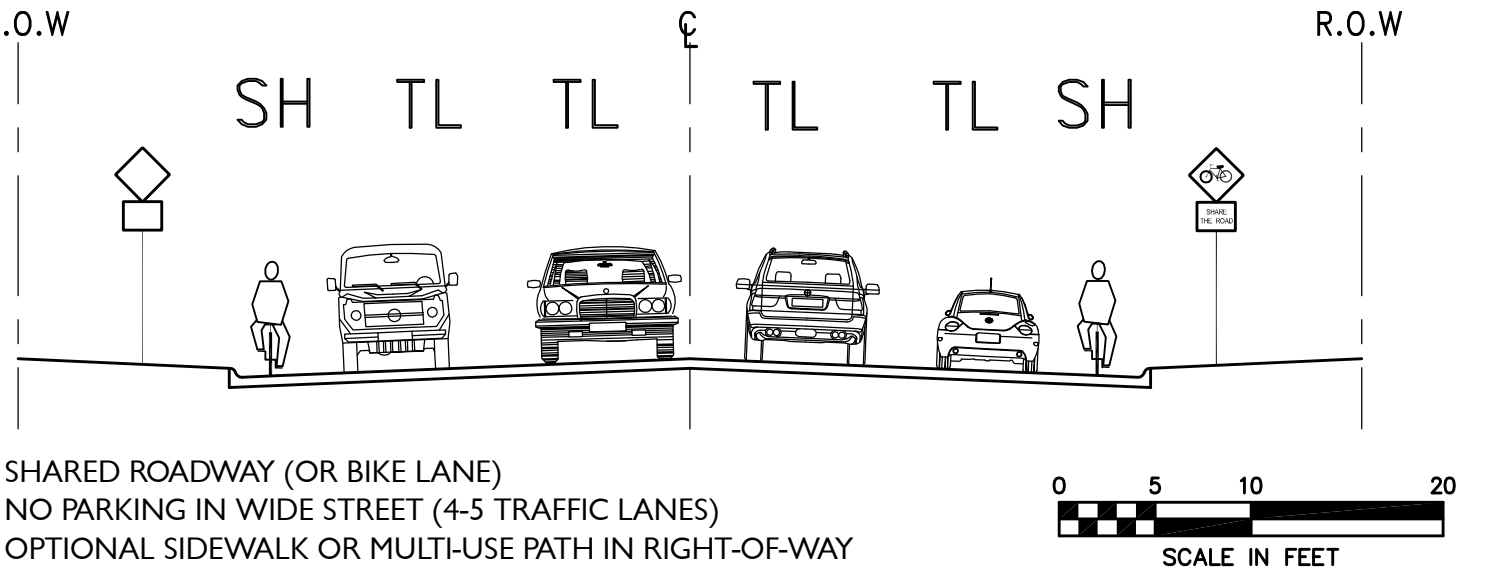
| TYPICAL SECTION LEGEND | | | |
|---|---|---|---|
| Key | Description | Key | Description |
| BL | BIKE LANE | SW | SIDEWALK |
| SH | SHARROW | MP | MULTI-USE TRAIL |
| TL | TRAVEL LANE | CLT | CENTER LEFT TURN |
| P | PARKING | | |

### G



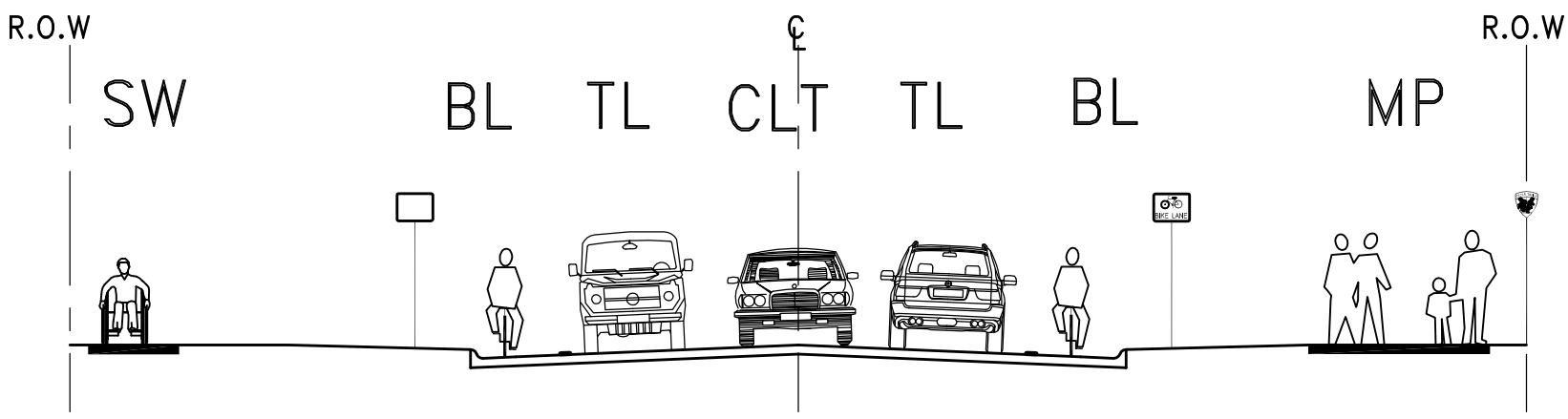

- BIKE LANE (OR SHARED ROADWAY)
- ONE-SIDE PARKING ONLY WITH 2-3 TRAFFIC LANES
- CR STANDARD SIDEWALK
- REQUIRED “BIKE LANE” SIGNAGE
- OPTIONAL “BIKE ROUTE” SIGNAGE

### H




- SHARED ROADWAY (OR BIKE LANE)
- NO PARKING IN WIDE STREET (4-5 TRAFFIC LANES)
- OPTIONAL SIDEWALK OR MULTI-USE PATH IN RIGHT-OF-WAY
- REQUIRED “SHARE THE ROAD” SIGNAGE
- OPTIONAL “BIKE ROUTE” SIGNAGE

### I



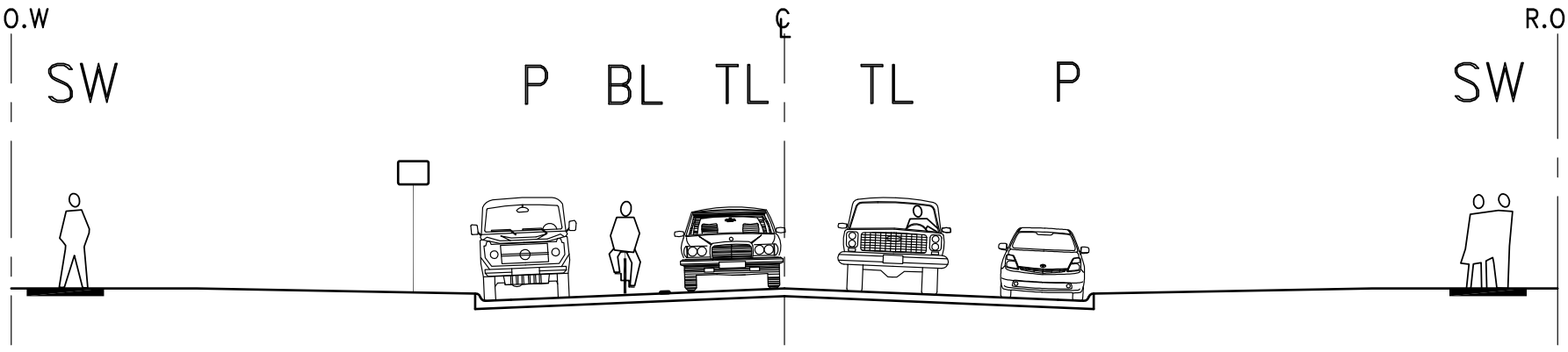

- BIKE LANE (OR SHARROW ROAD)
- NO PARKING IN 3 TRAFFIC LANES
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED “BIKE LANE” SIGNAGE

# PLAN DEVELOPMENT

## TYPICAL SECTIONS

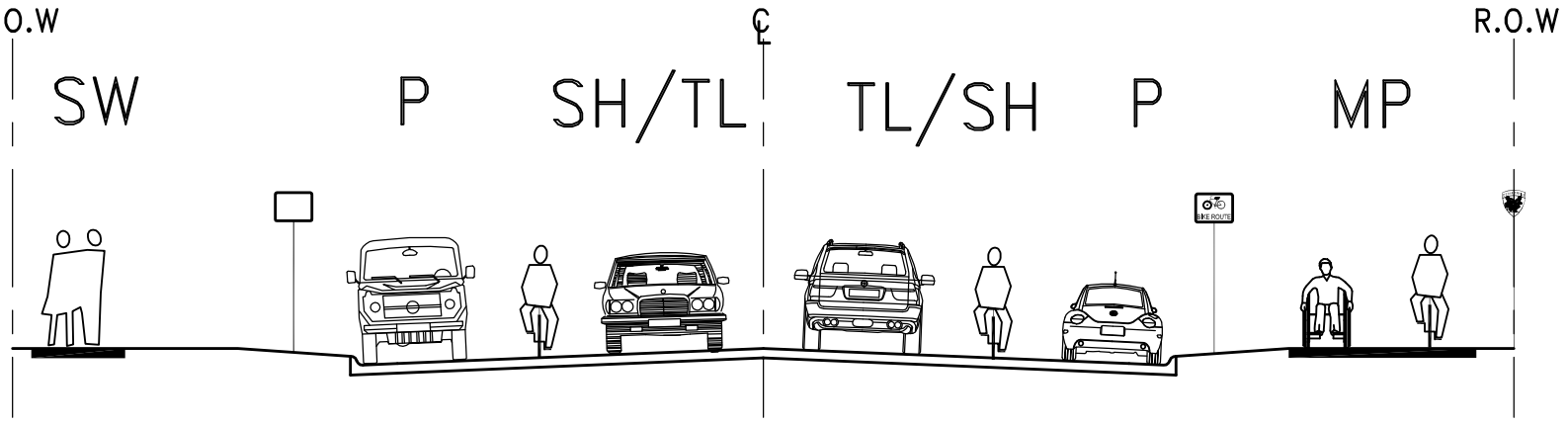
| TYPICAL SECTION LEGEND | | | |
|---|---|---|---|
| Key | Description | Key | Description |
| BL | BIKE LANE | SW | SIDEWALK |
| SH | SHARROW | MP | MULTI-USE TRAIL |
| TL | TRAVEL LANE | CLT | CENTER LEFT TURN |
| P | PARKING | | |

**J**



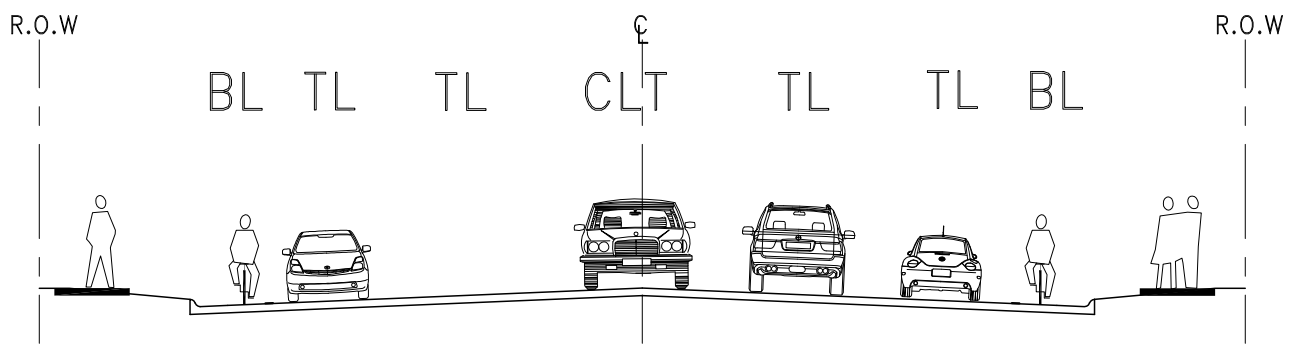

- ONE BIKE LANE ON ONE-WAY STREET (RIGHT SIDE)
- PARKING ON BOTH SIDES
- CR STANDARD SIDEWALK
- REQUIRED “BIKE LANE” SIGNAGE

**K**




- SHARED ROADWAY
- PARKING ON BOTH SIDES
- 2 TRAFFIC LANES (WITH OPTIONAL CENTER TURN LEFT LANE)
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED “BIKE LANE” SIGNAGE

**L**



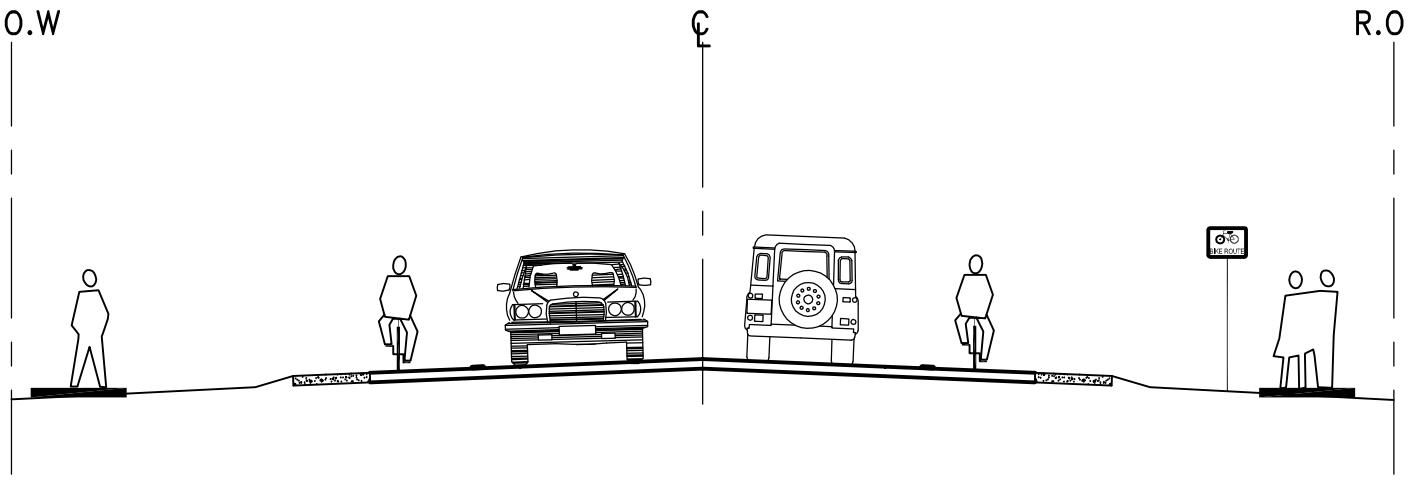

- BIKE LANE
- WIDE STREET WITH 4-5 TRAFFIC LANES
- NO PARKING
- SIDEWALK/MULTI-USE PATH OPTIONAL IF ROOM IN RIGHT-OF-WAY
- REQUIRED “BIKE LANE” SIGNAGE
- OPTIONAL “BIKE ROUTE” SIGNAGE

# PLAN DEVELOPMENT

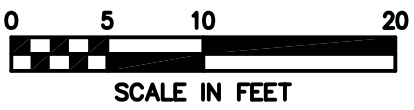
## TYPICAL SECTIONS

| TYPICAL SECTION LEGEND | | | |
|---|---|---|---|
| Key | Description | Key | Description |
| BL | BIKE LANE | SW | SIDEWALK |
| SH | SHARROW | MP | MULTI-USE TRAIL |
| TL | TRAVEL LANE | CLT | CENTER LEFT TURN |
| P | PARKING | | |

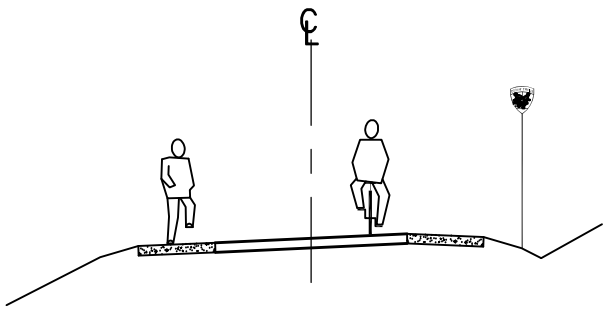
**M**



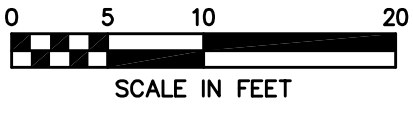

- PAVED SHOULDER - RURAL SECTION
- MINIMUM 4’ SHOULDER IN URBAN OR <45 MPH
- MINIMUM 6’ SHOULDER IN RURAL OR >50 MPH
- REQUIRED “BIKE ROUTE” SIGNAGE



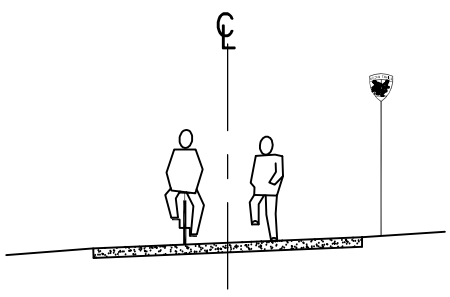

**N**



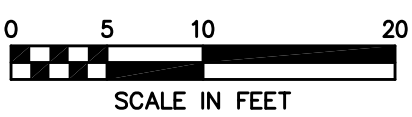

- SEPARATED GREENWAY TRAIL
- 10’ WIDE GRANULAR MULTI-USE PATH




**O**




- SEPARATED GREENWAY TRAIL
- 10’ WIDE GRANULAR MULTI-USE PATH



# PLAN DEVELOPMENT

## PRIMARY CONNECTIVITY NETWORK — DEVELOPING AN IDENTITY

Finally, during plan development it was recommended that the Primary Connectivity Network (PCN) be thought of as a hierarchal system. The PCN is to bicyclist and pedestrians as the roadway network of freeways, expressway, arterials, collectors and local streets are to motorists. The network should be personified and given a character or identity. This identity will stimulate the recognition and marketing necessary to create support locally and to allow Cedar Rapids to compete with leading urban centers across the country.

The challenge is to create a simple meaningful logo type that is widely accepted, recognized and offers the flexibility to be used in many ways, including other jurisdictions.

Examples of logos and wayfinding signage were proposed, presented, amended and confirmed throughout the public process.



CEDAR RAPIDS
COMPREHENSIVE TRAILS PLAN

# PLAN DEVELOPMENT

CEDAR
METRO
TRAILS


METRO TRAILS

CEDAR METRO TRAILS

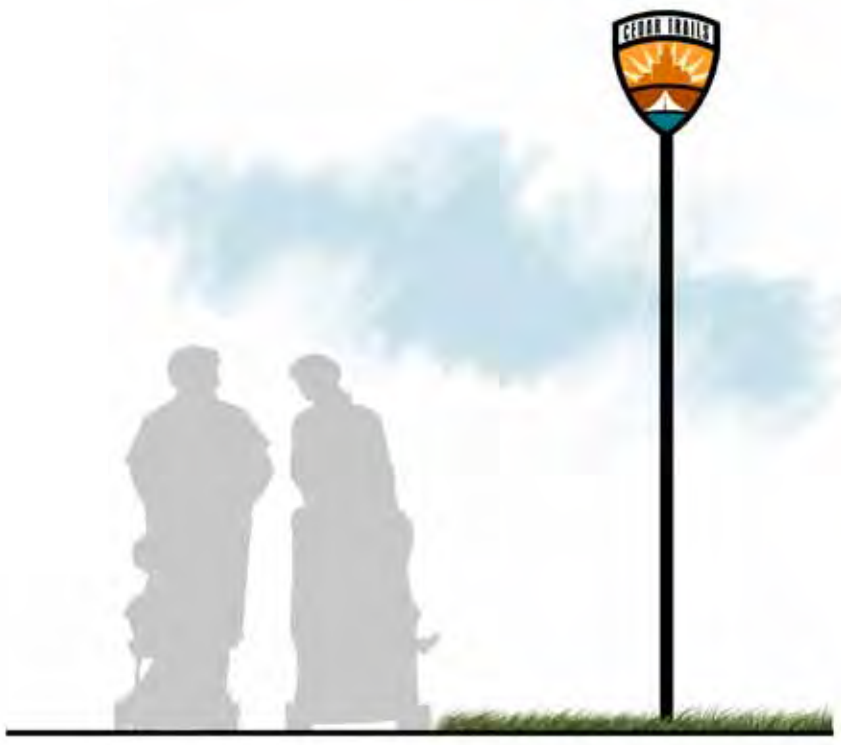
CEDAR RAPIDS
COMPREHENSIVE TRAILS PLAN

CEDAR RAPIDS
COMPREHENSIVE TRAILS PLAN

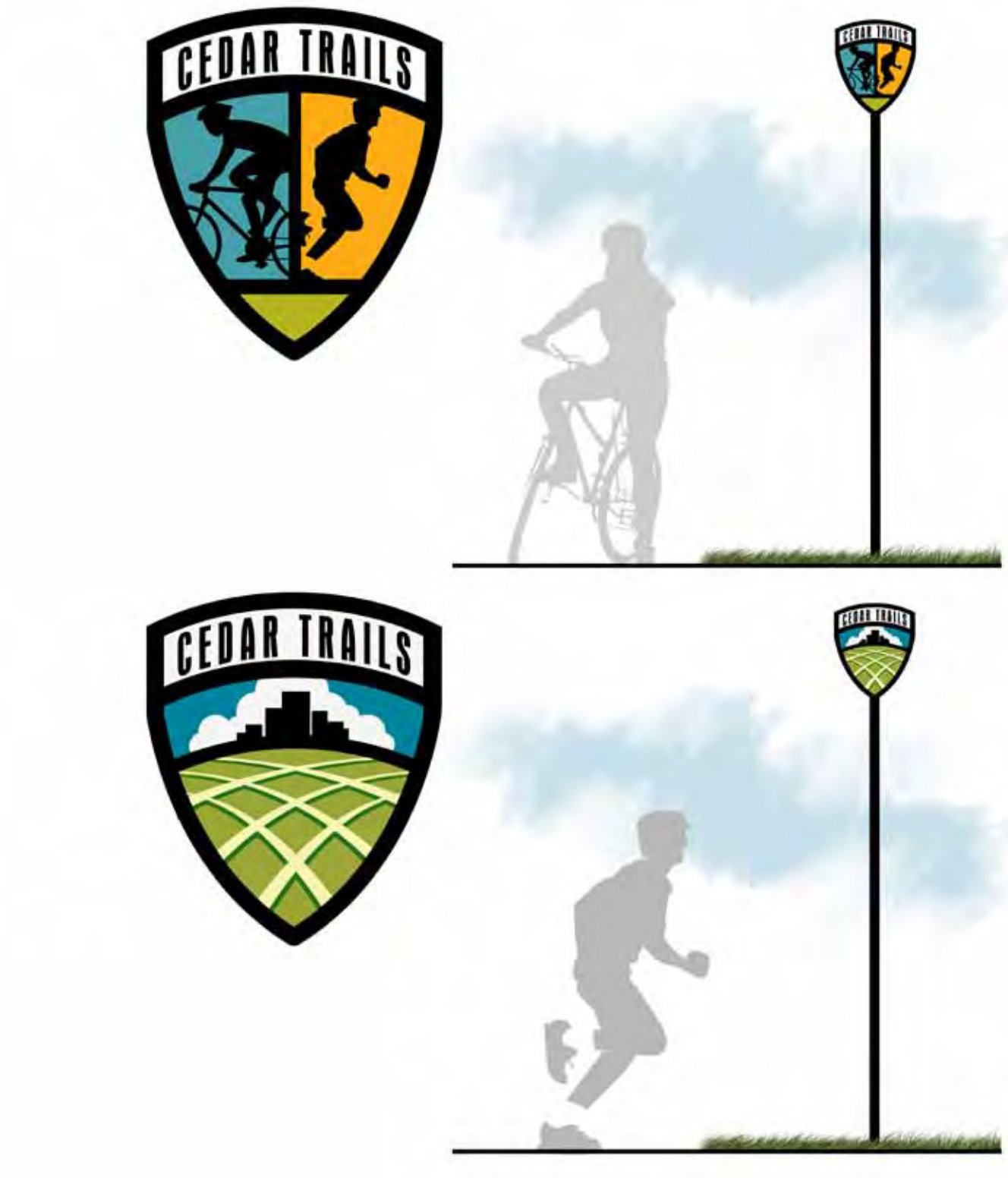

# PLAN DEVELOPMENT





# PLAN DEVELOPMENT



# PLAN DEVELOPMENT

## PRIMARY CONNECTIVITY NETWORK

Following is the Primary Connectivity Network (PCN) that resulted from public input. There are 105 miles of PCN within the City of Cedar Rapids city limits. Previously identified trail opportunities from other trail plans are not included as part of the PCN, but have been retained and shown in the legend as a secondary network. In addition, all future and existing streets should be considered multi modal and have bicycle and pedestrian facilities.

The Primary Connectivity Network is the well defined, high priority, multi modal connectivity system requested by the City Council. It should be the focus of a substantial investment in transportation development.

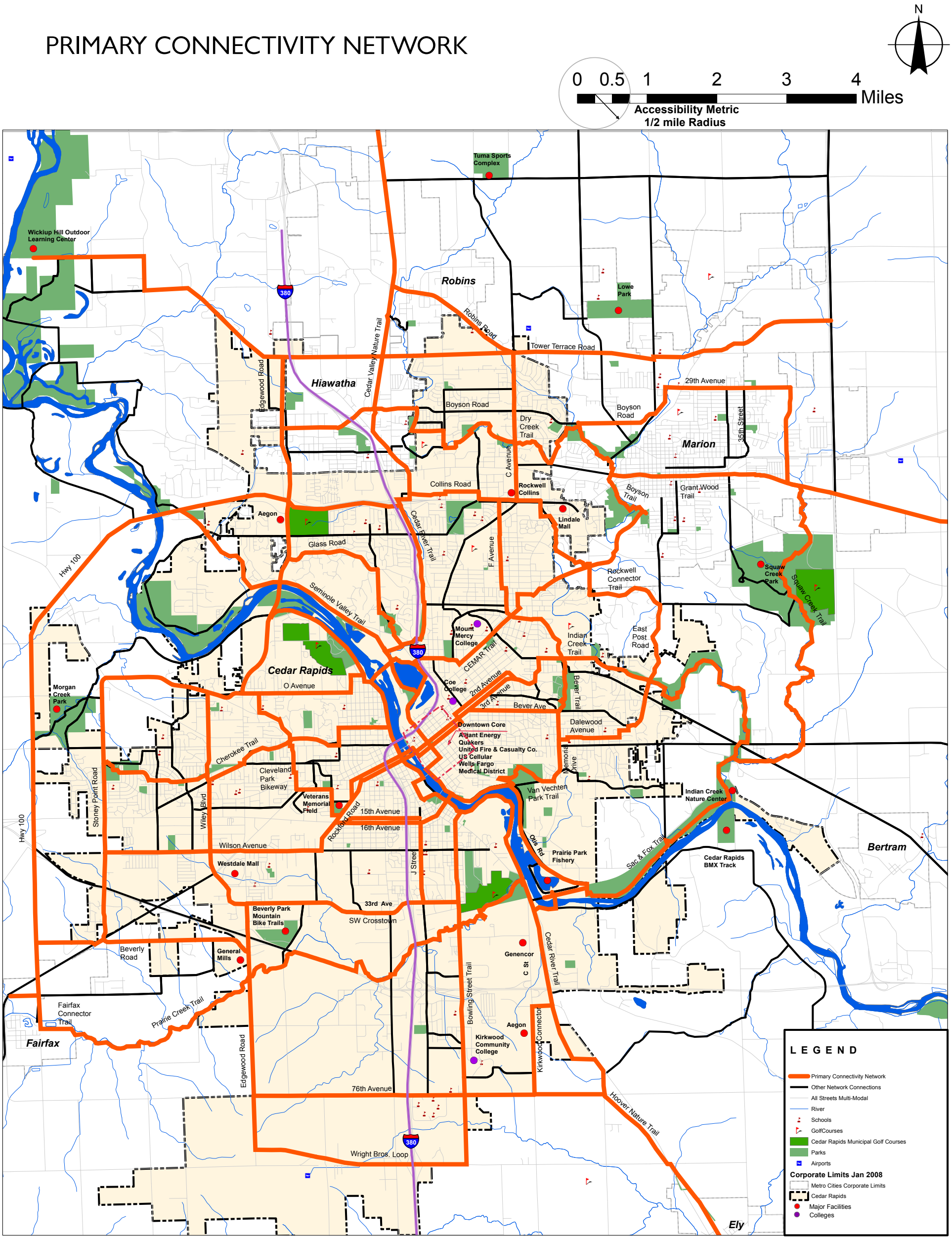
The PCN was proposed, presented, amended and confirmed throughout the public process.

## ALTERNATIVES

The accessibility metric, connectivity criteria, Primary Connectivity Network, trail segments, trail types, typical sections and identity have been presented and challenged throughout the planning and public input process. Opportunities to comment, vote and prioritize have been many. This consultant input has resulted in a better product and one that will culminate in a recommendation to the City Council for approval/adoption.

# PLAN DEVELOPMENT

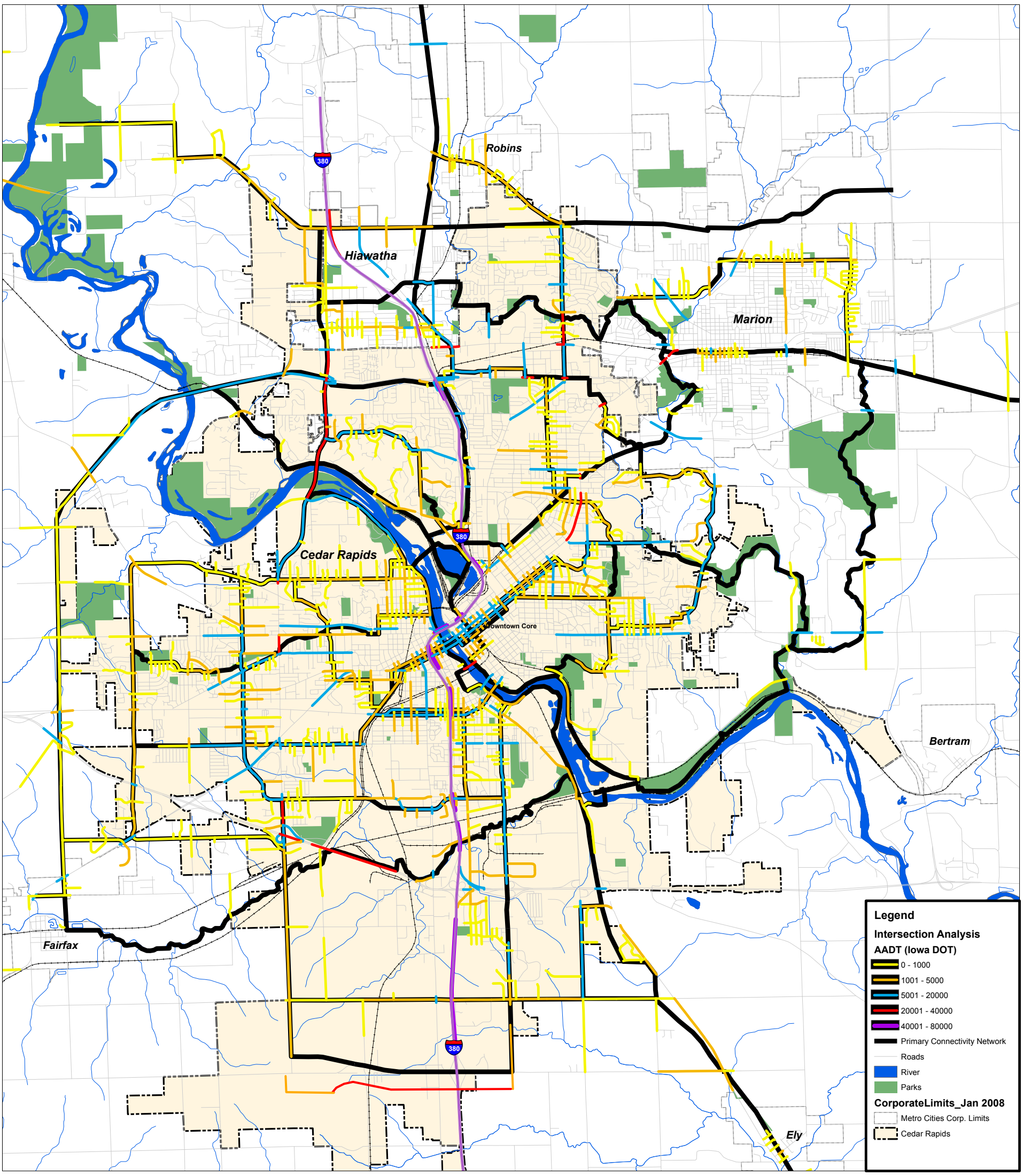
## PRIMARY CONNECTIVITY NETWORK



# PLAN DEVELOPMENT

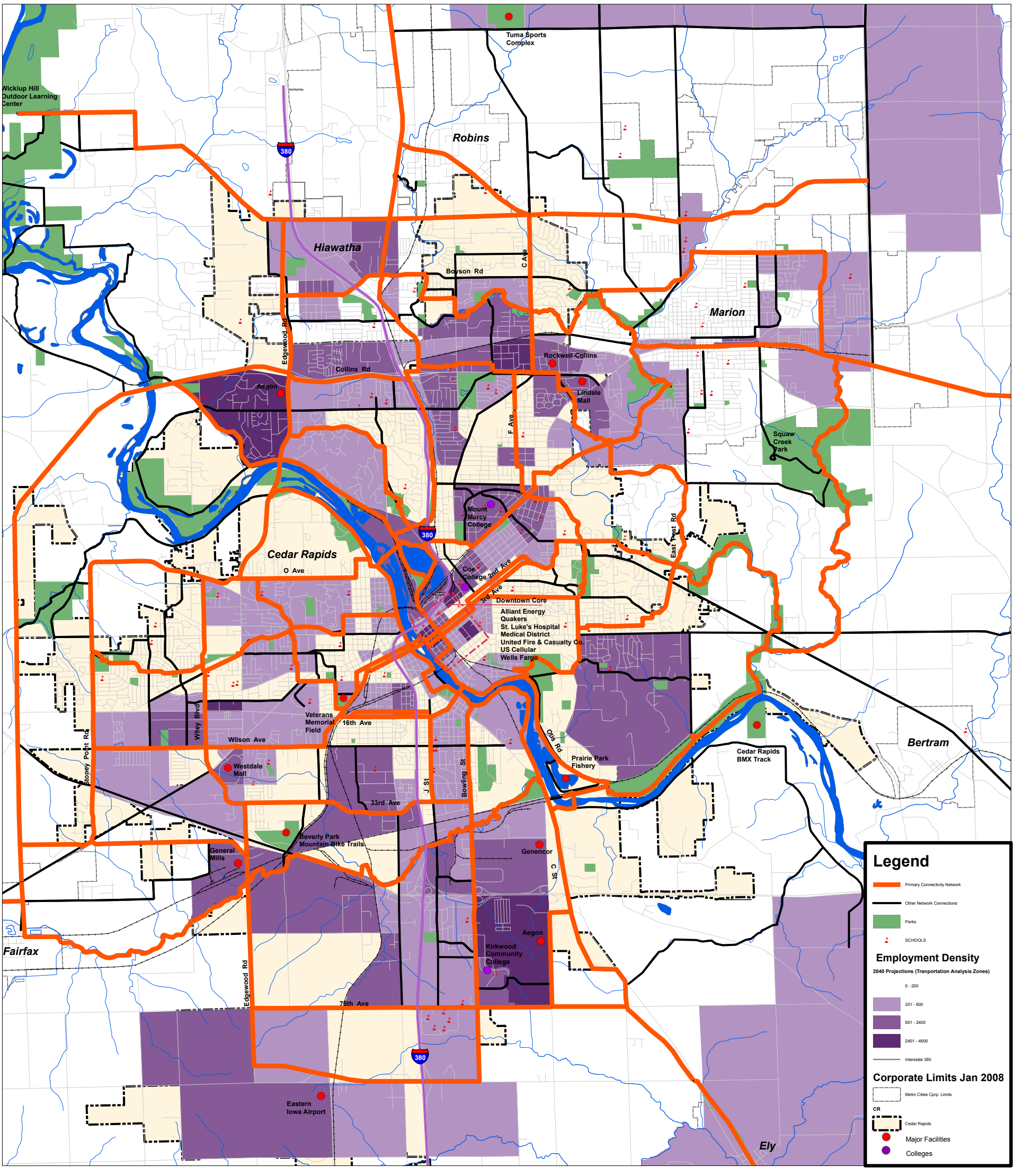
## INTERSECTION ANALYSIS

The following map illustrates the intersections between the Primary Connectivity Network and various traffic volumes.



## EMPLOYMENT DENSITY

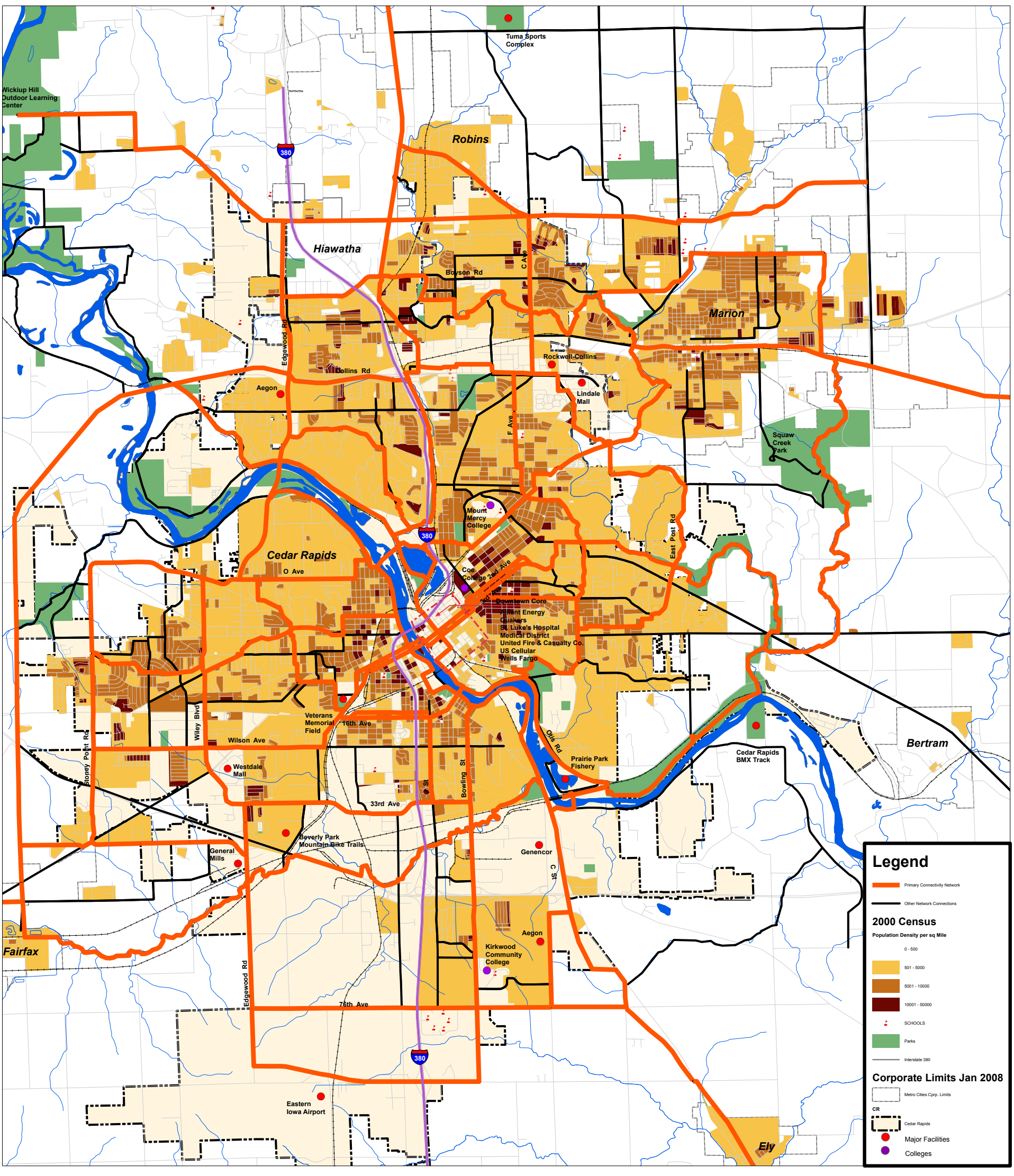
The following map illustrates the Primary Connectivity Network relative to employment opportunities



# PLAN DEVELOPMENT

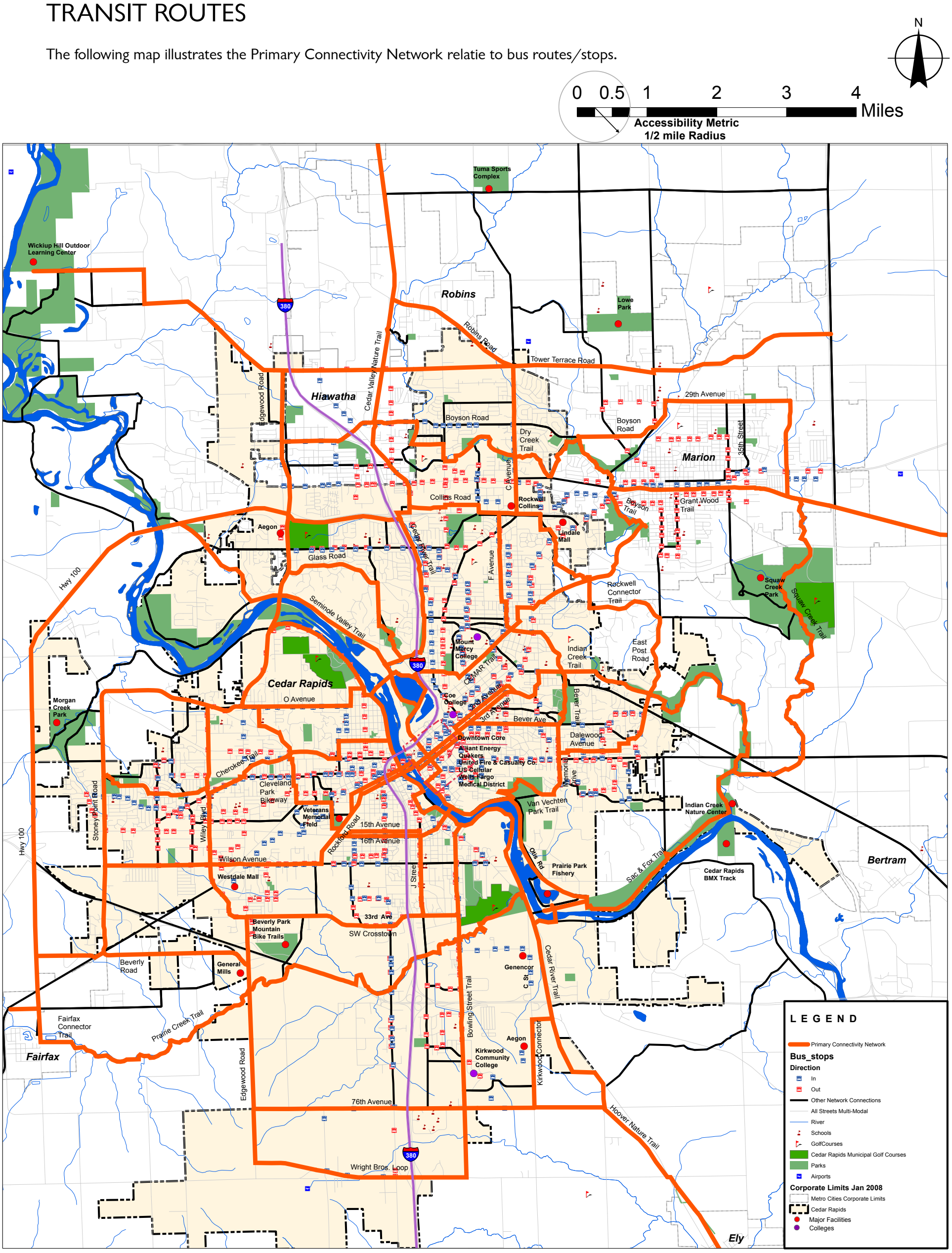
## POPULATION DENSITY

The following map illustrates the Primary Connectivity Network relative to population density.



## TRANSIT ROUTES

The following map illustrates the Primary Connectivity Network relatie to bus routes/stops.



# USER GROUP DIRECTION

## CITY STAFF COMMITTEE

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Cedar Rapids, IA 52404

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## STEERING COMMITTEE

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Rockwell Collins Commuter Club

BILL BOGERT, PE
Kaizen Event/Neighborhood Process Planning Session participant

NIKKI DAVIDSON
Rockwell Collins
Senior Support Coordinator/Bike to Work/BAC

SAMANTHA DAHLBY
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Coordinator
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CANDY MULLEN
Cedar Valley Running Association, President

ERIC PENNE
Linn Area Mountain Bike Association (LAMBA)
www.lambaonline.com

JILL ROEDER
Healthy Linn Care Network, Outreach Coordinator
A Division of Linn County Public Health
www.linncountypublichealth.org

TOM TREHARNE
Planning & Development Director
City of Marion
www.cityofmarion.org

## COMMUNICATION TOOL

In addition to steering committee meetings, city staff meetings, city council meetings and pubic open houses, this project utilizes a project tracker website to keep stakeholders informed. The project tracker website is dedicated to communication, publicly available to stakeholders. Any interested party can visit www.shive-hattery.com/crtrails to stay updated on the status of the project.

The project tracker website includes project background/history information, committee members names, contact information, photo tours, schedules, maps, and trails segments.

# PUBLIC INVOLVEMENT

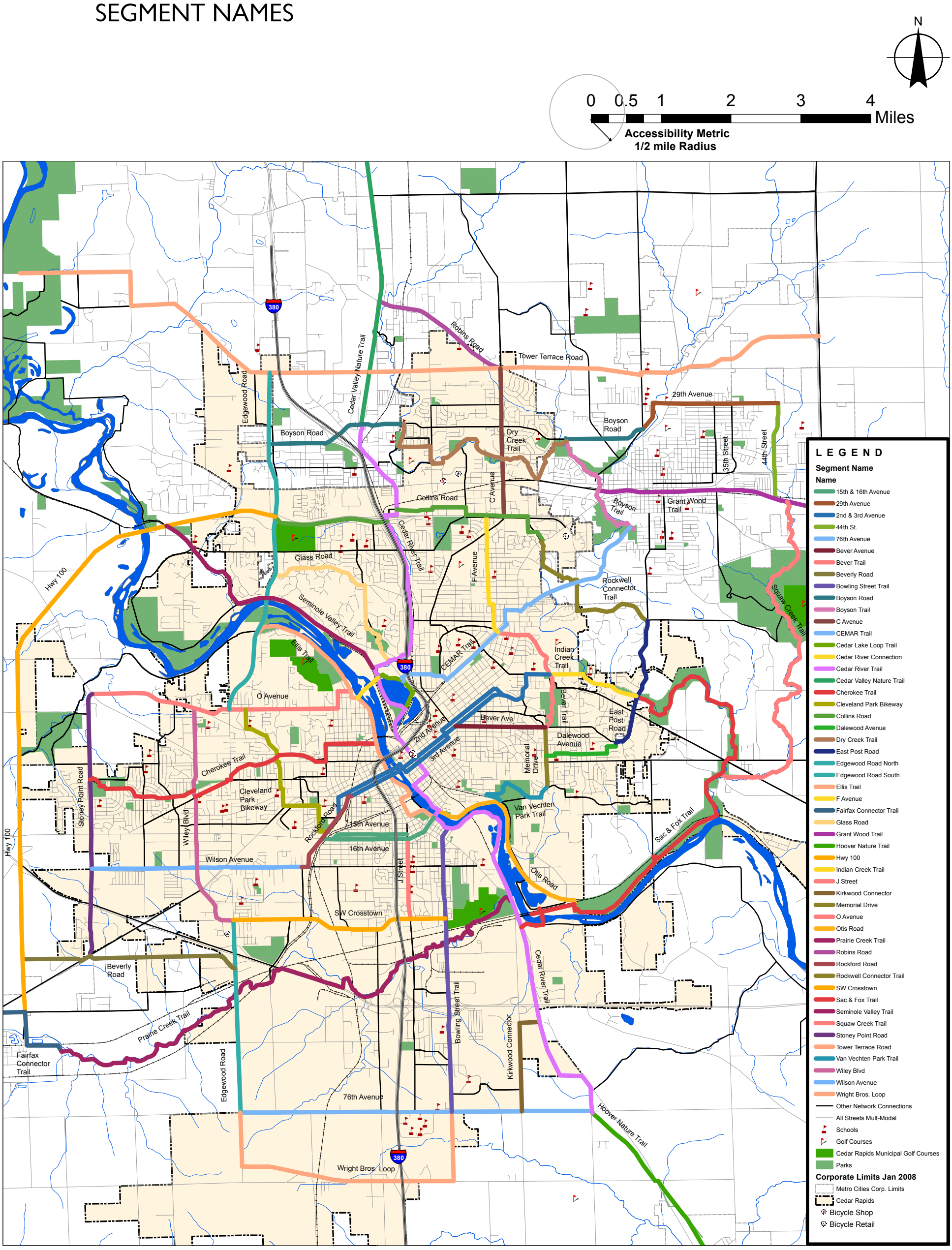
## SCHEDULE

| | 2009 | | | | | 2010 | | | | | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | AUG | SEPT | OCT | NOV | DEC | JAN-MAR | APR | MAY | JUNE | JULY | JAN-DEC |
| City Staff Meeting/Kick off (CS-1) **August 28, 2009** | | | | | | | | | | | |
| **Steering Committee Meeting/ Kickoff (SC-1)** **September 17, 2009** | | | | | | | | | | | |
| City Staff Meeting (CS-2) **October 16, 2009** | | | | | | | | | | | |
| **Steering Committee Meeting - Presentation of Draft CRCTP (SC-2)** **October 22, 2009** | | | | | | | | | | | |
| City Staff Meeting (CS-3) **November 13, 2009** | | | | | | | | | | | |
| **Steering Committee Meeting - Present Preliminary CRCTP (SC-3)** **November 19, 2009** | | | | | | | | | | | |
| City Staff Meeting (CS-4) **December 1, 2009** | | | | | | | | | | | |
| Public Input Meeting (PI-1) **December 7, 2009** | | | | | | | | | | | |
| City Staff Meeting (CS-5) **April 7, 2010** | | | | | | | | | | | |
| **Steering Committee Meeting (SC-4)** **April 15, 2010** | | | | | | | | | | | |
| Public Input Meeting (PI-2) **April 26, 2010** | | | | | | | | | | | |
| Meet with Iowa DOT/City Staff Meeting (CS-6) **April 30, 2010** | | | | | | | | | | | |
| **Steering Committee Meeting – Present Final Report (SC-5)** **May 6, 2010** | | | | | | | | | | | |
| City Staff Meeting (CS-7) **July 1, 2010** | | | | | | | | | | | |
| HBA Developers Council Meeting **July 1, 2010** | | | | | | | | | | | |
| HBA Developers Council Meeting **July 1, 2010** | | | | | | | | | | | |
| City Infrastructure Meeting **July 1, 2010** | | | | | | | | | | | |
| City Infrastructure Meeting **July 1, 2010** | | | | | | | | | | | |

* Since August 19, 2011 this report has been under review at Public Works.

# COMPREHENSIVE TRAILS PLAN

## SEGMENT NAMES



# COMPREHENSIVE TRAILS PLAN

## SEGMENT NAMES

The Primary Connectivity Network (PCN) is made up of 52 individual segments. Most of these segments had previously accepted names. The previously unnamed segments were named as a part of this plan and have been used, modified and accepted during the planning process. The lengths of the segments vary from .4 miles to 14 miles in length. The segment names map to the left illustrates the individual segments by name. These segments make up the PCN.

- 15th & 16th Avenue
- 29th Avenue
- 2nd & 3rd Avenue
- 44th St.
- 76th Avenue
- Bever Avenue
- Bever Trail
- Beverly Road
- Bowling Street Trail
- Boyson Road
- Boyson Trail
- C Avenue
- CEMAR Trail
- Cedar Lake Loop Trail
- Cedar River Connection
- Cedar River Trail
- Cedar Valley Nature Trail
- Cherokee Trail
- Cleveland Park Bikeway
- Collins Road
- Dalewood Avenue
- Dry Creek Trail
- East Post Road
- Edgewood Road North
- Edgewood Road South
- Ellis Trail
- F Avenue
- Fairfax Connector Trail
- Glass Road
- Grant Wood Trail
- Hoover Nature Trail
- Hwy 100
- Indian Creek Trail
- J Street
- Kirkwood Connector
- Memorial Drive
- O Avenue
- Otis Road
- Prairie Creek Trail
- Robins Road
- Rockford Road
- Rockwell Connector Trail
- SW Crosstown
- Sac & Fox Trail
- Seminole Valley Trail
- Squaw Creek Trail
- Stoney Point Road
- Tower Terrace Road
- Van Vechten Park Trail
- Wiley Blvd
- Wilson Avenue
- Wright Bros. Loop

* The trail segments are in alphabetical order for quick reference.

## TRAIL SEGMENT SCHEDULES

The following schedules are developed for each segment to provide common data important to the planning, development, marketing and maintenance of the individual segments. Conditions will change periodically so there should be a regular review and update to the data.

# 15TH & 16TH AVENUE SEGMENT

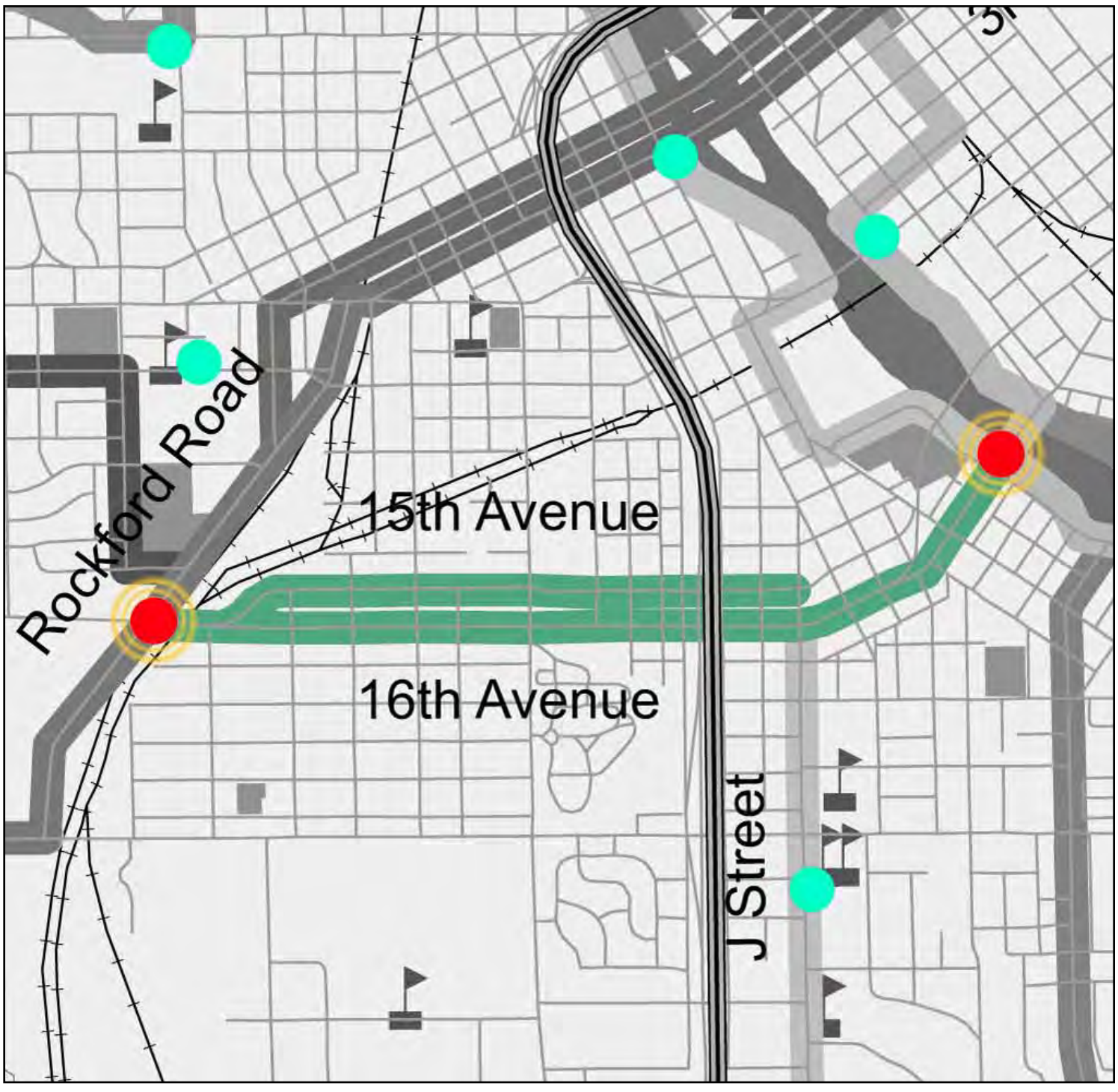
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road (15th Ave one-way Westbound & 16th Ave one-way Eastbound) |
| 2 | Segment Length (Mile) | 1.1 miles (15th Ave) & 1.7 miles (16th Ave) Total 2.8 miles |
| 3 | Roadway Classification | Local/ Collector |
| 4 | Total Pavement Width (Feet) | Varies: 30',32',36',40',48' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-4 Traffic lanes |
| 6 | Right of Way | 50' & 80' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Varies: None (central) Both sides ( East and West ends of segment) |
| 10 | Adjacent Sidewalk | Narrow pedestrian walk both sides |
| 11 | Traffic Volume (AADT) | 1,000 - 5,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential / Commercial (Near river) |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 12 (in) 3 (out) |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good, with exception to north section near river which has narrow travel lanes and wider sidewalks |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Veterans Memorial Stadium, Cedar River |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section D |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes and traffic lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

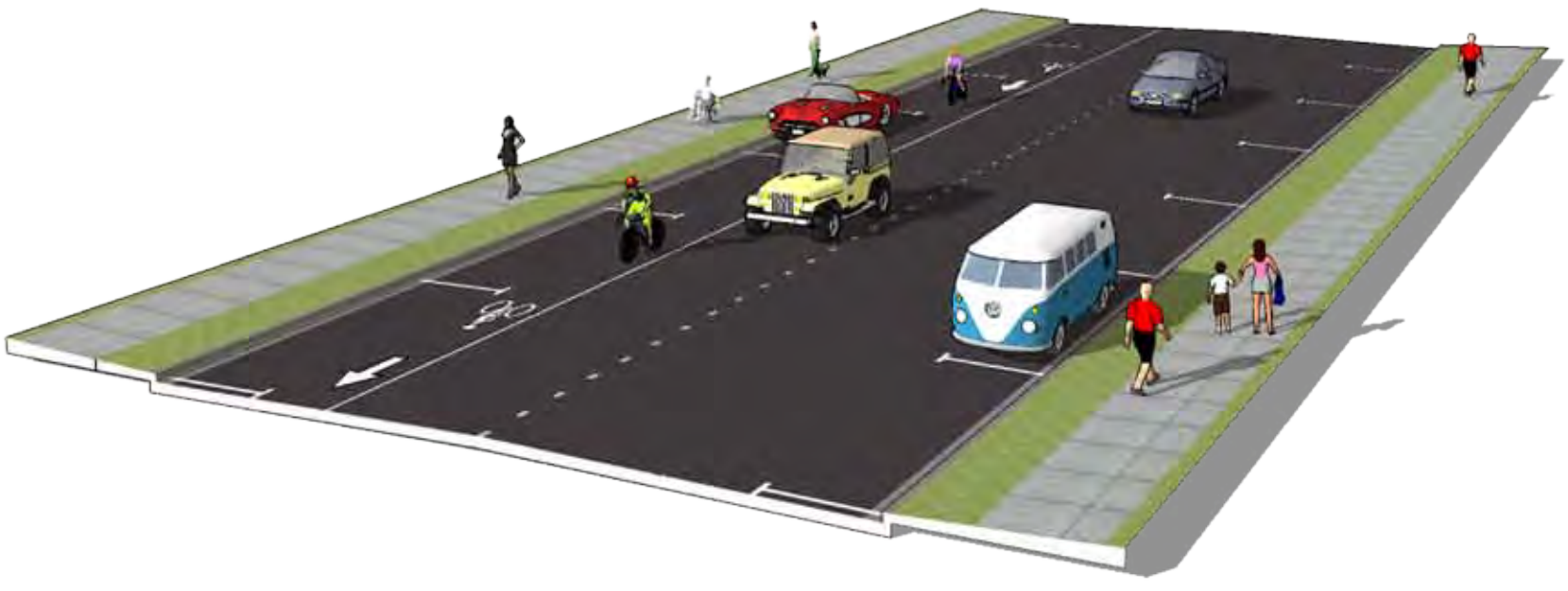
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 159 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 318 | $65,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street Repair or Overlay | SY | $20.00 | 0 | $0.00 |
| 5 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | NA | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $85,000.00 |
| | | | | Construction Contingency 15% | $15,000.00 |
| | | | | Engineering Design 10% | $8,500.00 |
| | | | | Total Segment Cost | $110,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2.8 | $44,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# 15TH & 16TH AVENUE SEGMENT



# 2ND & 3RD AVENUE SEGMENT

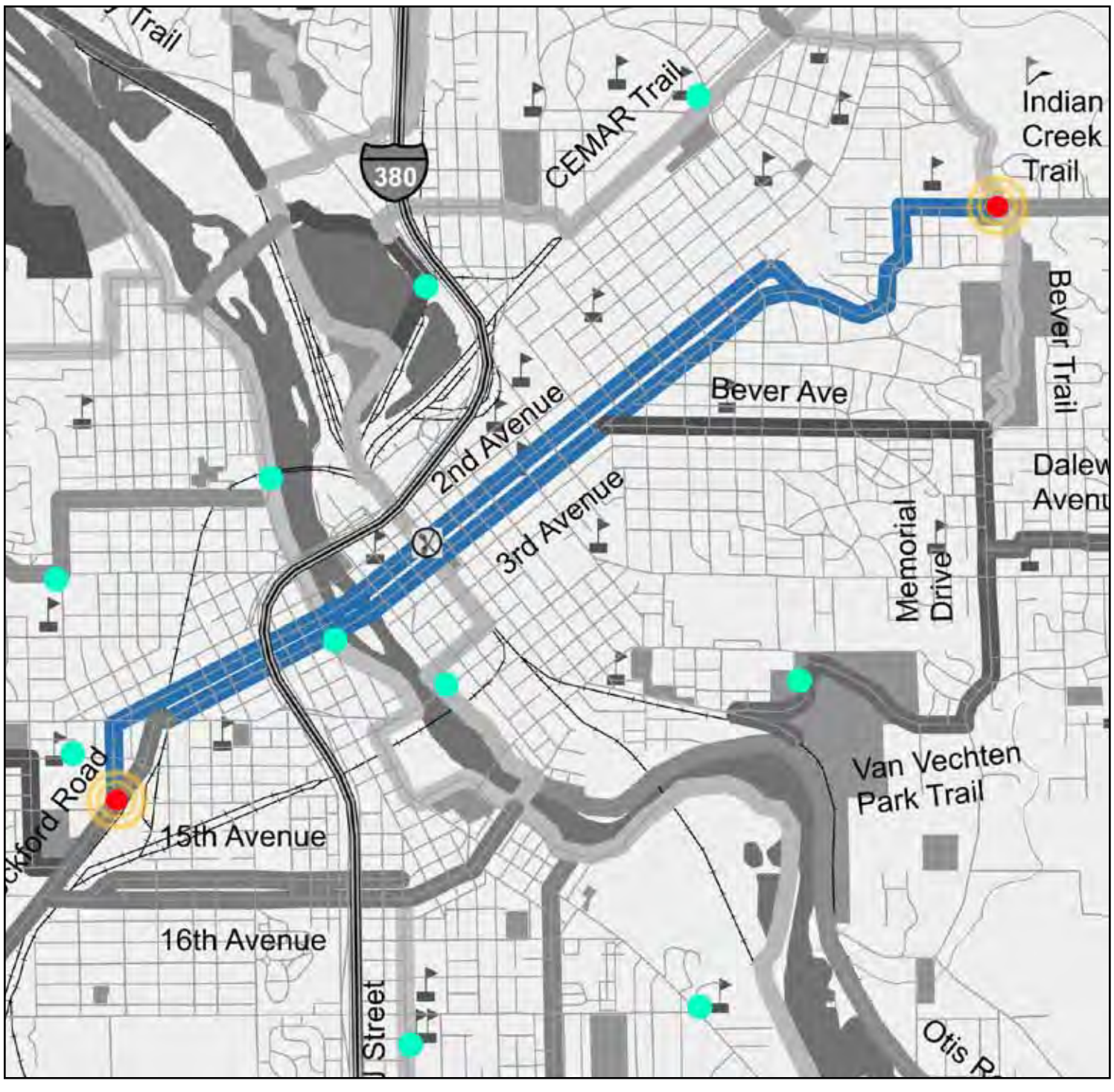
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road (2nd Ave one-way Westbound & 3rd Ave one-way Eastbound) |
| 2 | Segment Length (Mile) | 3.6 miles (2nd Ave) & 3.4 miles (3rd Ave) Total: 7 miles |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | 30', 40', 60' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 to 5 Traffic Lanes |
| 6 | Right of Way | 80' 2nd Ave, 100' on 3rd Ave |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Both sides |
| 10 | Adjacent Sidewalk | Narrow Pedestrian walk both sides |
| 11 | Traffic Volume (AADT) | Medium 300-10,000 |
| 12 | Posted Street Speed limit (mph) | varies 25-35 mph |
| 13 | Land Use Type | Residential, Commercial and Downtown Core |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/Repair Shop on 2nd Ave |
| 15 | Transit Access with Bike Racks (See Segment Map) | 20 Bus Stops |
| 16 | Physical Barriers | Rush hour traffic, downtown traffic lights, Railroad crossings |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Narrows severely at Forest Dr. SE |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Downtown Core, Restaurants and Retails |
| 21 | Residential Density (Hi - Med - Lo) | Low to Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | High in downtown |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section J, Street width varies with 2-4 traffic lanes |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lane and traffic lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

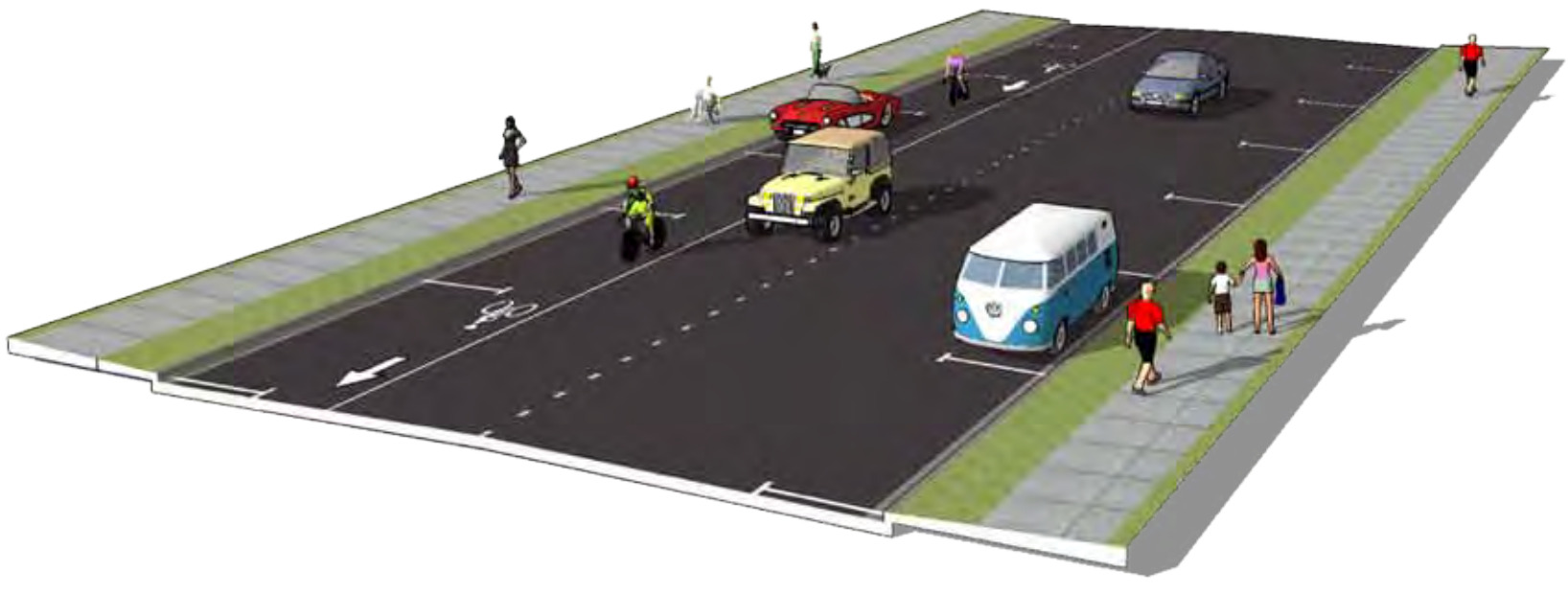
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 360 | $15,000 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 360 | $75,000 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 90 | $45,000 |
| 4 | Sidewalk repair and or new sidewalk construction | LS | NA | NA | $0 |
| 5 | Street Repair or Overlay | SY | $20.00 | 0 | $0 |
| 6 | New Separated Trail Construction | Sta | NA | 0 | $0 |
| 7 | Lump Sum Item (Signage) | LS | $20,000.00 | 1 | $20,000 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization, Signage, etc.) | LS | $0.00 | 0 | $0 |
| | | | | | |
| | | | | Construction Subtotal | $155,000 |
| | | | | Construction Contingency 15% | $25,000 |
| | | | | Engineering Design 10% | $20,000 |
| | | | | Total Segment Cost | $200,000 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 7.0 | $112,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# 2ND & 3RD AVENUE SEGMENT



# 76TH AVENUE SEGMENT

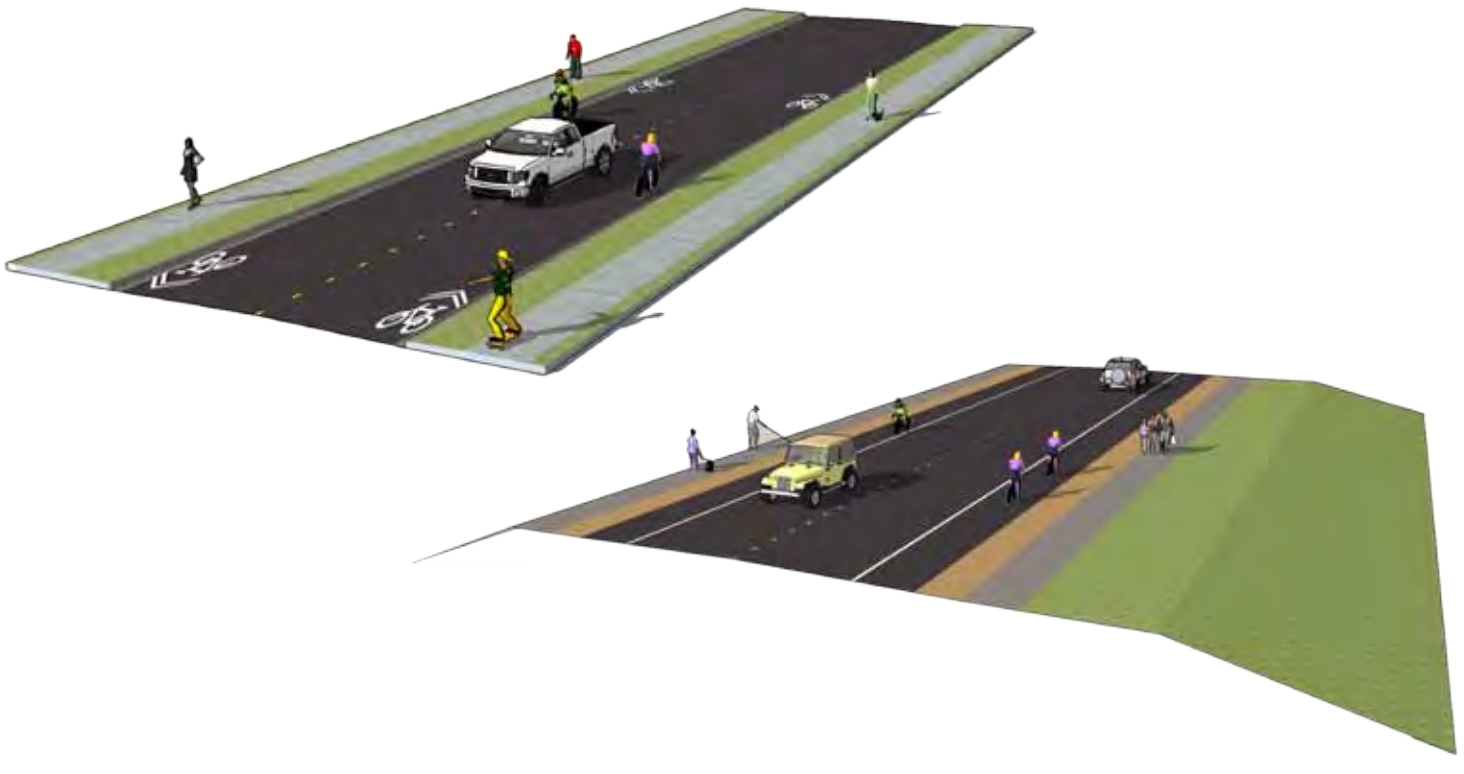
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 4 miles inside City Limits (Total segment mile: 5) |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 24’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 to 4 lanes |
| 6 | Right of Way | 66’ & 100’ |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | Yes |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | Low (80 - 4,360) |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Varies; Education, Rural agriculture and Corporate |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Nearest retail bicycle facility 2.7 miles |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 3 (in) 1 (out) |
| 16 | Physical Barriers | Rail Road Crossing |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies in width near school campus, curb and gutter inconsistent across segment length |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit/ Convenient Connections | Kirkwood Community College, College Community campus, Aegon campus |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Varies very high on east side and low to moderate on west side |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section I, M |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Shoulder widening as required |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | No |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 276 | $15,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 552 | $115,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or new sidewalk construction | LS | NA | NA | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $1,600.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $40,000.00 | 1 | $40,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $170,000.00 |
| | | | | Construction Contingency 15% | $30,000.00 |
| | | | | Engineering Design 10% | $20,000.00 |
| | | | | Total Segment Cost | $220,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 5 | $80,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# 76TH AVENUE SEGMENT

# BEVER AVENUE SEGMENT

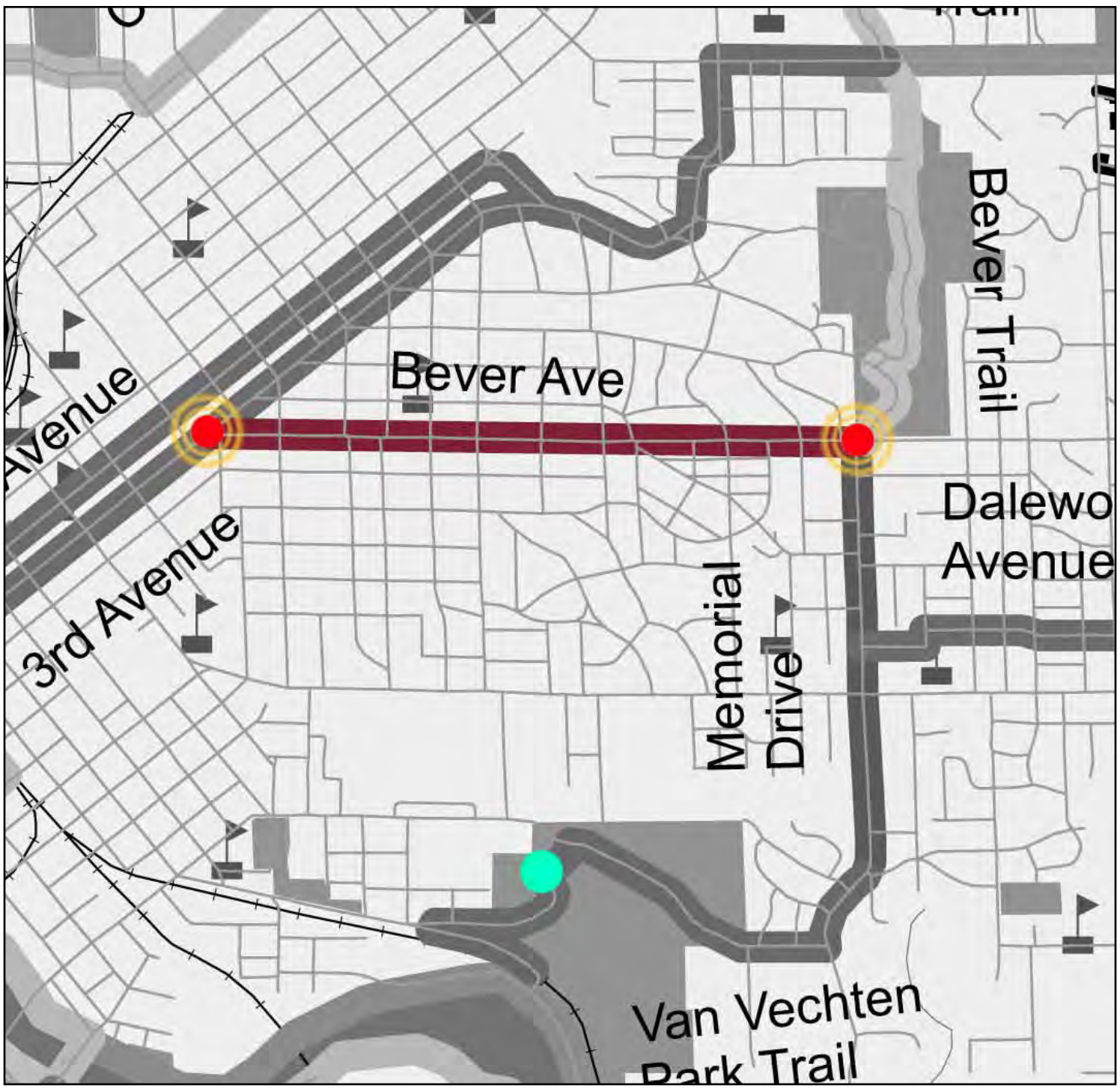
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 1.3 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 40', 38' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-4 Traffic lanes |
| 6 | Right of Way | 80' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Both Sides |
| 10 | Adjacent Sidewalk | Narrow Pedestrian walks both sides |
| 11 | Traffic Volume (AADT) | 1,000-6,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/ Shop with 1.2 miles of West end of segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 6 (in) 2 (out) |
| 16 | Physical Barriers | Heavy Street Parking |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Bever Park |
| 21 | Residential Density (Hi - Med - Lo) | High |
| 22 | Employment Intensity (Hi - Med - Lo) | None |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section K |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Re-Striping for Sharrow |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

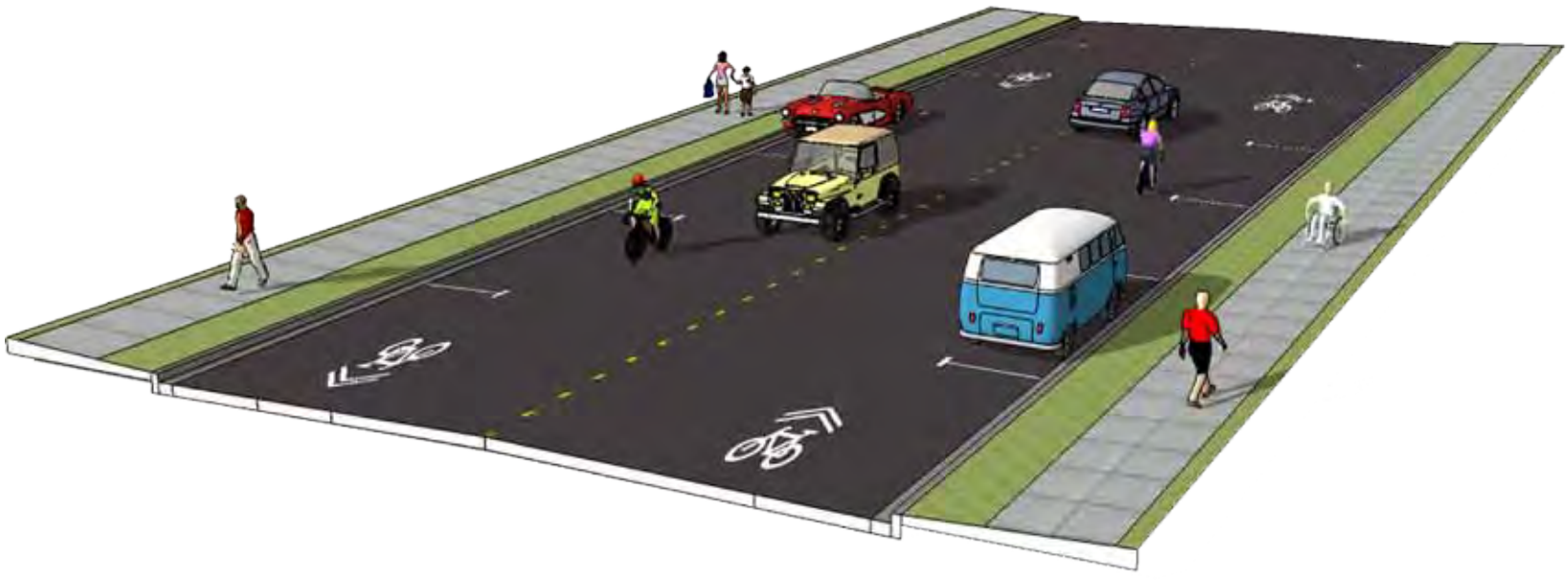
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 74 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 148 | $30,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $15,000.00 | 1 | $15,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $50,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $65,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.3 | $20,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# BEVER AVENUE SEGMENT



# BEVER TRAIL SEGMENT

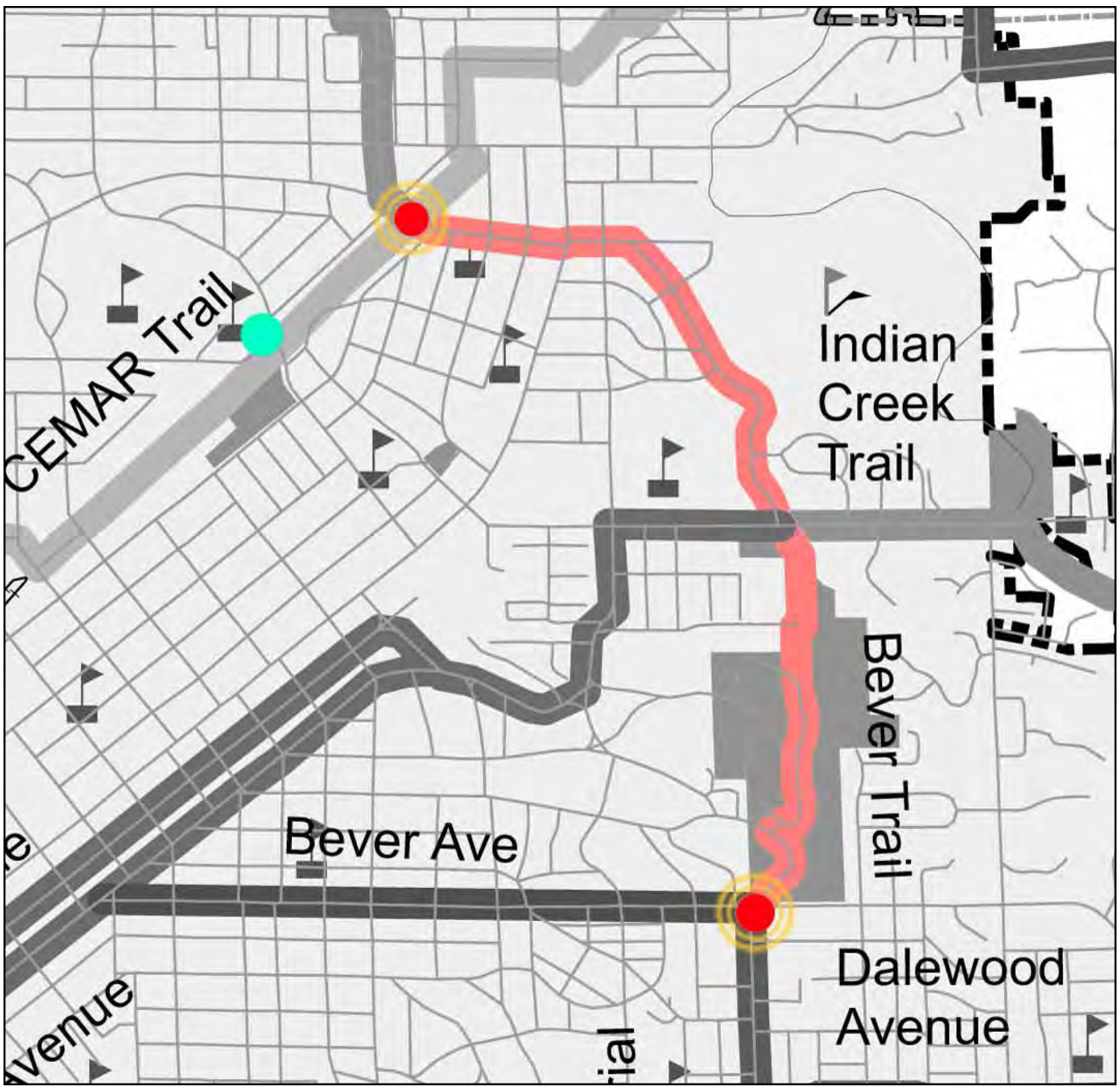
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road & Separated Trail Combination |
| 2 | Segment Length (Mile) | 2 miles |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 24’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 |
| 6 | Right of Way | 63’ & 70’ |
| 7 | Curb & Gutter | Out side park segment |
| 8 | Paved Shoulder | Inside park segment |
| 9 | On-Street Parking | Residential area |
| 10 | Adjacent Sidewalk | 27th St Drive SE |
| 11 | Traffic Volume (AADT) | 3,000-4,000 |
| 12 | Posted Street Speed limit (mph) | 25 |
| 13 | Land Use Type | Residential, Park |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/Shop with in 2 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 1(in) 1 (out) |
| 16 | Physical Barriers | Hills, Parking lots in park |
| 17 | Pavement/Curb Condition | Fair to Good |
| 18 | Consistency of Section within Segment | Varies On-road to Off-Road |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Cedar Rapids Country Club, Bever Park |
| 21 | Residential Density (Hi - Med - Lo) | low to Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section A in Park and Section N outside park |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Bike Lane Striping through park |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Verify on site |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 88 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 176 | $40,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or new Sidewalk construction | LA | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 18 | $210,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $265,000.00 |
| | | | | Construction Contingency 15% | $40,000.00 |
| | | | | Engineering Design 10% | $30,000.00 |
| | | | | Total Segment Cost | $335,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2 | $32,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# BEVER TRAIL SEGMENT




# BEVERLY ROAD SEGMENT

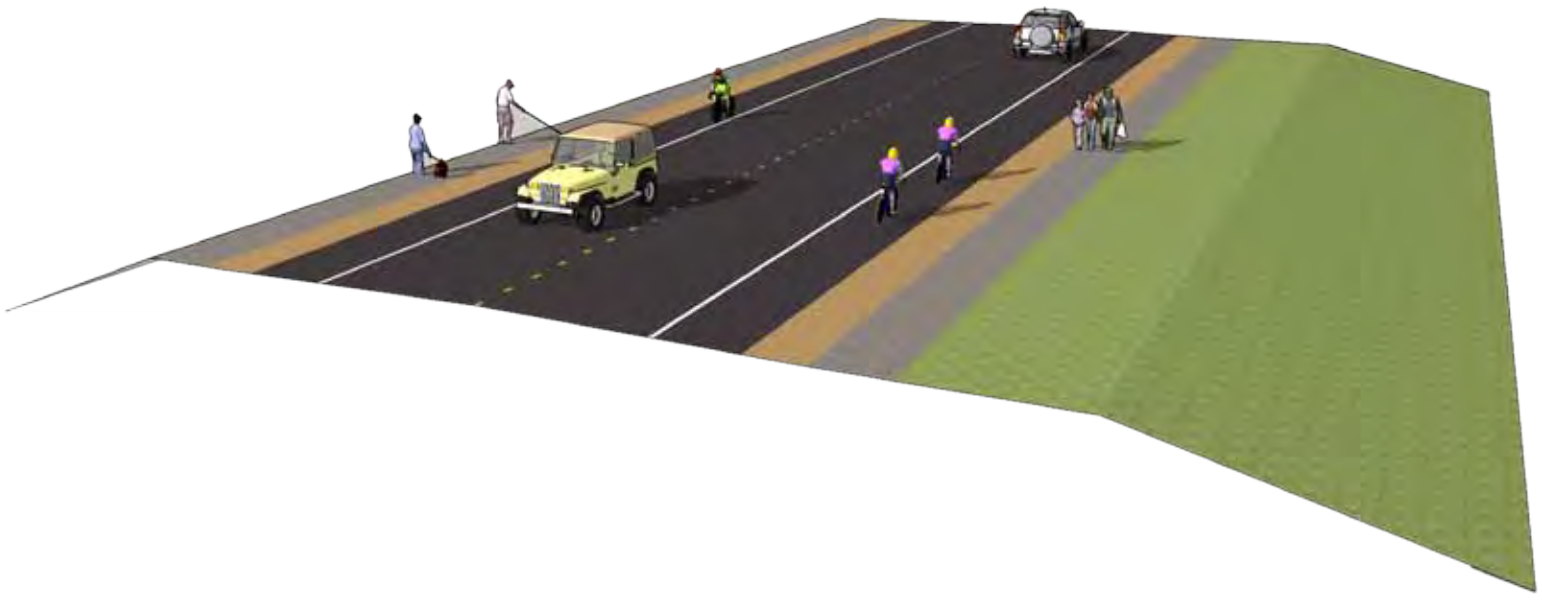
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | Miles Outside Cedar Rapids City Limits 1.5, Inside Cedar Rapids 1.6, Total 3.1 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 24' & 75' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-4 Traffic lanes |
| 6 | Right of Way | Varies: 60', 66' 88' |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 200-2,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential, Farmland |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail with in .5 mi of east end of segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | with in 1 mi. of Westdale Mall, future Hwy 100 connection |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section M |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Widening as required |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | Yes |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 80 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 160 | $35,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Widening | Sta | $11,500.00 | 114.4 | $1,315,600.00 |
| 5 | Sidewalk repair and or new sidewalk construction | LS | $0.00 | 0 | $0.00 |
| 6 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 7 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 8 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 9 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,360,600.00 |
| | | | | Construction Contingency 15% | $204,090.00 |
| | | | | Engineering Design 10% | $136,060.00 |
| | | | | Total Segment Cost | $1,700,750.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.1 | $49,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# BEVERLY ROAD SEGMENT

# BOWLING STREET TRAIL SEGMENT

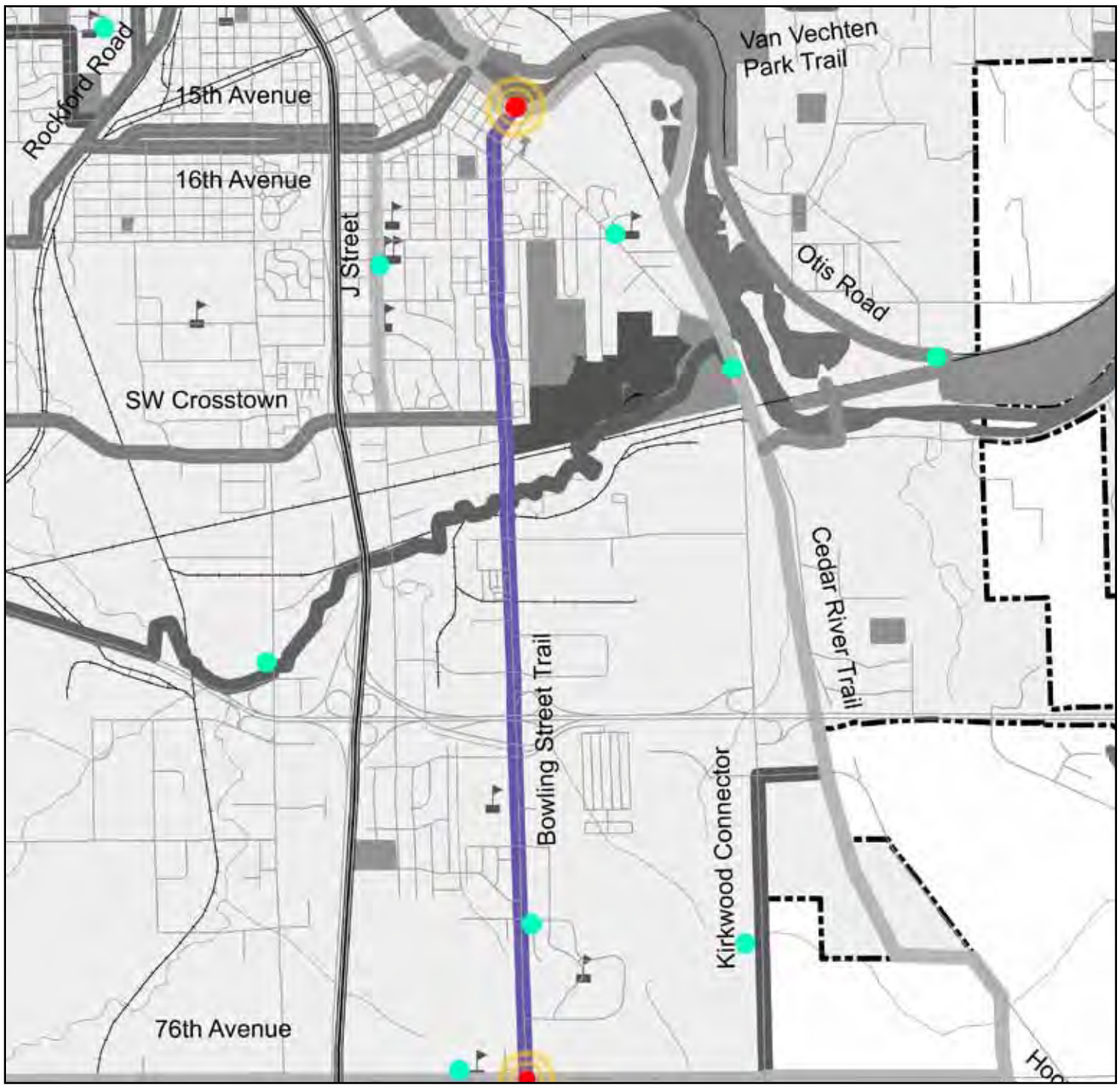
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road & Separated Trail combination |
| 2 | Segment Length (Mile) | 1.8 miles existing 4.1 miles (Total) |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | Varies: 30',44',48',60' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-4 Traffic lanes |
| 6 | Right of Way | 60', 66', 80', 100', 120' |
| 7 | Curb & Gutter | Yes; varies |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | No |
| 10 | Adjacent Sidewalk | Fractioned on north and south ends |
| 11 | Traffic Volume (AADT) | 7,000-12,000 |
| 12 | Posted Street Speed limit (mph) | 25-35 mph |
| 13 | Land Use Type | Highway Commercial, Industrial, Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within 2 mi. of north end of segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 5 (in) 15 (out) |
| 16 | Physical Barriers | RR Crossings, US 30 Interchange |
| 17 | Pavement/Curb Condition | Fair |
| 18 | Consistency of Section within Segment | Varies 2- 4 Traffic Lanes |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Kirkwood Community College campus, Cedar River Trail |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section A & H |
| 24 | Improvement for Re-Striping, Overlay, or Widening | New Trail extensions, new bridge over Hwy 30/151 |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | Yes |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 122 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 244 | $50,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | $0.00 | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 79 | $910,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $22,100.00 | 1 | $25,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $500,000.00 | 1 | $500,000.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,490,000.00 |
| | | | | Construction Contingency 15% | $223,500.00 |
| | | | | Engineering Design 10% | $149,000.00 |
| | | | | Total Segment Cost | $1,862,500.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4.1 | $65,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# BOWLING STREET TRAIL SEGMENT




# C AVENUE SEGMENT

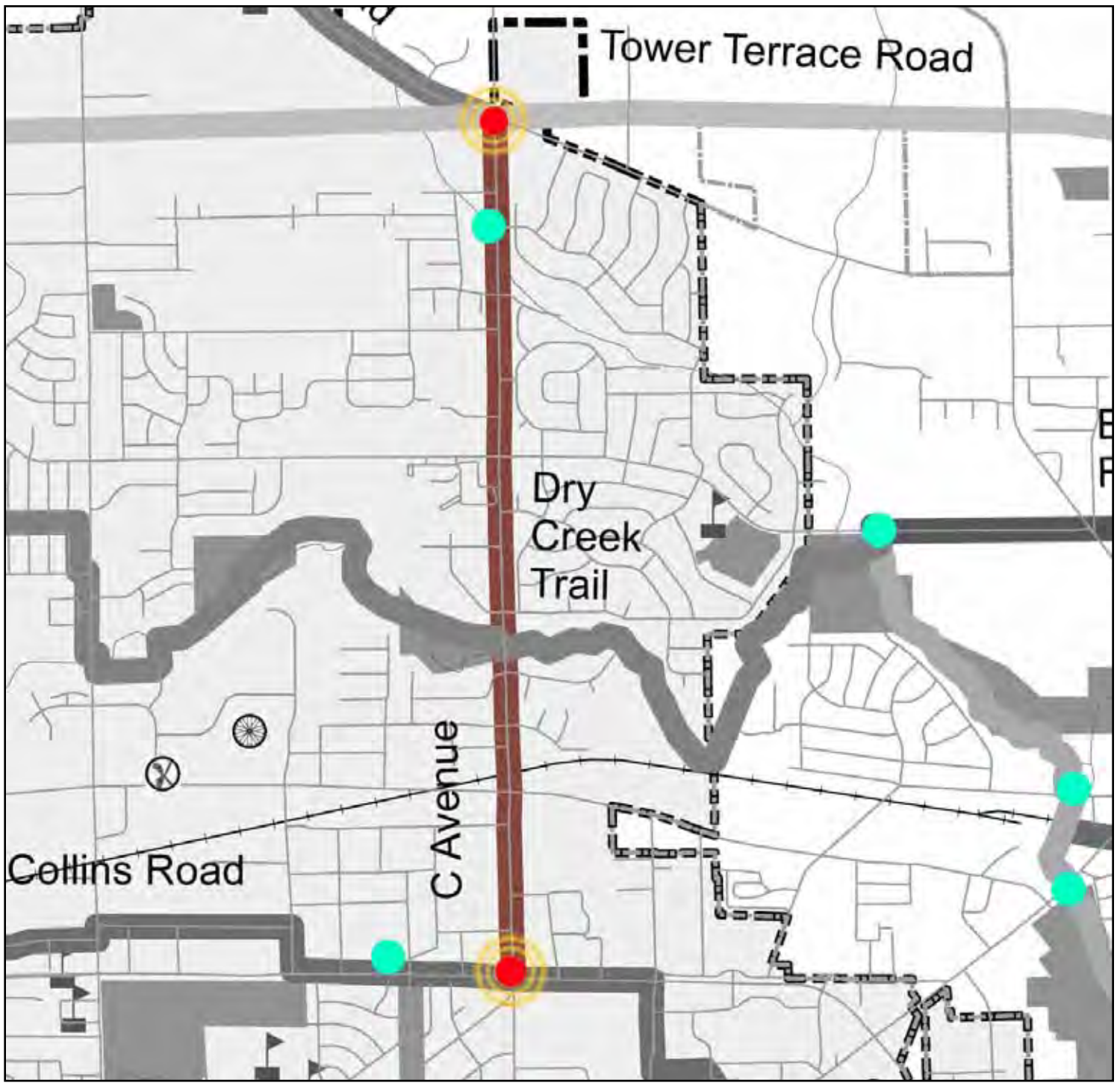
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Seaparated Trail | On-Road |
| 2 | Segment Length (Mile) | 0.9 mi (existing) 2.1 miles |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | 48' - 64' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 to 5 Traffic Lanes |
| 6 | Right of Way | 80', 100', 110', 120' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | Yes |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | North of Blairsferry Rd. |
| 11 | Traffic Volume (AADT) | Very High (>22,000) |
| 12 | Posted Street Speed limit (mph) | 35 mph |
| 13 | Land Use Type | Corporate, Retail & Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/Repair Shop within .5 miles |
| 15 | Transit Access with Bike Racks (See Segment Map) | 6 Bus Stops |
| 16 | Physical Barriers | Railroad Crossing, 3 Major intersections |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Rockwell Collins Corporate Campus and Highway Commercial |
| 22 | Residential Density (Hi - Med - Lo) | Medium |
| 23 | Employment Intensity (Hi - Med - Lo) | High |
| **RECOMMENDED** | | |
| 25 | Recommended Typical Section | Section H, no street parking |
| 26 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes and traffic lanes |
| 27 | Need Bicycle Surface Improvements | No |
| 28 | Need Pedestrian Surface Improvements | May require Multi-Use Path on one side of roadway |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 69 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 140 | $50,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 0 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $60,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $10,000.00 |
| | | | | Total Segment Cost | $85,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2.1 | $33,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# C AVENUE SEGMENT




# CEMAR TRAIL SEGMENT

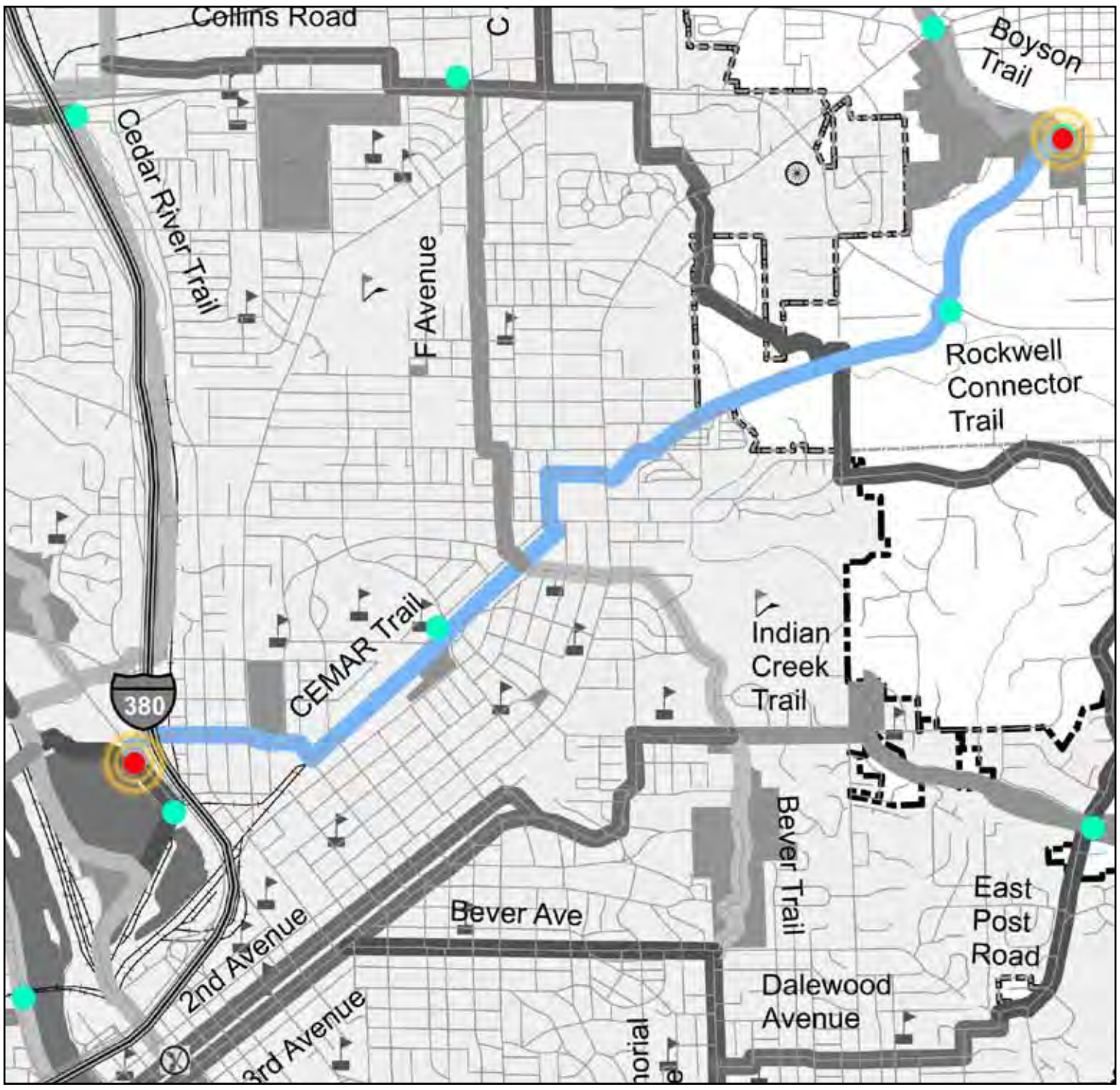
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road & Separated Combination  Phases I & II in process |
| 2 | Segment Length (Mile) | 4.5 miles Total 1.8 miles in process |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 30', 36', 40', 44', 48' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-4 Traffic lanes |
| 6 | Right of Way | 40' & 60' |
| 7 | Curb & Gutter | Yes, South end of the segment |
| 8 | Paved Shoulder | Yes, South end of the segment |
| 9 | On-Street Parking | Yes, South end of the segment |
| 10 | Adjacent Sidewalk | Yes, South end of the segment |
| 11 | Traffic Volume (AADT) | 300-1,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | bus stops 4 (in) 4 (out) |
| 16 | Physical Barriers | RR Crossings and Intersections |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies On-road 2-4 Traffic lanes to Off-road |
| **EVALUATION** | | |
| 19 | Collision Data  (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Cedar Lake Park, Marion connection, greenway |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low to Medium |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N in old rail bed; Section C where applicable in streets |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Currently in Design by others, new construction soon |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 53 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.);  avg. 2 per Sta. | Each | $200.00 | 53 | $15,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 32 | $370,000.00 |
| 7 | Lump Sum Item  (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item  (Bridge, Underpass, Railings, Fences, Signalization) | | | | |
| | | | | | |
| | | | | Construction Subtotal | $395,000.00 |
| | | | | Construction Contingency 15% | $60,000.00 |
| | | | | Engineering Design 10% | $40,000.00 |
| | | | | Total Segment Cost | $495,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4.5 | $72,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# CEMAR TRAIL SEGMENT




# CEDAR LAKE LOOP TRAIL SEGMENT

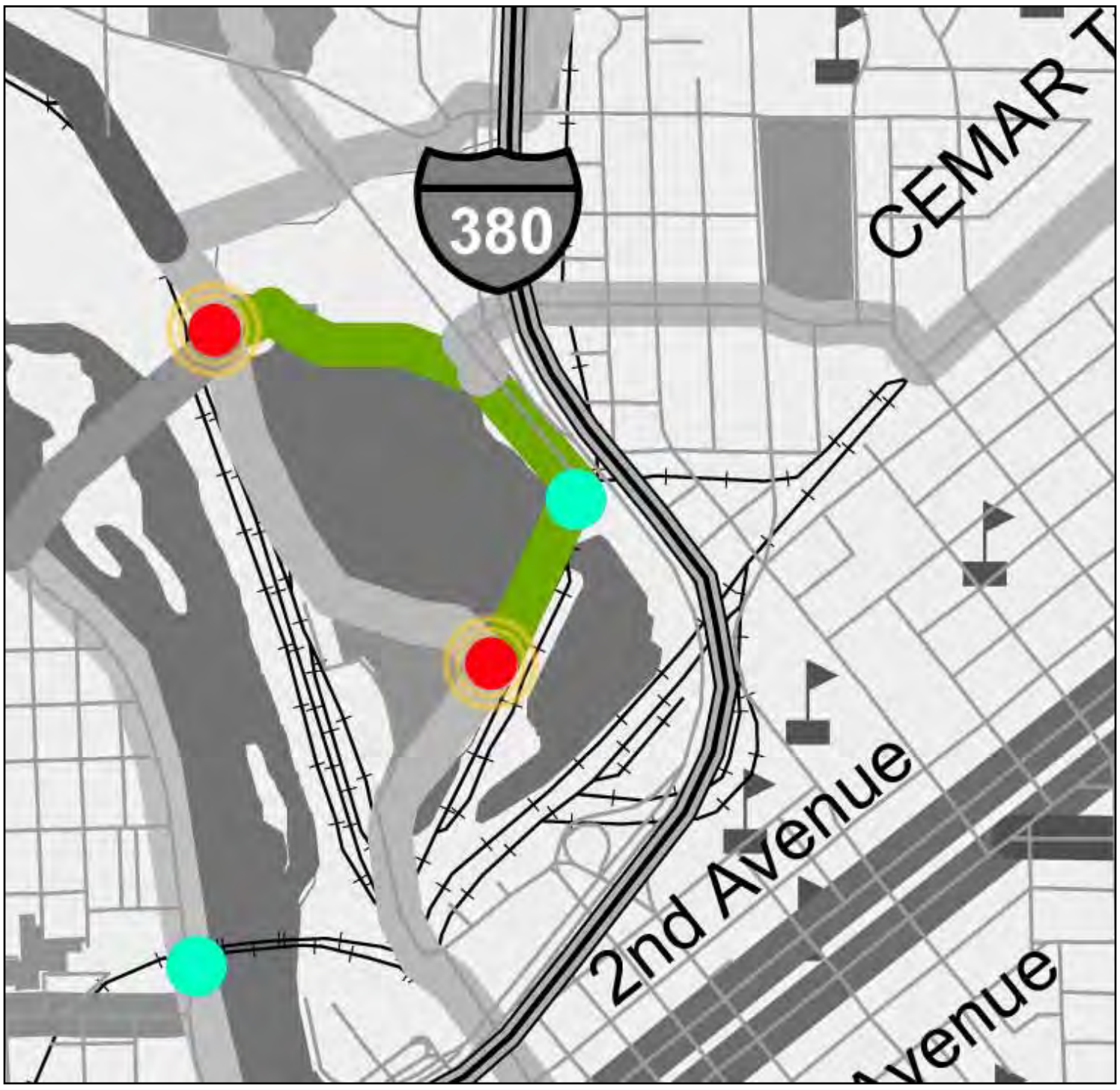
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated Trail Existing |
| 2 | Segment Length (Mile) | 0.9 mile |
| 3 | Roadway Classification | Partial Local |
| 4 | Total Pavement Width (Feet) | 8'-10' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | None |
| 6 | Right of Way | N/A |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Part of multi-use trail |
| 11 | Traffic Volume (AADT) | None |
| 12 | Posted Street Speed limit (mph) | None |
| 13 | Land Use Type | Industrial |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within .8 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | Small section to moves to on road, conditions poor |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Cedar Lake Park |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium |
| **RECOMMENDED** | | |
| 24 | Recommended Typical Section | Existing section N, no shoulders |
| 25 | Improvement for Re-Striping, Overlay, or Widening | None |
| 26 | Need Bicycle Surface Improvements | No |
| 27 | Need Pedestrian Surface Improvements | No |

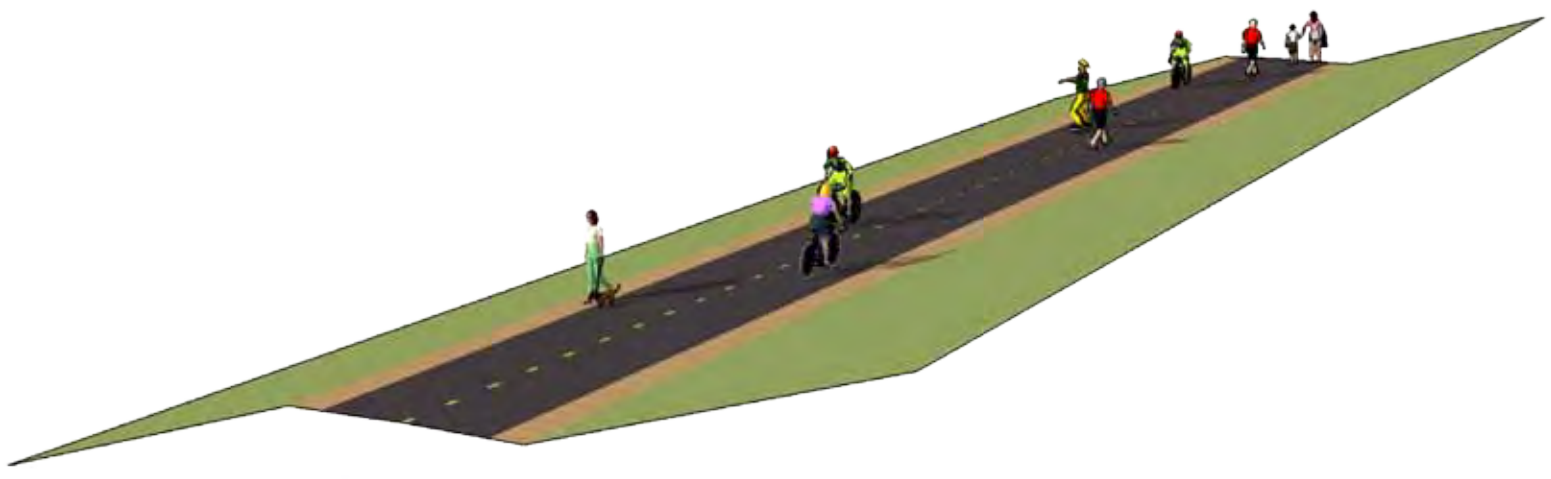
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 0 | $0.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 4693 | $95,000.00 |
| 6 | New Separated Trail Construction | Sta | $40.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $0.00 | 0 | $0.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $95,000.00 |
| | | | | Construction Contingency 15% | $15,000.00 |
| | | | | Engineering Design 10% | $10,000.00 |
| | | | | Total Segment Cost | $120,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | .9 | $14,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# CEDAR LAKE LOOP TRAIL SEGMENT



# CEDAR RIVER CONNECTION SEGMENT

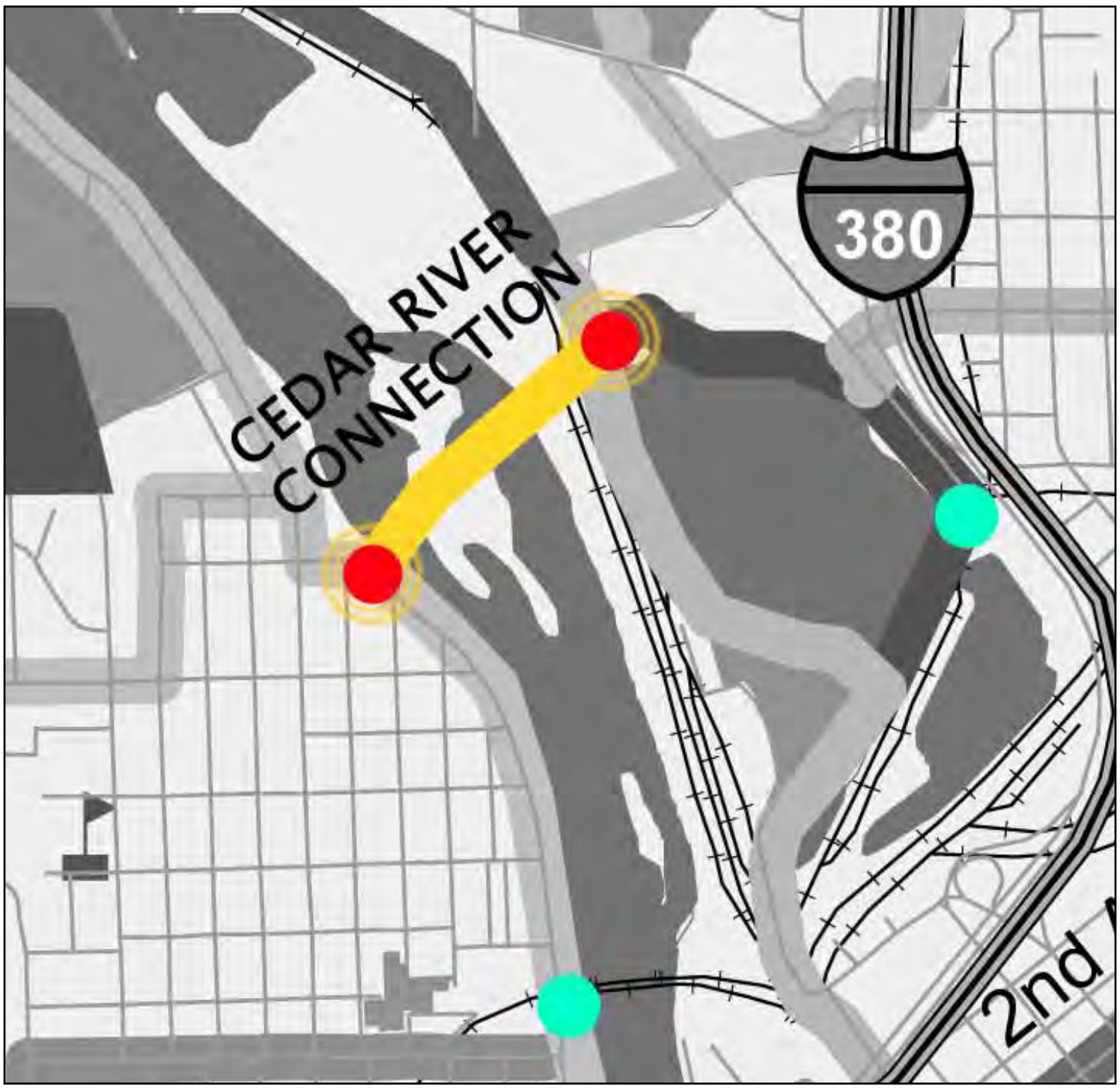
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated Trail/Bridge |
| 2 | Segment Length (Mile) | .4 mile |
| 3 | Roadway Classification | None |
| 4 | Total Pavement Width (Feet) | 14' Railing to Railing |
| 5 | Number of Traffic Lanes incl. Center Left Turn | NA |
| 6 | Right of Way | NA |
| 7 | Curb & Gutter | NA |
| 8 | Paved Shoulder | NA |
| 9 | On-Street Parking | NA |
| 10 | Adjacent Sidewalk | NA |
| 11 | Traffic Volume (AADT) | NA |
| 12 | Posted Street Speed limit (mph) | NA |
| 13 | Land Use Type | River Park |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/Shop within 1.5 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | 1 Bus stop nearby |
| 16 | Physical Barriers | Flood Zone |
| 17 | Pavement/Curb Condition | NA |
| 18 | Consistency of Section within Segment | New/Future construction |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Cedar River views, Ellis Trail and Cedar River Trail connection |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section on Approach to bridge abutment |
| 24 | Improvement for Re-Striping, Overlay, or Widening | New Bridge |
| 25 | Need Bicycle Surface Improvements | NA |
| 26 | Need Pedestrian Surface Improvements | NA |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 0 | $0.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $1,600.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $0.00 | 1 | $0.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $6,000,000.00 | 1 | $6,000,000.00 |
| | | | | | |
| | | | | Construction Subtotal | $6,000,000.00 |
| | | | | Construction Contingency 15% | $900,000.00 |
| | | | | Engineering Design 10% | $600,000.00 |
| | | | | Total Segment Cost | $7,500,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | .4 | $6,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# CEDAR RIVER CONNECTION SEGMENT




# CEDAR RIVER TRAIL SEGMENT

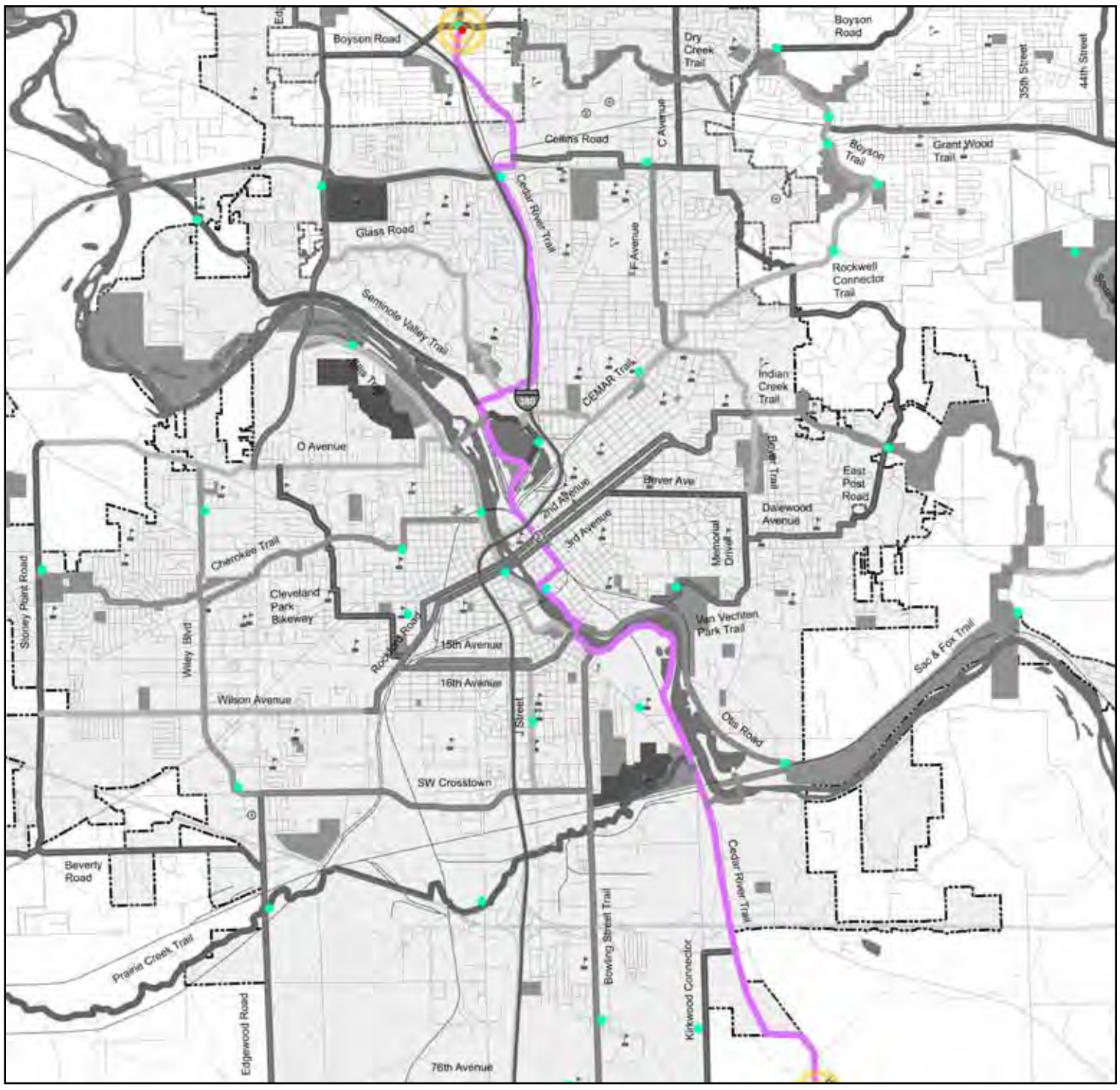
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated Trail |
| 2 | Segment Length (Mile) | 13.2 miles (existing) .6 mi outside of Cedar Rapids City Limits |
| 3 | Roadway Classification | None |
| 4 | Total Pavement Width (Feet) | 8'-10' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | None |
| 6 | Bike Lane Width (Feet) | 8' to 10' |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder (Feet) | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Part of multi-use trail |
| 11 | Traffic Volume (AADT) | None |
| 12 | Posted Street Speed limit (mph) | None |
| 13 | Land Use Type | River Park, Greenway |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail on segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 10 (in) 14 (out) |
| 16 | Physical Barriers | Street and RR crossings, tight intersections, |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | River trail |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium to High (Downtown) |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Possible widening of shoulder for jogging in certain areas |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

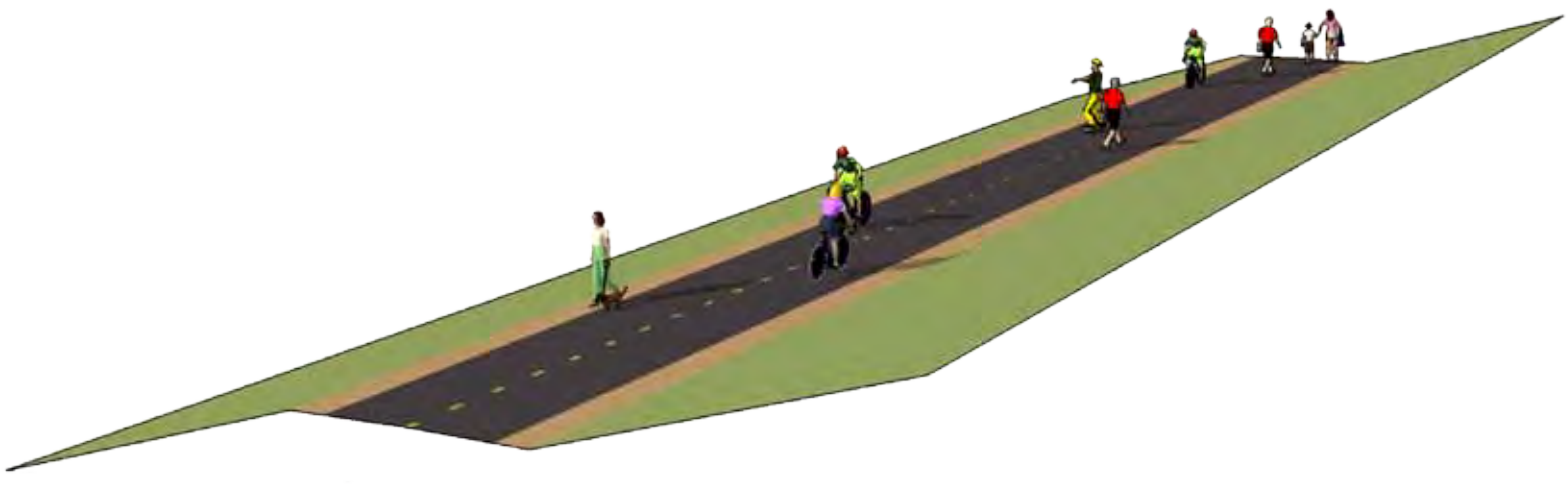
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 0 | $0.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $0.00 | 1 | $0.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $0.00 |
| | | | | Construction Contingency 15% | $0.00 |
| | | | | Engineering Design 10% | $0.00 |
| | | | | Total Segment Cost | $0.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 13.2 | $211,200.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# CEDAR RIVER TRAIL SEGMENT



# CHEROKEE TRAIL SEGMENT

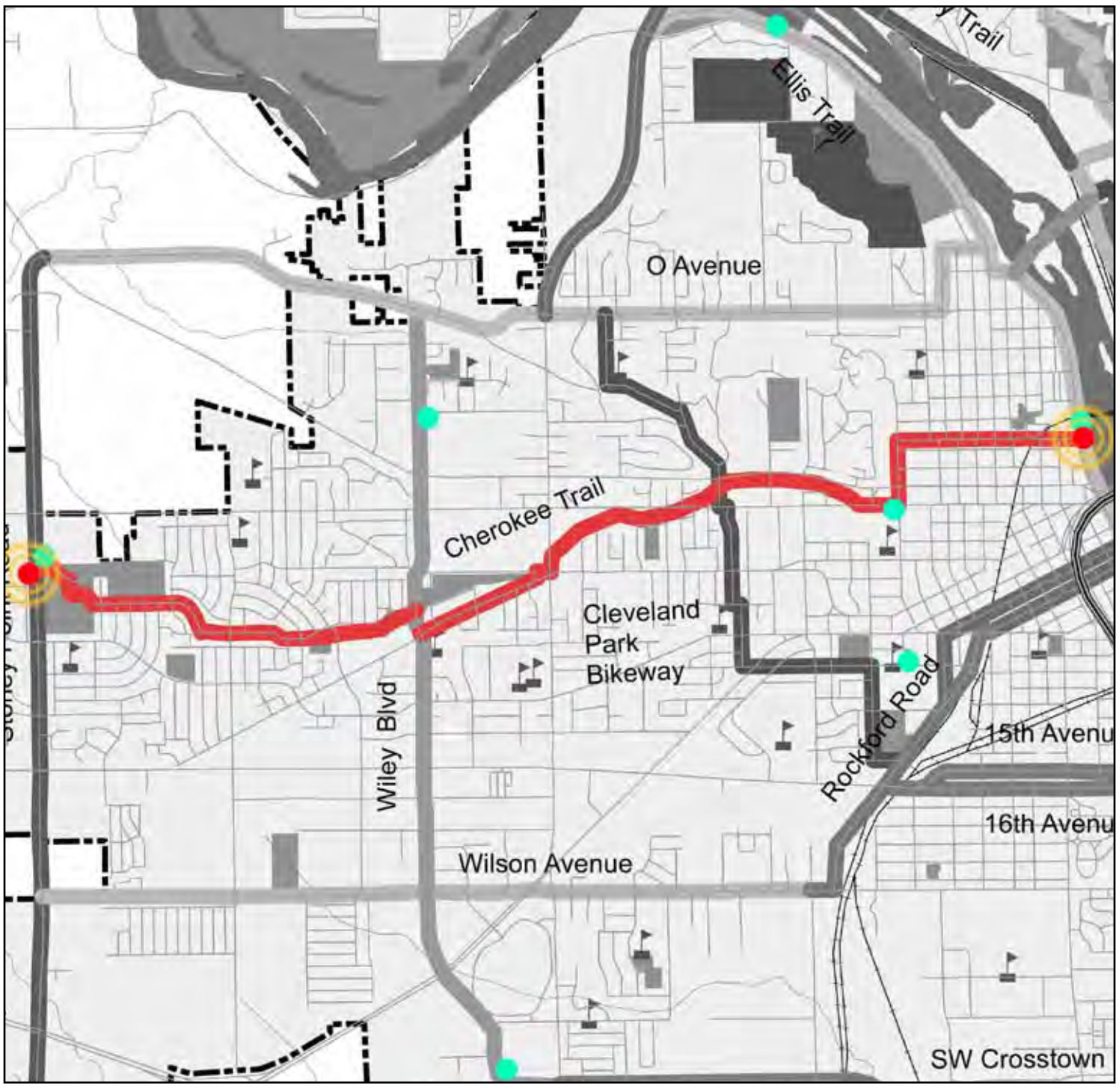
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Combination |
| 2 | Segment Length (Mile) | 2.2 Miles separated trail, 4.8 miles total |
| 3 | Roadway Classification | Residential |
| 4 | Total Pavement Width (Feet) | 28', 30', 35', 41', 61' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 -4 traffic lanes |
| 6 | Right of way | 60' & 80' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes |
| 10 | Adjacent Sidewalk | Yes both sides |
| 11 | Traffic Volume (AADT) | 1,500-3,000 |
| 12 | Posted Street Speed limit (mph) | 25 mph |
| 13 | Land Use Type | Residential, Parks |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Approximately 2 miles to nearest retail |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 16 (in) 7 (out) |
| 16 | Physical Barriers | Intersections, Railroad Crossing |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies widely 2-4 traffic lanes On-road to Off-road |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | "Greenway" thru Residential |
| 12 | Residential Density (Hi - Med - Lo) | Medium to High |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section A (east portion), Section H in areas with 4 travel lanes, Section N with 4' wide shoulders for jogging |
| 24 | Improvement for Re-Striping, Overlay, or Widening | No |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Section A (east portion), Section H in areas with 4 travel lanes, Section N with 4' wide shoulders for jogging |

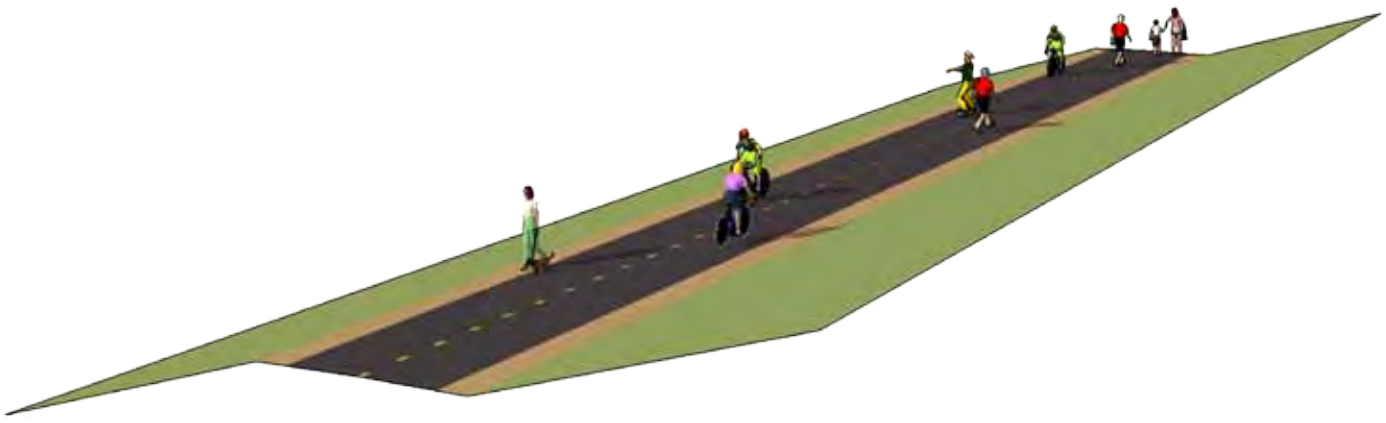
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 133 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 498 | $100,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | $0.00 | 0 | $0.00 |
| 5 | Street or Separated Trail Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 117 | $1,345,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $15,000.00 | 1 | $15,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | | | | |
| | | | | | |
| | Construction Subtotal | | | | $1,470,000.00 |
| | Construction Contingency 15% | | | | $225,000.00 |
| | Engineering Design 10% | | | | $150,000.00 |
| | Total Segment Cost | | | | $1,845,000.00 |

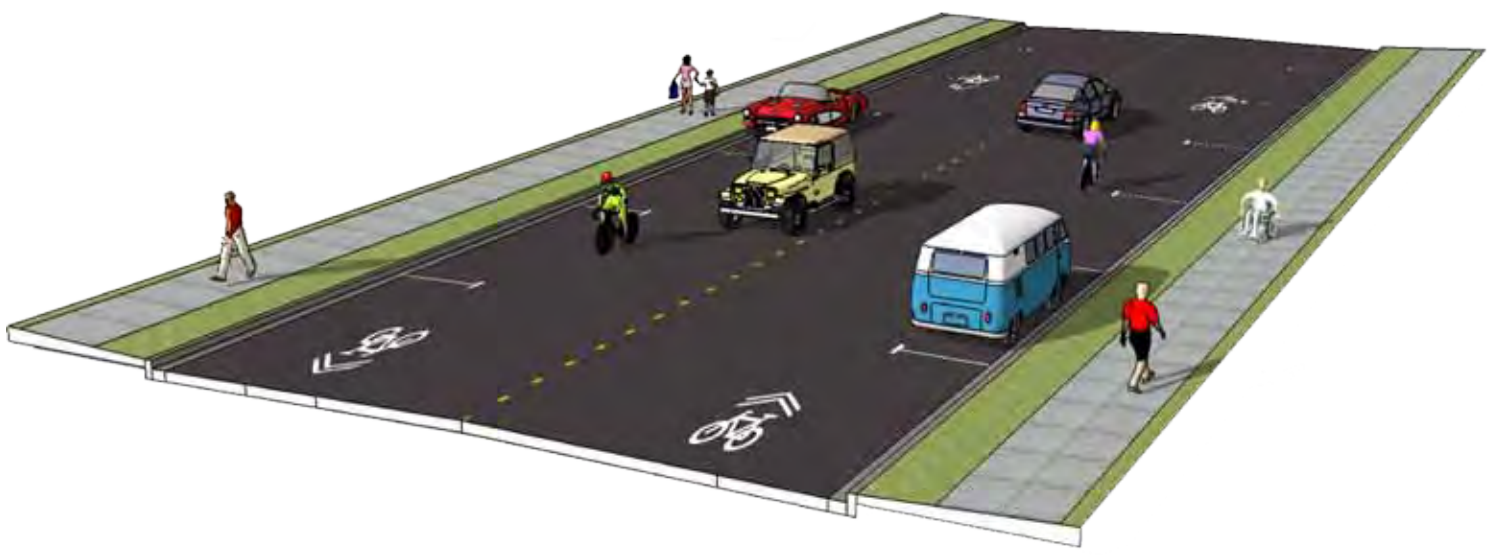
| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4.8 | $76,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# CHEROKEE TRAIL SEGMENT





# CLEVELAND PARK BIKEWAY SEGMENT

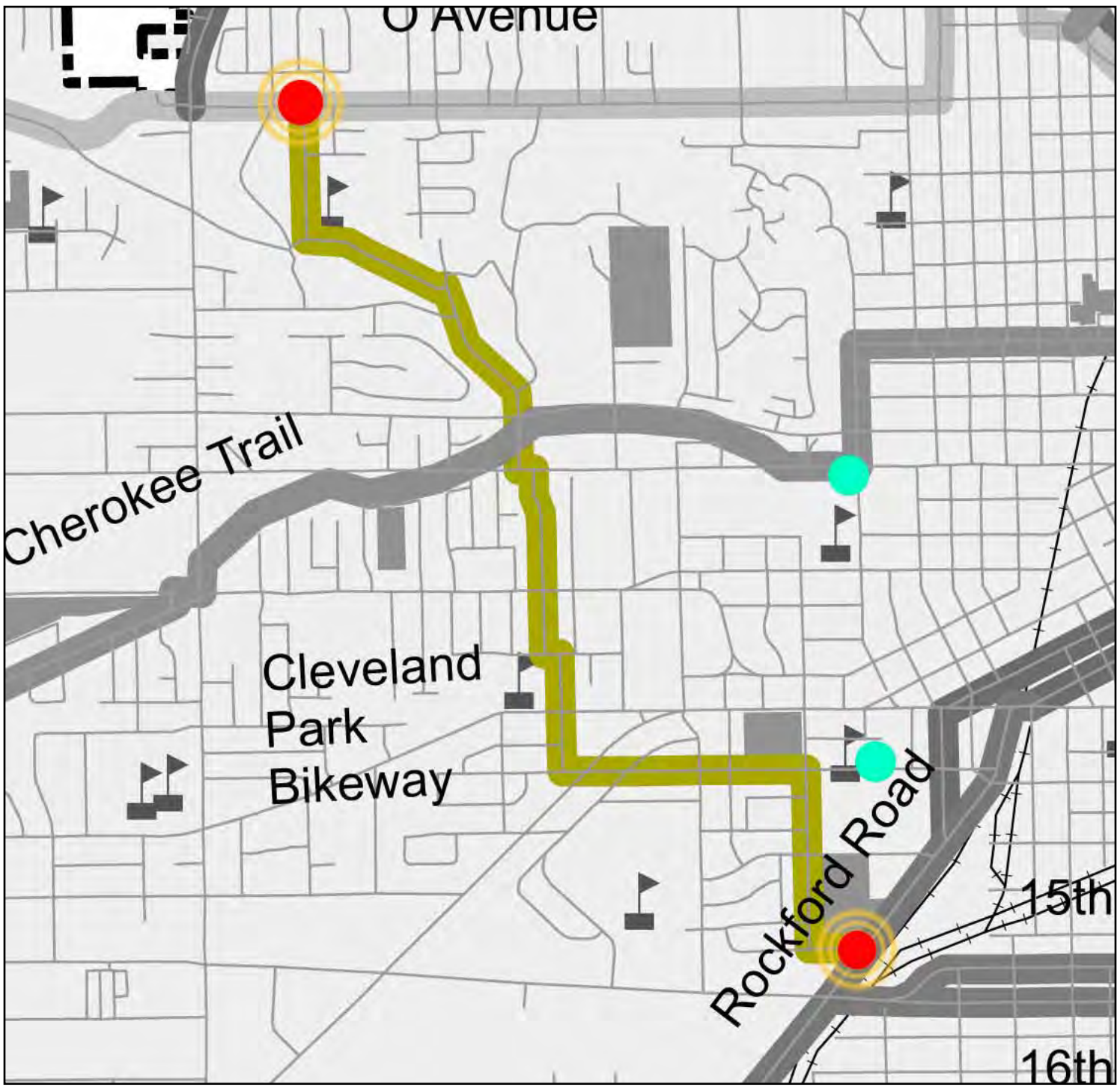
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 2.7 miles |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 24', 28', 36' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 |
| 6 | Right of Way | 66', 75' |
| 7 | Curb & Gutter | Yes; varies |
| 8 | Paved Shoulder | |
| 9 | On-Street Parking | Yes |
| 10 | Adjacent Sidewalk | Narrow Pedestrian walk varies in portions of segment on both sides of street |
| 11 | Traffic Volume (AADT) | 1,000 |
| 12 | Posted Street Speed limit (mph) | 25 mph |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 5 (in) 4 (out) |
| 16 | Physical Barriers | Intersections |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good; large number of street changes in segment |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section C |
| 24 | Improvement for Re-Striping, Overlay, or Widening | None |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 143 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 286 | $60,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | LS | $0.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $80,000.00 |
| | | | | Construction Contingency 15% | $15,000.00 |
| | | | | Engineering Design 10% | $10,000.00 |
| | | | | Total Segment Cost | $105,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2.7 | $43,200.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# CLEVELAND PARK BIKEWAY SEGMENT




# COLLINS ROAD SEGMENT

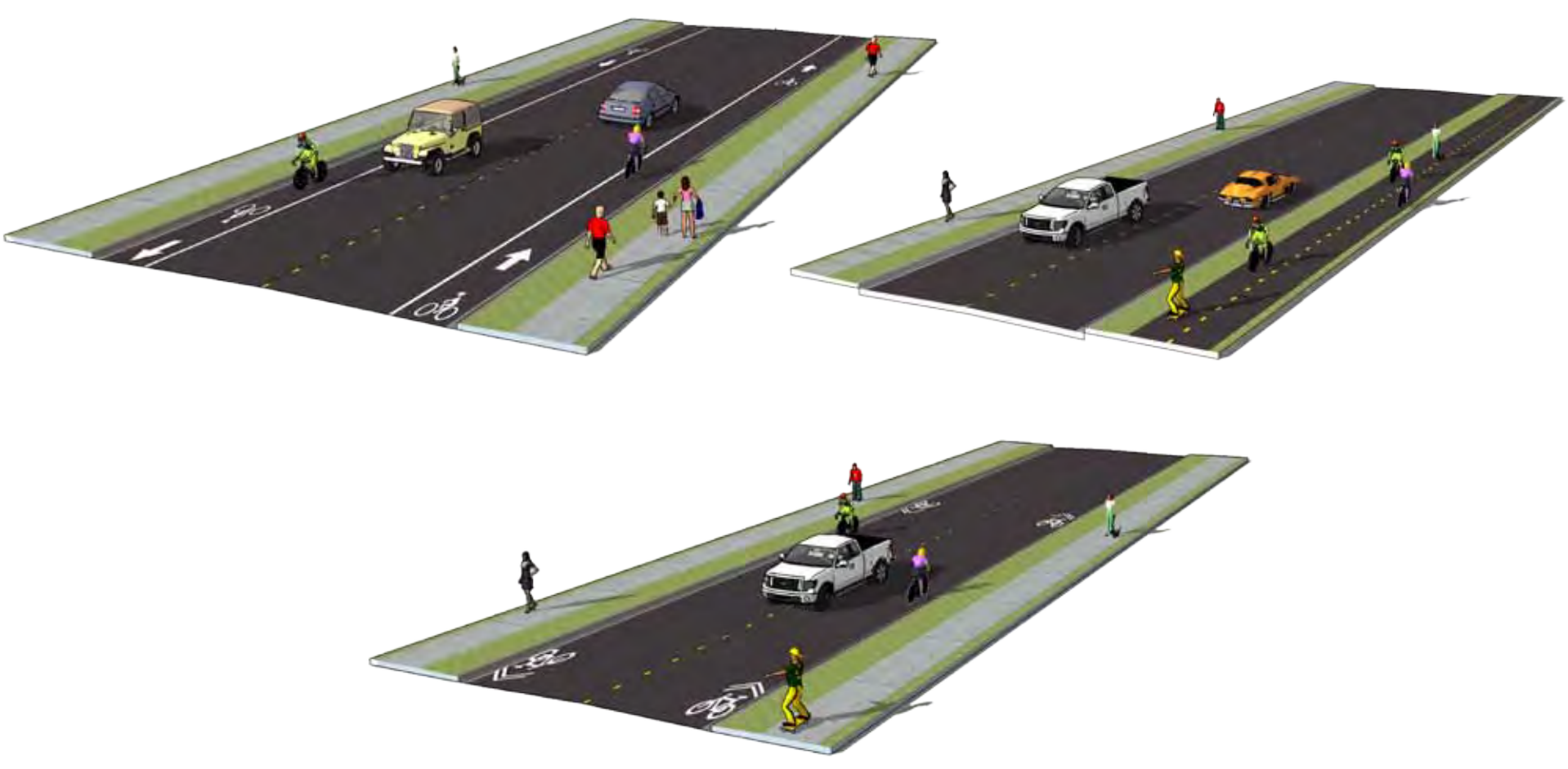
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated Trail |
| 2 | Segment Length (Mile) | 4.1 miles |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | 40', 44', 60', 68', 100' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-5 Traffic lanes |
| 6 | Right of Way | 50', 60', 140' |
| 7 | Curb & Gutter | Yes; varies |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | Very High (>20,000) |
| 12 | Posted Street Speed limit (mph) | 30-45 mph |
| 13 | Land Use Type | Commercial, Offices |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail with in .8 mi |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 1(in) 1 (out) |
| 16 | Physical Barriers | Hwy 100 Intersections |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Pavement width varies widely |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Lindale Mall, Rockwell Collins, Hwy Commercial |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section H, I & N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping bike lanes and traffic lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes as required for Multi-Use Path off-road |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 217 | $45,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 217 | $2,495,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $2,550,000.00 |
| | | | | Construction Contingency 15% | $385,000.00 |
| | | | | Engineering Design 10% | $255,000.00 |
| | | | | Total Segment Cost | $3,190,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4.1 | $65,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# COLLINS ROAD SEGMENT

# DALEWOOD AVENUE SEGMENT

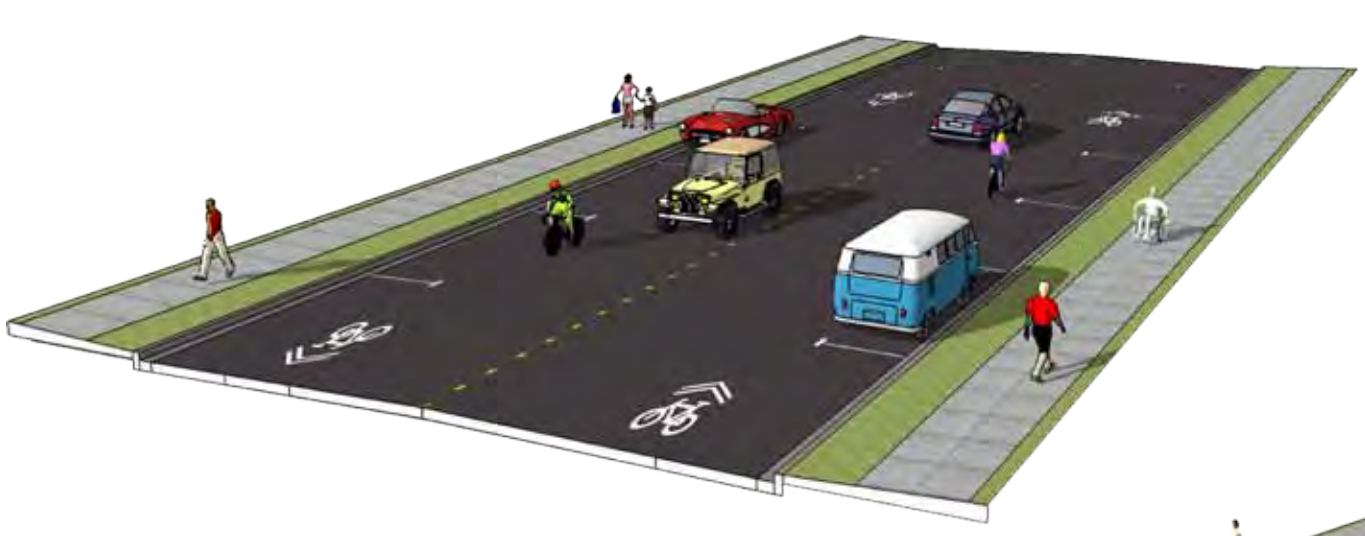
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On Road |
| 2 | Segment Length (Mile) | 1.2 miles |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 34’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 50’, 60’, 70’, |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes |
| 10 | Adjacent Sidewalk | Yes, Very small east part of segment |
| 11 | Traffic Volume (AADT) | 200-1,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 1 (in) 1 (out) |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Mt. Vernon Road “By-pass” |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section C or D |
| 24 | Improvement for Re-Striping, Overlay, or Widening | None |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 64 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 132 | $30,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $40.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $40,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $55,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.2 | $19,200.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# DALEWOOD AVENUE SEGMENT

# DRY CREEK TRAIL SEGMENT

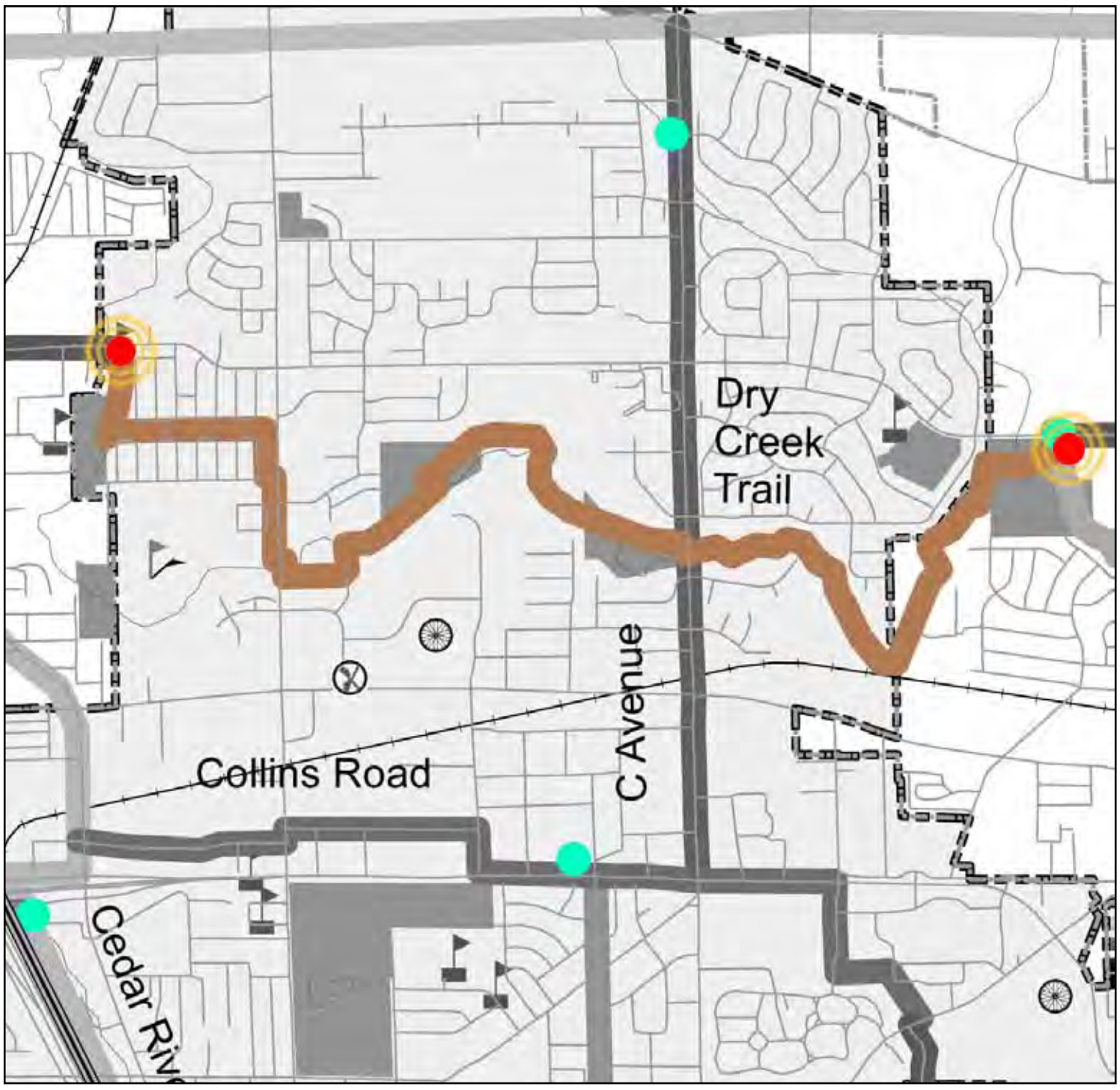
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated Trail |
| 2 | Segment Length (Mile) | 3.9 miles |
| 3 | Roadway Classification | None |
| 4 | Total Pavement Width (Feet) | None |
| 5 | Number of Traffic Lanes incl. Center Left Turn | None |
| 6 | Right of Way | None |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | None |
| 12 | Posted Street Speed limit (mph) | None |
| 13 | Land Use Type | Greenway |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail with in .5mi |
| 15 | Transit Access with Bike Racks (See Segment Map) | 2 Bus stops nearby |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Off-Road Greenway |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | New trail construction |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

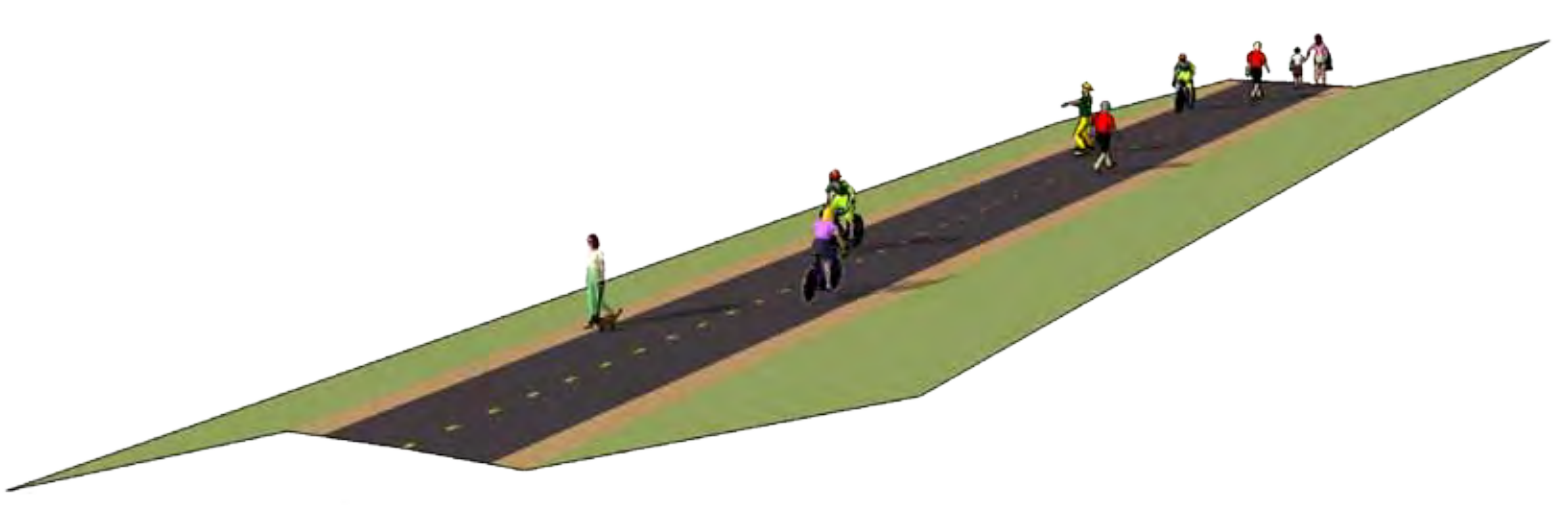
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 412 | $85,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 206 | $2,370,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $20,000.00 | 1 | $20,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $2,475,000.00 |
| | | | | Construction Contingency 15% | $375,000.00 |
| | | | | Engineering Design 10% | $250,000.00 |
| | | | | Total Segment Cost | $3,100,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.9 | $62,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# DRY CREEK TRAIL SEGMENT



# EAST POST ROAD SEGMENT

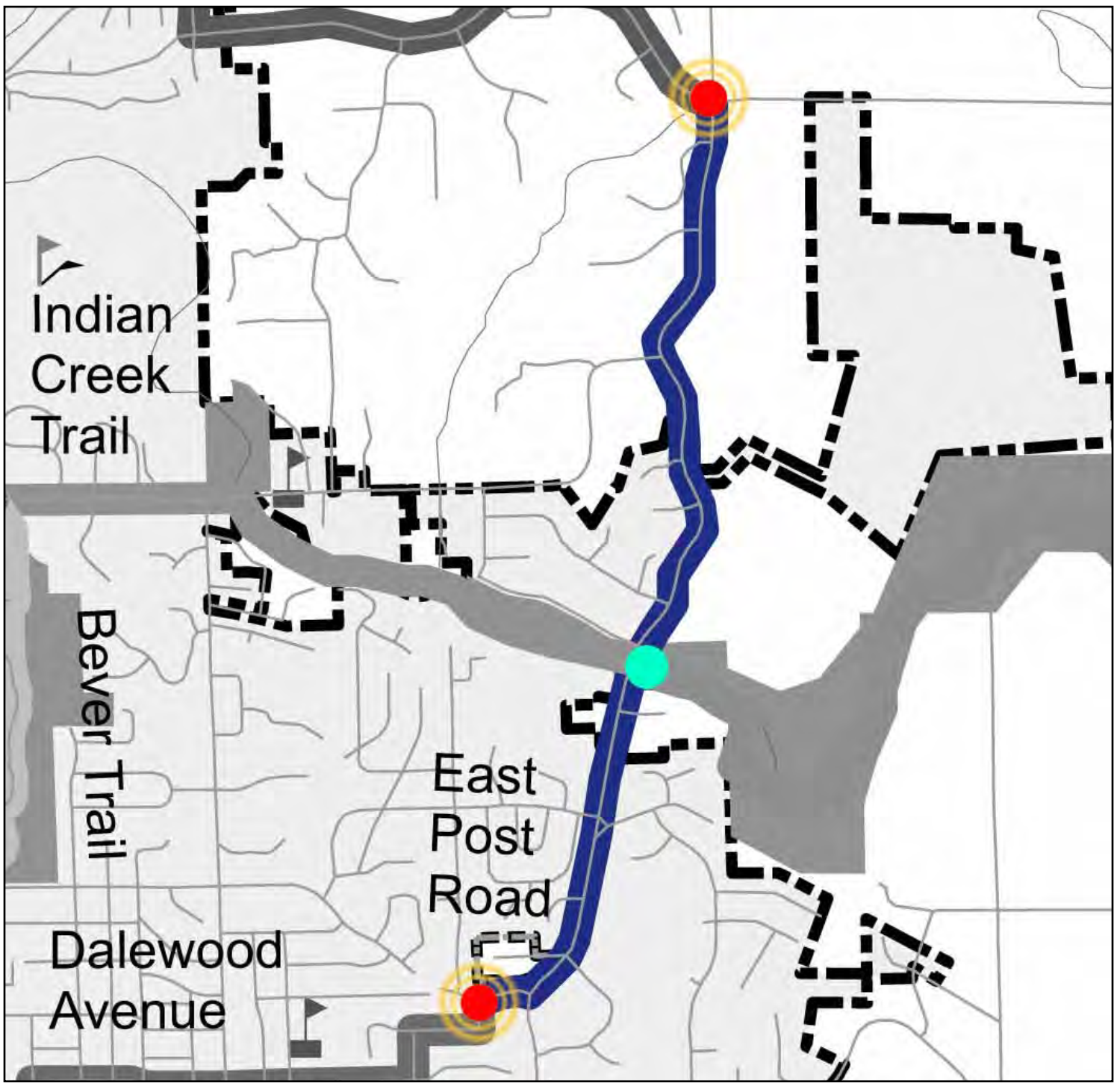
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 1.9 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 40', 24' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 90', 80', 75' |
| 7 | Curb & Gutter | Yes, southern portion |
| 8 | Paved Shoulder | mostly narrow, 2'-3' wide |
| 9 | On-Street Parking | none |
| 10 | Adjacent Sidewalk | none |
| 11 | Traffic Volume (AADT) | 7,000-12,500 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 2 (out) |
| 16 | Physical Barriers | Steep hills, poor sight lines |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Sac & Fox Trail connection |
| 21 | Residential Density (Hi - Med - Lo) | Medium to High |
| 22 | Employment Intensity (Hi - Med - Lo) | None |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section M |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Street widening required |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | No |

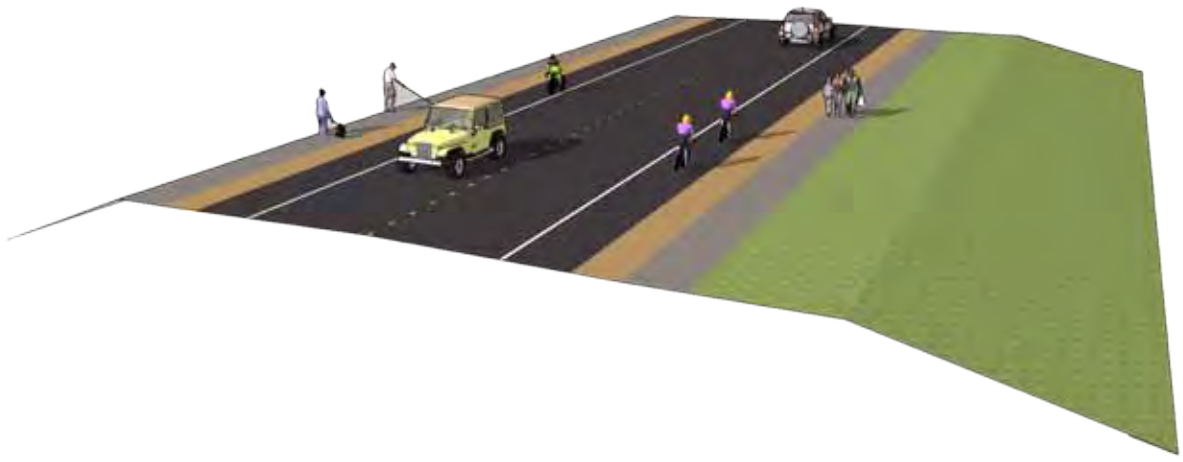
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 116 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 232 | $50,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Widening | Sta | $11,500.00 | 116 | $1,340,000.00 |
| 5 | sidewalk repair & or new sidewalk construction | LS | NA | 0 | $0.00 |
| 6 | Separated trail construction | Sta | NA | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | Construction Subtotal | | | | $1,405,000.00 |
| | Construction Contingency 15% | | | | $215,000.00 |
| | Engineering Design 10% | | | | $145,000.00 |
| | Total Segment Cost | | | | $1,765,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.9 | $30,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# EAST POST ROAD SEGMENT



# EDGEWOOD ROAD SEGMENT - NORTH

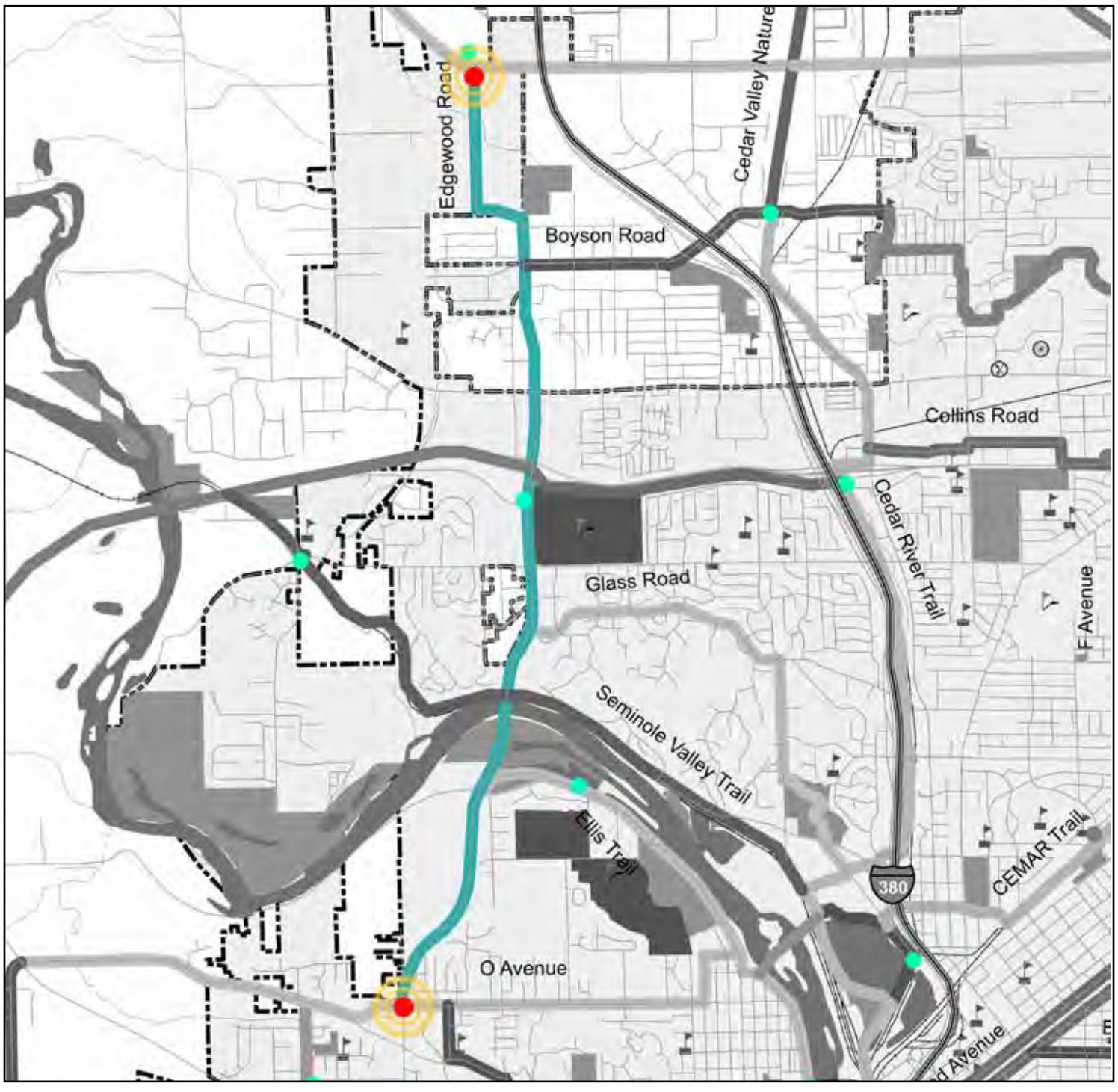
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Combination |
| 2 | Segment Length (Mile) | 5.1 mi |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | North Segment: 24', 64' (inc. 10' median) |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-5 Traffic lanes |
| 6 | Right of Way | 65', 100', 115', 140' |
| 7 | Curb & Gutter (Inches) | None |
| 8 | Paved Shoulder (Feet) | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Varies |
| 11 | Traffic Volume (AADT) | Very High 6,000 - >20,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Highway Commercial, Corporate Offices |
| 14 | Bike Retail/Repair Shop (See Segment Map) | On south segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 8 (out) |
| 16 | Physical Barriers | Hwy 100 interchange |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Pavement width and number of traffic lanes varies |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Hwy commercial, Aegon, Ellis Park |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section I & L (similar with median) |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes and traffic lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

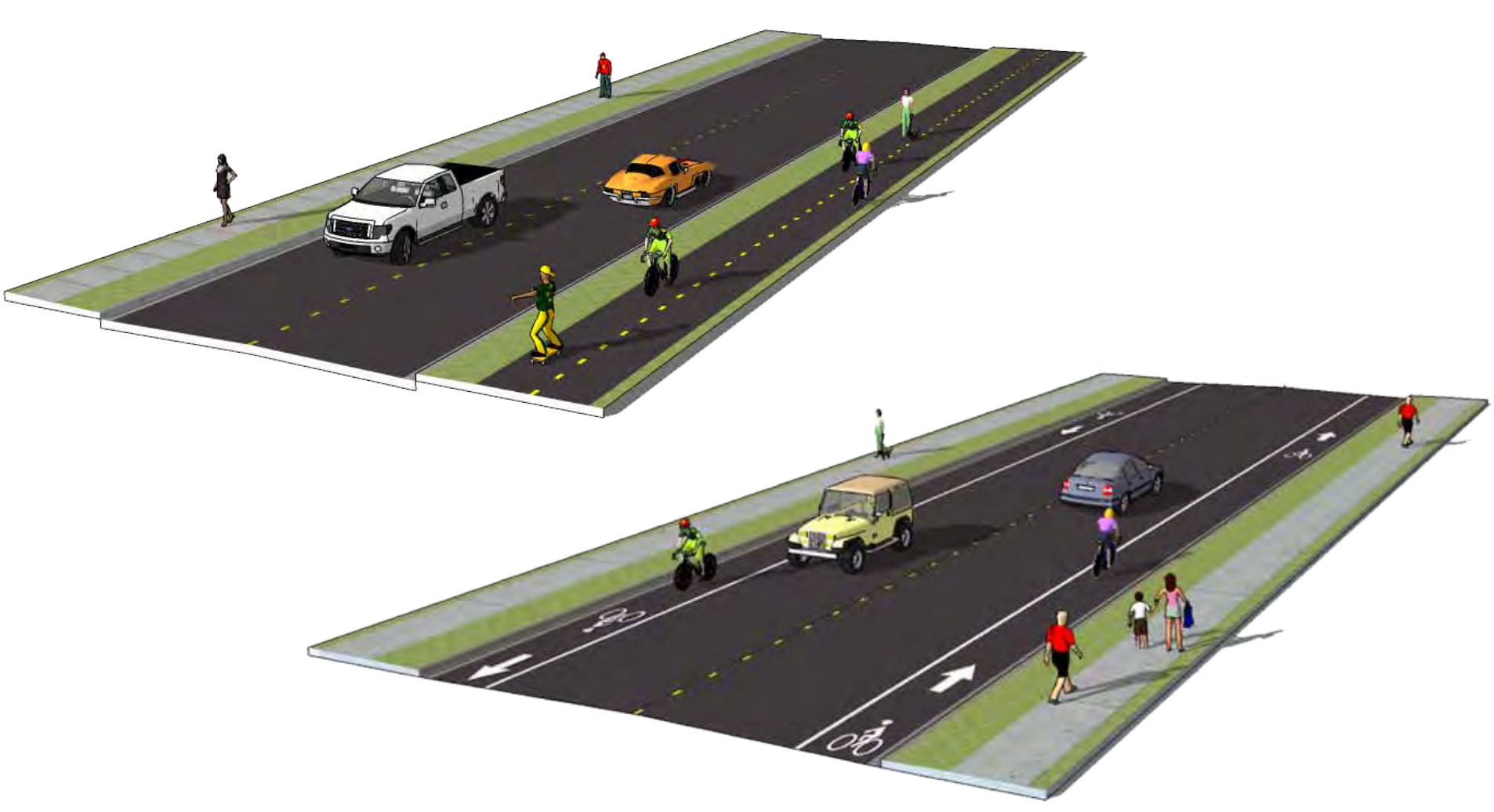
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 269 | $15,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 539 | $110,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk Repair & or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 117 | $1,345,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $20,000.00 | 1 | $20,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,490,000.00 |
| | | | | Construction Contingency 15% | $225,000.00 |
| | | | | Engineering Design 10% | $149,000.00 |
| | | | | Total Segment Cost | $1,865,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 5.1 | $81,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# EDGEWOOD ROAD SEGMENT - NORTH



# EDGEWOOD ROAD SEGMENT - SOUTH

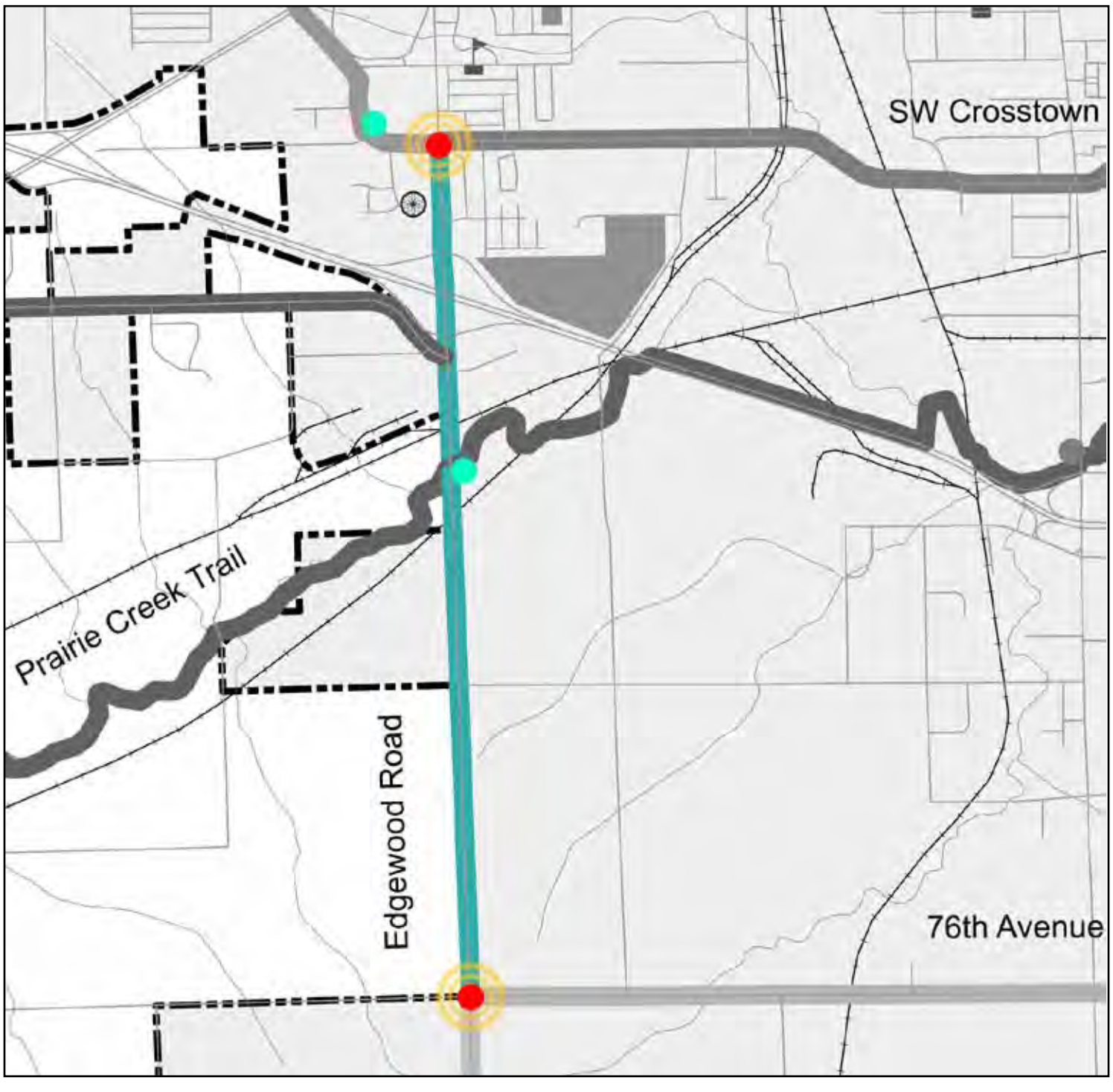
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Combination |
| 2 | Segment Length (Mile) | 2.8 mi |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | South Segment: 76' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-5 Traffic lanes |
| 6 | Right of Way | 65', 100', 115', 140' |
| 7 | Curb & Gutter (Inches) | None |
| 8 | Paved Shoulder (Feet) | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Varies |
| 11 | Traffic Volume (AADT) | Very High 6,000 - >20,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Highway Commercial, Corporate Offices |
| 14 | Bike Retail/Repair Shop (See Segment Map) | On south segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 8 (out) |
| 16 | Physical Barriers | Hwy 100 interchange |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Pavement width and number of traffic lanes varies |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Wright Bros. Loop, Westdale mall |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section I &N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes and traffic lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

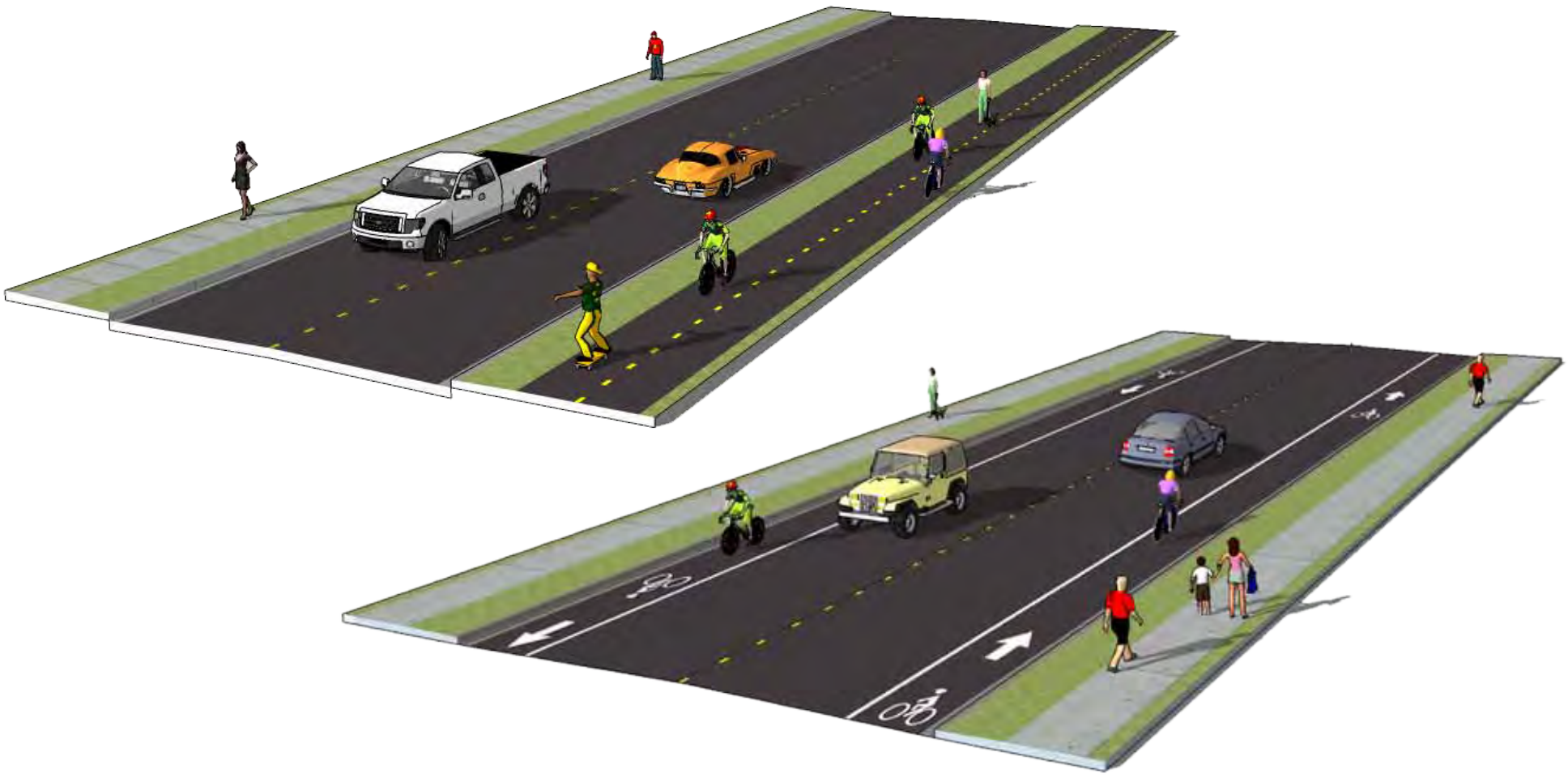
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 148 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 296 | $60,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk Repair & or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | NA | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 113 | $1,300,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | Construction Subtotal | | | | $1,380,000.00 |
| | Construction Contingency 15% | | | | $210,000.00 |
| | Engineering Design 10% | | | | $138,000.00 |
| | Total Segment Cost | | | | $1,730,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2.8 | $44,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# EDGEWOOD ROAD SEGMENT - SOUTH



# ELLIS TRAIL SEGMENT

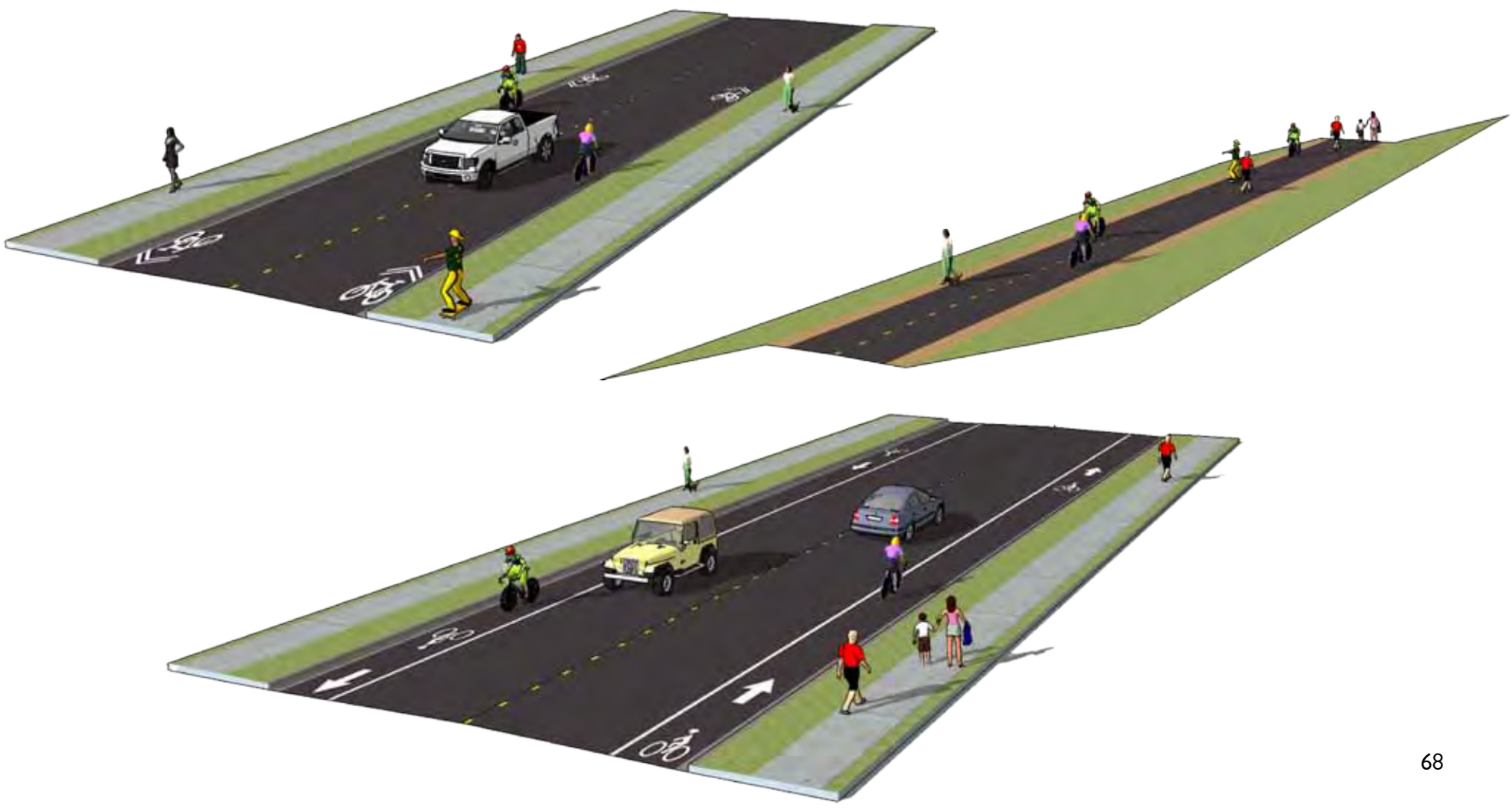
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On- or Separated Trail | Combination |
| 2 | Segment Length (Mile) | 2.9 miles in process, 4.4 miles total |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 24’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 |
| 6 | Right of Way | 66’, 80’ |
| 7 | Curb & Gutter | none |
| 8 | Paved Shoulder | none |
| 9 | On-Street Parking | none |
| 10 | Adjacent Sidewalk | Part of Multi-use Trail |
| 11 | Traffic Volume (AADT) | 1,000-6,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | River Park, residential, Light Industrial |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within .5 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 3 (in) 12 (out) |
| 16 | Physical Barriers | Railroad Crossing |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Cedar River views |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Sections B & N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes, widening and restriping |
| 25 | Need Bicycle Surface Improvements | New construction (north portion) |
| 26 | Need Pedestrian Surface Improvements | Yes on few portions (widening) |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 25 | $1,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 232 | $50,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $40.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 90 | $1,035,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,095,000.00 |
| | | | | Construction Contingency 15% | $165,000.00 |
| | | | | Engineering Design 10% | $110,000.00 |
| | | | | Total Segment Cost | $1,370,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4.4 | $70,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# ELLIS TRAIL SEGMENT

# F AVENUE SEGMENT

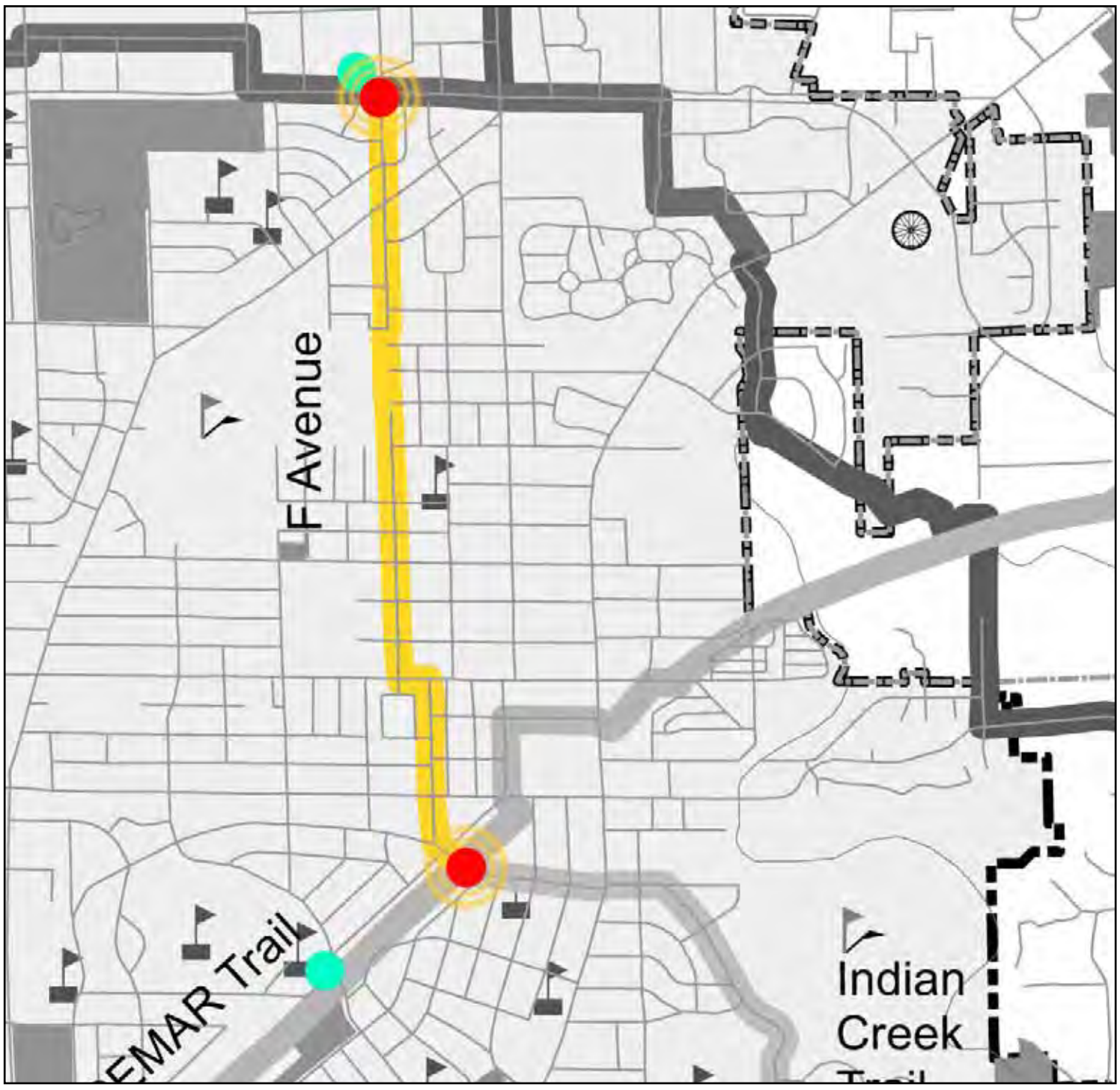
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 1.8 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 32’ & 44’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 - 3 Traffic Lanes |
| 6 | Right of Way | 60’ |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | Low to Medium (200-8,900) |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/Repair Shop, .5 miles from north end |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 7 (in) 5 (out) |
| 16 | Physical Barriers | None |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Connection to CEMAR Trail & Neighborhood access |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section D & or F |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Bike lane Striping |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

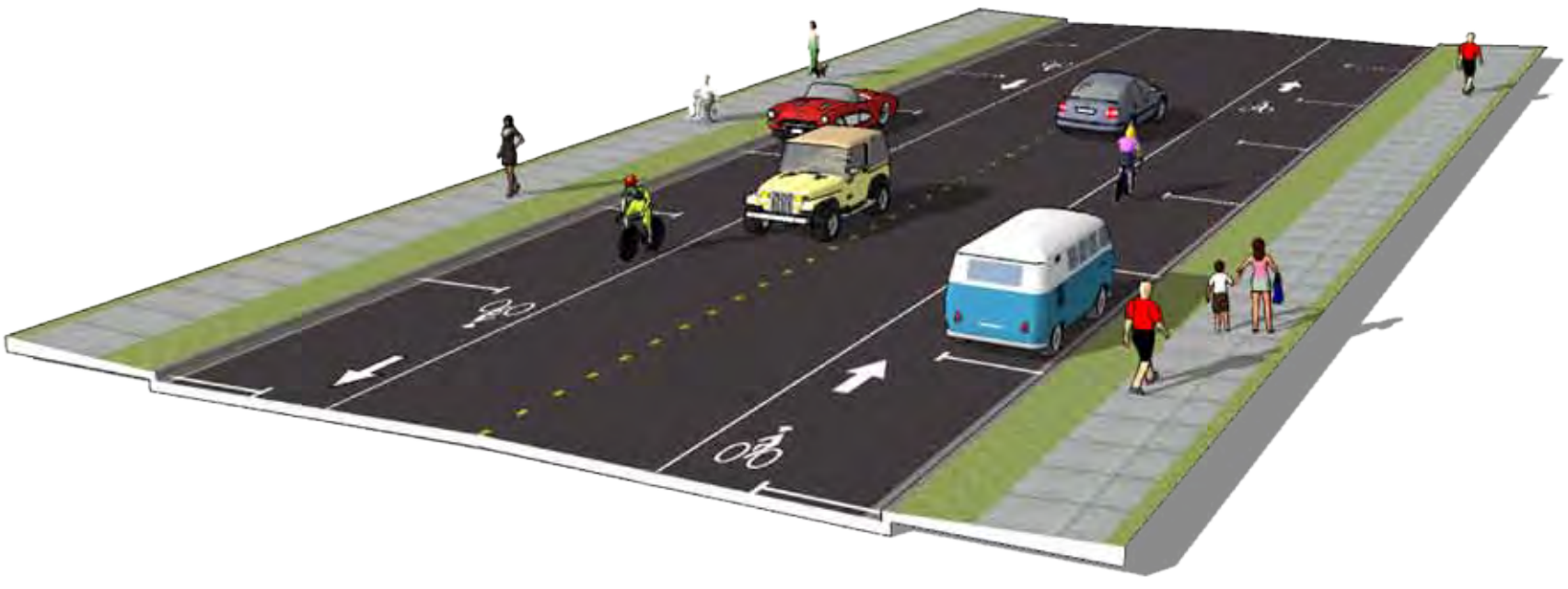
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 95 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 190 | $40,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk Repair & or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | NA | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $40.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization, Signage, etc.) | LS | $15,000.00 | 1 | $15,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $60,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $10,000.00 |
| | | | | Total Segment Cost | $80,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.8 | $28,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# F AVENUE SEGMENT



# GLASS ROAD SEGMENT

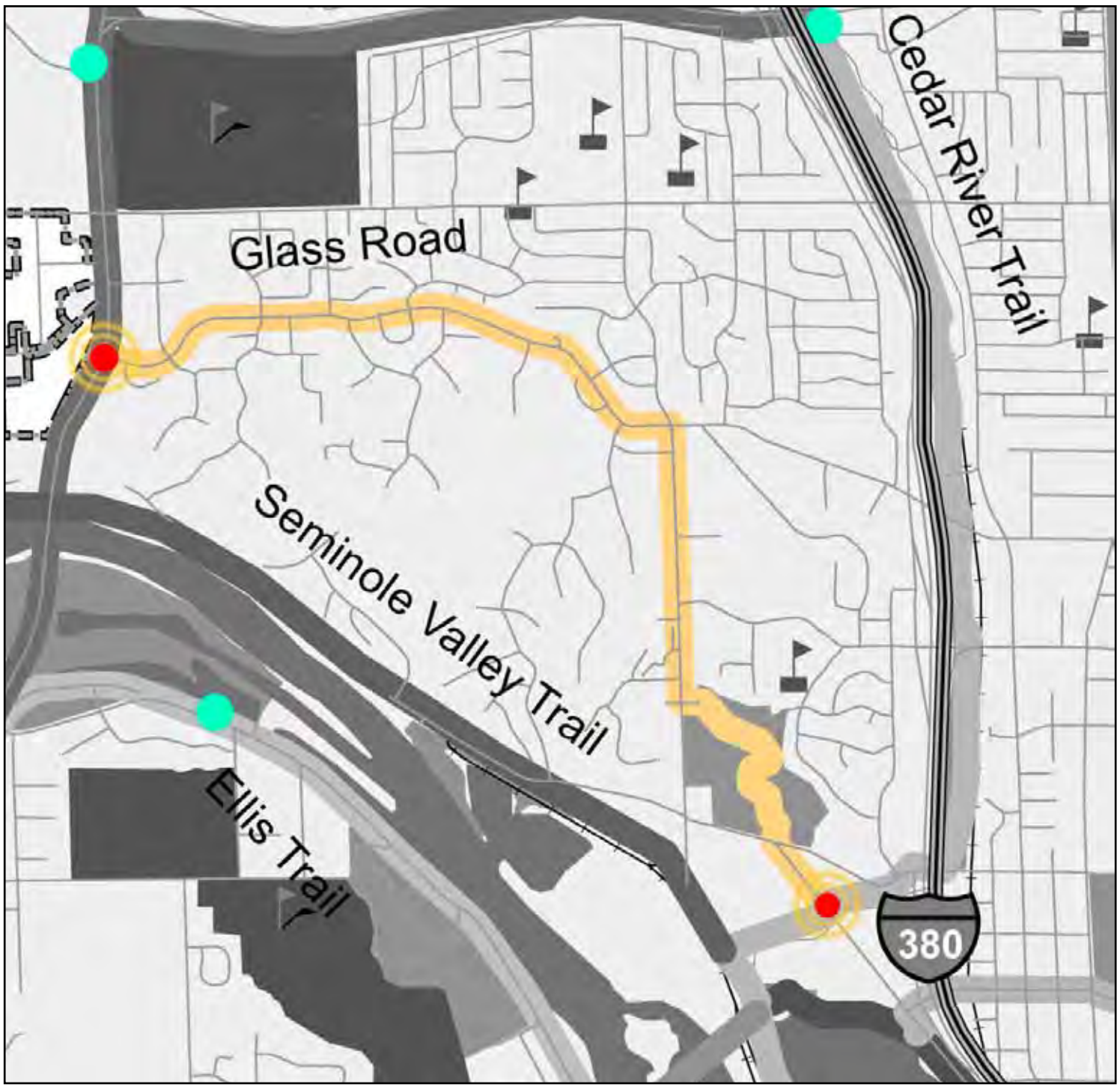
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Combination |
| 2 | Segment Length (Mile) | 2.7 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 27', 32', 36' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 |
| 6 | Right of Way | 44', 60', 80' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Yes; Narrow pedestrian walk both sides |
| 11 | Traffic Volume (AADT) | 3,000 - 12,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential, Light Commercial |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail/Shop within 2 mi of south end of segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Hills |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Edgewood Rd. connection, Neighborhood access |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section B, (M or N through park) |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes, connect all sidewalks |

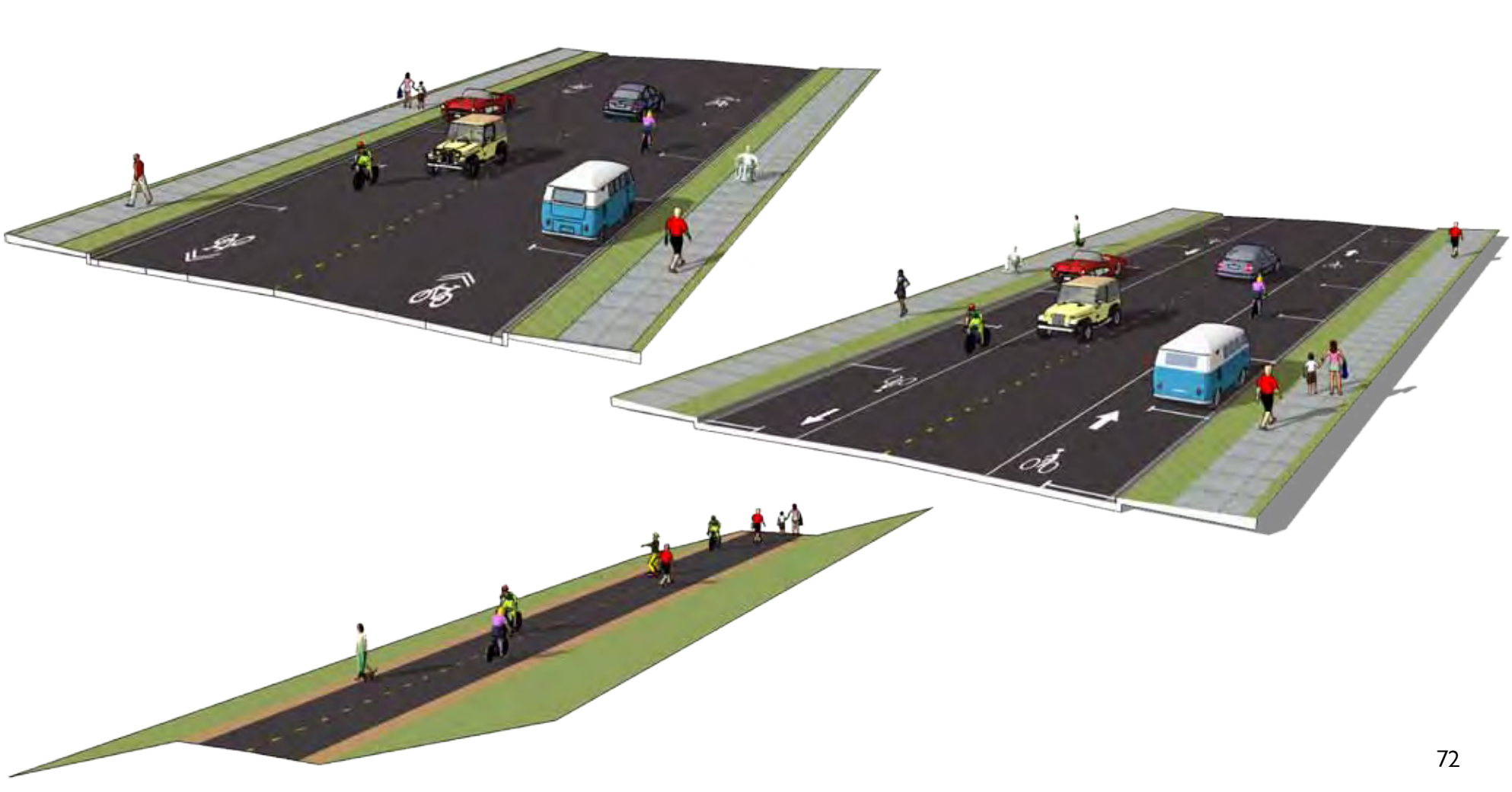
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 143 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 286 | $60,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 25.5 | $293,020.00 |
| 7 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization, Signage, etc.) | LS | $15,000.00 | 1 | $15,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $378,250.00 |
| | | | | Construction Contingency 15% | $56,737.50 |
| | | | | Engineering Design 10% | $37,825.00 |
| | | | | Total Segment Cost | $472,812.50 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2.7 | $43,200.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# GLASS ROAD SEGMENT



# HWY 100 SEGMENT

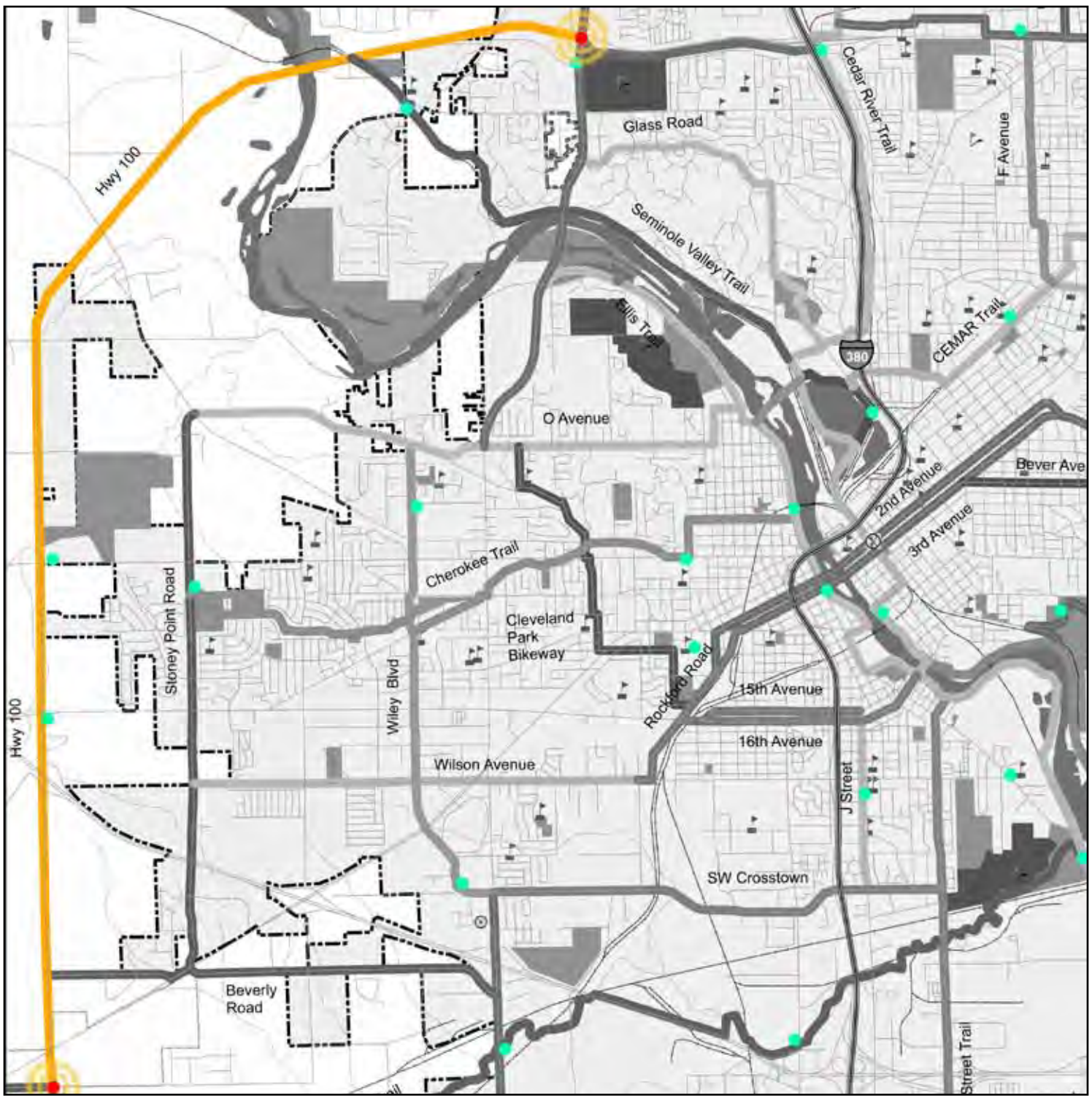
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated |
| 2 | Segment Length (Mile) | 9.5 |
| 3 | Roadway Classification | Major Arterial |
| 4 | Total Pavement Width (Feet) | NA |
| 5 | Number of Traffic Lanes incl. Center Left Turn | NA |
| 6 | None | NA |
| 7 | Curb & Gutter | NA |
| 8 | Paved Shoulder | NA |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | NA |
| 11 | Traffic Volume (AADT) | 20,000+ |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Offices, Farmland |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Future Construction of off-road multi-use trail |
| 25 | Need Bicycle Surface Improvements | Yes with new construction |
| 26 | Need Pedestrian Surface Improvements | Yes with new construction |

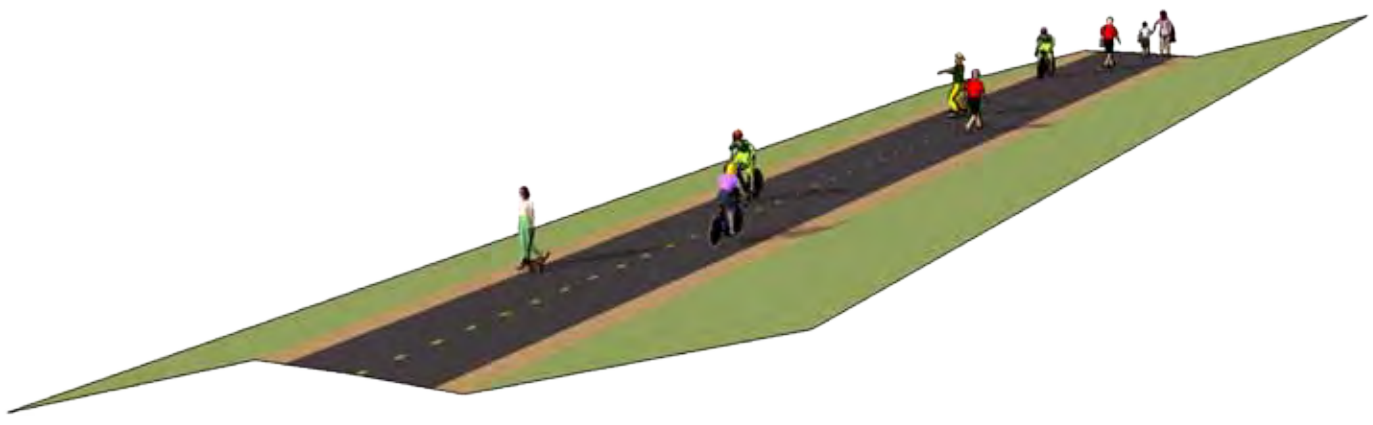
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Striping | Each | $20.00 | 264 | $5,280.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | NA | 0 | $0.00 |
| 6 | New Seperated Trail Construction | Sta | $11,500.00 | 132 | $1,518,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $65,000.00 | 1 | $65,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,590,000.00 |
| | | | | Construction Contingency 15% | $240,000.00 |
| | | | | Engineering Design 10% | $160,000.00 |
| | | | | Total Segment Cost | $1,990,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 9.5 | $152,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# HWY 100 SEGMENT



# INDIAN CREEK TRAIL SEGMENT

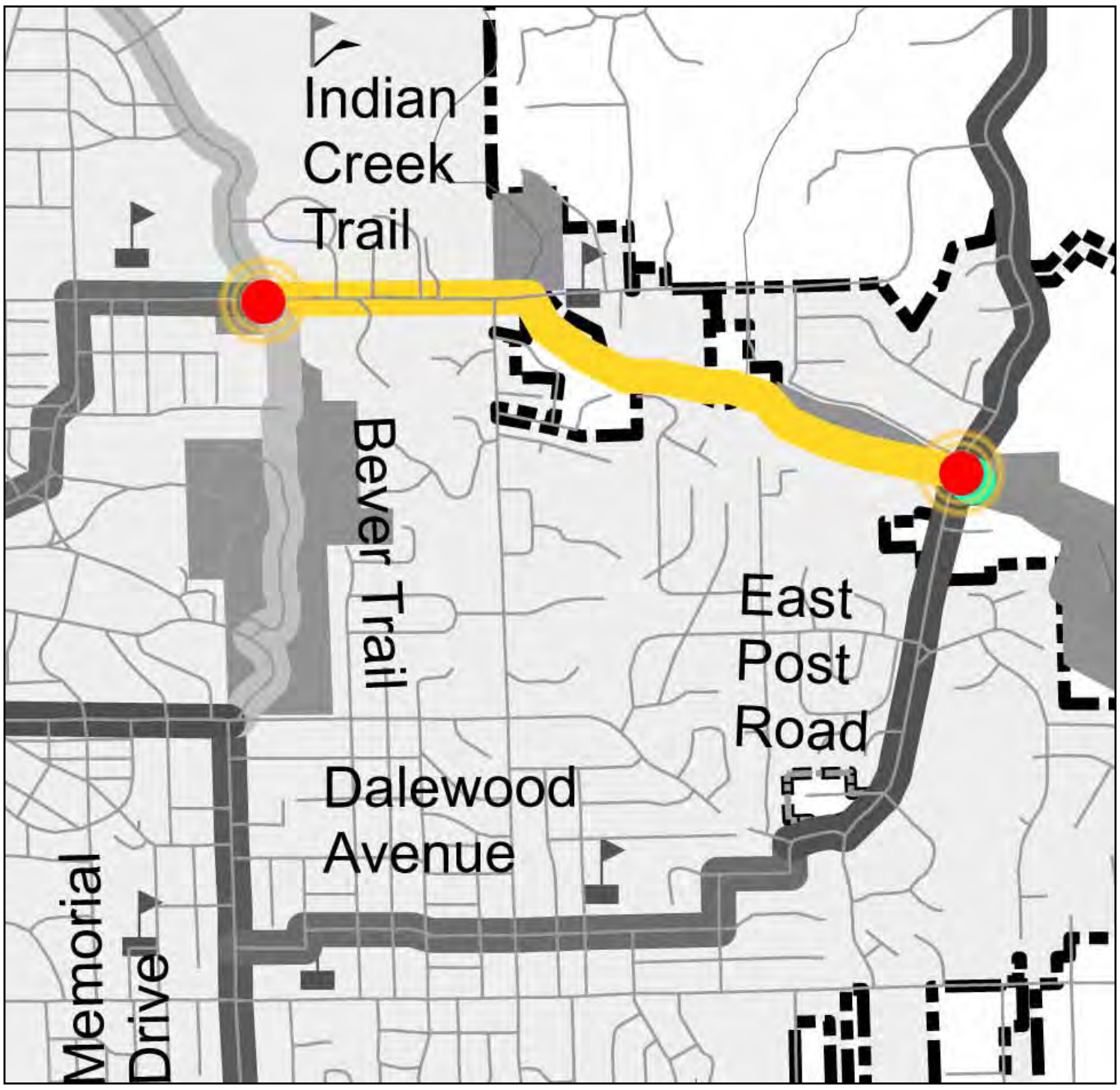
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road & Separated Trail Combination |
| 2 | Segment Length (Mile) | .5 miles (on-road) & .9 miles (off-road) Total: 1.4 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 36’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-3 Traffic lanes |
| 6 | Right of Way | 72’, 80’ |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 7,200 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Steep Hill |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | On-Road Cottage Grove to 34 St. NE at Indian Creek Bridge future trail will be off road |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Separated greenway, Sac & Fox connection |
| 22 | Residential Density (Hi - Med - Lo) | Medium |
| 23 | Employment Intensity (Hi - Med - Lo) | None |
| **RECOMMENDED** | | |
| 25 | Recommended Typical Section | Section B & N |
| 26 | Improvement for Re-Striping, Overlay, or Widening | Bike lane striping on streets |
| 27 | Need Bicycle Surface Improvements | No |
| 28 | Need Pedestrian Surface Improvements | Yes, flood recovery construction on existing trail |

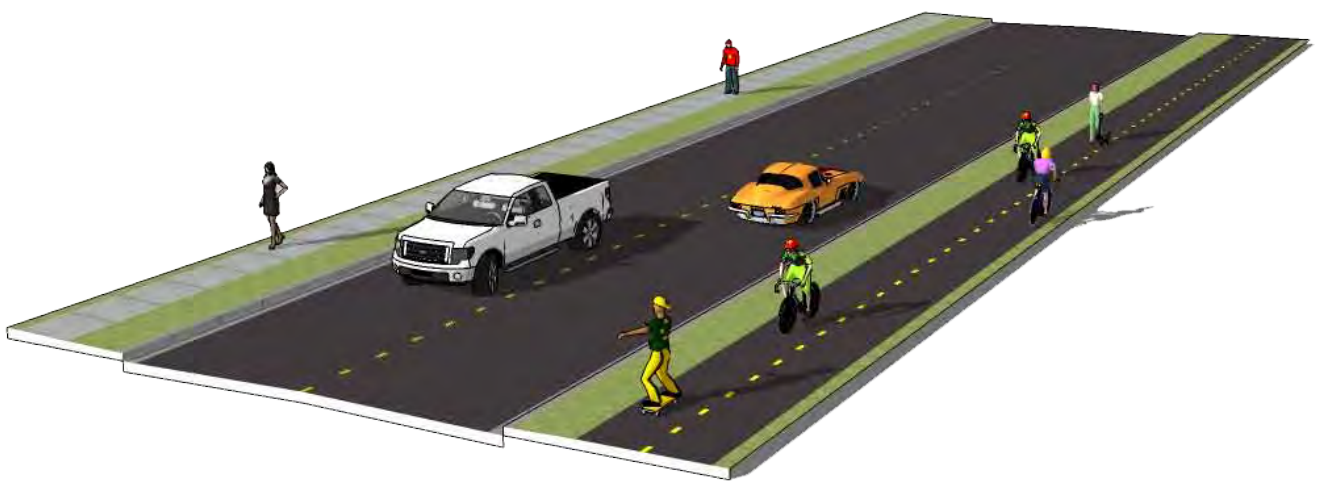
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 26 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 95 | $20,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 48 | $550,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $585,000.00 |
| | | | | Construction Contingency 15% | $90,000.00 |
| | | | | Engineering Design 10% | $60,000.00 |
| | | | | Total Segment Cost | $735,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.4 | $22,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# INDIAN CREEK TRAIL SEGMENT



# J STREET SEGMENT

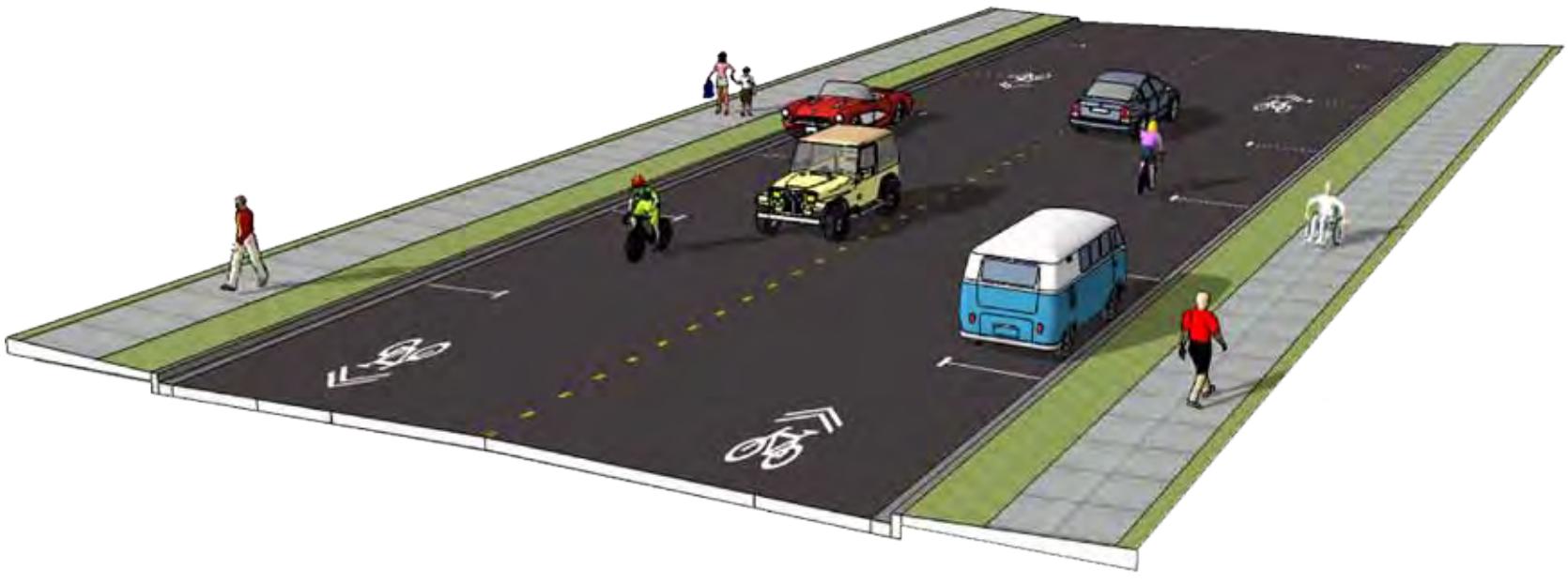
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On- or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 1.1 miles |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 32',36' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 70' |
| 7 | Curb & Gutter | |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes |
| 10 | Adjacent Sidewalk | Yes; both sides |
| 11 | Traffic Volume (AADT) | 1,500 - 4,500 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 1(in) 10 (out) |
| 16 | Physical Barriers | RR Crossing and US Hwy 30 |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | North-South connection |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section D (Sharrows) |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Sharrow logos |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 58 | $15,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $30,000.00 | 1 | $30,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $45,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $60,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.1 | $17,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# J STREET SEGMENT

# KIRKWOOD CONNECTOR SEGMENT

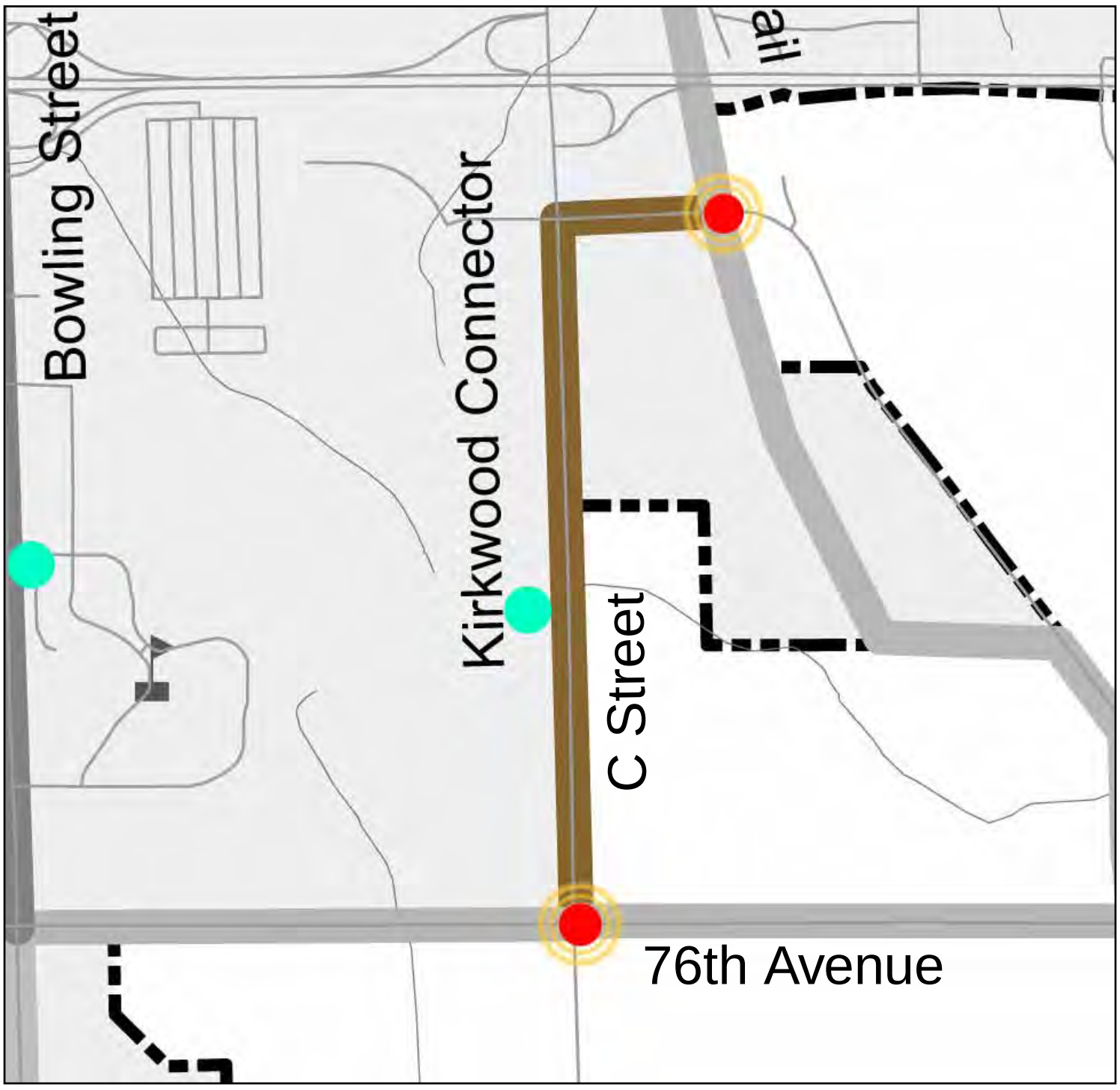
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated (In process) |
| 2 | Segment Length (Mile) | 1.6 miles |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | 35', 40', 50,' 70' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-3 Traffic lanes |
| 6 | Right of Way | 100' |
| 7 | Curb & Gutter (Inches) | None |
| 8 | Paved Shoulder (Feet) | |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 6,000 - 11,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | College campus, Corporate Office |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | 2 Bus stops |
| 16 | Physical Barriers | |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Aegon, Kirkwood Community College, Cedar River Trail |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium to High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N without 4' jogging lanes |
| 24 | Improvement for Re-Striping, Overlay, or Widening | No |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

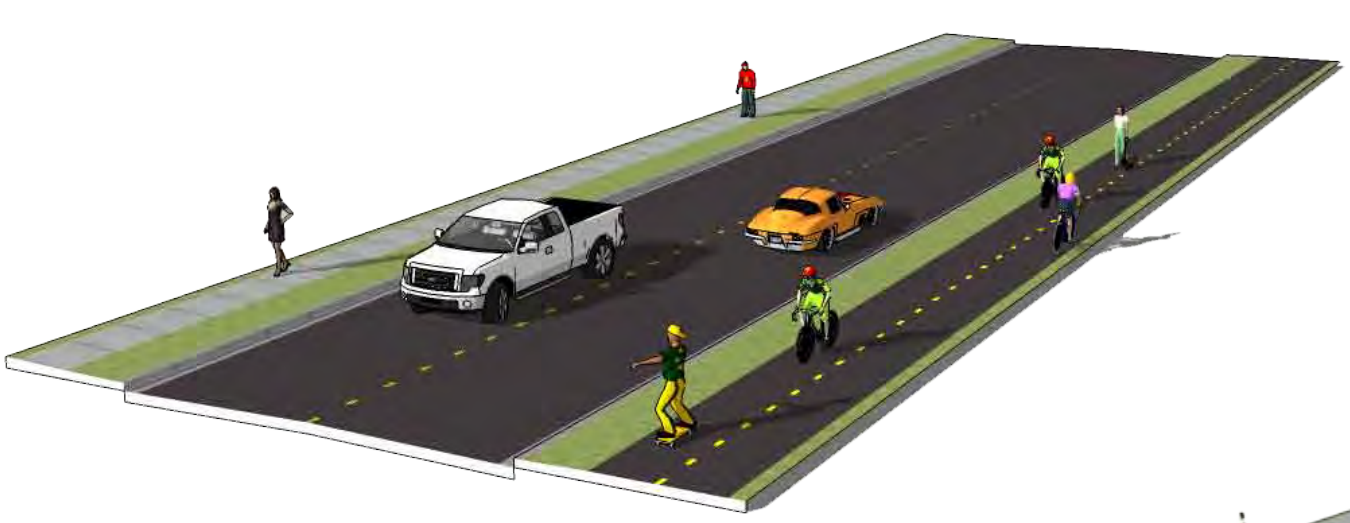
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 0 | $0.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or new sidewalk construction | LS | $0.00 | 0 | $0.00 |
| 5 | Street or Multi-Use Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $0.00 | 0 | $0.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | $0.00 | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $0.00 |
| | | | | Construction Contingency 15% | $0.00 |
| | | | | Engineering Design 10% | $0.00 |
| | | | | Total Segment Cost | $0.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.6 | $25,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# KIRKWOOD CONNECTOR SEGMENT



# MEMORIAL DRIVE SEGMENT

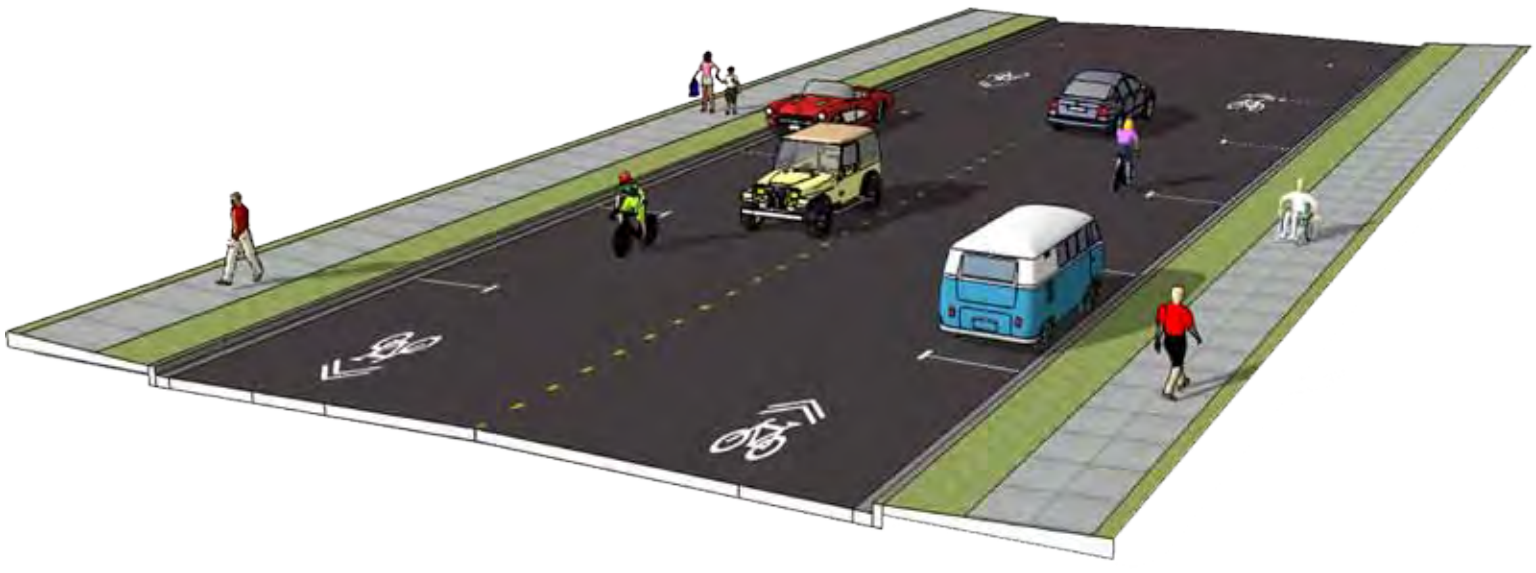
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 0.9 mile |
| 3 | Roadway Classification | Residential |
| 4 | Total Pavement Width (Feet) | 30', 32, 34' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 40', 60', 80' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes; Both sides |
| 10 | Adjacent Sidewalk | Narrow pedestrian walk both sides |
| 11 | Traffic Volume (AADT) | 3,000 |
| 12 | Posted Street Speed limit (mph) | 25 mph |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 3(in) 7 (out) |
| 16 | Physical Barriers | Hills, sight lines |
| 17 | Pavement/Curb Condition | Fair to Good |
| 18 | Consistency of Section within Segment | R.O.W varies but section is consistent |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Parks |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section C with one side parking |
| 24 | Improvement for Re-Striping, Overlay, or Widening | No |
| 25 | Need Bicycle Surface Improvements | Yes, pavement cracks and potholes |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 54 | $15,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $40.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $20,000.00 | 1 | $20,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $35,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $50,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | .9 | $14,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# MEMORIAL DRIVE SEGMENT

# O AVENUE SEGMENT

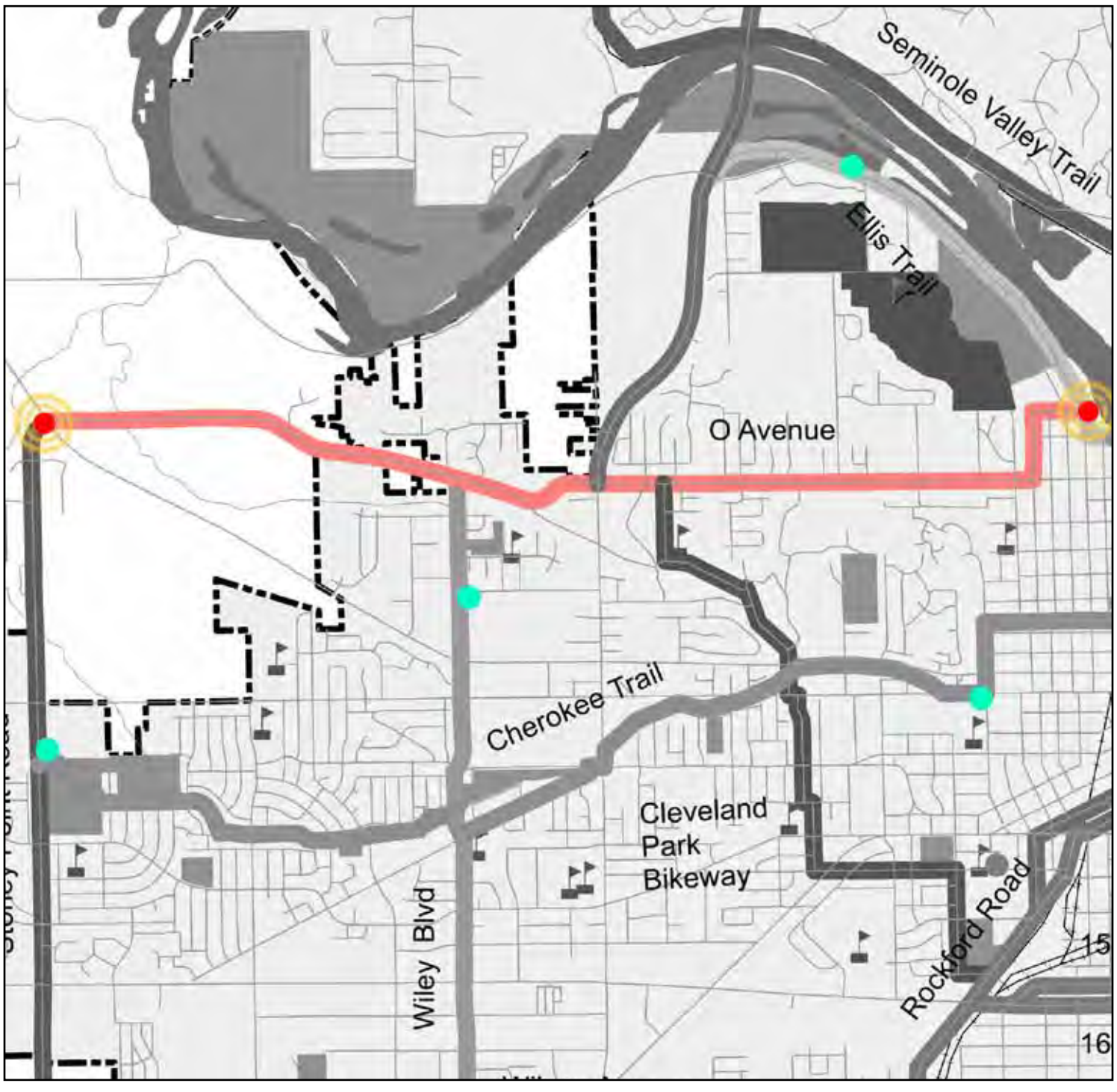
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 3.9 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 32', 45', 40' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-3 Traffic lanes |
| 6 | Right of Way | 60', 66', 72', 80' |
| 7 | Curb & Gutter | Yes; East residential segment |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes; East residential segment |
| 10 | Adjacent Sidewalk | Yes; central portion |
| 11 | Traffic Volume (AADT) | 200 - 5,000 |
| 12 | Posted Street Speed limit (mph) | 35 mph |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within 2 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus stops 10 (in) 3 (out) |
| 16 | Physical Barriers | Intersections |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Good, switching from curb and gutter to asphalt after major residential in east portion |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Stoney Point and Cedar River Connections |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section D and/or Section I |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes, widening as required on rural roads |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

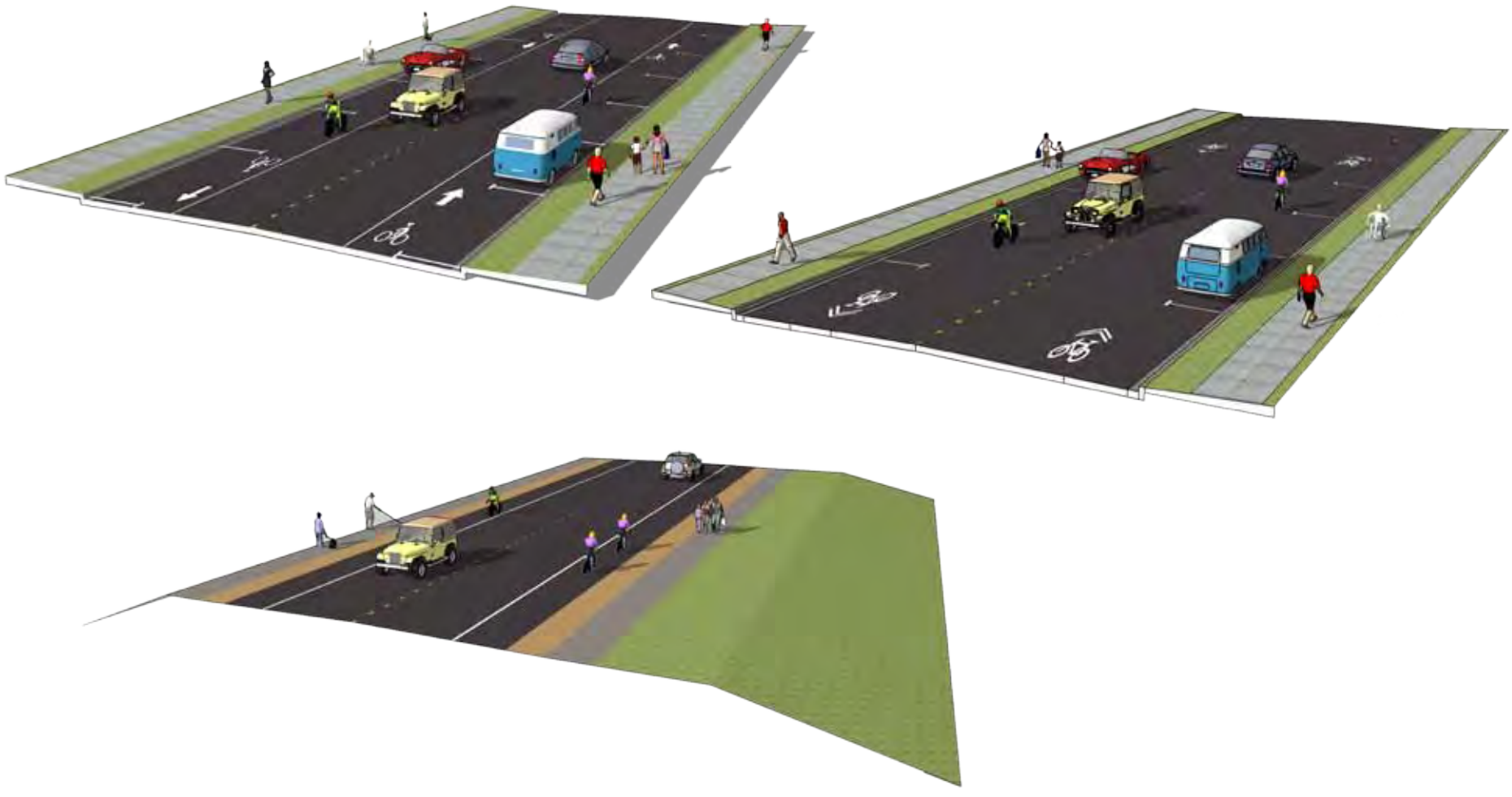
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 202 | $8,080.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 404 | $80,800.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Widening | Sta | $11,500.00 | | |
| 5 | Sidewalk repair and or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 6 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 7 | New Separated Trail Construction/Widening | Sta | $11,500.00 | 202 | $2,323,000.00 |
| 8 | Lump Sum Item (Signage) | LS | $15,000.00 | 1 | $15,000.00 |
| 9 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $2,426,880.00 |
| | | | | Construction Contingency 15% | $364,032.00 |
| | | | | Engineering Design 10% | $242,688.00 |
| | | | | Total Segment Cost | $3,033,600.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.9 | $62,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# O AVENUE SEGMENT



# OTIS ROAD SEGMENT

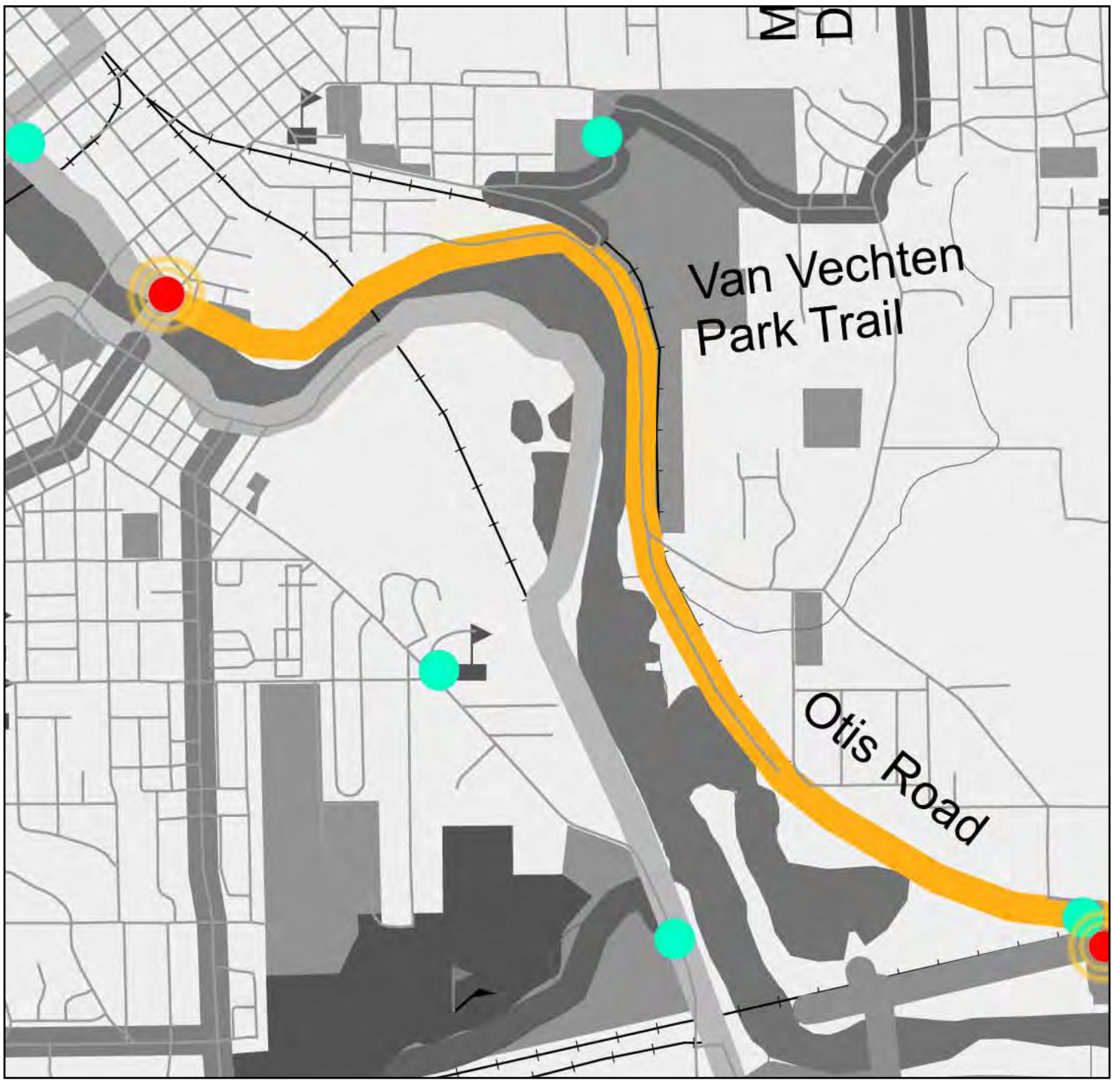
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road/Separated |
| 2 | Segment Length (Mile) | 3 miles |
| 3 | Roadway Classification | Rural |
| 4 | Total Pavement Width (Feet) | 28’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic Lanes |
| 6 | Right of Way (Feet) | 100’, 120’, 130’ |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | Yes; on west portion of road |
| 9 | On-Street Parking | Yes; both sides of road |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 500 - 2,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Industrial, Farmland |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within 1.2 mi |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Truck traffic, Railroad crossings |
| 17 | Pavement/Curb Condition | Fair to good |
| 18 | Consistency of Section within Segment | Good, wide to standard rural roadway |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Low volume traffic |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section A in urban street portion and Section M in rural street portion (without striping) and Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Sharrow logos in urban street |
| 25 | Need Bicycle Surface Improvements | Some as required |
| 26 | Need Pedestrian Surface Improvements | No |

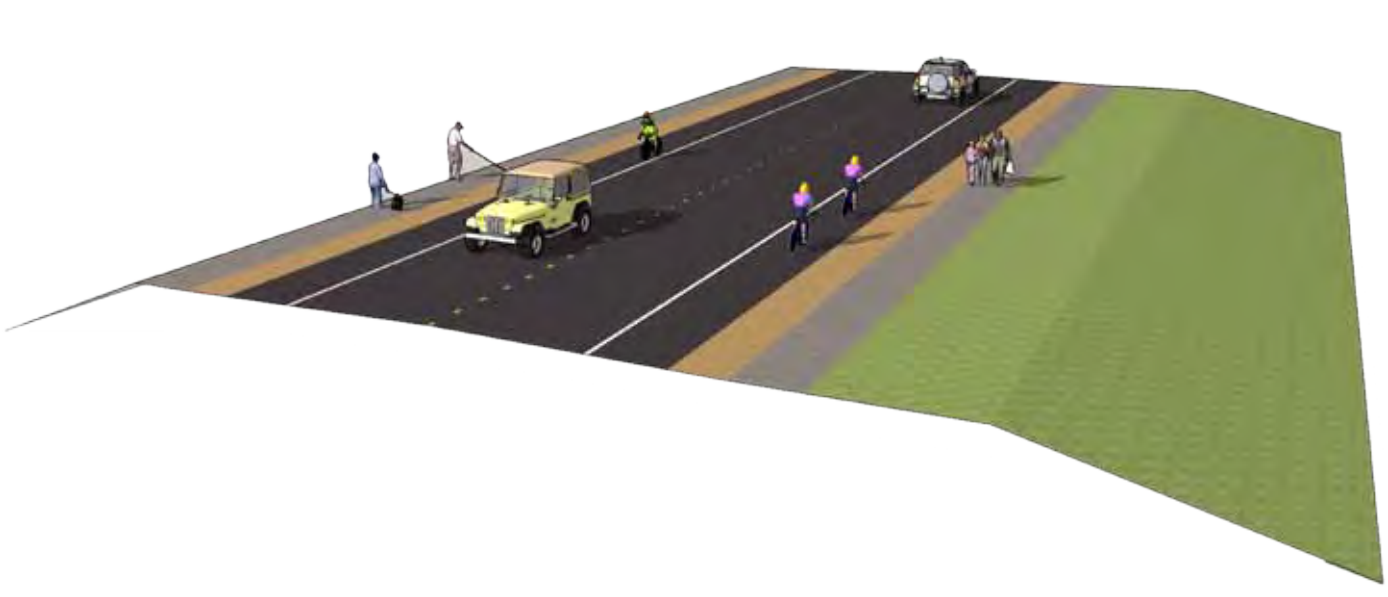
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 95 | $3,800.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 95 | $19,008.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Multi-Use Trail Construction | Sta | $11,500.00 | 58 | $670,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $702,808.00 |
| | | | | Construction Contingency 15% | $110,000.00 |
| | | | | Engineering Design 10% | $75,000.00 |
| | | | | Total Segment Cost | $887,800.00 |

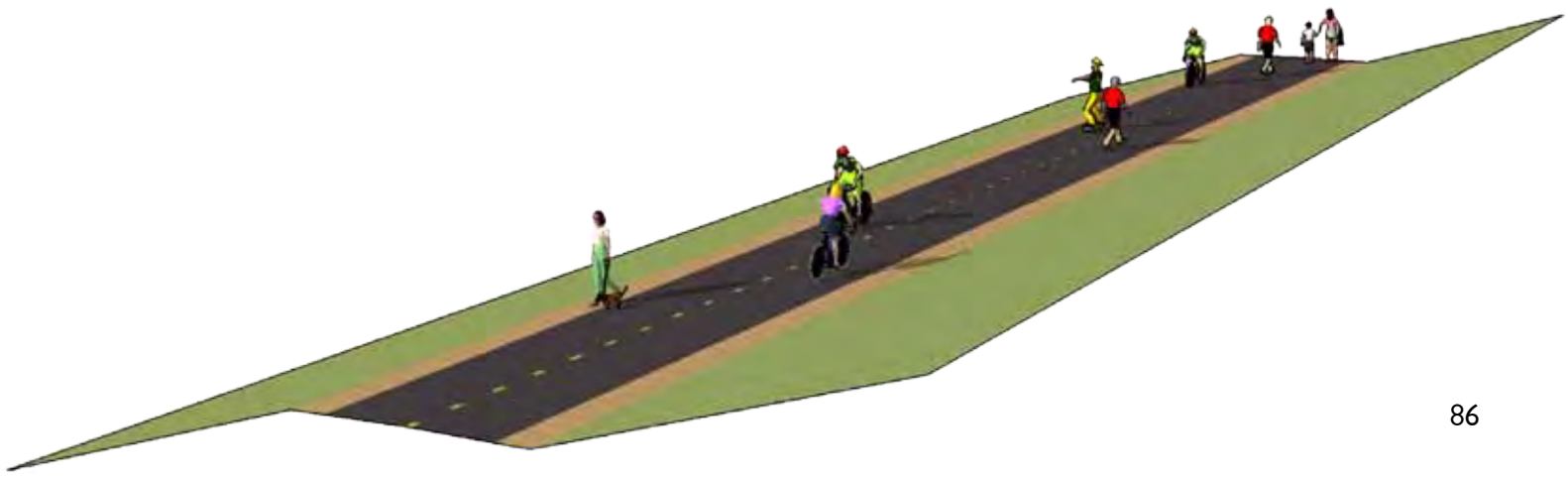
| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3 | $48,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# OTIS ROAD SEGMENT





# PRAIRIE CREEK TRAIL SEGMENT

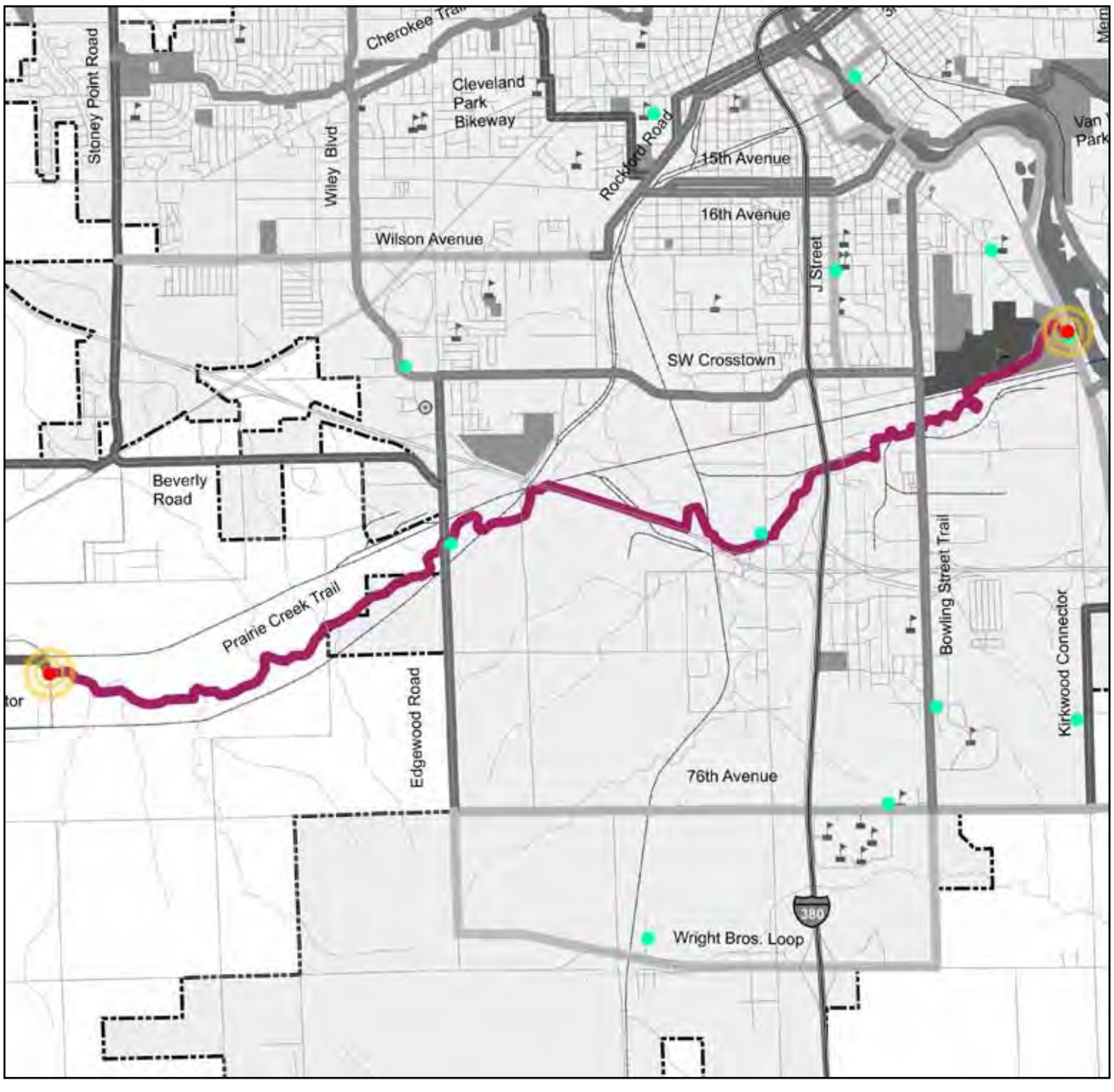
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated |
| 2 | Segment Length (Mile) | 6.6 miles in Cedar Rapids 2.2 Other Jurisdiction |
| 3 | Roadway Classification | None |
| 4 | Total Pavement Width (Feet) | None |
| 5 | Number of Traffic Lanes incl. Center Left Turn | None |
| 6 | Right of Way | None |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Future part of Multi-use Trail |
| 11 | Traffic Volume (AADT) | None |
| 12 | Posted Street Speed limit (mph) | None |
| 13 | Land Use Type | Separated Greenway |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Flood Zone |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Long Separated segment |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Natural Greenway |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low to Medium |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes, new construction |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | Yes |

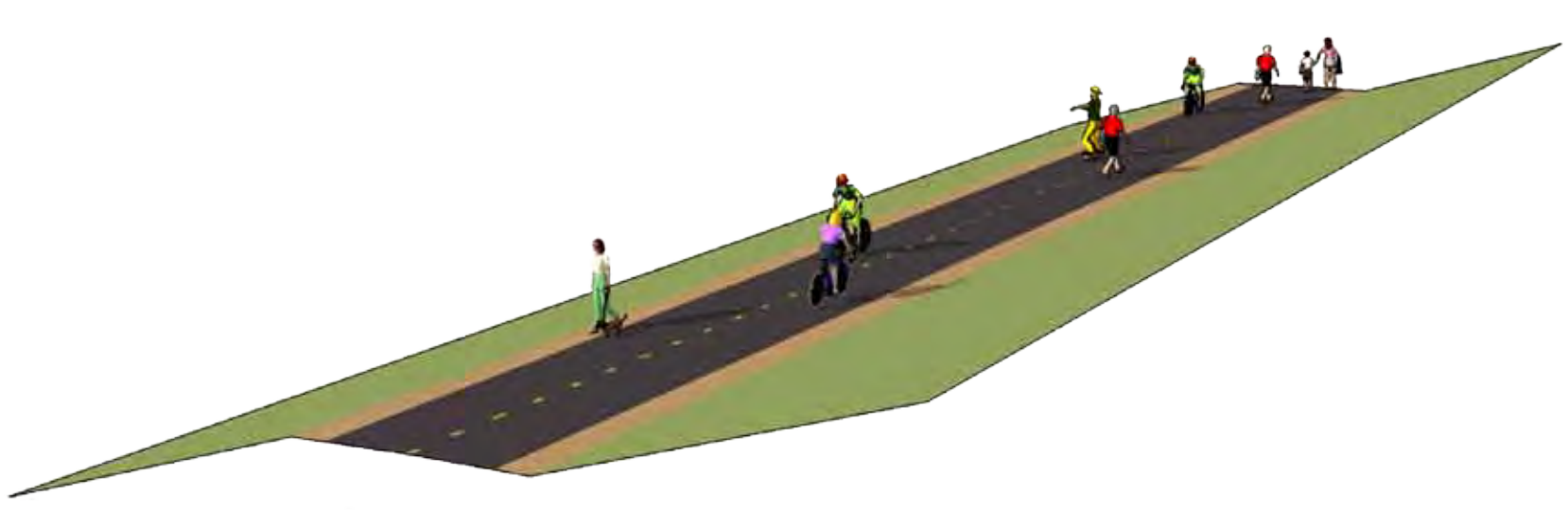
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 696 | $140,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk construction | LS | $50,000.00 | 1 | $50,000.00 |
| 5 | Street or Separated Trail overlay | SY | NA | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 348 | $4,010,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $35,000.00 | 1 | $35,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $4,235,000.00 |
| | | | | Construction Contingency 15% | $640,000.00 |
| | | | | Engineering Design 10% | $425,000.00 |
| | | | | Total Segment Cost | $5,300,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 8.8 | $140,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# PRAIRIE CREEK TRAIL SEGMENT



# ROBINS ROAD SEGMENT

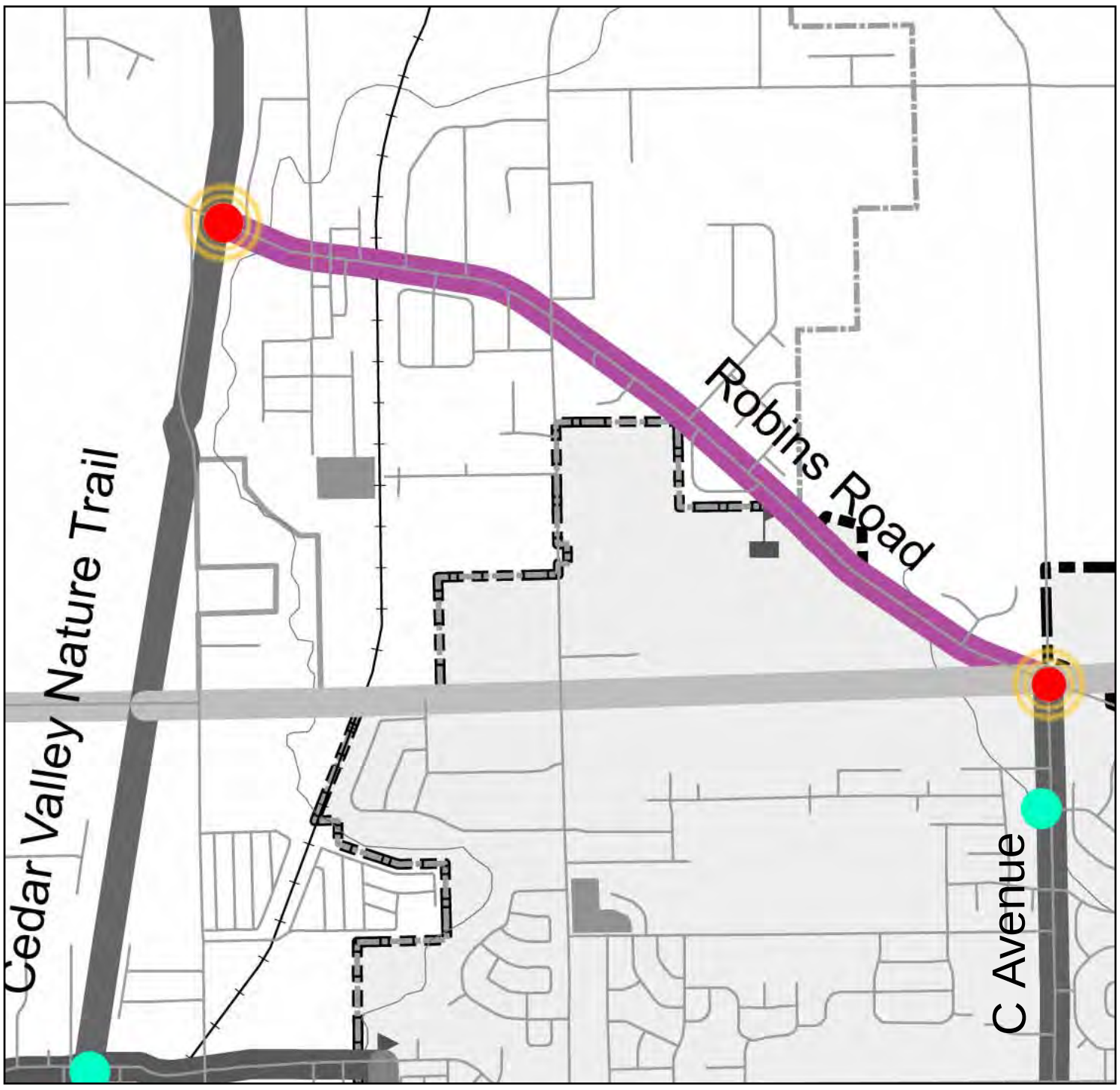
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On- or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | .6 miles in Cedar Rapids 1.4 mile existing; 2 miles total |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 24', 28' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 66', 80', 100' |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 2600 - 5000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential, Farmland |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within 2.5 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Railroad crossing |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Cedar Valley Nature Trail connection |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section M |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes, widening and bike lane striping |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | No |

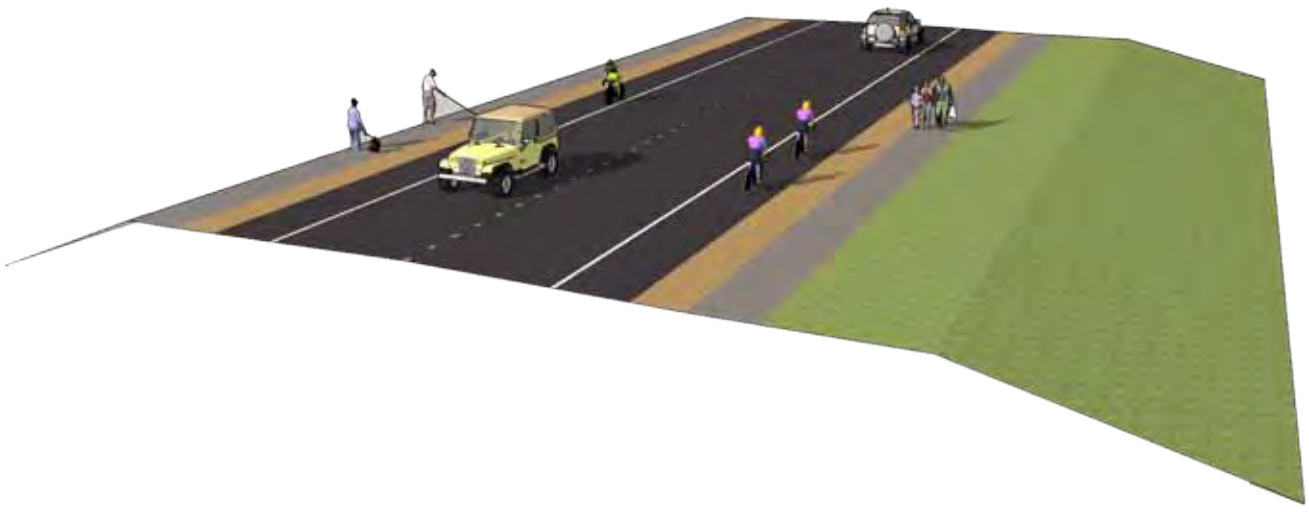
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 32 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 63 | $15,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Multi-Use Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $25,000.00 |
| | | | | Construction Contingency 15% | $5,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $35,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2 | $32,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# ROBINS ROAD SEGMENT



# ROCKFORD ROAD SEGMENT

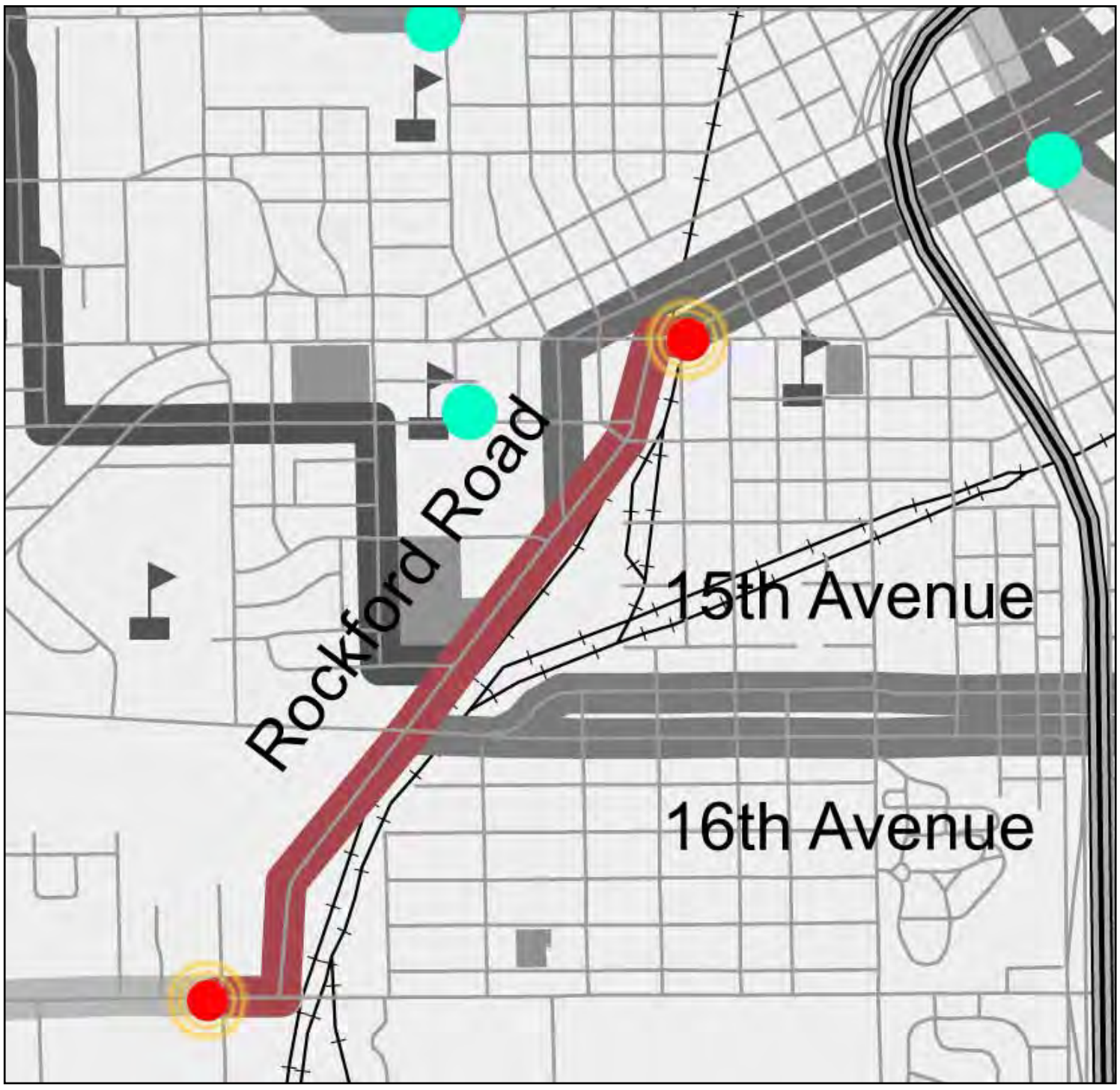
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 1.3 miles |
| 3 | Roadway Classification | Collector |
| 4 | Total Pavement Width (Feet) | 24', 40' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 65', 70', 72', 80' |
| 7 | Curb & Gutter | |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Yes, Portions of West side of Road |
| 11 | Traffic Volume (AADT) | 200 - 5,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Commercial, Industrial |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within 3 mi. |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stop 1 (in) 1 (out) |
| 16 | Physical Barriers | Railroad Crossing |
| 17 | Pavement/Curb Condition | Fair to good |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Kingston Stadium, Veterans Stadium, Ice Arena |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section G |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes |
| 25 | Need Bicycle Surface Improvements | Yes as required |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

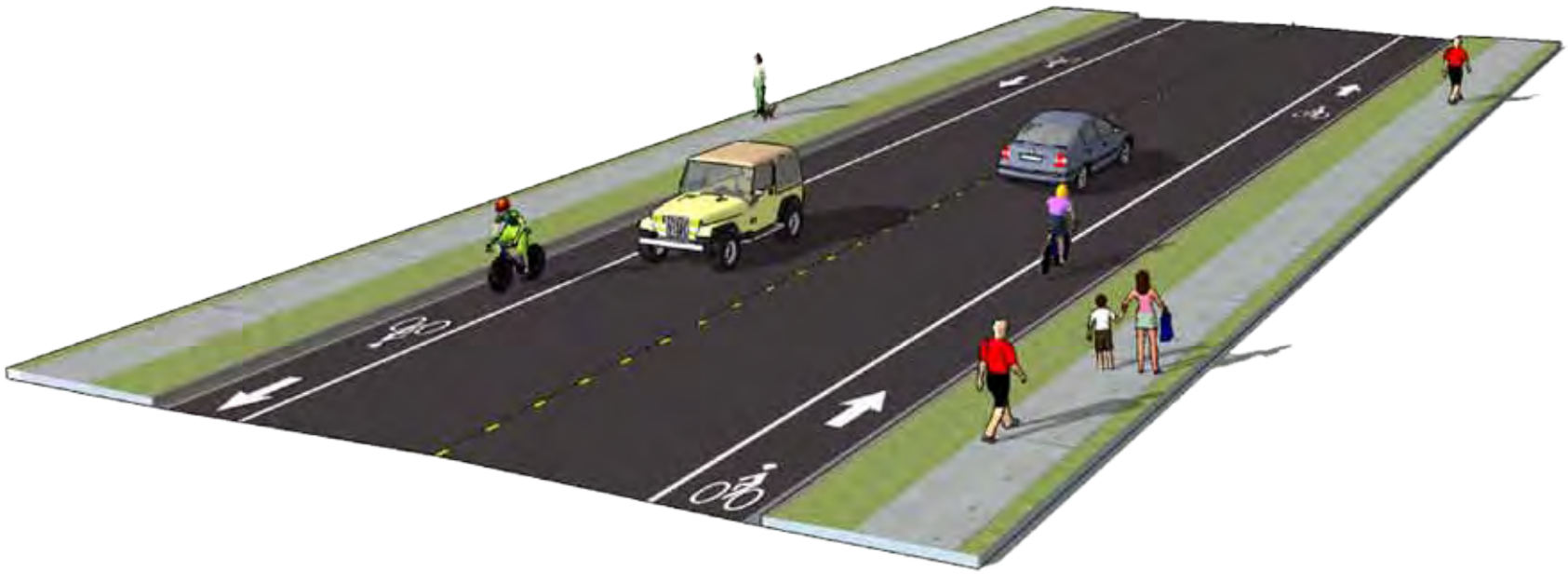
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 69 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 137 | $30,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | LS | $0.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $1,600.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $45,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $60,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.3 | $20,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# ROCKFORD ROAD SEGMENT



# ROCKWELL CONNECTOR TRAIL SEGMENT

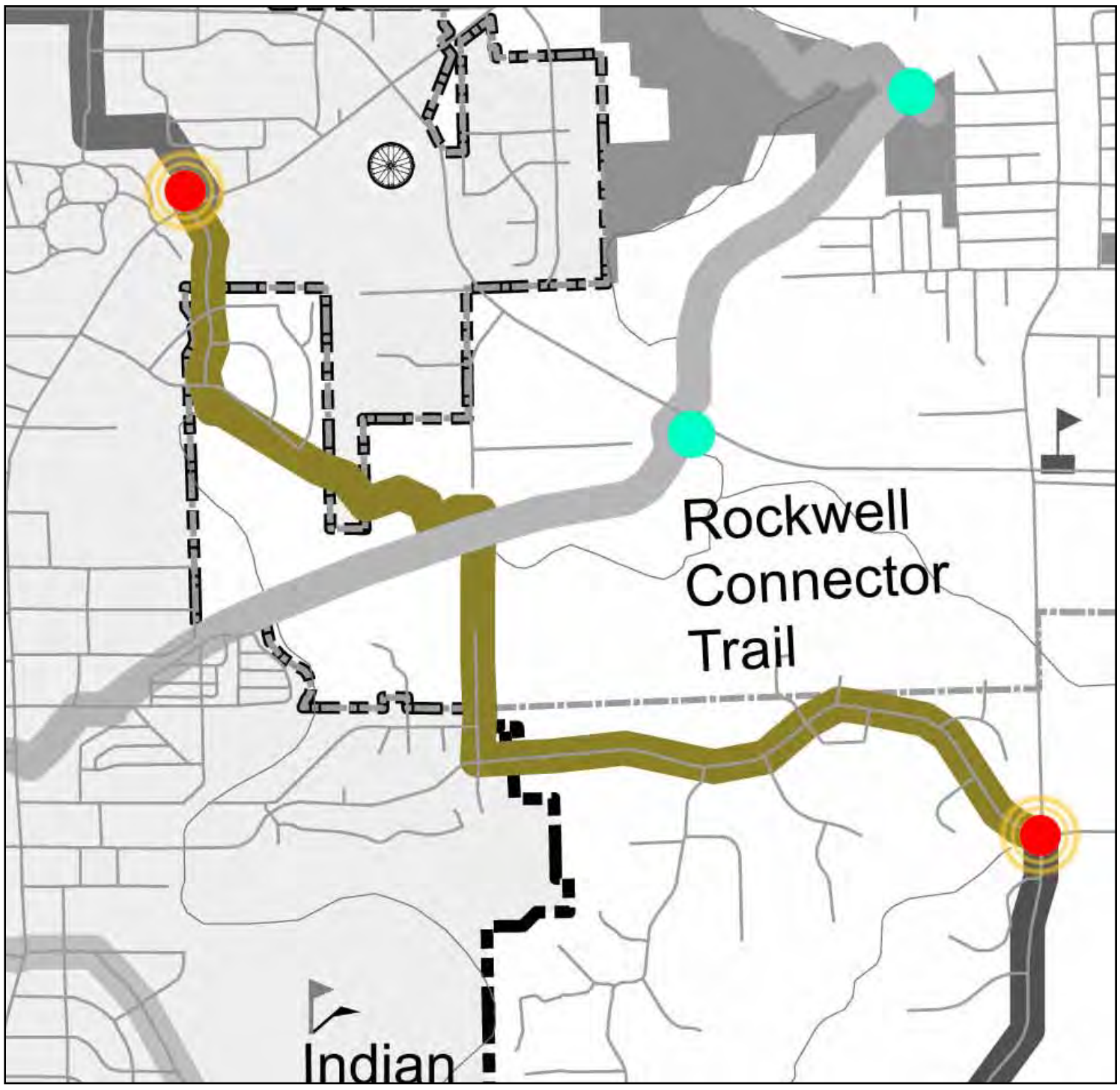
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On- or Separated Trail | On-Road & Separated Trail Combination |
| 2 | Segment Length (Mile) | 0.5 mile in City limits  Total Segment Miles: 2.5 |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 30', 32', 40' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way | 66', 80' |
| 7 | Curb & Gutter | Yes in streets |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Yes |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 650 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Commercial |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail on Segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Topography |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies from on-road to Separated |
| **EVALUATION** | | |
| 19 | Collision Data  (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Lindale Mall |
| 22 | Residential Density (Hi - Med - Lo) | Low |
| 23 | Employment Intensity (Hi - Med - Lo) | Medium to High |
| **RECOMMENDED** | | |
| 25 | Recommended Typical Section | Section C (on-road) and Section N (Separated) |
| 26 | Improvement for Re-Striping, Overlay, or Widening | Sharrow logos |
| 27 | Need Bicycle Surface Improvements | No |
| 28 | Need Pedestrian Surface Improvements | Yes as required |

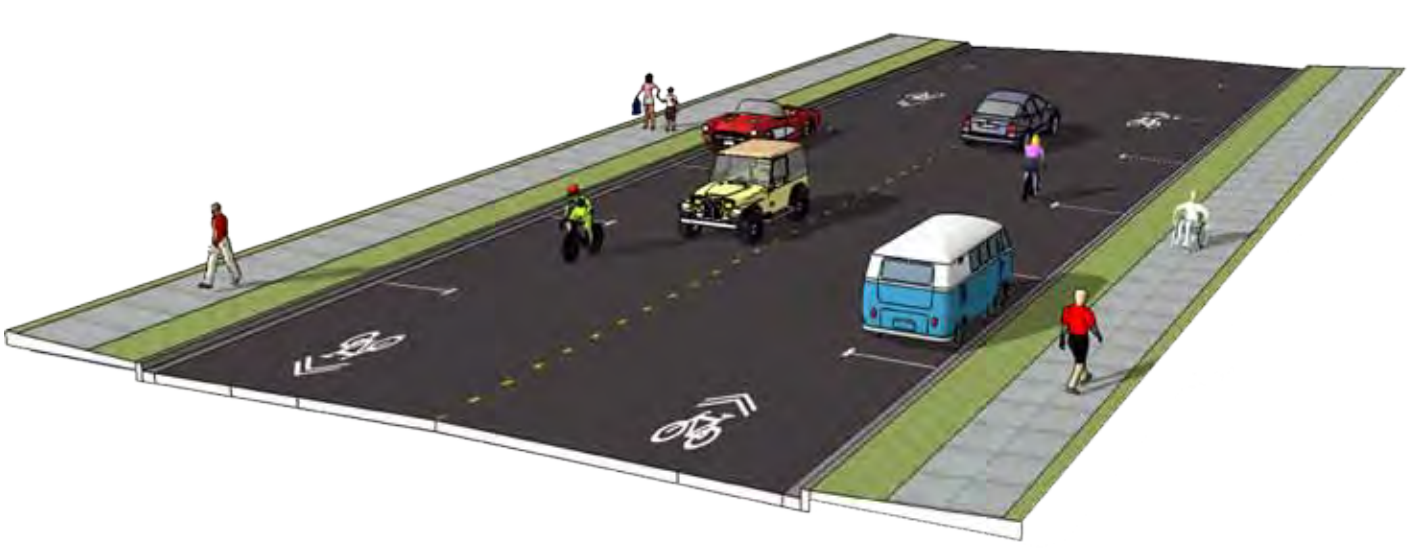
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 26 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.);  avg. 2 per Sta. | Each | $200.00 | 52 | $15,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 11 | $125,000.00 |
| 7 | Lump Sum Item  (Signage) | LS | $15,000.00 | 1 | $5,000.00 |
| | Lump Sum Item  (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $150,000.00 |
| | | | | Construction Contingency 15% | $22,500.00 |
| | | | | Engineering Design 10% | $15,000.00 |
| | | | | Total Segment Cost | $187,500.00 |

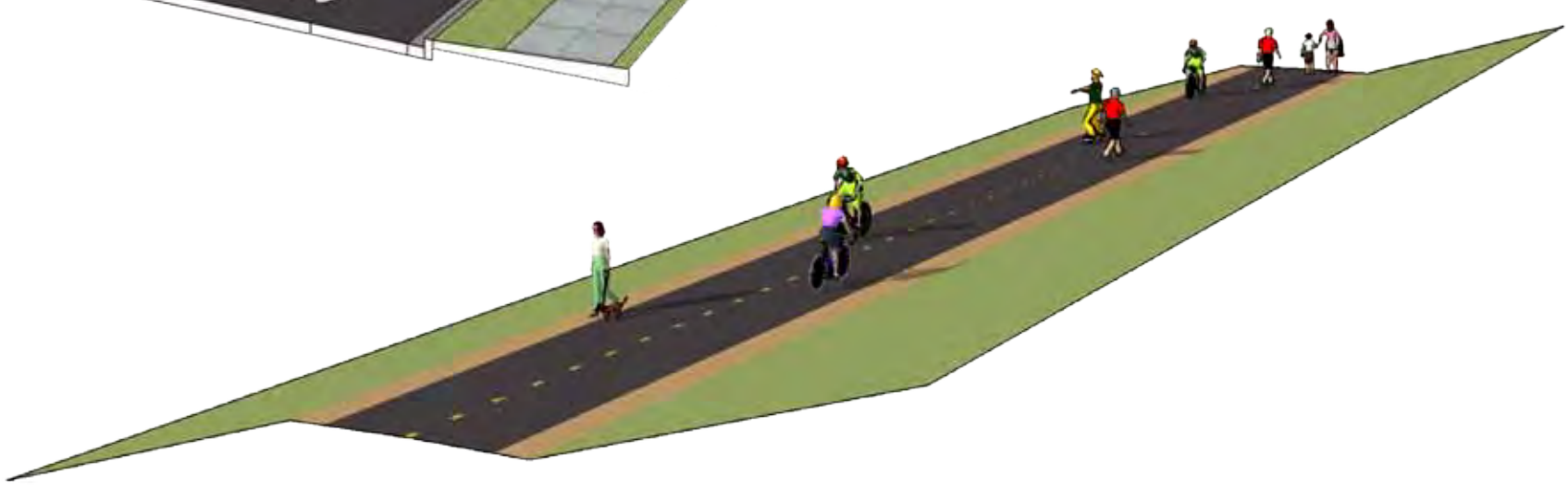
| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 2.5 | $40,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# ROCKWELL CONNECTOR TRAIL SEGMENT





# SW CROSSTOWN TRAIL SEGMENT

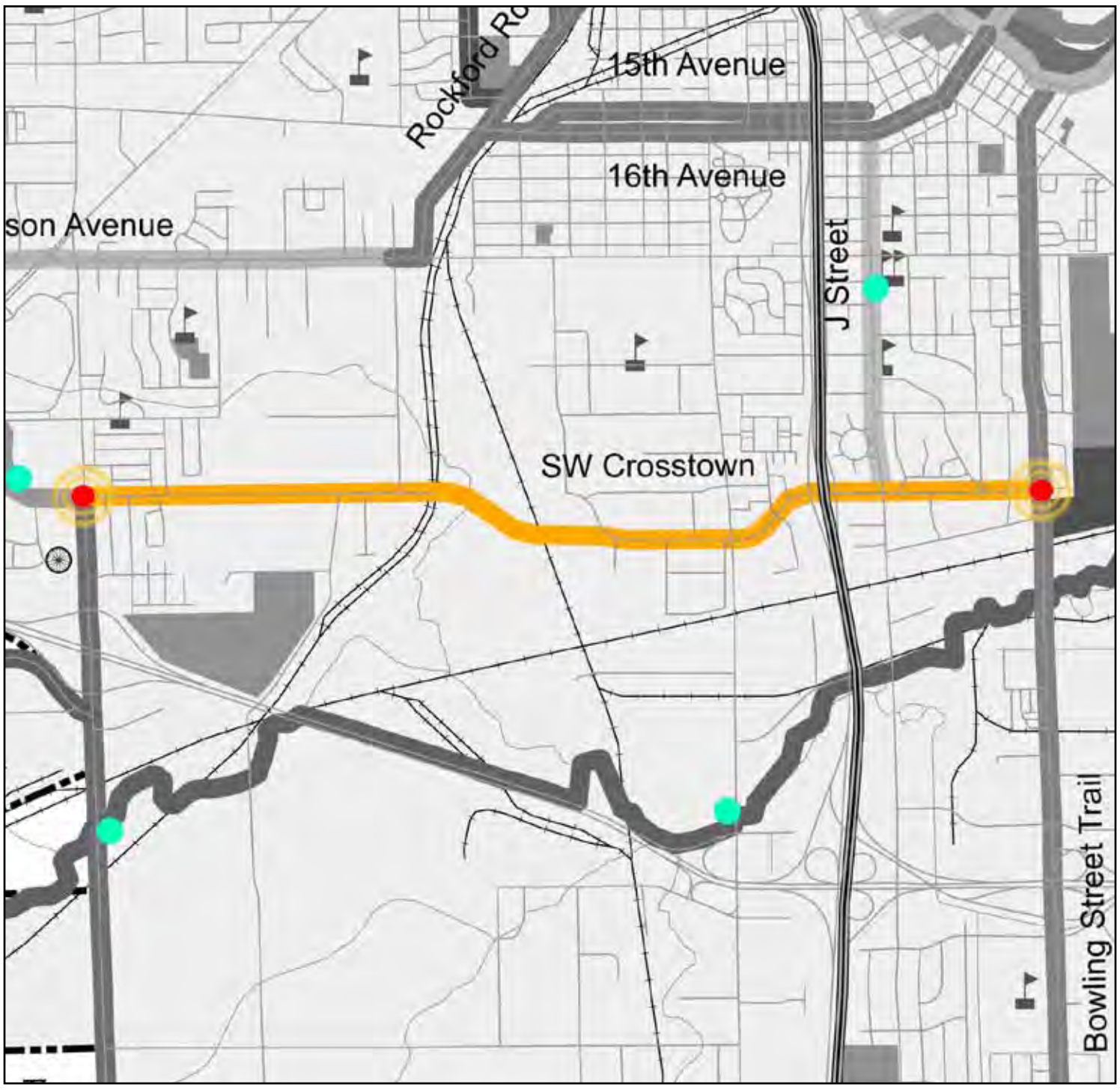
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On- or Separated Trail | On-Road (Portions completed fall 2009 and fall 2011) |
| 2 | Segment Length (Mile) | 3.1 miles |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | 24', 32', 44', 48', 55' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 - 5 Traffic Lanes |
| 6 | Right of Way | 60', 80', 90', 100', 120' |
| 7 | Curb & Gutter | Yes |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Yes; Narrow pedestrian walk both sides |
| 11 | Traffic Volume (AADT) | Medium (649 -15,000) |
| 12 | Posted Street Speed limit (mph) | 35 mph |
| 13 | Land Use Type | Commercial and Office |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail at west end of segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 1 (in) 9 (out) |
| 16 | Physical Barriers | Intersections |
| 17 | Pavement/Curb Condition | Good, Existing sharrow |
| 18 | Consistency of Section within Segment | Good, Existing sharrow |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Existing Sharrow, Westdall Mall, Beverly Mountain Bike Trails, Hawkeye Downs Racetrack |
| 22 | Residential Density (Hi - Med - Lo) | Low to very high (West end) |
| 23 | Employment Intensity (Hi - Med - Lo) | Medium to High |
| **RECOMMENDED** | | |
| 25 | Recommended Typical Section | Section H |
| 26 | Improvement for Re-Striping, Overlay, or Widening | No |
| 27 | Need Bicycle Surface Improvements | No |
| 28 | Need Pedestrian Surface Improvements | No |

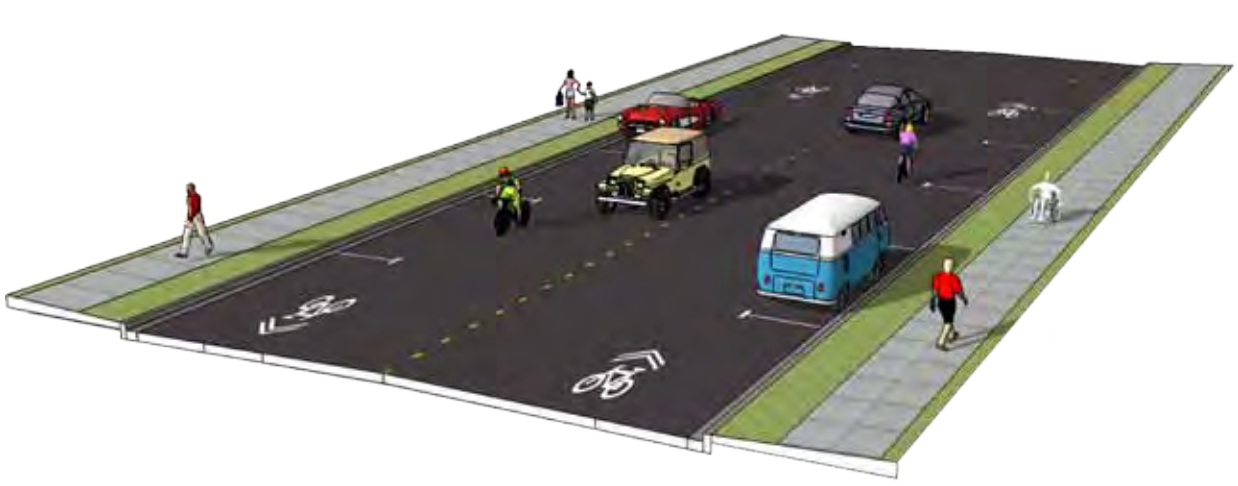
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 0 | $0.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 0 | $0.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | N/A | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $15,000.00 | 0 | $0.00 |
| | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | N/A | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $0.00 |
| | | | | Construction Contingency 15% | $0.00 |
| | | | | Engineering Design 10% | $0.00 |
| | | | | Total Segment Cost | $0.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.1 | $49,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# SW CROSSTOWN TRAIL SEGMENT



# SAC & FOX TRAIL SEGMENT

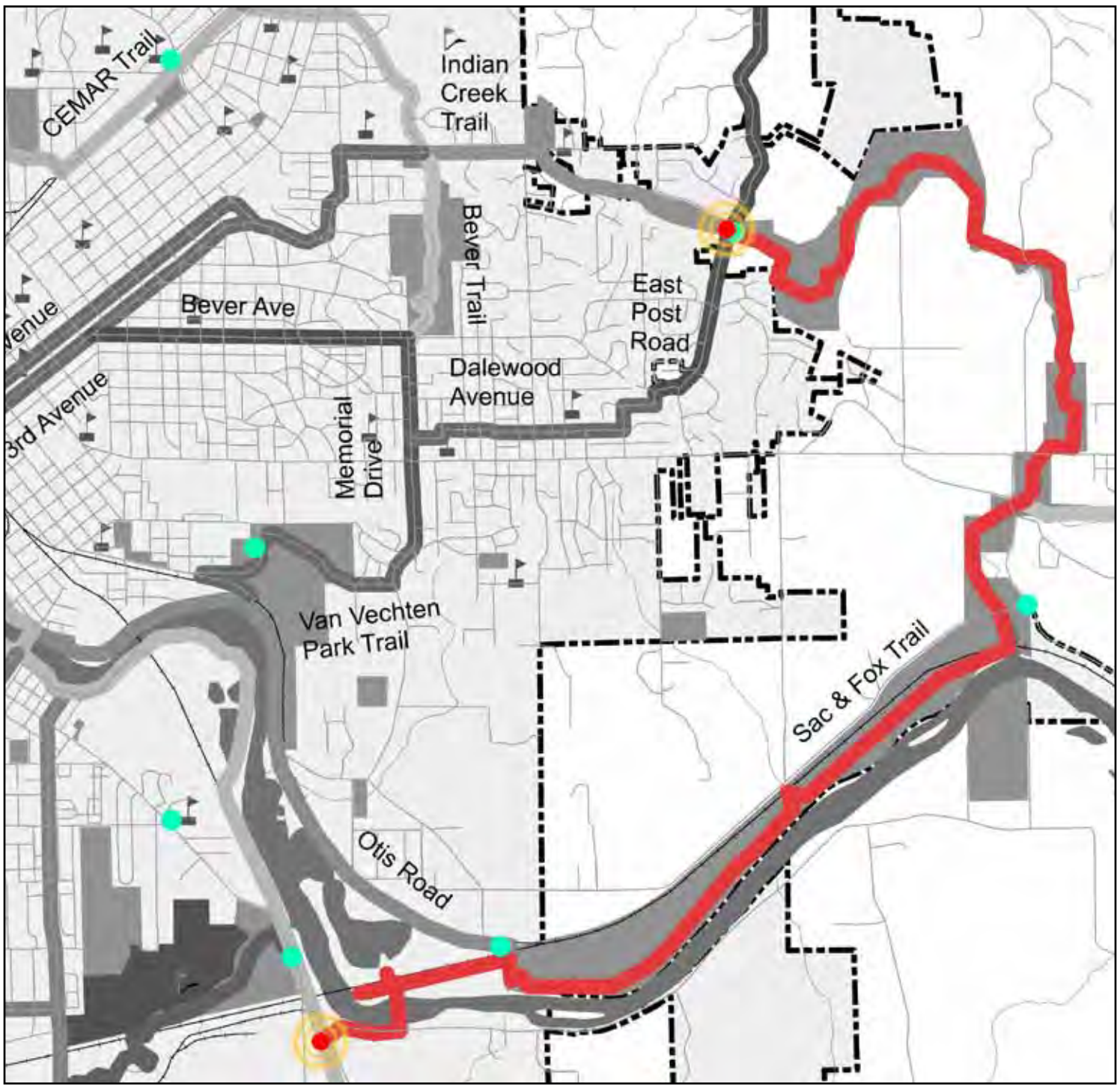
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On- or Sepa.rated Trail | Separated (Existing) |
| 2 | Segment Length (Mile) | 3.3 miles in Cedar Rapids TOTAL:8 Miles |
| 3 | Roadway Classification | None |
| 4 | Total Pavement Width (Feet) | None |
| 5 | Number of Traffic Lanes incl. Center Left Turn | None |
| 6 | Right of Way | None |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | None |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Park space/ Greenway |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail on 2nd Ave. |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Floodway |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Existing trail natural greenway |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Ongoing flood recovery repairs |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | Yes |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 63 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 126 | $30,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Street or Sidewalk repair and or new sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 63 | $725,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $765,000.00 |
| | | | | Construction Contingency 15% | $115,000.00 |
| | | | | Engineering Design 10% | $80,000.00 |
| | | | | Total Segment Cost | $960,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 8 | $128,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# SAC & FOX TRAIL SEGMENT




# SEMINOLE VALLEY TRAIL SEGMENT

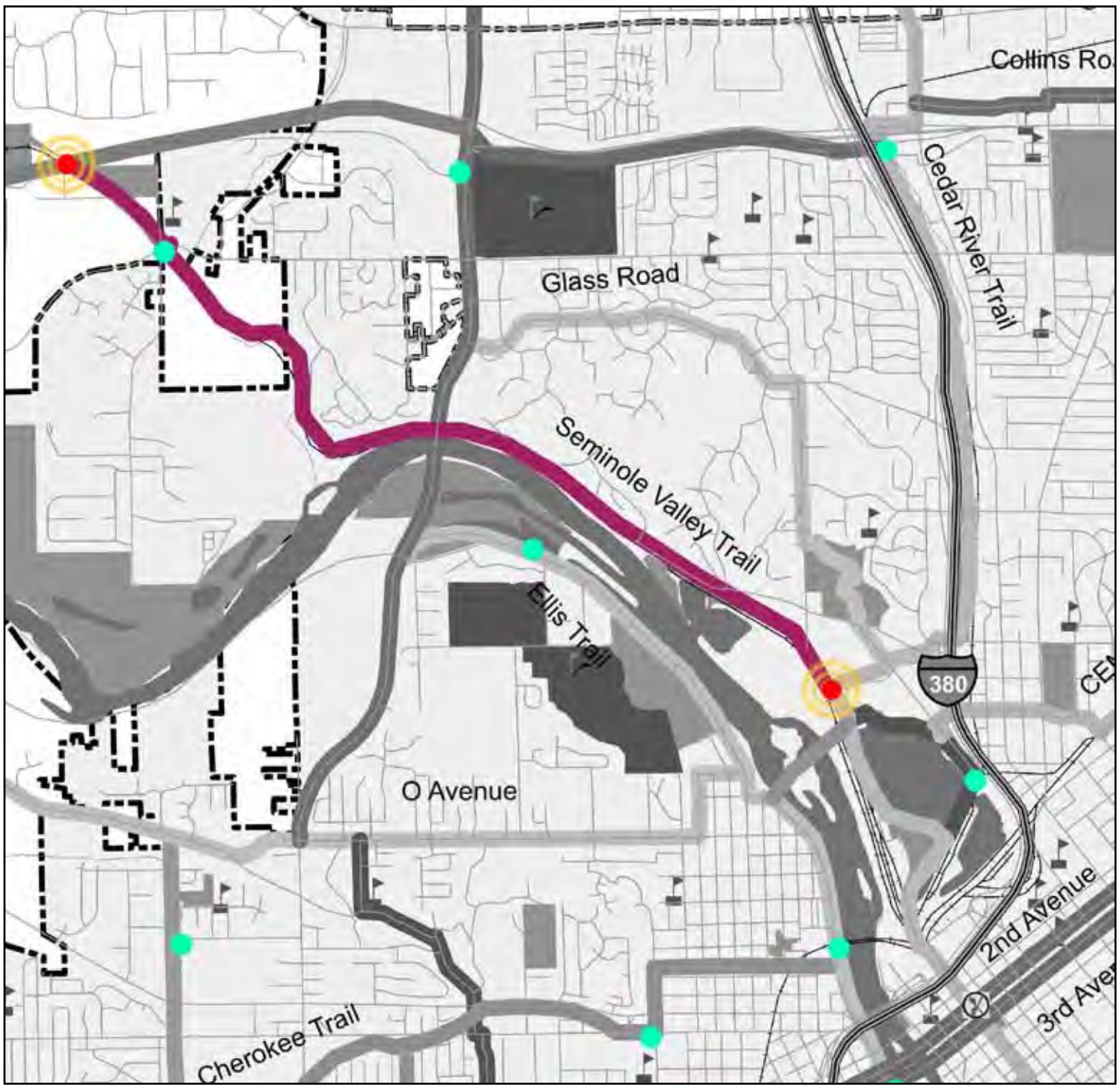
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | Separated |
| 2 | Segment Length (Mile) | 2.8 miles in Cedar Rapids  Total segment miles: 4 |
| 3 | Roadway Classification | Local (partial) |
| 4 | Total Pavement Width (Feet) | None |
| 5 | Number of Traffic Lanes incl. Center Left Turn | None |
| 6 | Right of Way | None |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | Very Low  <200 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | None |
| 15 | Transit Access with Bike Racks (See Segment Map) | Not on Bus Route |
| 16 | Physical Barriers | Possible Steep Hills, Railroad Crossings |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good |
| **EVALUATION** | | |
| 19 | Collision Data  (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Natural Greenway |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium to High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes, new construction |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | Yes |

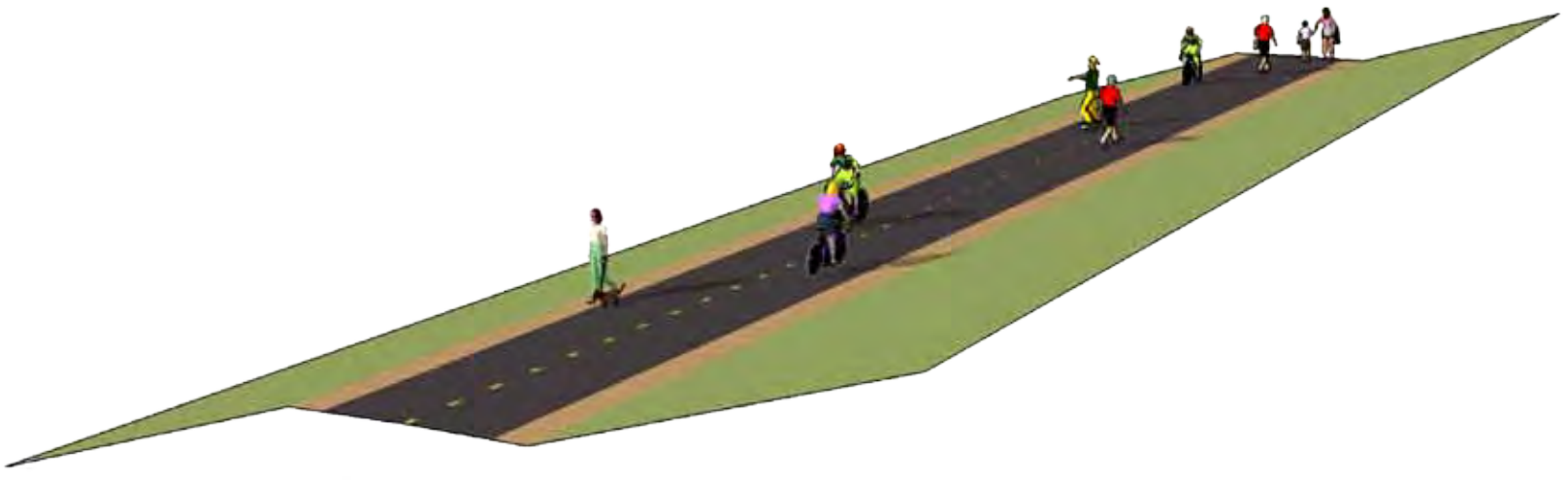
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 148 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.);  avg. 2 per Sta. | Each | $200.00 | 296 | $60,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | LS | $50,000.00 | 1 | $50,000.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 148 | $1,705,000.00 |
| 7 | Lump Sum Item  (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item  (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | Construction Subtotal | | | | $1,835,000.00 |
| | Construction Contingency 15% | | | | $280,000.00 |
| | Engineering Design 10% | | | | $185,000.00 |
| | Total Segment Cost | | | | $2,300,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4 | $64,000.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# SEMINOLE VALLEY TRAIL SEGMENT



# STONEY POINT SEGMENT

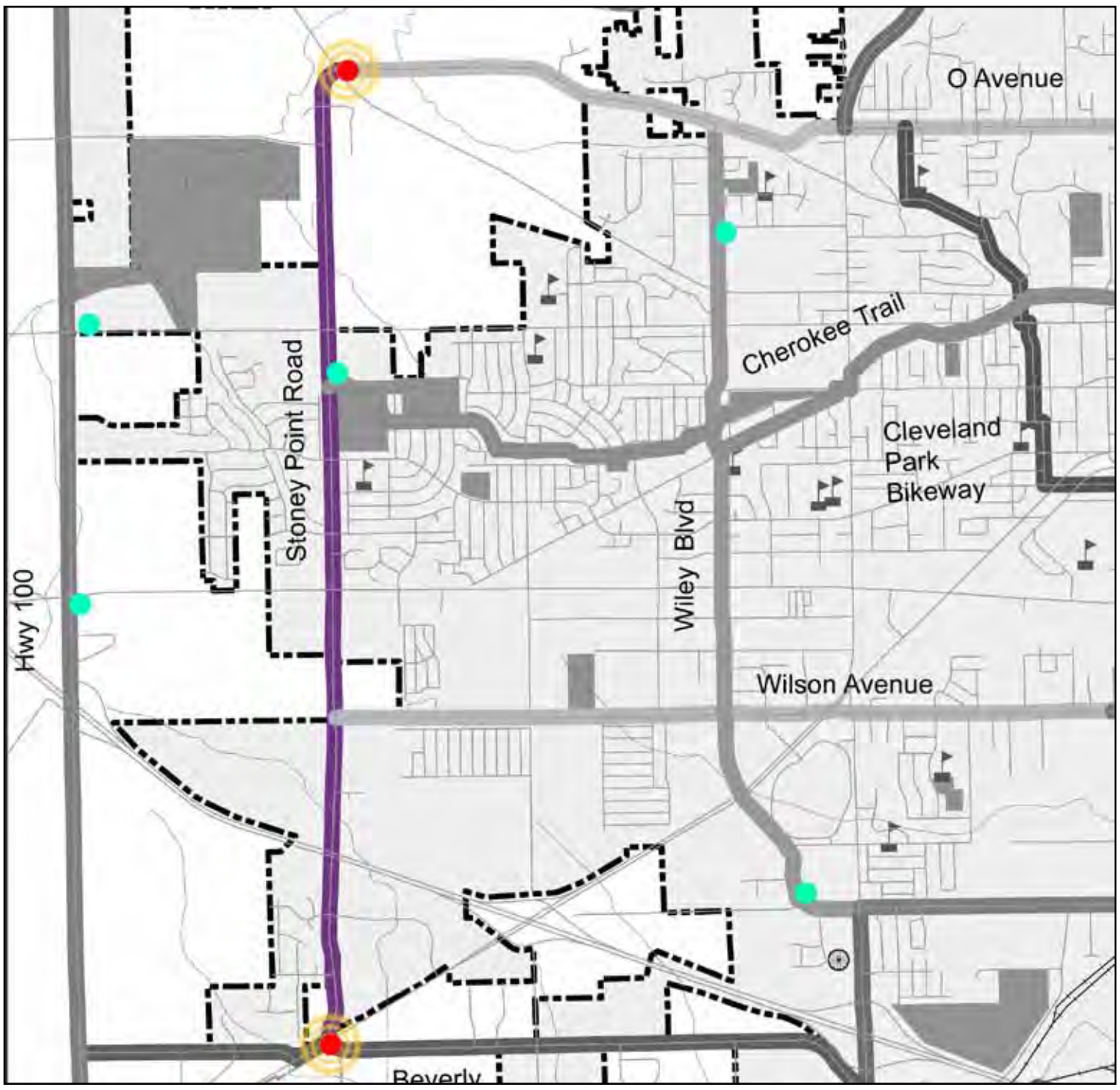
| EXISTING | | |
|---|---|---|
| 1 | On-Road or Separated Trail | Separated |
| 2 | Segment Length (Mile) | 2.7 miles in Cedar Rapids Total=3.7 Miles |
| 3 | Roadway Classification | Major Arterial |
| 4 | Total Pavement Width (Feet) | 24', 36' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic Lanes |
| 6 | Right of Way | 60', 80', 85', 100' 115' |
| 7 | Curb & Gutter | Yes, few portions |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Yes; portions |
| 11 | Traffic Volume (AADT) | 1,000-5,000 |
| 12 | Posted Street Speed limit (mph) | 35 mph |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 1 (in) 2 (out) |
| 16 | Physical Barriers | US Hwy 30 |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Good/Varies 24'-36' pavement and R.O.W varies widely |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Access to Morgan Creek Park |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section B and Section N (without jogging lanes) |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Bike land striping |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 143 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 285 | $60,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk Repair & or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 83 | $954,500.00 |
| 7 | Lump Sum Item (Signage) | LS | $20,000.00 | 1 | $20,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,044,500.00 |
| | | | | Construction Contingency 15% | $156,675.00 |
| | | | | Engineering Design 10% | $104,450.00 |
| | | | | Total Segment Cost | $1,305,625.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.7 | $59,200.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# STONEY POINT SEGMENT




# TOWER TERRACE ROAD SEGMENT

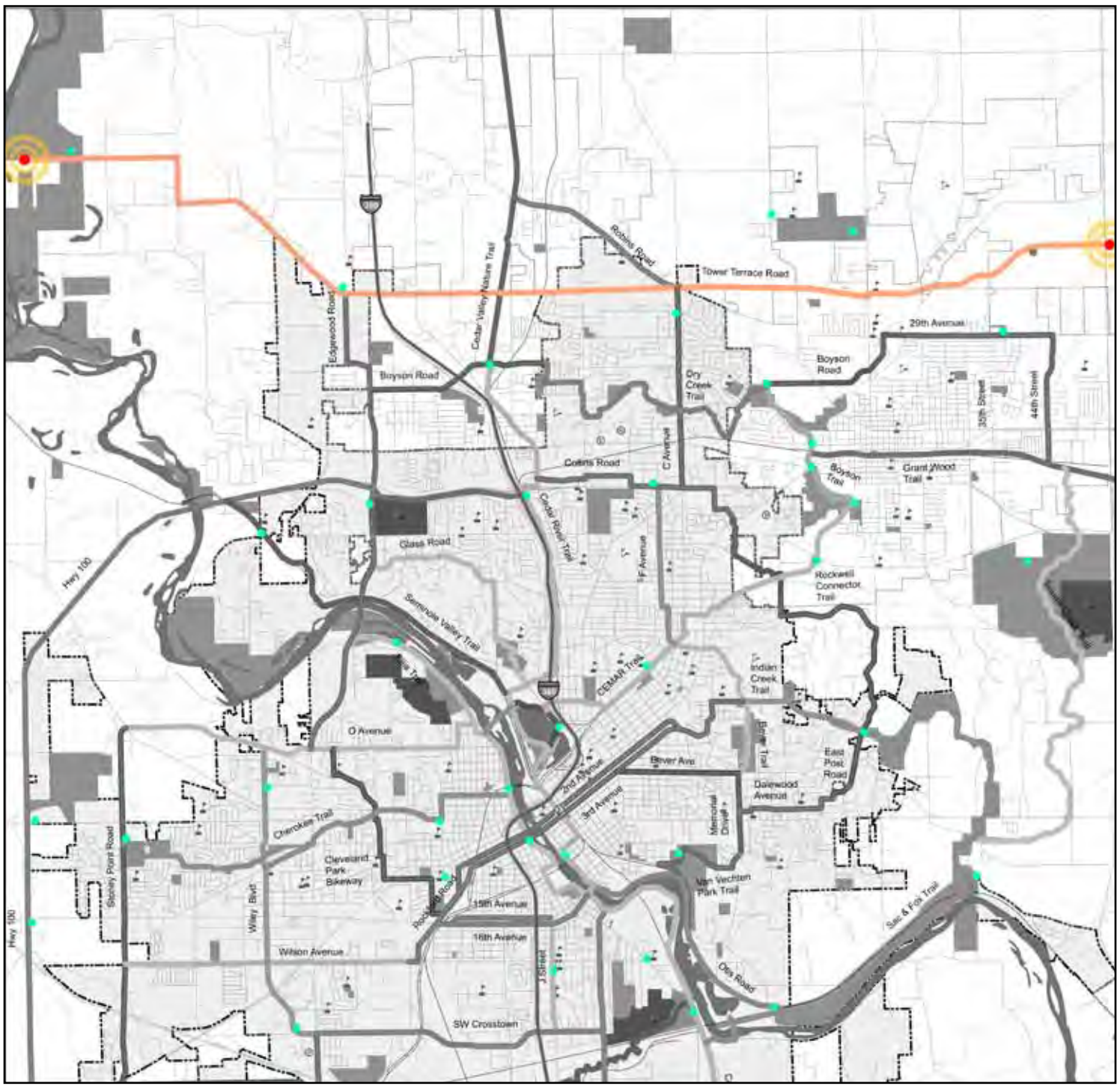
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road & Separated Trail Combination |
| 2 | Segment Length (Mile) | 2.5 miles in Cedar Rapids 12.3 miles |
| 3 | Roadway Classification | Major Arterial |
| 4 | Total Pavement Width (Feet) | 30' existing, Future alignment to be determined and include multi-modal transit |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 |
| 6 | Right of Way (Feet) | Varies Widely 100' + |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 1,000-5,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Shop/Retail within 2.2 mi |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops |
| 16 | Physical Barriers | Railroad Crossings, Interstate 380 |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Future Establishment |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Long segment |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section M (on-road) and Section N |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes, new road extension |
| 25 | Need Bicycle Surface Improvements | Yes |
| 26 | Need Pedestrian Surface Improvements | Yes |

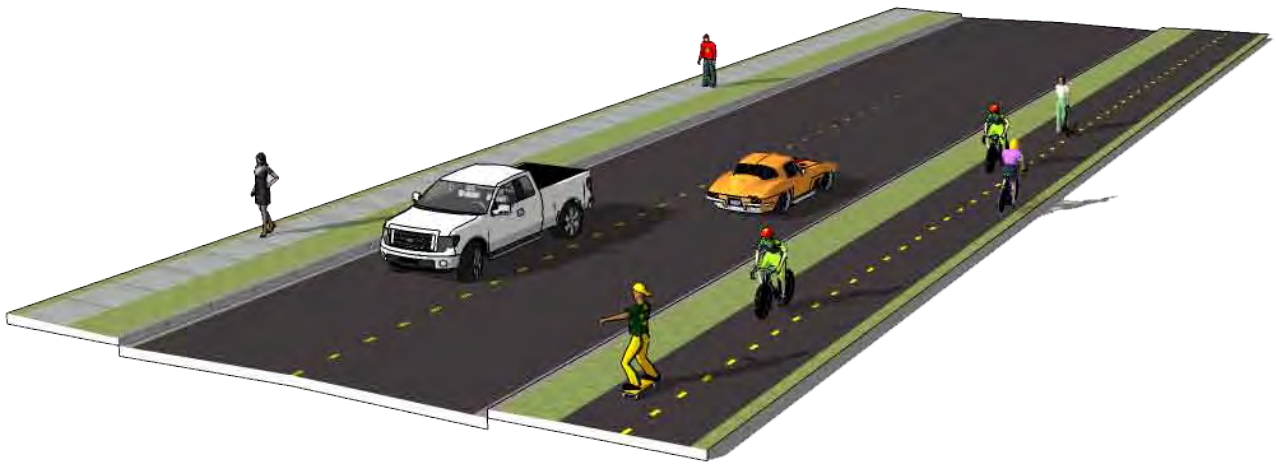
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 132 | $5,280.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 264 | $52,800.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail Overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 132 | $1,518,000.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $1,585,000.00 |
| | | | | Construction Contingency 15% | $240,000.00 |
| | | | | Engineering Design 10% | $160,000.00 |
| | | | | Total Segment Cost | $1,985,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 12.3 | $196,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# TOWER TERRACE ROAD SEGMENT



# VAN VECHTEN PARK TRAIL SEGMENT

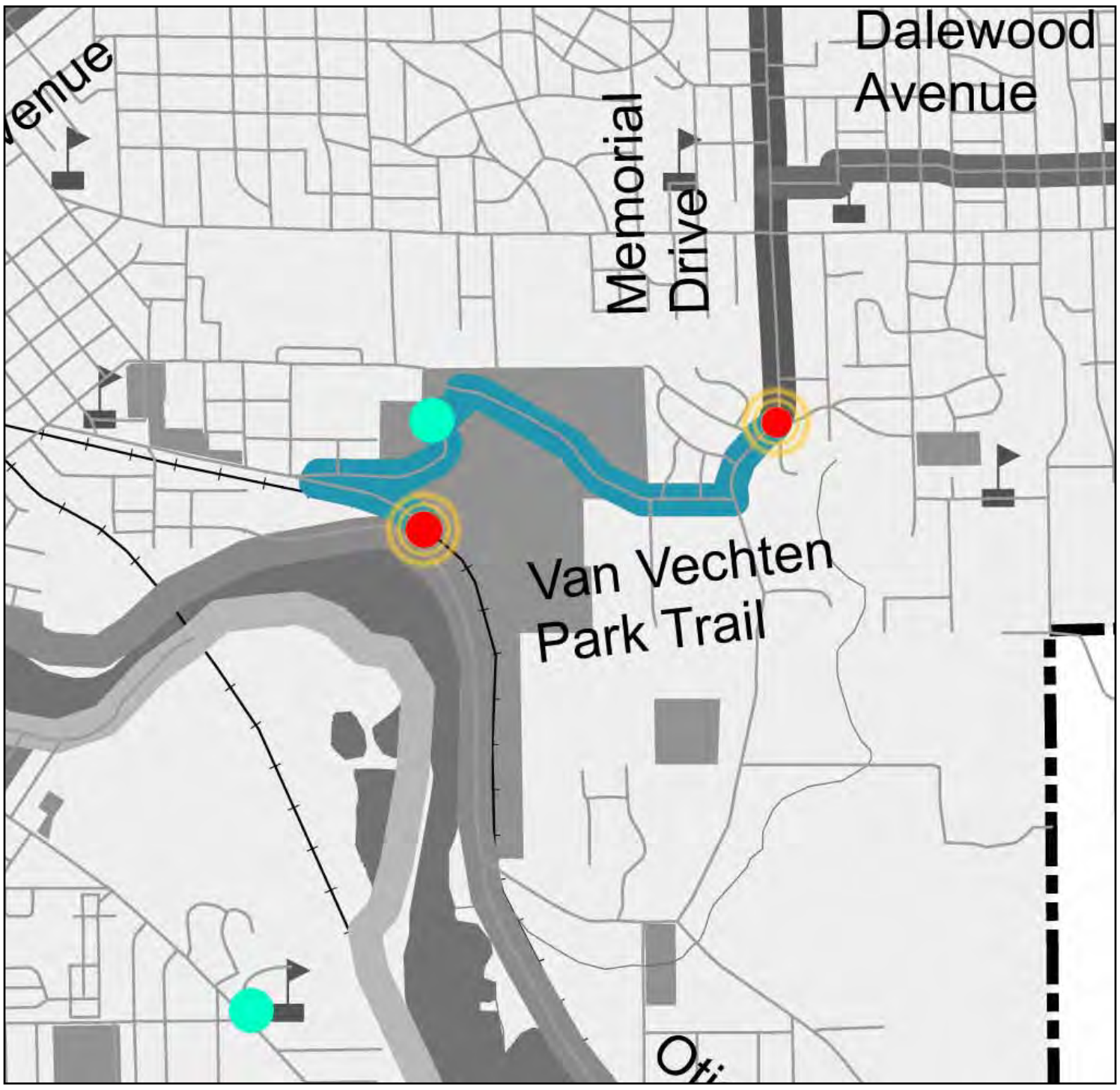
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road Separated |
| 2 | Segment Length (Mile) | 1.4 Miles Total |
| 3 | Roadway Classification | Local |
| 4 | Total Pavement Width (Feet) | 32’ |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 Traffic lanes |
| 6 | Right of Way (Feet) | 60’, 80’ |
| 7 | Curb & Gutter | None |
| 8 | Paved Shoulder | Yes |
| 9 | On-Street Parking | Yes; Both sides |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 1,000-5,000 |
| 12 | Posted Street Speed limit (mph) | 25 mph |
| 13 | Land Use Type | Park space |
| 14 | Bike Retail/Repair Shop (See Segment Map) | |
| 15 | Transit Access with Bike Racks (See Segment Map) | None |
| 16 | Physical Barriers | Steep hills, curving road, fair sight lines |
| 17 | Pavement/Curb Condition | Good Pavement |
| 18 | Consistency of Section within Segment | Varies On-Road - Separated |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Von Vetchten Park, Restroom and Cedar River |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Low |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section M |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Bike lane striping |
| 25 | Need Bicycle Improvements | No |
| 26 | Need Pedestrian Improvements | No |

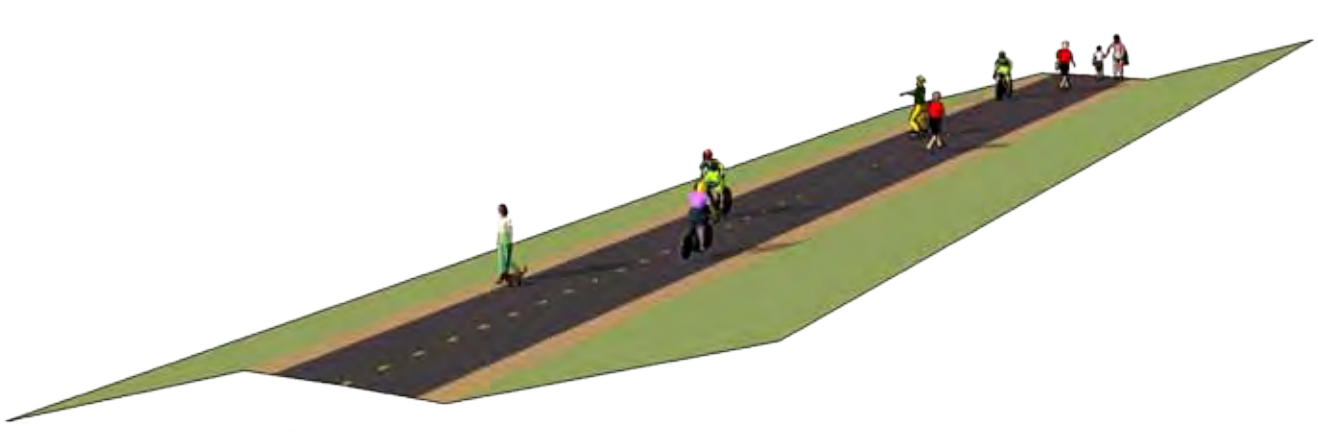
| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 74 | $5,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 148 | $30,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk Repair & or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $5,000.00 | 1 | $5,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $40,000.00 |
| | | | | Construction Contingency 15% | $10,000.00 |
| | | | | Engineering Design 10% | $5,000.00 |
| | | | | Total Segment Cost | $55,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 1.4 | $22,400.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# VAN VECHTEN PARK TRAIL SEGMENT



# WILEY BOULEVARD SEGMENT SCHEDULE

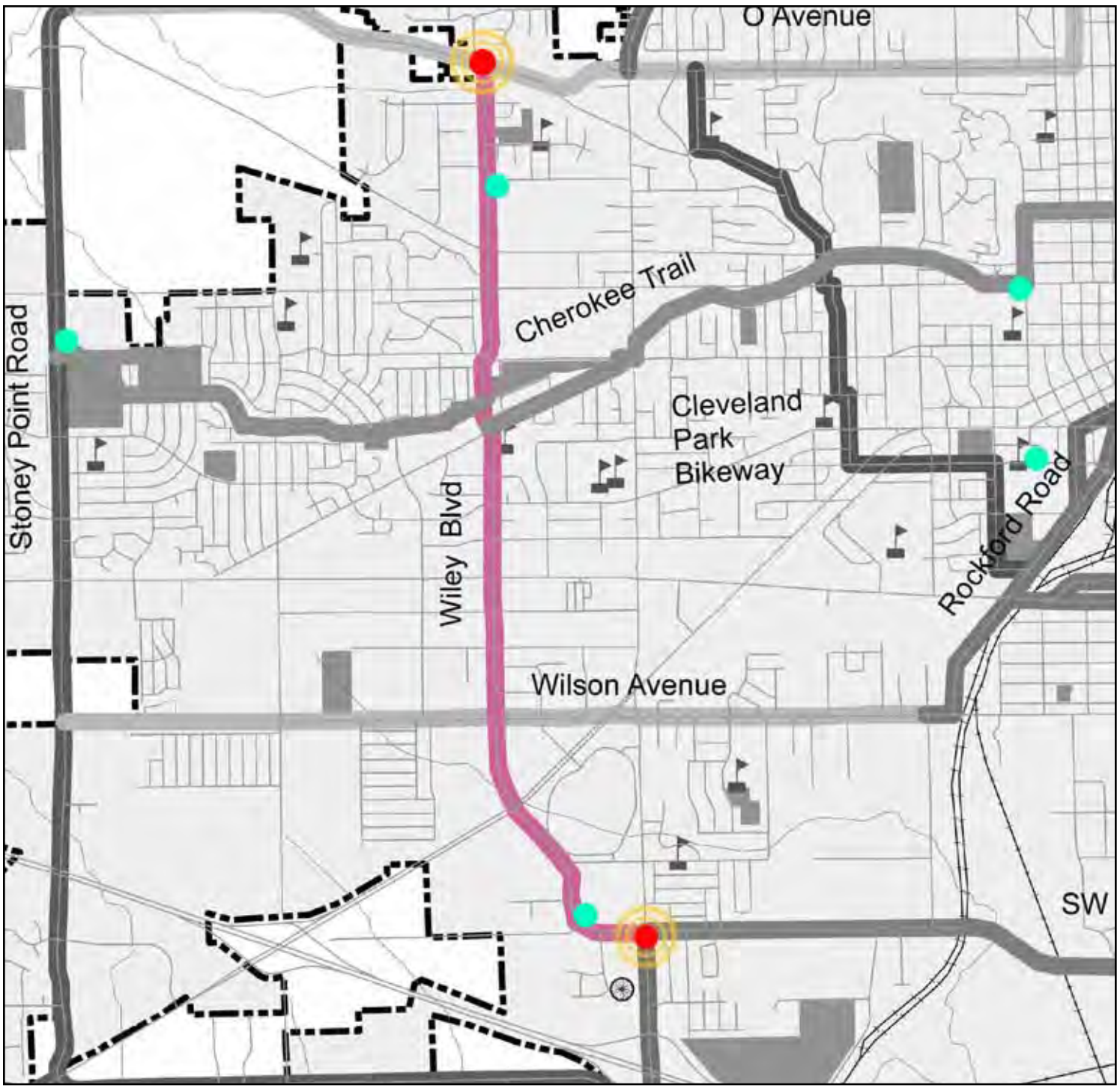
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 3.3 miles |
| 3 | Roadway Classification | Arterial |
| 4 | Total Pavement Width (Feet) | 24'-73' Varies Widely |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2 - 5 Traffic Lanes |
| 6 | Right of Way (Feet) | 66',70, 80', 90', 100', 115' Varies Widely |
| 7 | Curb & Gutter | Varies Widely |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | Both sides north of Johnson Avenue |
| 10 | Adjacent Sidewalk | Varies Widely |
| 11 | Traffic Volume (AADT) | High >18,000 |
| 12 | Posted Street Speed limit (mph) | 25-35 mph |
| 13 | Land Use Type | Commercial Retail and Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retails on Segment |
| 15 | Transit Access with Bike Racks (See Segment Map) | 14 Bus Stops |
| 16 | Physical Barriers | Intersections, High Traffic |
| 17 | Pavement/Curb Condition | Good |
| 18 | Consistency of Section within Segment | Varies Widely |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Westdale Mall |
| 21 | Residential Density (Hi - Med - Lo) | Medium |
| 22 | Employment Intensity (Hi - Med - Lo) | Medium to High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Sections B, H, and L |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 174 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 348 | $70,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidealk Repair & or New Sidewalk Construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $90,000.00 |
| | | | | Construction Contingency 15% | $15,000.00 |
| | | | | Engineering Design 10% | $10,000.00 |
| | | | | Total Segment Cost | $115,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.3 | $52,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# WILEY BOULEVARD SEGMENT SCHEDULE




# WILSON AVENUE SEGMENT

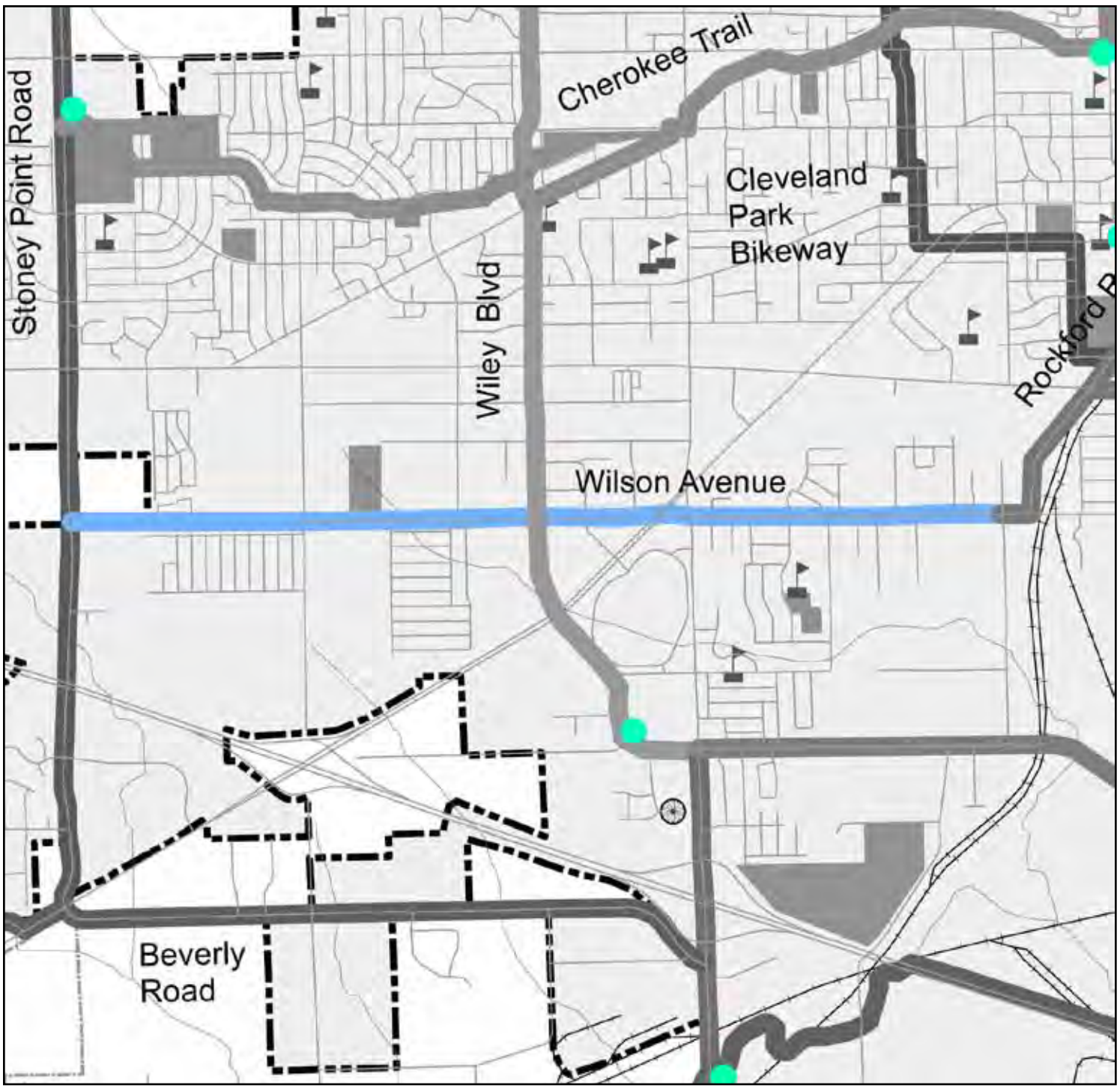
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 3.1 miles |
| 3 | Roadway Classification | Minor Arterial |
| 4 | Total Pavement Width (Feet) | 36', 50' |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-4 Traffic lanes |
| 6 | Right of Way | 66', 70', 75, 80, |
| 7 | Curb & Gutter (Inches) | Yes |
| 8 | Paved Shoulder (Feet) | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | Yes; Narrow Pedestrian walk both sides (varies) |
| 11 | Traffic Volume (AADT) | High >20,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Commercial Retail/ Residential |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail on Edgewood Rd. |
| 15 | Transit Access with Bike Racks (See Segment Map) | 14 Bus Stops |
| 16 | Physical Barriers | Intersections |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies widely |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | |
| 20 | Segment Benefit | Hwy Commercial |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | Med |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section B, H, and I |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Restriping for bike lanes and traffic lanes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 164 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 328 | $70,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New Sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $20.00 | 0 | $0.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $10,000.00 | 1 | $10,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $90,000.00 |
| | | | | Construction Contingency 15% | $15,000.00 |
| | | | | Engineering Design 10% | $10,000.00 |
| | | | | Total Segment Cost | $115,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 3.1 | $49,600.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# WILSON AVENUE SEGMENT




# WRIGHT BROTHERS LOOP SEGMENT

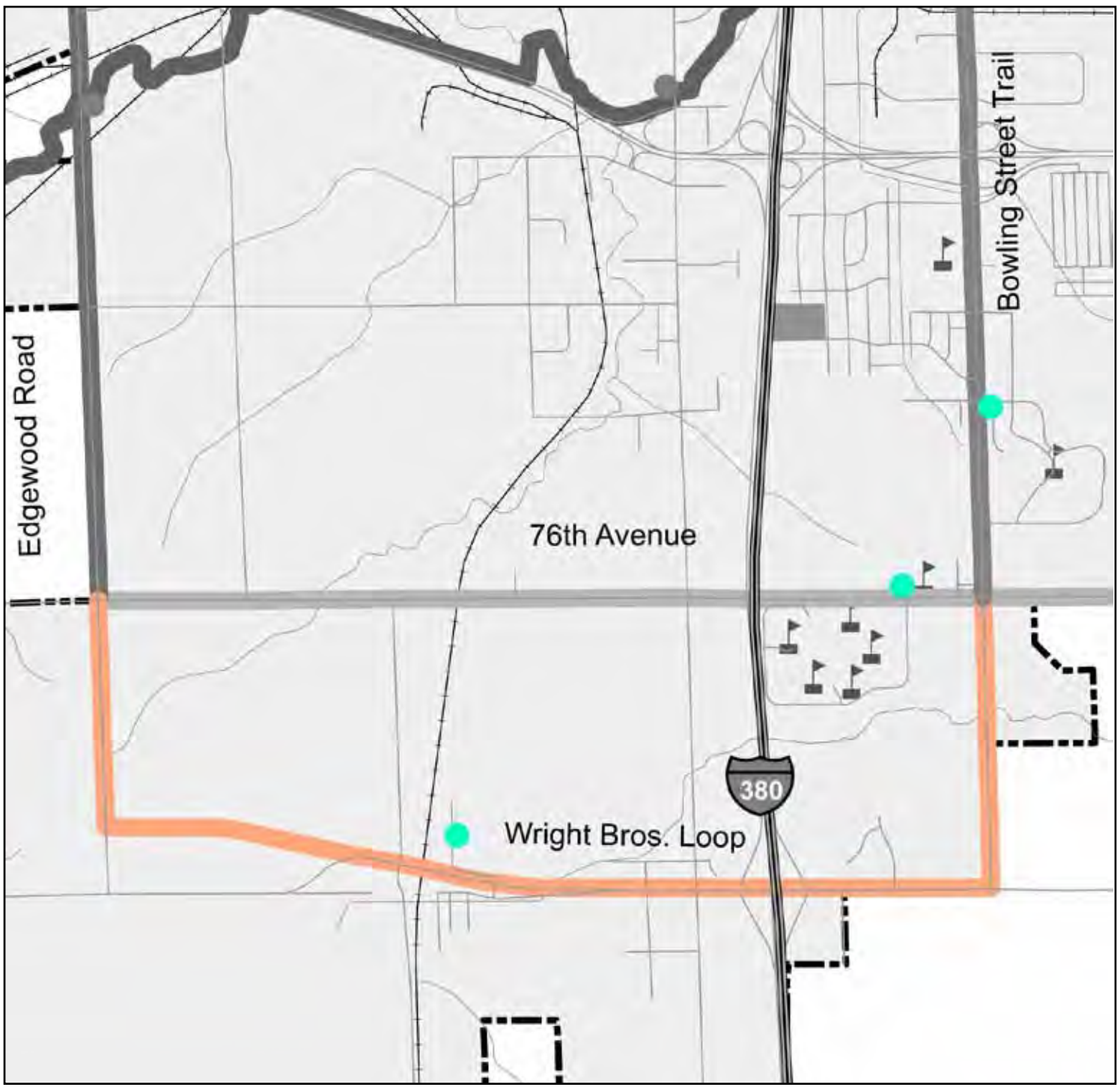
| | | |
|---|---|---|
| **EXISTING** | | |
| 1 | On-Road or Separated Trail | On-Road |
| 2 | Segment Length (Mile) | 1.4 miles existing Total 4.8 Miles |
| 3 | Roadway Classification | Major Arterial |
| 4 | Total Pavement Width (Feet) | 24', 35', 50', 66', 100', 115' including 30' median |
| 5 | Number of Traffic Lanes incl. Center Left Turn | 2-6 Traffic Lanes |
| 6 | Right of Way | 100', 115', 140', 170', 180, 225' |
| 7 | Curb & Gutter | Yes; Varies |
| 8 | Paved Shoulder | None |
| 9 | On-Street Parking | None |
| 10 | Adjacent Sidewalk | None |
| 11 | Traffic Volume (AADT) | 1,000-15,000 |
| 12 | Posted Street Speed limit (mph) | |
| 13 | Land Use Type | Commercial / Transit District |
| 14 | Bike Retail/Repair Shop (See Segment Map) | Bike Retail on Edgewood Rd. |
| 15 | Transit Access with Bike Racks (See Segment Map) | Bus Stops 3 (in) 1 (out) |
| 16 | Physical Barriers | Interstate 380, Railroad Crossing |
| 17 | Pavement/Curb Condition | |
| 18 | Consistency of Section within Segment | Varies; Narrow Rural - Wide (Blvd) - Narrow Rural |
| **EVALUATION** | | |
| 19 | Collision Data (Bike & Vehicle) | N/A |
| 20 | Segment Benefit | Connection to Eastern Iowa Airport |
| 21 | Residential Density (Hi - Med - Lo) | Low |
| 22 | Employment Intensity (Hi - Med - Lo) | High |
| **RECOMMENDED** | | |
| 23 | Recommended Typical Section | Section B (with curb) and Section M (without curb) |
| 24 | Improvement for Re-Striping, Overlay, or Widening | Yes |
| 25 | Need Bicycle Surface Improvements | No |
| 26 | Need Pedestrian Surface Improvements | Yes as required |

| ITEM | ITEM DESCRIPTION | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|---|
| 1 | Stripe Removal & Re-Striping for New Bike or Sharrow Lane | Sta | $40.00 | 180 | $10,000.00 |
| 2 | Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta. | Each | $200.00 | 360 | $75,000.00 |
| 3 | Remove & Repair Curb System for Bike/Sharrow Lane | Sta | $500.00 | 0 | $0.00 |
| 4 | Sidewalk repair and or New sidewalk construction | LS | NA | 0 | $0.00 |
| 5 | Street or Separated Trail overlay | SY | $40.00 | 159,000 | $6,360,000.00 |
| 6 | New Separated Trail Construction | Sta | $11,500.00 | 0 | $0.00 |
| 7 | Lump Sum Item (Signage) | LS | $15,000.00 | 1 | $15,000.00 |
| 8 | Lump Sum Item (Bridge, Underpass, Railings, Fences, Signalization) | LS | NA | 0 | $0.00 |
| | | | | | |
| | | | | Construction Subtotal | $6,460,000.00 |
| | | | | Construction Contingency 15% | $970,000.00 |
| | | | | Engineering Design 10% | $650,000.00 |
| | | | | Total Segment Cost | $8,080,000.00 |

| ANNUAL MAINTENANCE COST | UNIT | UNIT COST | QTY | EXTENDED COST |
|---|---|---|---|---|
| | Mile | $16,000.00 | 4.8 | $76,800.00 |

**Note:** *Costs do not include R.O.W. purchase, easements or major structures.*

# WRIGHT BROTHERS LOOP SEGMENT




# COMPREHENSIVE TRAILS PLAN

## PRIORITIES

The 52 trail segments identified as the Primary Connectivity Network (Cedar Trails) should be developed within the 2040 planning period. Eight of these segments are outside of the current Cedar Rapids city limits. Several segments such as the Highway 100 Trail and Tower Terrace Road have schedules independent of this report. In order to establish a starting point some assumptions were made and then public participation determined the final priorities.

The first assumption was to move forward with 20 segments ranked in order of importance. As the public involvement progressed the number grew to 23 segments.

In order to select the 23 segments the following criteria was considered:

- Connectivity
- Non-motorized transportation value (commuter use)
- Cost
- Population served

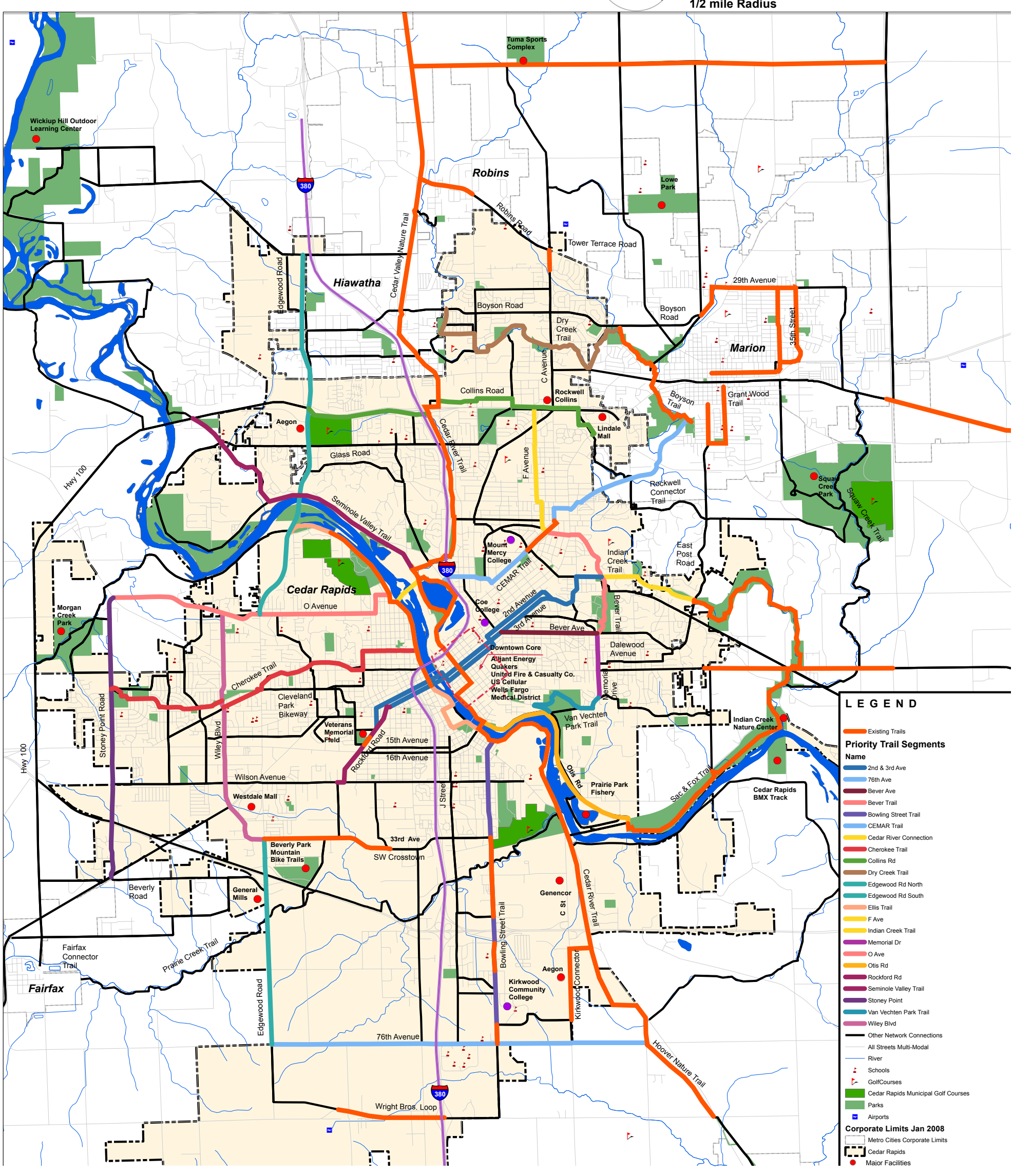
The second assumption and objective was to identify approximately 5 segments that the City could begin designing immediately. After the Steering Committee and public ranked the top 23 in priority. A recommendation was made for the top 5 segments.

The ultimate goal is to have the top 23 priority segments completed within ten years and the remainder of the Primary Connectivity Network within the 2040 Transportation Plan.

Progress on the development of these segments will be continuously monitored and updated on the individual trail segment schedules. The Trail Segment Schedules will be the database for recording the status of each segment and will work similar to the Capital Improvements Plan (CIP).

# COMPREHENSIVE TRAILS PLAN

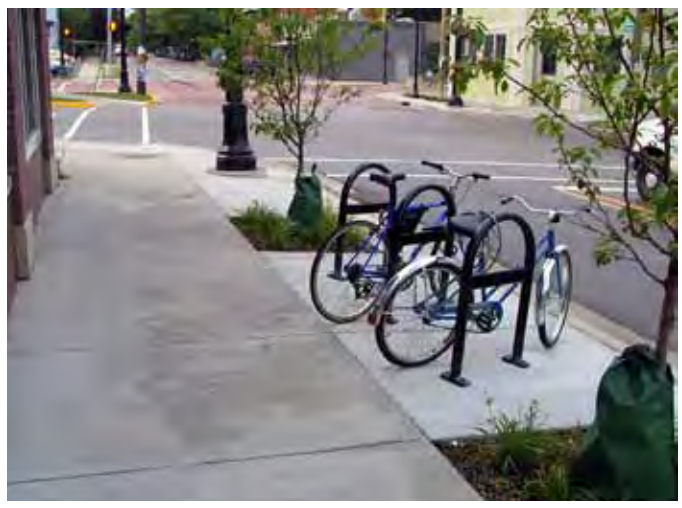
## PRIORITY TRAIL SEGMENTS



# COMPREHENSIVE TRAILS PLAN

## EXAMPLE BIKE PARKING/STORAGE

*1. Street Parking*



*2. Street Parking*

*3. Destination Style Parking*

*4. Destination Style Parking*

*5. Destination Style Parking*

*Photos 1-5 courtesy of www.pedbikimages.org/danburden*

*Modern Bike Parking*

*Bike Storage*


*Bike Storage*

## EXAMPLE PEDESTRIAN AMENITIES

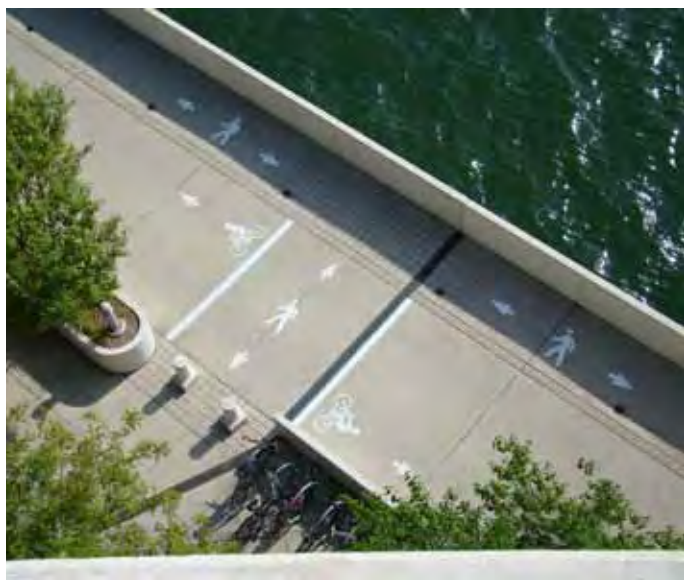
*Interpretive Information*


*Route Marking Information*

*Resting Structure*


*Wayfinding*

*Resting Structure*



*Pavement Markings*


*Multi-Modal Facilities*

*Parking Stations*

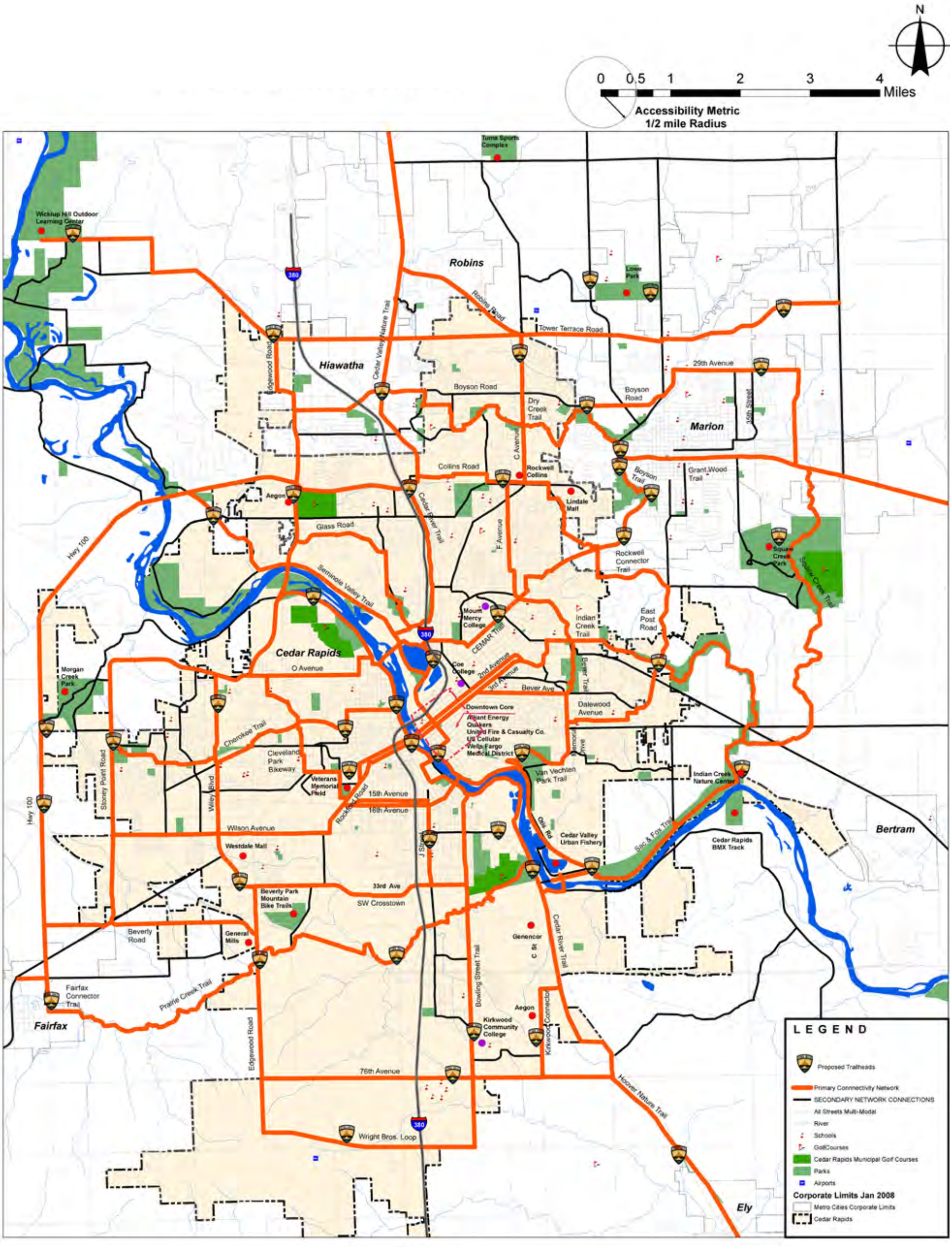
# COMPREHENSIVE TRAILS PLAN

## SIGNAGE & WAYFINDING

During the Steering Committee meetings a series of proposed names for the Primary Connectivity Network (PCN) were discussed. The names were illustrated in colors and configurations for discussion and evolution. These were refined with each meeting and concluded with a preference for "Cedar Trails." The name along with the logo of the stylized Cedar Rapids downtown skyline were formatted into a "badge or emblem" shaped sign. Colors were discussed for visibility in different light conditions and long term stability of color renditions.

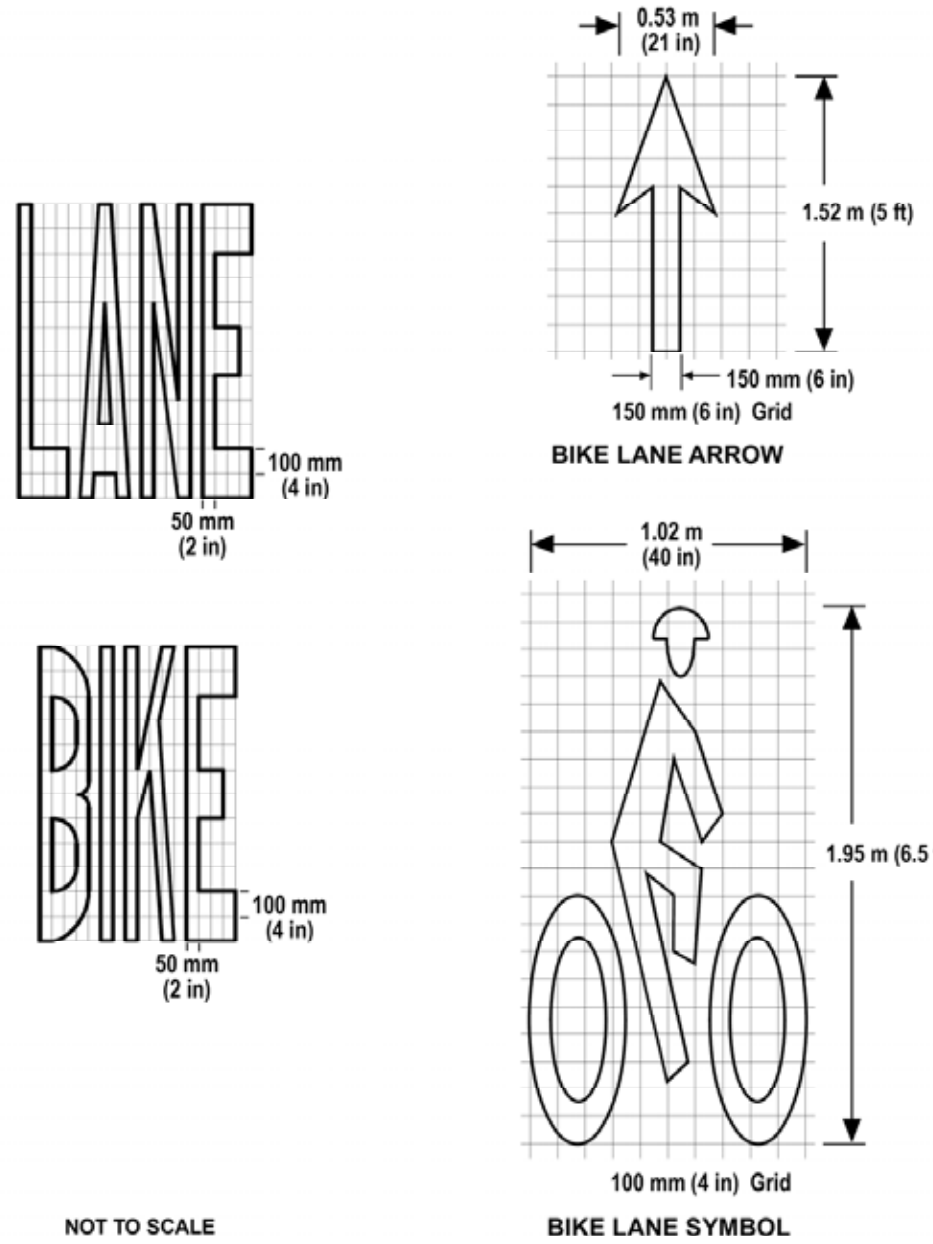

This "brand" was proposed and amended through public process. Final determination of the "brand" for Cedar Rapids trail system will be determined through a seperate process.

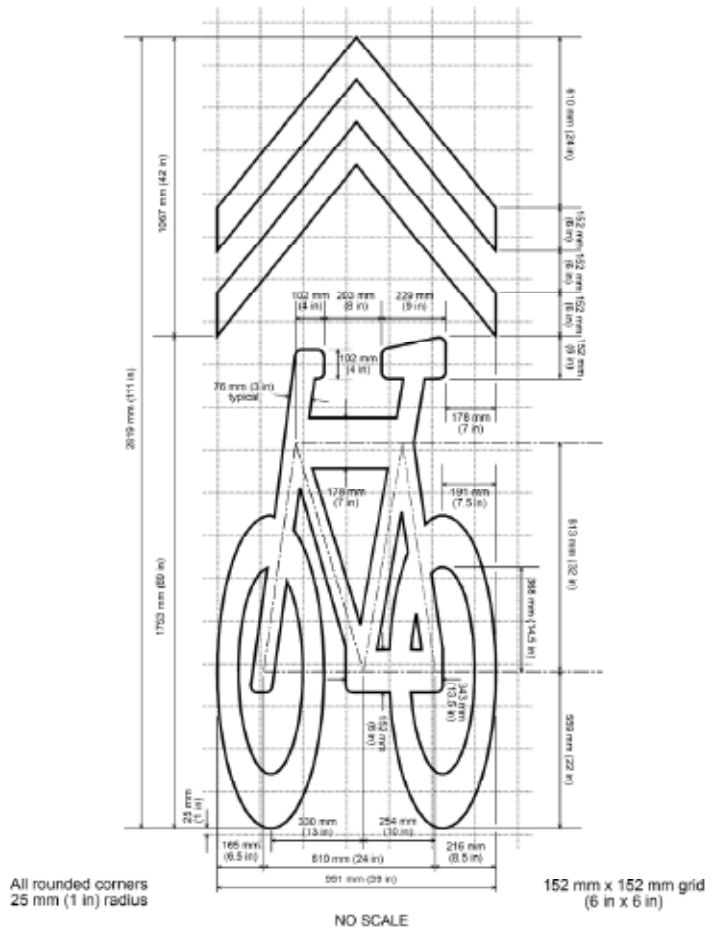
## PROPOSED TRAILHEAD LOCATIONS



# COMPREHENSIVE TRAILS PLAN

## PAVEMENT MARKINGS




*Above images courtesy of MUTCD*

# IMPLEMENTATION STRATEGY

## FUNDING

When creating a methodology for funding identified public improvement projects without historic precedence, the first thing to analyze is "who are the benefactors'?" The broader based the benefactors, the more opportunities for diversity of funding strategies. These opportunities typically come from three categories; i.e. local public funds, grants issued by public and private resources aimed at specific purposes and private organizations and individuals. We believe there should be support in all three categories for the Cedar Trails.

1. Local Public Funds. Based on Cedar Rapids City Council direction to make Cedar Rapids a bicycle-friendly community, the City has expressed an interest in investing in the future. As we have learned our City is very fortunate to have the diverse physical and human resources to survive difficult times. Our cluster of business enterprises with value-added agri-businesses and the University of Iowa has created a strong and viable corridor. Local leaders recognize that to compete for future brain and muscle power we need to offer a competitive opportunity for young people to live in a sustainable environment. To them that means the ability to walk or bike to work, church, school, recreation, shopping and access services.

   This will require an investment. The City of Cedar Rapids is committed to that investment and leveraging that investment with other partners.

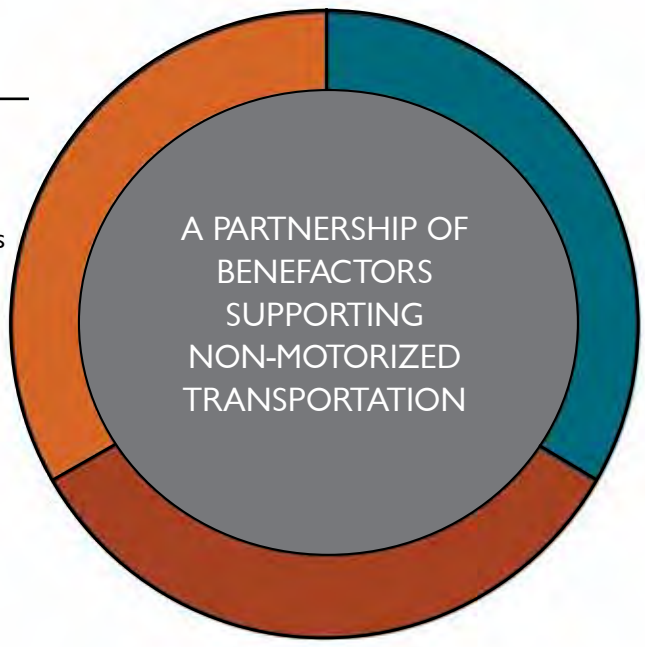
2. Grants. Grants are typically intended to be for a specific purpose. For example, Community Attraction and Tourism, commonly referred to as a CAT Grant, is intended to construct projects with a strong potential for enhancing the attraction of visitors to a destination. These funds would typically be a relatively small part of the overall project cost (20%) and are usually awarded when the project is mostly funded. In other words, to "Finish off a project".

   When trying to identify grant opportunities for large multi-year strategies such as Cedar Trails, it is important to know and understand grant objectives, application cycles and identify components of your plan that fit the grant purposes.

3. The private sector represents the "wild card" of funding opportunities. This partnership can be very strong with an active local support or can fade to a rather limited role. The most successful projects tend to have much support from the private sector. It will be important to keep local advocacy groups actively engaged. This local active support usually leads to a higher level of City investment.

**City/Local Government**

G.O. Bonds
Public Health
Tax Increment Financing
Self-Supported Municipal Improvement Districts




**Private Organization & Individuals**

Rockwell Collins
Aegon
Quaker Oats
Mercy Hospital
St. Luke's Hospital
PCI
Rotary International
Chamber of Commerce
Priority One
Developers
Advocacy Groups
Linn County Trails Association
Linn Area Mountain
Bike Association (LAMBA)
Hawkeye Bicycle Association

**Grants**

State & Federal Rec Trail
Transportation Enhancements
Vision Iowa
Community Attraction & Tourism (CAT)
River Enhancement Community Attraction & Tourism (RECAT)
Iowa Clean Air Attainment Program (ICAAP)
Revitalize Iowa's Sound Economy (RISE)
Congestion Mitigation & Air Quality (CMAQ)
Resource Enhancement and Protection (REAP)
Safe Routes to School
Rockwell Collins Green Communities
Linn County Supervisors Witwer Trust
Specialized Dealer Grant Program
Bikes Belong Grant Program
REI Bicycle Friendly Communities Program
Urban Youth Corps Program
Rails-to-Trails Conservancy

# IMPLEMENTATION STRATEGY

## PHASING - BUDGETED COST OVER TIME

This is a general discussion about how to view the cost in order to achieve the Primary Connectivity Network within the context of the 2040 Transportation Plan. The Cedar Trails represents about 105 miles of multi-modal transportation corridor in the City of Cedar Rapids. Even though there is quite a variation in the amount of development or improvement needed within this network in order to make it multi-modal, there are some similarities. Whether on the road or separated trail these segments are corridors with centerlines. They have various forms of paved surfaces for the purposes of functioning in all weather conditions. They are made up in cross sections of travel lanes, shoulders and/or clear zones, lateral and longitudinal surface drainage and structures for drainage (i.e. culverts and bridges, pavement and roadside markings for orientation and direction and various configuration for a grade or separated intersection of corridors).

To establish an average cost per mile we know that to construct a mile of separated trail without right-of-way purchase and major structures it will cost about $500,000. We know it costs about $250,000 to construct a mile of 6 foot wide sidewalk. We know that is costs about $12,000 per mile to paint, stripe and mark a mile of bike lane or sharrow. Based on these assumptions that the average cost per mile to develop Cedar Trails as a multi-modal connectivity network will be $600,000. This is about $63 million of today's dollars.

The goal is to complete the Primary Connectivity Network and have it a meaningful and sustainable facility within the 2040 time frame. If $60 million is invested over the next 15 years, this will leave another 15 years as contingent and replanning time. This requires an investment of $4 million per year on improvements.

We recommend the City immediately, upon acceptance of the Cedar Rapids Comprehensive Trails Plan, begin detail planning and design for the priority segments identified in the Phase 1 plan. These segments are deemed priority based on 1) their effectiveness at establishing connectivity based on location to destinations; 2) public input by vote; 3) is basically ready to design (i.e. doesn't have hurdles such as the bridge over the Cedar River at Edgewood Road and 4) a post public input evaluation by the consultants, city staff and consensus of the Steering Committee.

| Time Period | Miles | Estimated Planning Level Cost Range |
|---|---|---|
| Phase 1 | 46.9 | $25,000,000 to $30,000,000 |
| Phase 2 | 34.6 | $18,000,000 to $25,000,000 |
| Phase 3 | 22.9 | $15,000,000 to $25,000,000 |

# IMPLEMENTATION STRATEGY

## PHASING

| SEGMENTS FOR PHASE 1 | | | | | |
|---|---|---|---|---|---|
| Trail Segment Name | Total Length of Trail Total Miles | In Process | Budgeted Cost | Beginning Schedule Cost | Annual Maintenance Cost |
| 2nd and 3rd Avenue Trail | 7 | | $4,020,000 | $200,000 | $107,200 |
| Bever Trail | 2 | | $1,200,000 | $335,000 | $32,000 |
| Bowling Street Trail | 4.1 | 1.8 | $1,740,000 | $1,240,000 | $75,200 |
| C Avenue Trail | 2.1 | | $1,260,000 | $85,000 | $75,200 |
| CEMAR Trail | 2.7 | 1.8 | $660,000 | $495,000 | $46,400 |
| Collins Road Trail | 4.1 | | $2,460,000 | $3,190,000 | $65,600 |
| Dry Creek Trail | 2.9 | | $1,740,000 | $3,100,000 | $46,400 |
| Edgewood Road North | 2.1 | | $2,520,000 | $1,865,000 | $67,200 |
| Edgewood Road South | 2.8 | | $1,680,000 | $1,730,000 | $44,800 |
| Ellis Trail | 4.4 | 3 | $900,000 | $1,370,000 | $70,400 |
| Indian Creek Trail | 0.9 | | $540,000 | $735,000 | $14,400 |
| Kirkwood Connector | 1.6 | | $0 | $0 | $25,600 |
| Otis Road Trail | 3 | | $1,800,000 | $887,800 | $48,000 |
| Seminole Valley Trail | 2.8 | | $1,680,000 | $2,785,000 | $44,800 |
| Wiley Blvd. Trail | 3.4 | | $2,040,000 | $115,000 | $54,400 |
| | Total Miles | | Budgeted Cost | Beginning Schedule Cost | Annual Maintenance Cost |
| | **48.5** | | **$24,240,000** | **$18,132,800** | **$817,600** |

| SEGMENTS FOR PHASE 2 | | | | | |
|---|---|---|---|---|---|
| Trail Segment Name | Length of Trail Total Miles | In Process | Budgeted Cost | Beginning Schedule Cost | Annual Maintenance Cost |
| 29th Avenue Trail | 0 | | $0 | $0 | $0 |
| 44th Street Trail | 0 | | $0 | $0 | $0 |
| 76th Avenue Trail | 3.2 | | $2,400,000 | $220,000 | $64,000 |
| Bever Avenue Trail | 1.3 | | $780,000 | $65,000 | $20,800 |
| Cedar River Connection Trail | 0.4 | | $240,000 | $6,000,000 | $6,400 |
| Cleveland Park Bikeway | 2.7 | | $1,620,000 | $105,000 | $43,200 |
| Cherokee Trail | 4.8 | | $2,880,000 | $1,845,000 | $76,800 |
| F Avenue Trail | 1.8 | | $1,080,000 | $80,000 | $28,800 |
| Memorial Drive Trail | 0.9 | | $540,000 | $50,000 | $14,400 |
| O Avenue Trail | 2.7 | | $1,740,000 | $155,000 | $46,400 |
| Rockford Road Trail | 1.3 | | $780,000 | $60,000 | $20,800 |
| Stoney Point Road Trail | 2.7 | | $1,620,000 | $114,000 | $43,200 |
| Tower Terrace Road Trail | 2.5 | | $1,500,000 | $1,985,000 | $40,000 |
| Van Vetchten ParkTrail | 1.4 | | $840,000 | $115,000 | $22,400 |
| Wilson Avenue Trail | 3.1 | | $1,860,000 | $115,000 | $49,600 |
| Wright Bros. Blvd. Trail | 4.8 | 3.4 | $840,000 | $8,080,000 | $54,400 |
| | Total Miles | | Budgeted Cost | Beginning Schedule Cost | Annual Maintenance Cost |
| | **33.6** | | **$18,720,000** | **$18,989,000** | **$531,200** |

| SEGMENTS FOR PHASE 3 | | | | | |
|---|---|---|---|---|---|
| Trail Segment Name | Length of Trail Total Miles | In Process | Budgeted Cost | Beginning Schedule Cost | Annual Maintenance Cost |
| 15th and 16th Avenue Trail | 2.8 | | $1,680,000 | $110,000 | $44,800 |
| Beverly Road Trail | 1.5 | | $1,320,000 | $60,000 | $35,200 |
| Boyson Road Trail | 0 | | $0 | $0 | $0 |
| Dalewood Avenue Trail | 1.2 | | $720,000 | $55,000 | $19,200 |
| East Post Road Trail | 1.3 | | $840,000 | $1,765,000 | $22,400 |
| Fairfax Connector Trail | 0 | | $0 | $0 | $0 |
| Glass Road | 2.7 | | $1,620,000 | $110,000 | $43,200 |
| Grantwood Trail | 0 | | $0 | $0 | $0 |
| Highway 100 Trail | 2.5 | | $1,500,000 | $1,990,000 | $40,000 |
| J Street Trail | 1.2 | | $720,000 | $60,000 | $19,200 |
| Prairie Creek Trail | 6.6 | | $3,960,000 | $5,300,000 | $105,600 |
| Robins Road Trail | 0.6 | | $360,000 | $35,000 | $9,600 |
| Rockwell Connector Trail | 0.5 | | $300,000 | $190,000 | $8,000 |
| Sac Fox Trail | 1.2 | | $720,000 | $960,000 | $19,200 |
| Squaw Creek Trail | 0 | | $0 | $0 | $0 |
| | Total Miles | | Budgeted Cost | Beginning Schedule Cost | Annual Maintenance Cost |
| | **22.1** | | **$13,740,000** | **$10,635,000** | **$366,400** |

* Maintenance Cost for Trails Inside Cedar Rapids. See Segment Sheets for Total Miles.

# IMPLEMENTATION STRATEGY

## SUSTAINABILITY/MAINTENANCE

In order to implement a plan of this magnitude there needs to be one person whose focus is just that. The creation of a new job description with the City of Cedar Rapids Public Works is recommended. The person should be someone with a record of accomplishment. They should be organized and capable of planning and accomplishing short and long term tasks. They should have knowledge of paving related construction and maintenance. They should have the communication skills to advocate for trail development and negotiate with property owners, general public and other city staff to reach decisions favorable to the overall trail system. Specifically the requirements would be:

- Understand and update the Cedar Rapids Comprehensive Trails Plan
- Manage the annual budgeted allocation
- Request and update budgets
- Administer engineering design and plans of improvement
- Review construction progress
- Review maintenance requirements
- Periodic reports to Engineering and Traffic Managers

In addition to the expense of the "Trail Manager" there would be additional expenses for maintenance and operations and possibly additional resources needed. The cost of bike lanes and sharrows would be any additional width of paving to plow snow and to patch repair and periodic overlays. Costs for separated trails and sidewalks would be additional to any costs now incurred. This would include spot mowing and weed control when not done by adjacent property owner, neighborhood group or club, repairs to paving and shoulder, snow removal and pavement marking/sign repair.

In order to estimate the magnitude of those kinds of costs, let's imagine a 100 foot section of sidewalk or trail. Assume that it would cost $50 to plow snow or some other operations, one time from that section. Assume that the 100 foot section required 6 operations per year. This would be $300 per 100 foot section or about $16,000 per mile per year. Interestingly, this estimate matches real amounts we have been witnessing during heavy snowfall years. This amount also is similar to actual costs being incurred by other midwestern city and county engineers. These reports have been during years of above average snowfall.

These estimates would be accurate only by accident. Years will vary; experience will add to the accuracy and the ability to work within the budget.

Based on these assumptions, annual maintenance requirements on the fully implemented Cedar Trails will be between $2.0 and $3.0 million annually. In the interim the costs will be proportionally less.

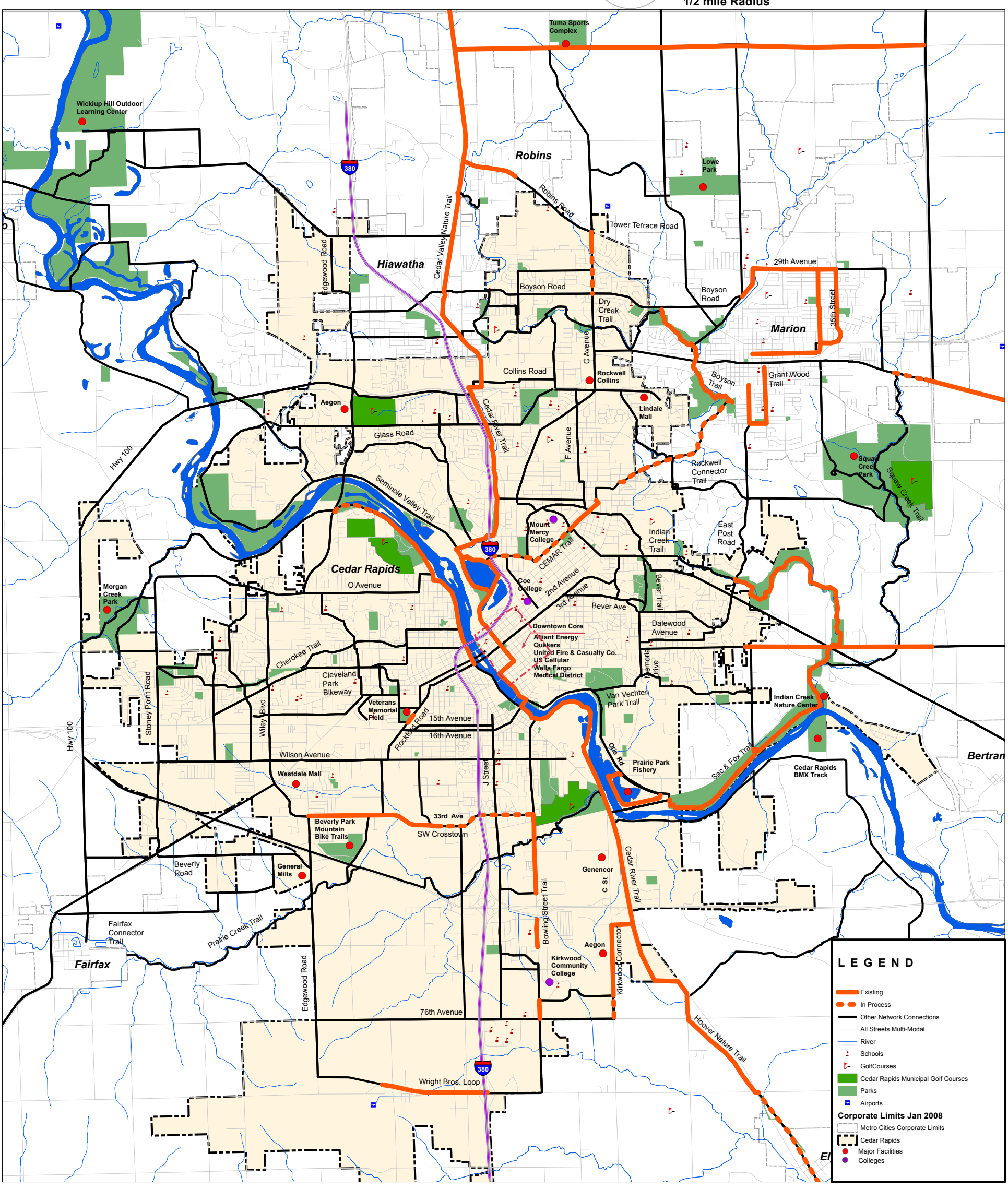
In addition to the annual cost to maintain a trail system in a safe usable condition, there comes a time when it is prudent to replace the paved surface. The length of serviceability can vary greatly between asphalt and concrete and the consistent quality maintenance program. We feel it would be safe to assume an average life cycle of 30 years, assuming a good maintenance program is in place. This time span coincides with the proposed 2040 completion of the Primary Connectivity Network.

| **Annual Maintenance Costs** | | | | |
|---|---|---|---|---|
| Item | Unit | Unit Cost | Quantity | Cost |
| Personnel Trail Manager and Staff | L.S. | - | - | $500,000 |
| Snow Removal, Mowing, Weed Control, Settlement and Crack Repair | Mile | $16,000 | 105 | $1,680,000 |

# IMPLEMENTATION STRATEGY

## EXISTING CONDITIONS

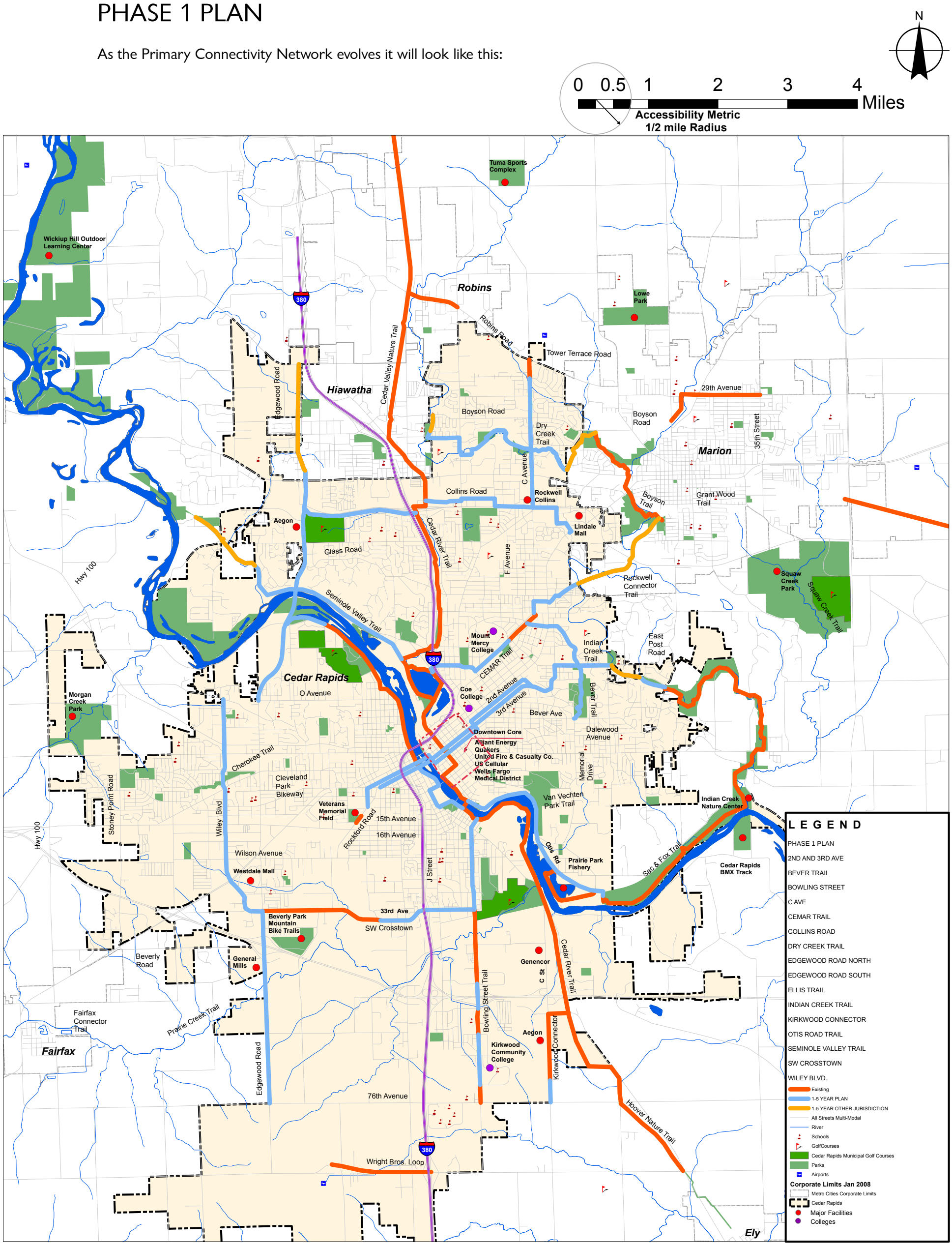
As the Primary Connectivity Network evolves it will look like this:



# IMPLEMENTATION STRATEGY

## PHASE 1 PLAN

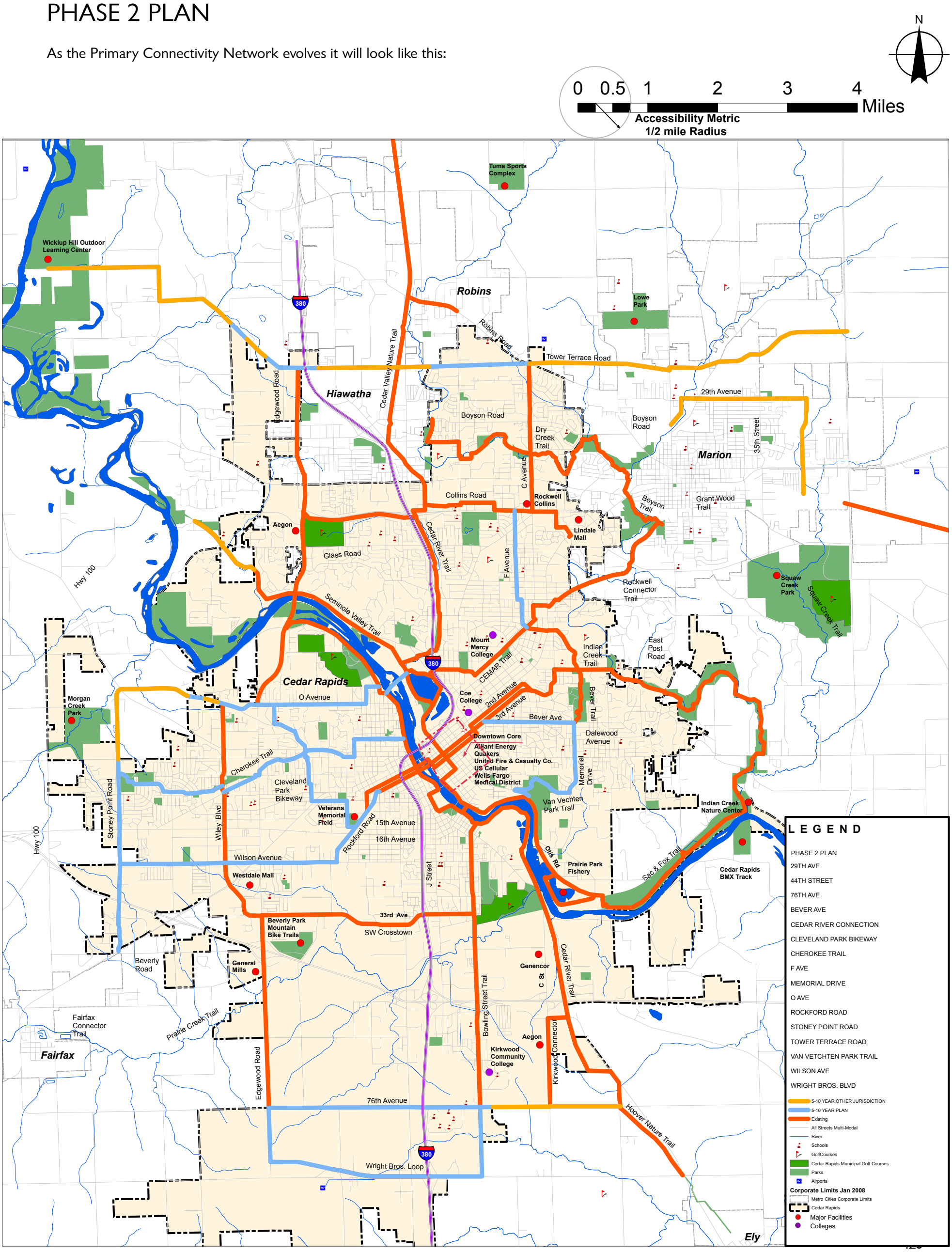
As the Primary Connectivity Network evolves it will look like this:



# IMPLEMENTATION STRATEGY

## PHASE 2 PLAN

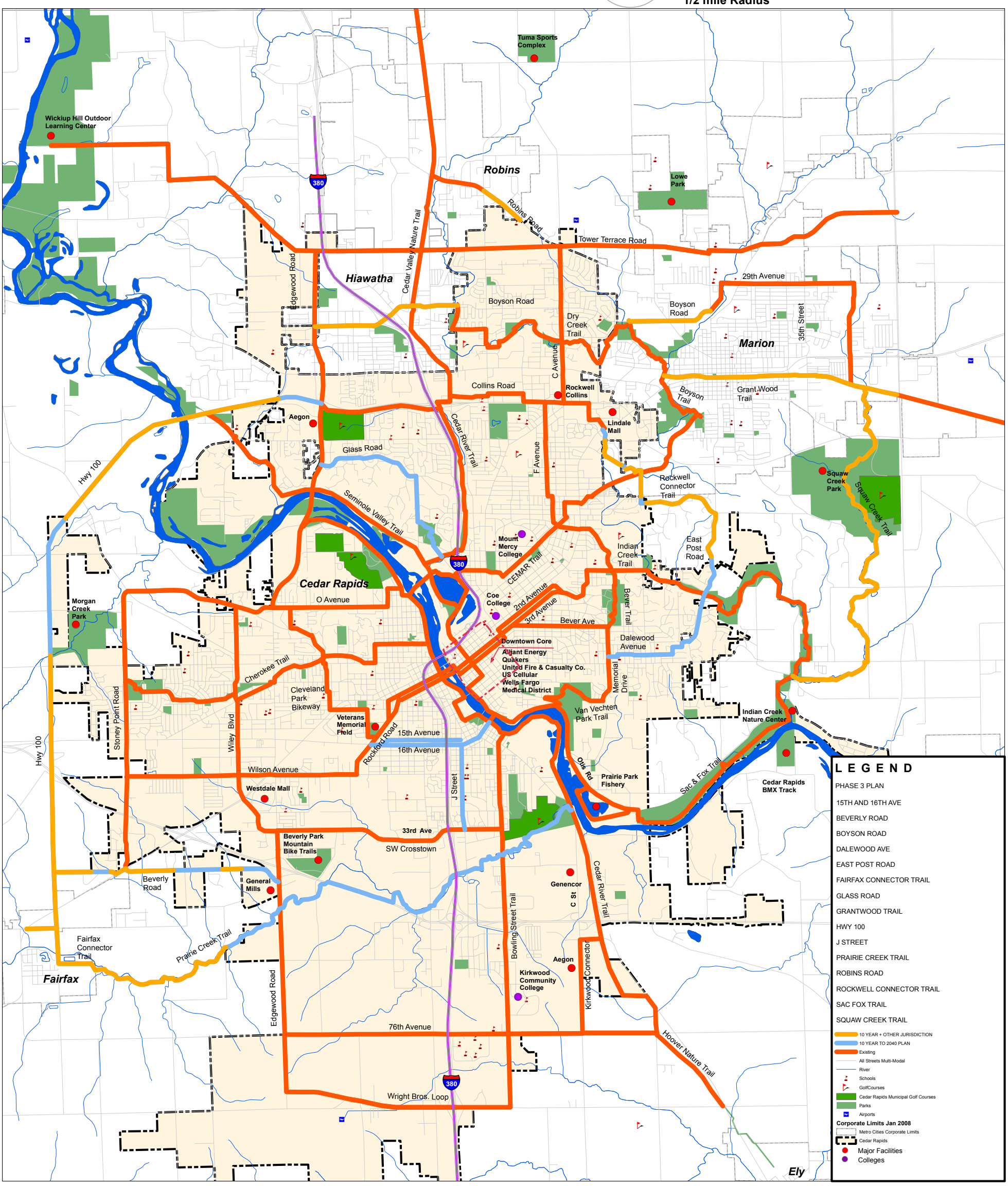
As the Primary Connectivity Network evolves it will look like this:



# IMPLEMENTATION STRATEGY

## PHASE 3 PLAN

As the Primary Connectivity Network evolves it will look like this:



# PRIMARY CONNECTIVITY NETWORK

As the Primary Connectivity Network evolves it will look like this: