CEDAR RAPIDS COMPREHENSIVE TRAILS PLAN

January 2012

CEDAR RAPIDS
City of Five Seasons

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

CEDAR TRAILS
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TABLE OF CONTENTS

1. PROJECT BACKGROUND - 1

2. EXECUTIVE SUMMARY - 2
a. Recommendations
b. Primary Connectivity Network Map

3. DATA GATHERING/RESEARCH - 3

4. OPPORTUNITIES & CONSTRAINTS - 4

5. PLAN DEVELOPMENT - 5
a. Accessibility Metric
b. Connectivity — Network Worthy Segment
c. Types of Multi-Use Trails
d. Typical Sections
e. Developing an Identity
f. Primary Connectivity Network
g. Alternatives
h. Intersection Analysis
i. Employment Density
j. Population Density
k. Transit Routes

6. USER GROUP DIRECTION - 23
a. City Staff Committee
b. Steering Committee
c. Communication Tool for Public (project tracker/interactive)

7. PUBLIC INVOLVEMENT - 24
a. Schedule of Public Involvement

8. COMPREHENSIVE TRAILS PLAN - 113
a. Segment Names
b. Trail Segment Schedules
c. Priorities
d. Example Bike Parking/Storage
e. Example Pedestrian Amenities
f. Signage & Wayfinding
g. Trailheads
h. Pavement Markings

9. IMPLEMENTATION STRATEGY - 120
a. Funding
b. Phasing - Budgeted Cost Over Time
c. Sustainability/Maintenance
d. Existing Trails
e. Phase 1 Plan
f. Phase 2 Plan
g. Phase 3 Plan
h. Phasing Costs

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.

Cedar Rapids currently has a recreational trails system, however is 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."

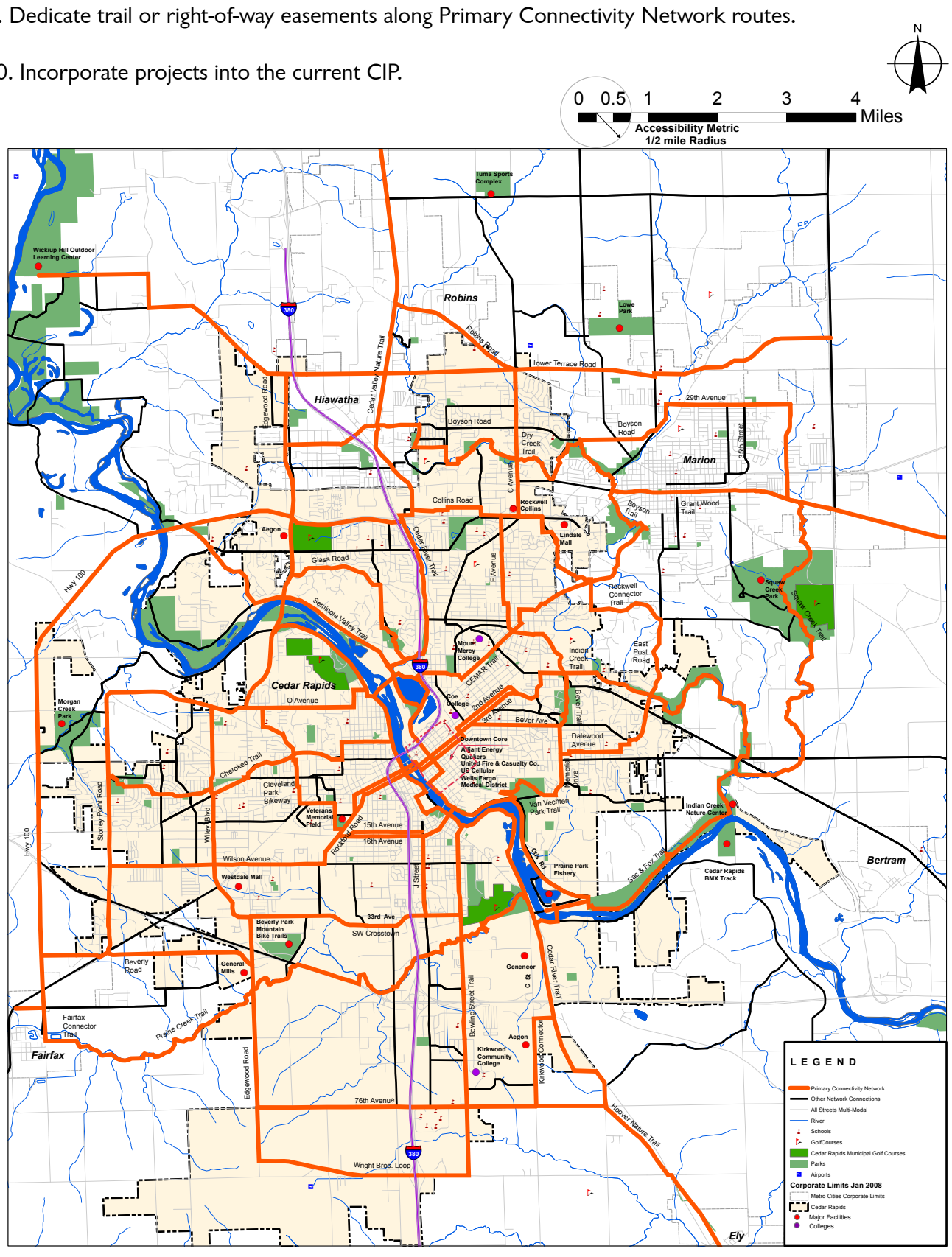
6. Dedicate a consistent allocation to the Capital Improvement Plan (CIP) for multi-modal connectivity. Protectively pursue grant opportunities.

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 Summary-4/15/09
BAC Meeting Summary-4/22/09
BAC Meeting Summary-4/29/09
BAC Meeting Summary-5/6/09
BAC Meeting Summary-6/24/09
BAC Meeting Summary-7/8/09
BAC Meeting Summary-7/15/09
BAC Meeting Summary-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
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:

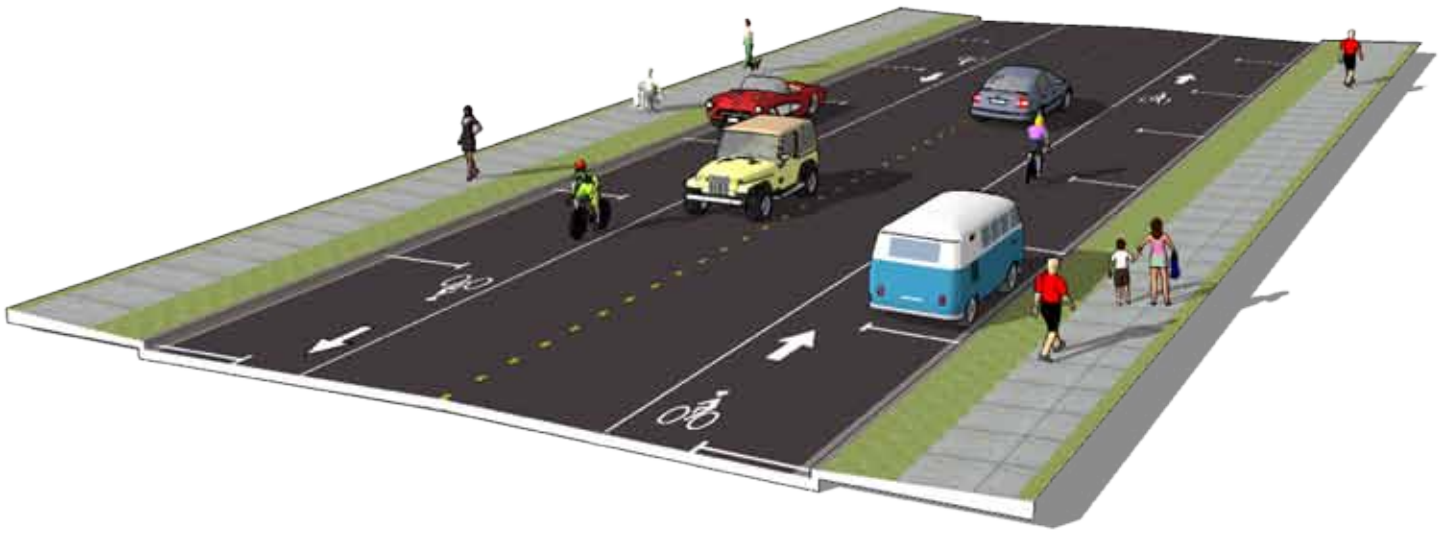
1. There are usually segments identified on early or plans
2. Is the most logical route connecting identified destinations (compared to other parallel routes)
3. Will need to have provisions for all types of pedestrians and levels of bicyclists
4. Will need to have "sharrows", shared roadways and sidewalks 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

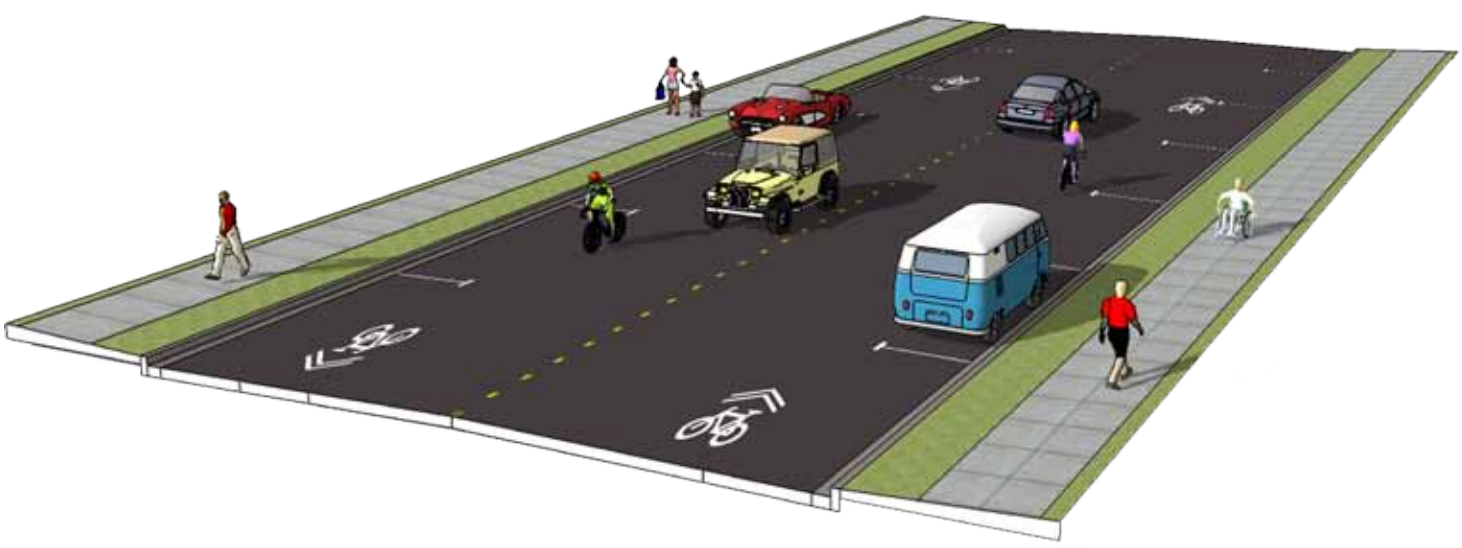
Typical trail types were influenced by right-of-way widths, existing paving widths, the absence or presence of sidewalks and the motorized traffic volumes and speeds, creating a wide range of interconnectivity variables. Recommended trail types are as follows:

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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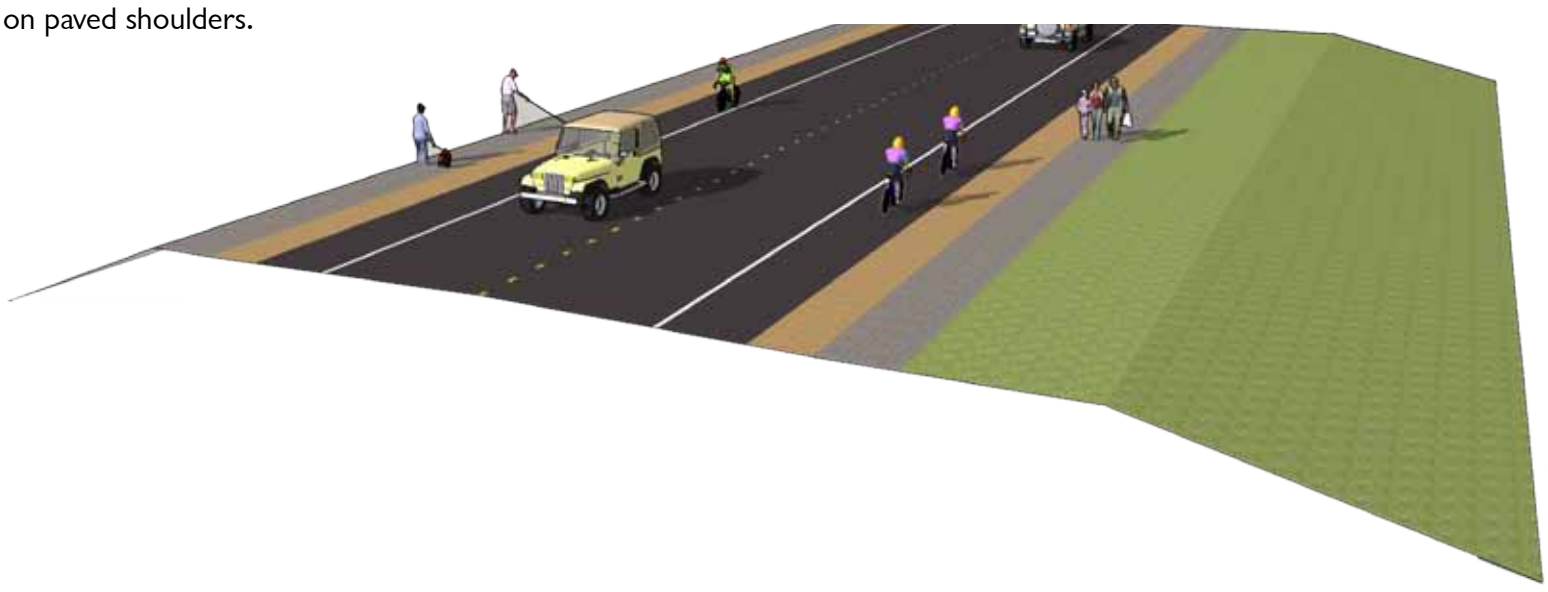
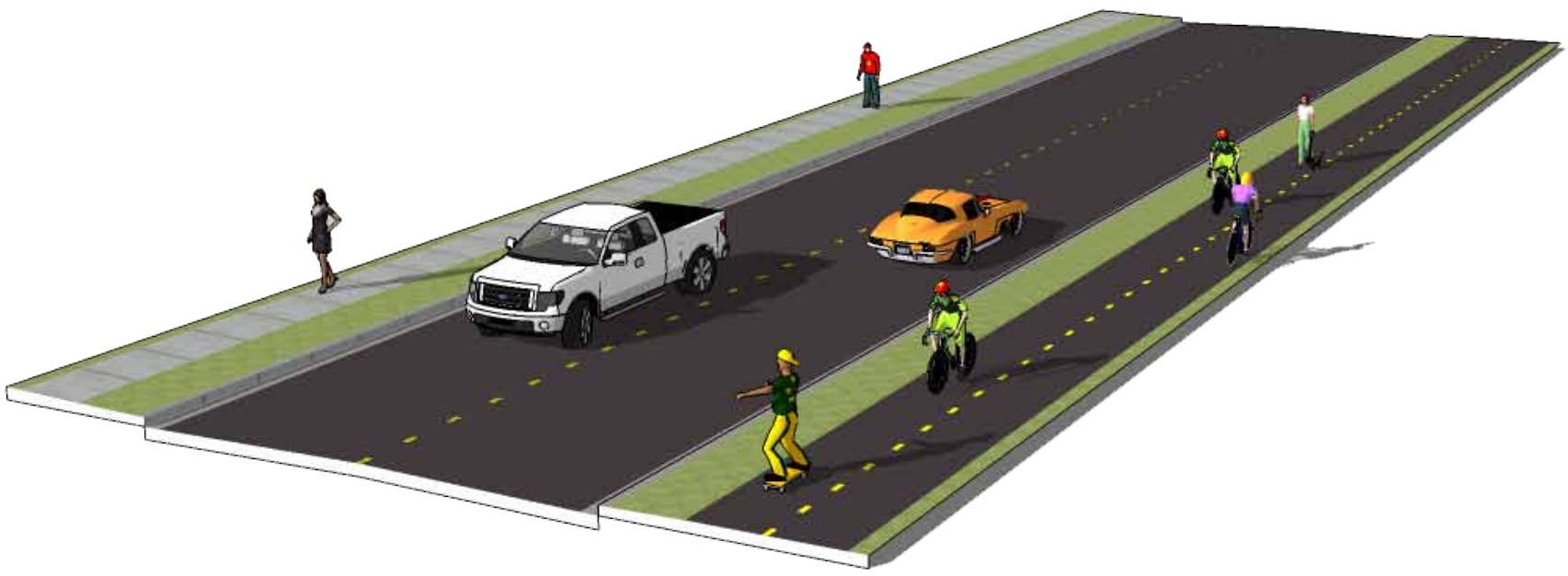
PLAN DEVELOPMENT

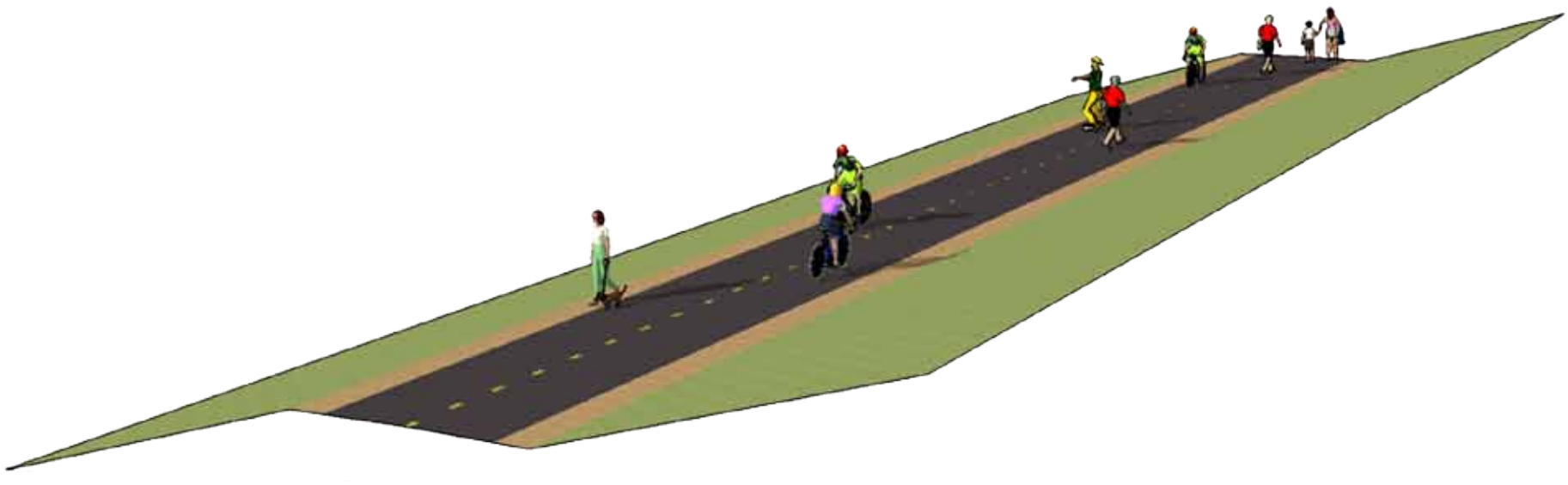
PAVED SHOULDER: Also known as shoulder bikeway that provides a suitable area for bicycling, reducing conflicts with faster moving motor vehicle traffic. Most bicycle travel on the rural state highway system, and on many county roads, is accommodated on paved shoulders.



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.



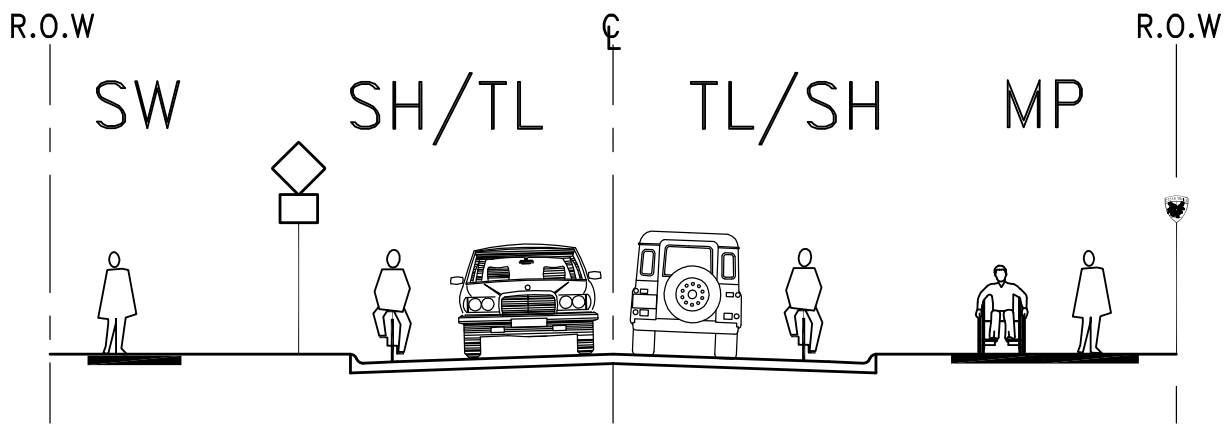
These types of trails were recommended and carried forward, amended and confirmed through public process.

TYPICAL SECTIONS

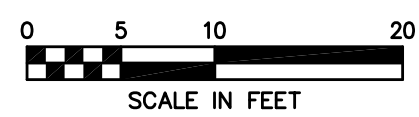
The following typical sections illustrate the many various right-of-ways that exist in the City of Cedar Rapids.

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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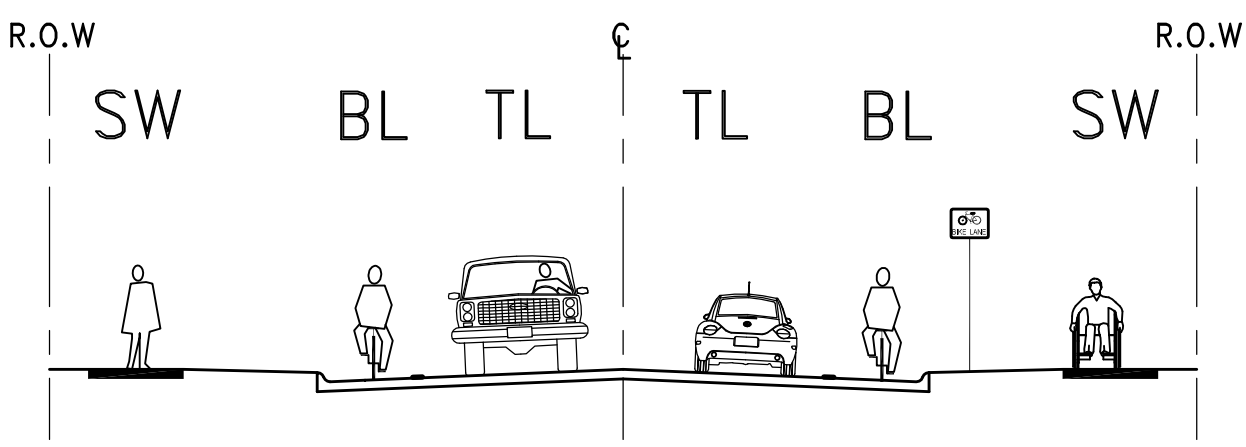
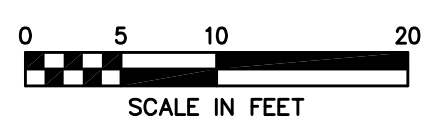


- BIKE LANE
- NO PARKING OR ONE-SIDE ONLY
- CR STANDARD SIDEWALK (OR ONE-SIDE MP)
- REQUIRED "BIKE LANE" SIGNAGE



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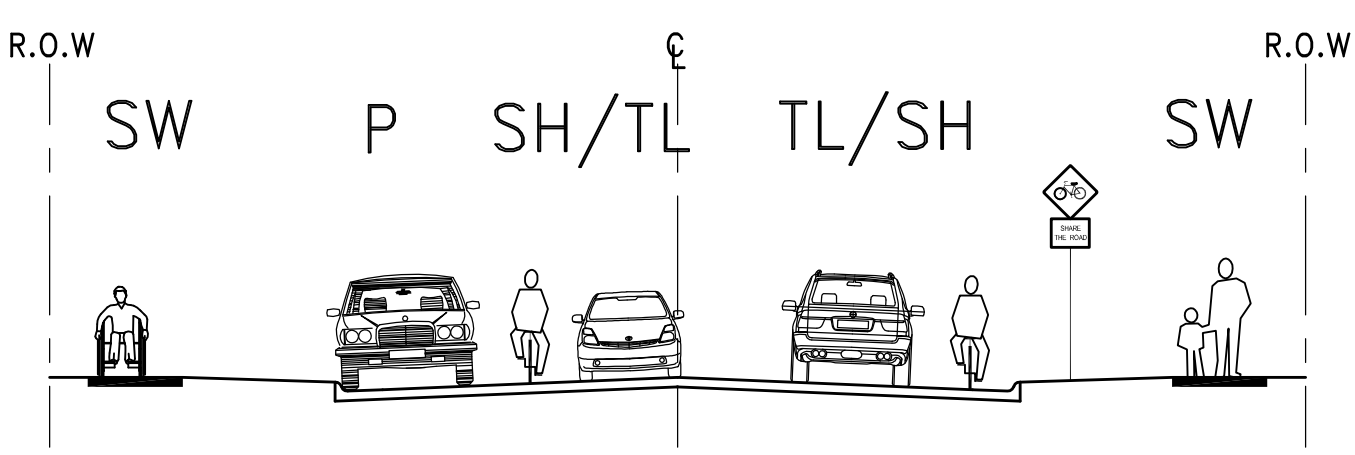
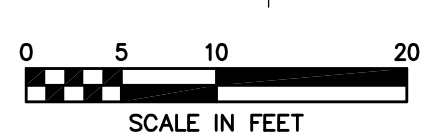


- SHARED ROADWAY
- ONE-SIDE PARKING, MINIMUM
- CR STANDARD SIDEWALK (OR ONE-SIDE MP)
- REQUIRED "SHARE THE ROAD" SIGNAGE

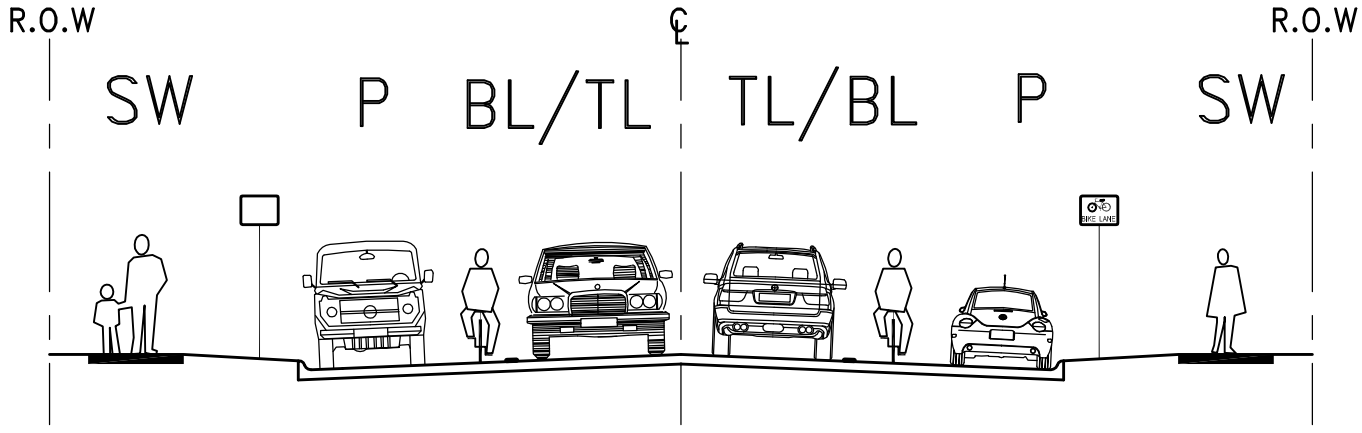


PLAN DEVELOPMENT

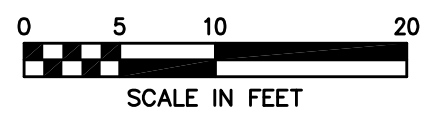
TYPICAL SECTIONS

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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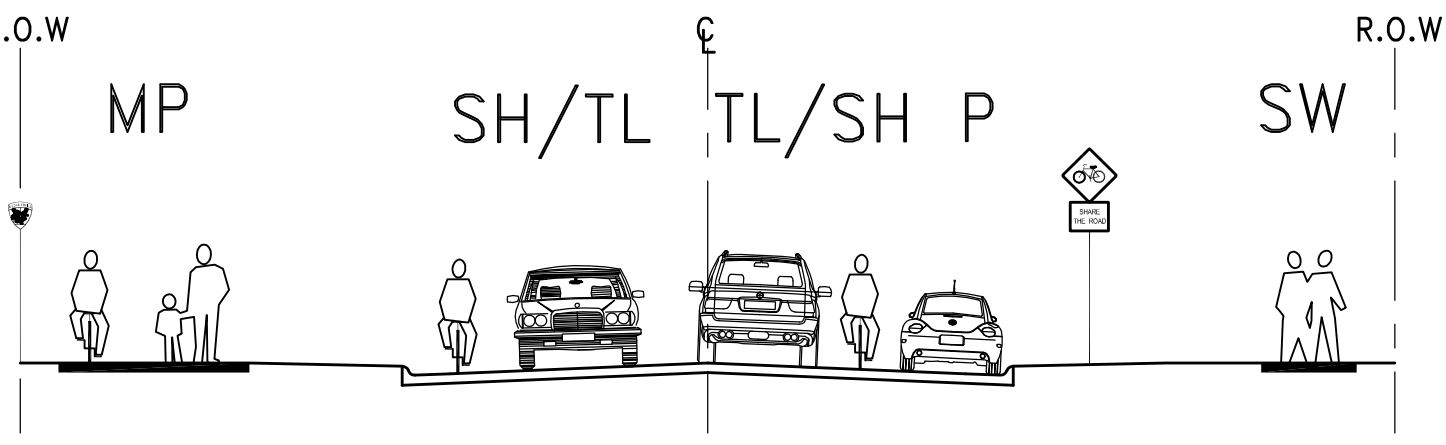
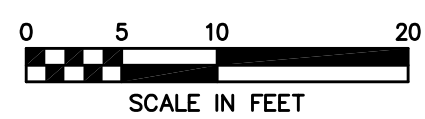


- SHARED ROADWAY
- NO PARKING OR ONE-SIDE ONLY
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED "SHARE THE ROAD" SIGNAGE



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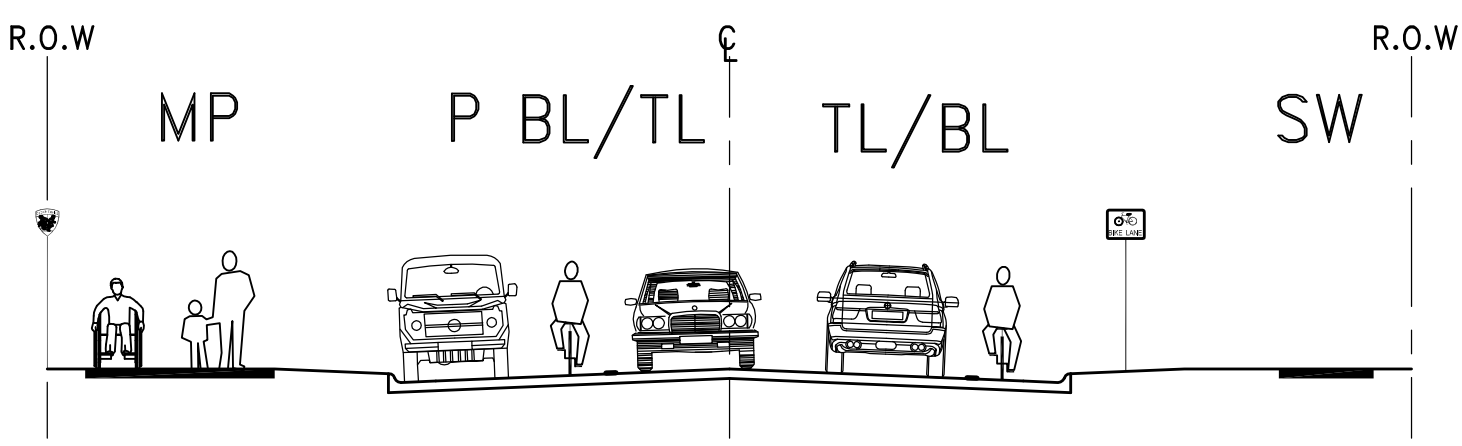
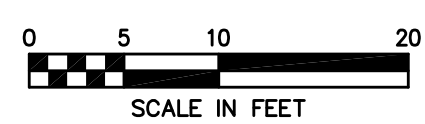


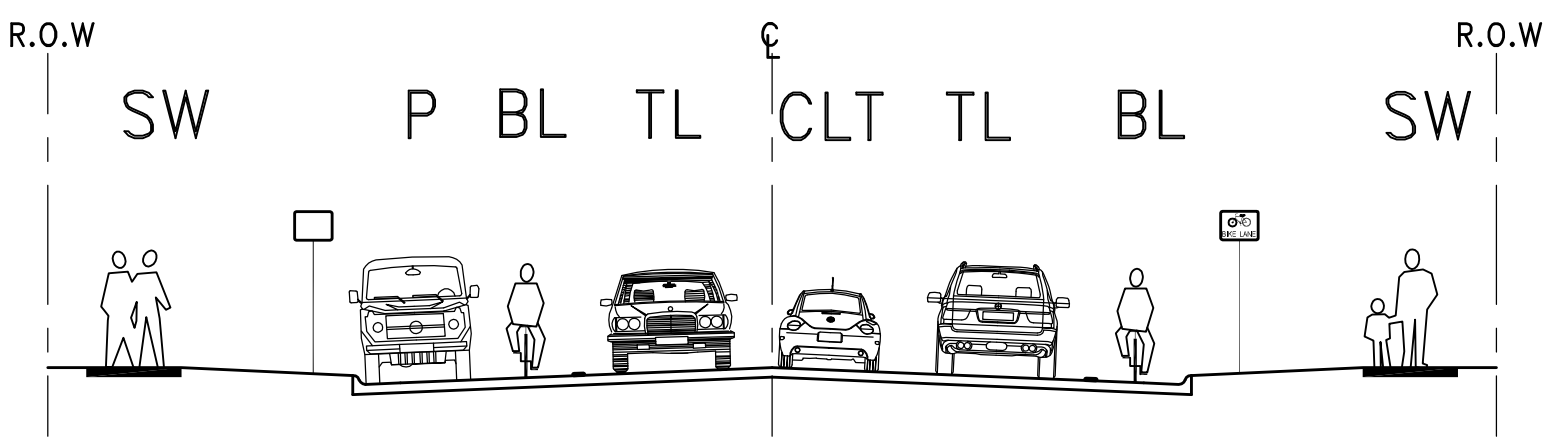
- BIKE LANE
- ONE=SIDE PARKING ONLY WITH 2 TRAFFIC LANES
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED "BIKE LANE" SIGNAGE



TYPICAL SECTIONS

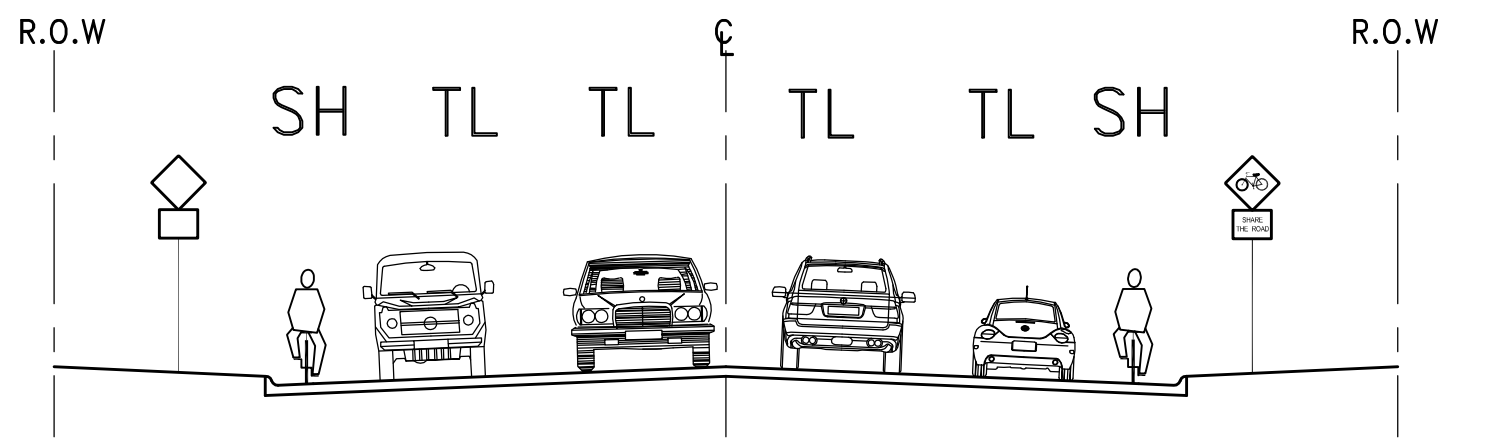
TYPICAL SECTION LEGEND			
Key	Description	Key	Description
BL	BIKE LANE	SW	SIDEWALK
SH	SHARROW	MP	MULTI-USE TRAIL
TL	TRAVEL LANE	CLT	CENTER LEFT TURN
P	PARKING		

G



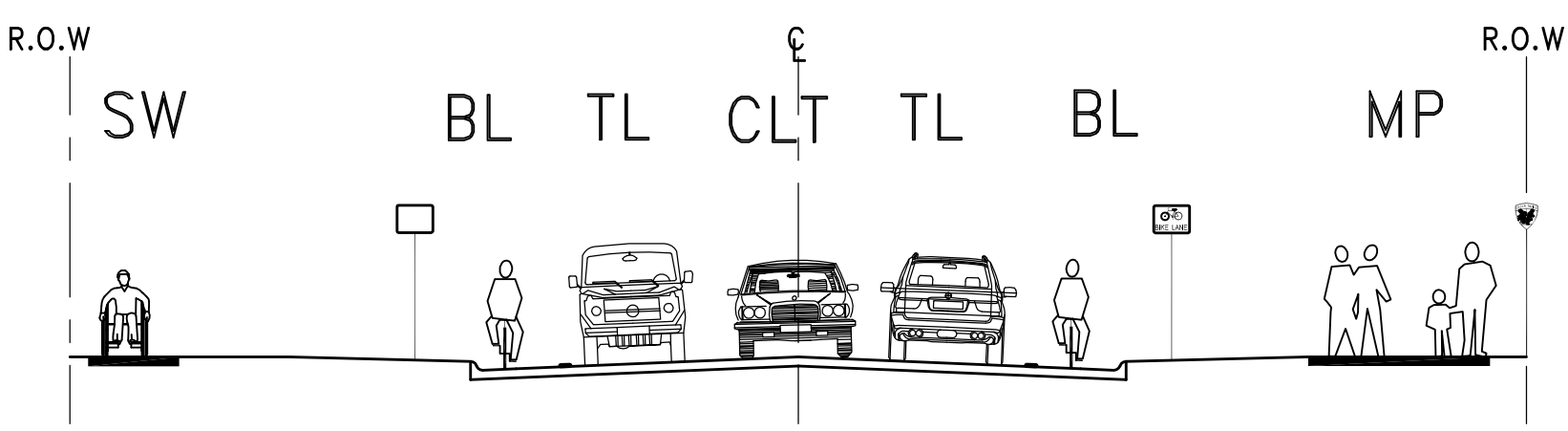
- BIKE LANE (OR SHARED ROADWAY)
- ONE-SIDE PARKING ONLY WITH 2-3 TRAFFIC LANES
- CR STANDARD SIDEWALK
- REQUIRED "BIKE LANE" SIGNAGE
- OPTIONAL "BIKE ROUTE" SIGNAGE

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



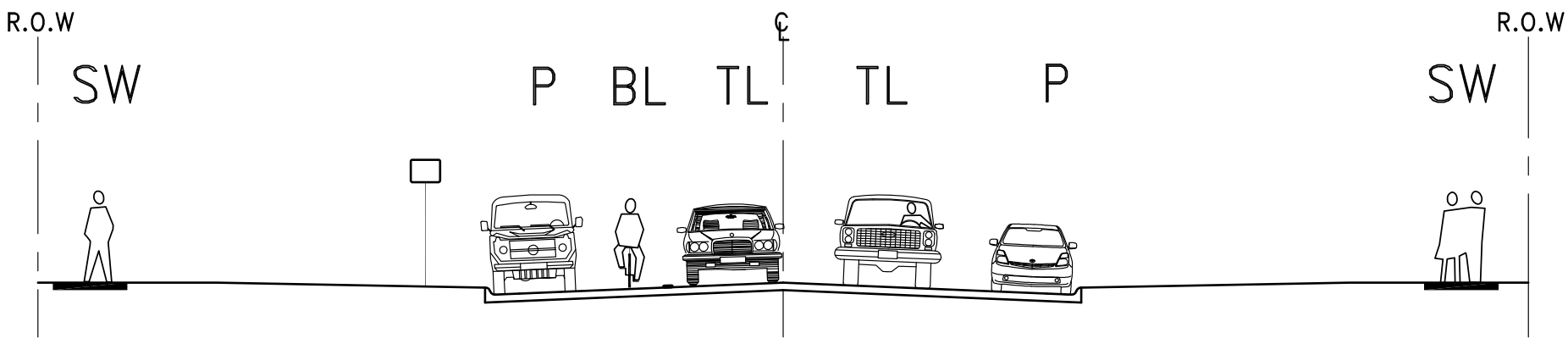
- BIKE LANE (OR SHARROW ROAD)
- NO PARKING IN 3 TRAFFIC LANES
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED "BIKE LANE" SIGNAGE

PLAN DEVELOPMENT

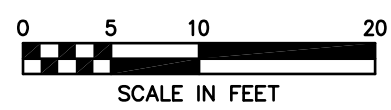
TYPICAL SECTIONS

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



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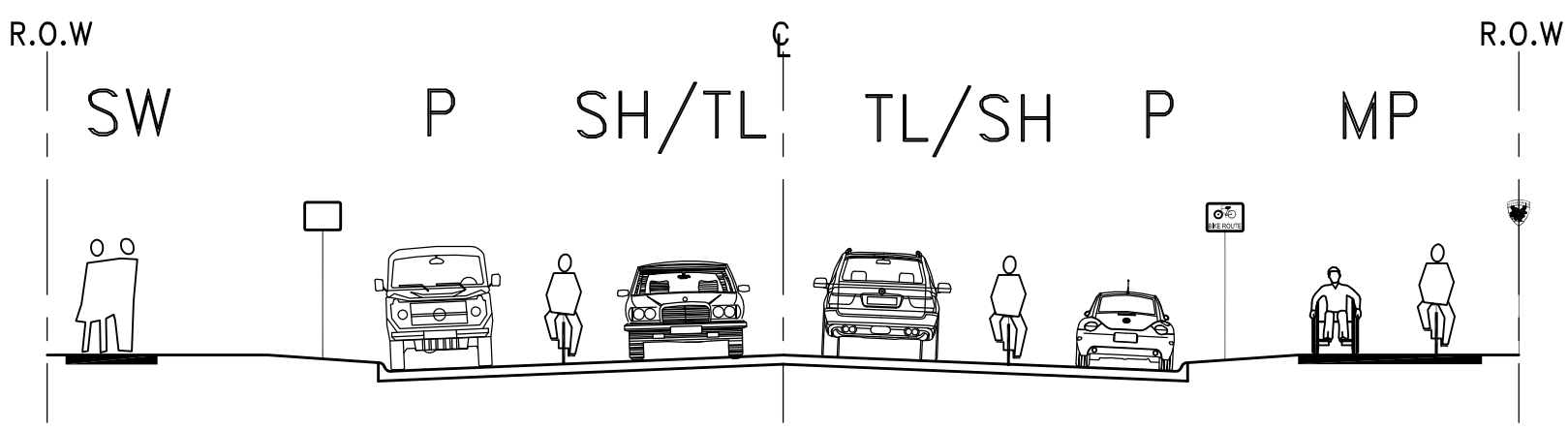
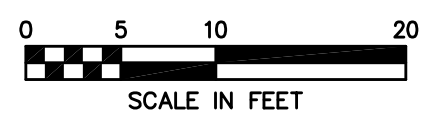


- SHARED ROADWAY
- PARKING ON BOTH SIDES
- 2 TRAFFIC LANES (WITH OPTIONAL CENTER TURN LEFT LANE)
- SIDEWALK/MULTI-USE PATH INTERCHANGEABLE AT EITHER SIDE
- REQUIRED "BIKE LANE" SIGNAGE



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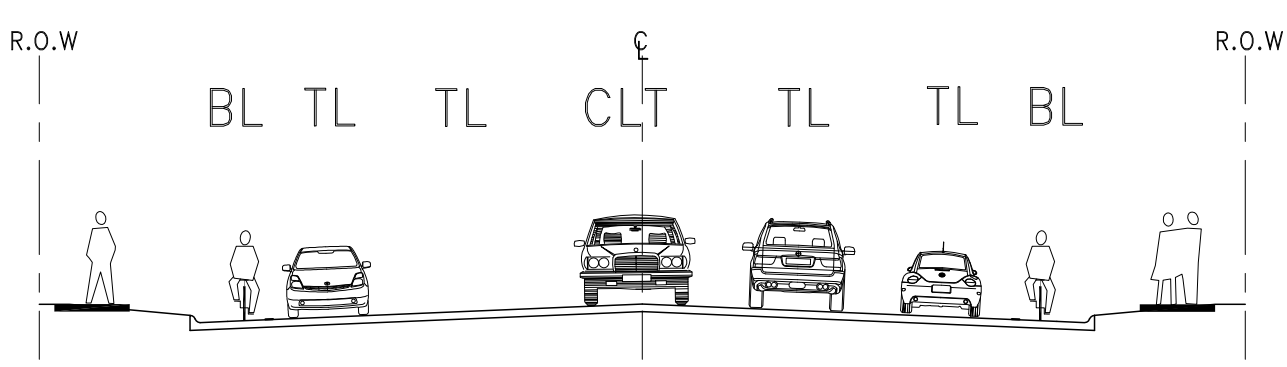


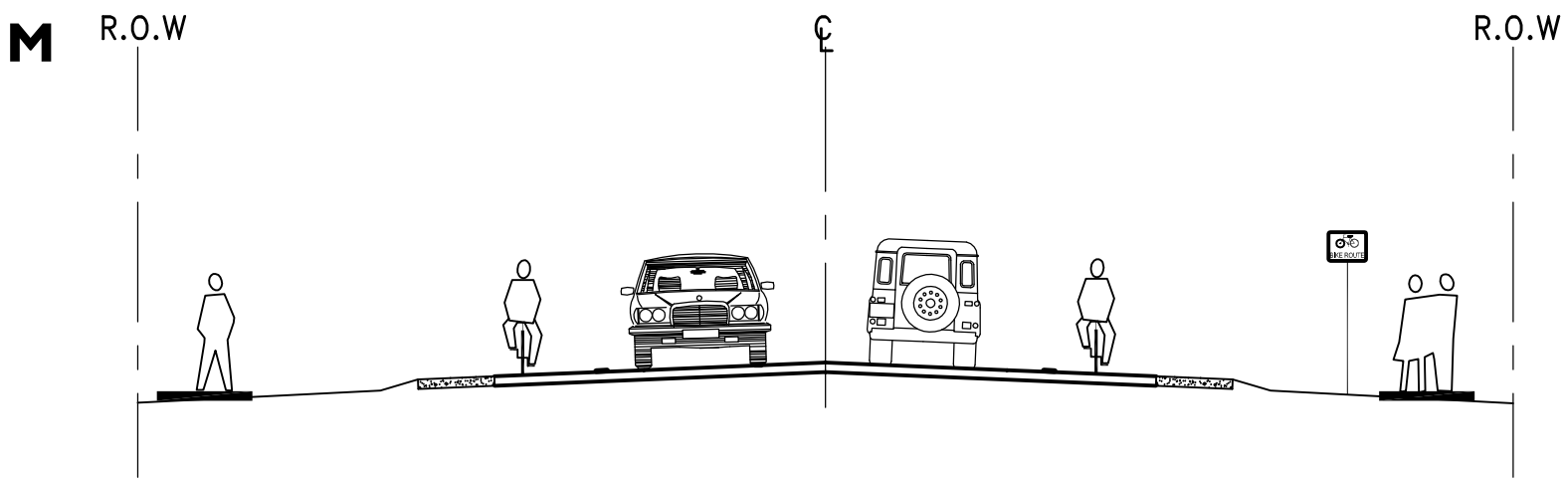
- BIKE LANE
- WIDE STREET WITH 4-5 TRAFFIC LANES
- NO PARKING
- SIDEWALK/MULTI-USE PATH OPTIONAL IF ROOM IN RIGHT-OF-WAY
- REQUIRED "BIKE LANE" SIGNAGE
- OPTIONAL "BIKE ROUTE" SIGNAGE

PLAN DEVELOPMENT

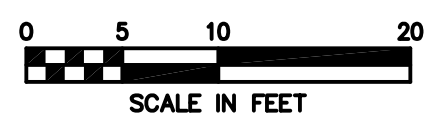
TYPICAL SECTIONS

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



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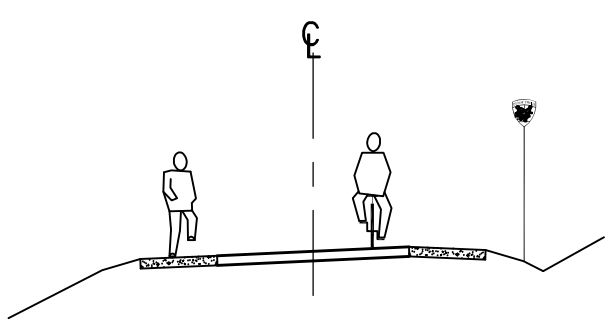
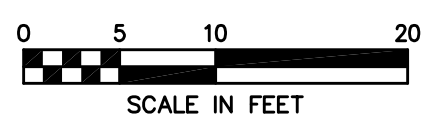


- SEPARATED GREENWAY TRAIL
- 10' WIDE GRANULAR MULTI-USE PATH
- 4' GRANULAR JOGGING LANE BOTH SIDES



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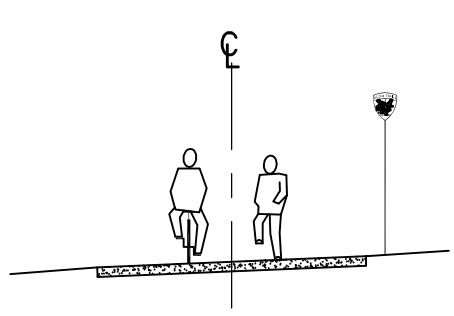
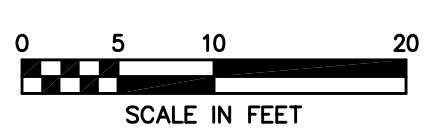


- SEPARATED GREENWAY TRAIL
- 10' WIDE GRANULAR MULTI-USE PATH



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.

PLAN DEVELOPMENT

PLAN DEVELOPMENT

CEDAR TRAILS
CEDAR TRAILS
CEDAR TRAILS

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.

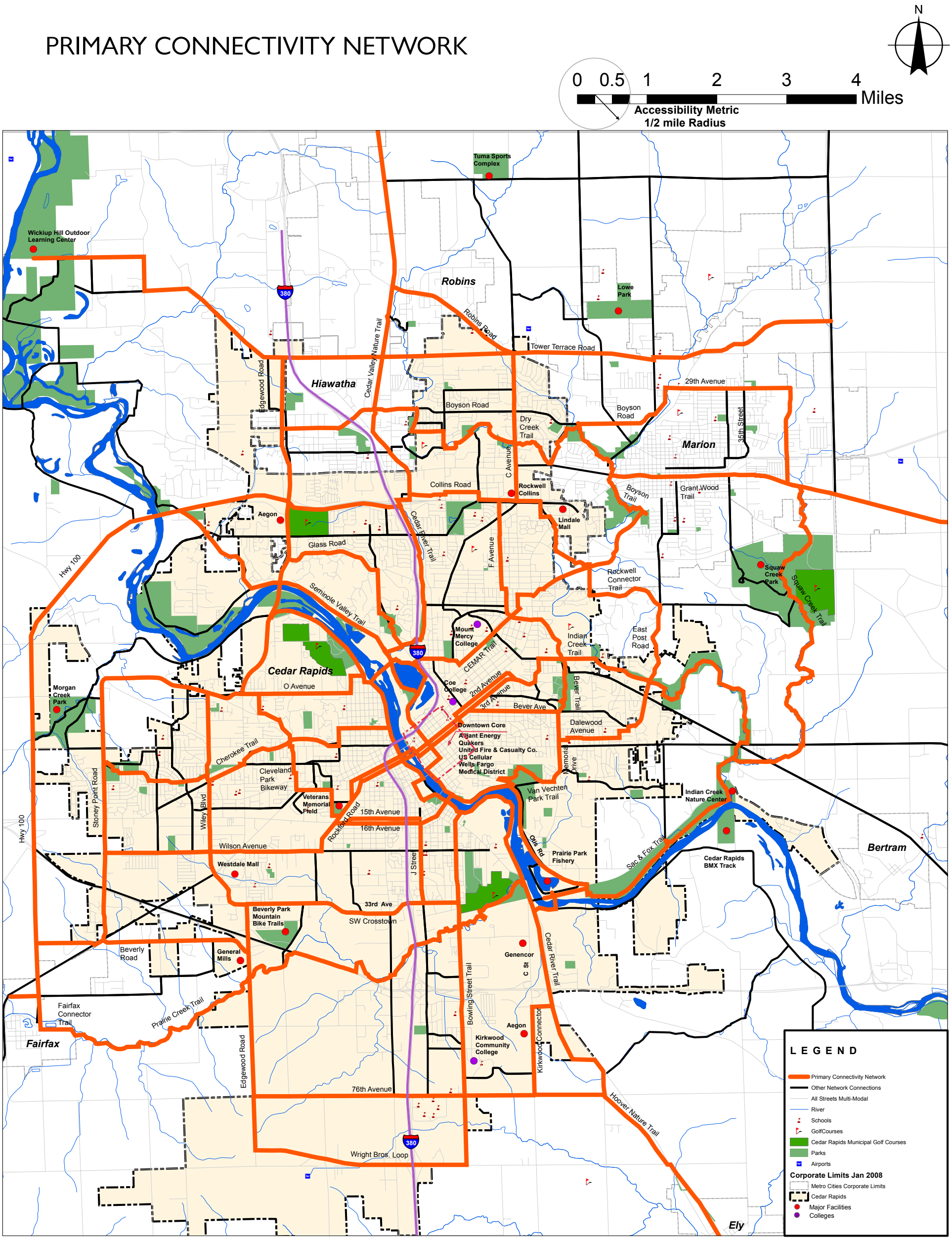
The PCN was proposed, presented, amended and confirmed throughout the public process.

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

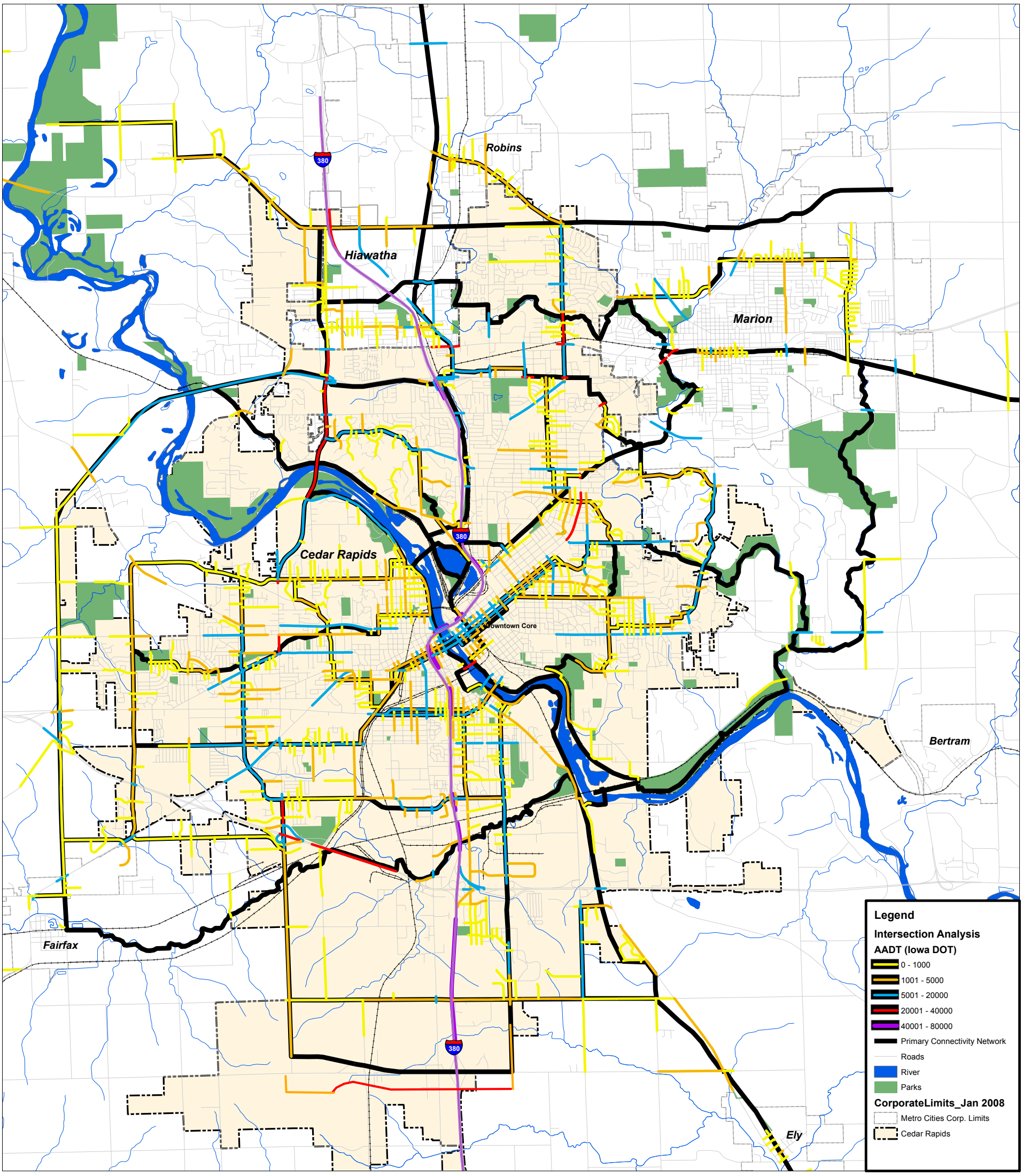
PRIMARY CONNECTIVITY NETWORK



PLAN DEVELOPMENT

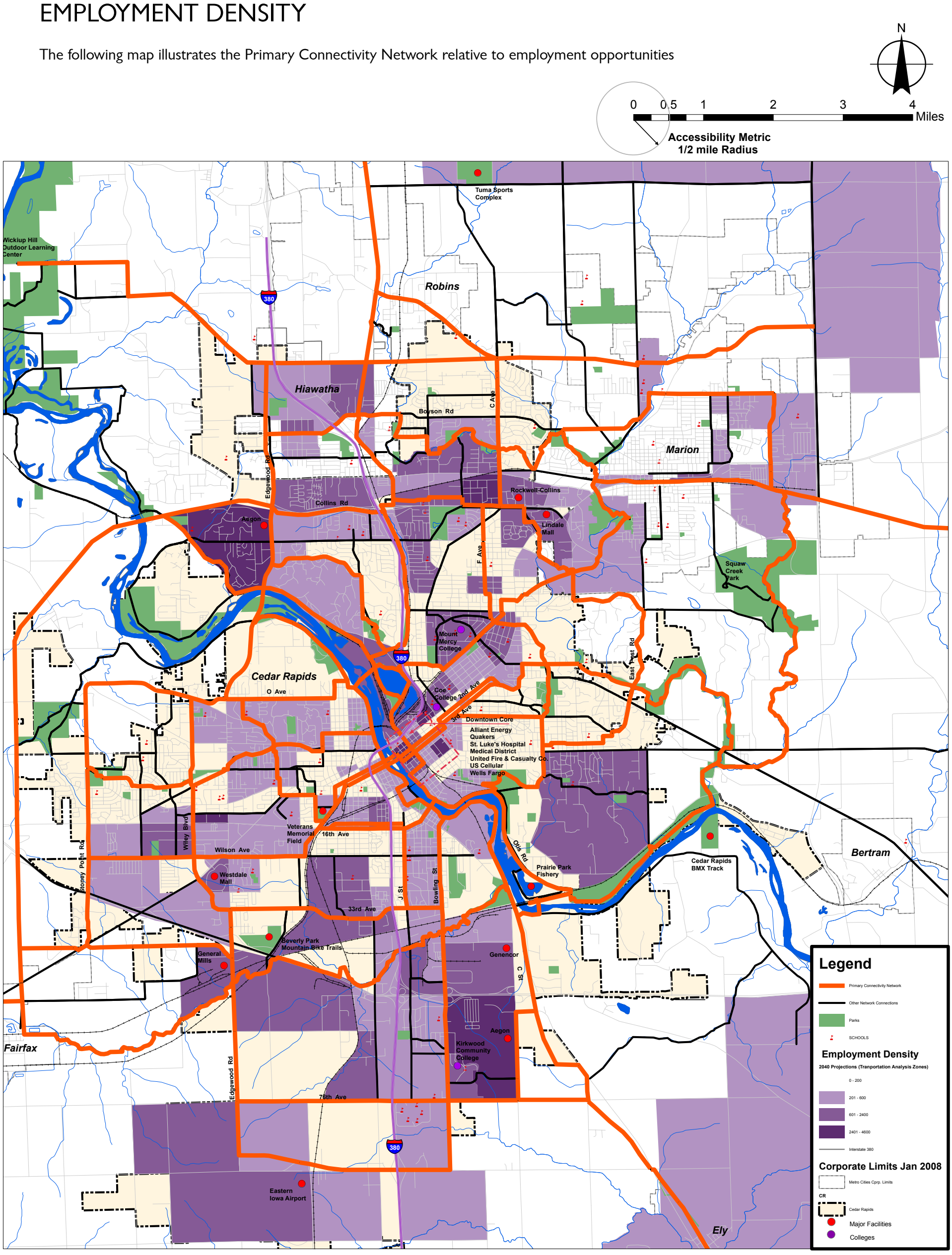
INTERSECTION ANALYSIS

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



EMPLOYMENT DENSITY

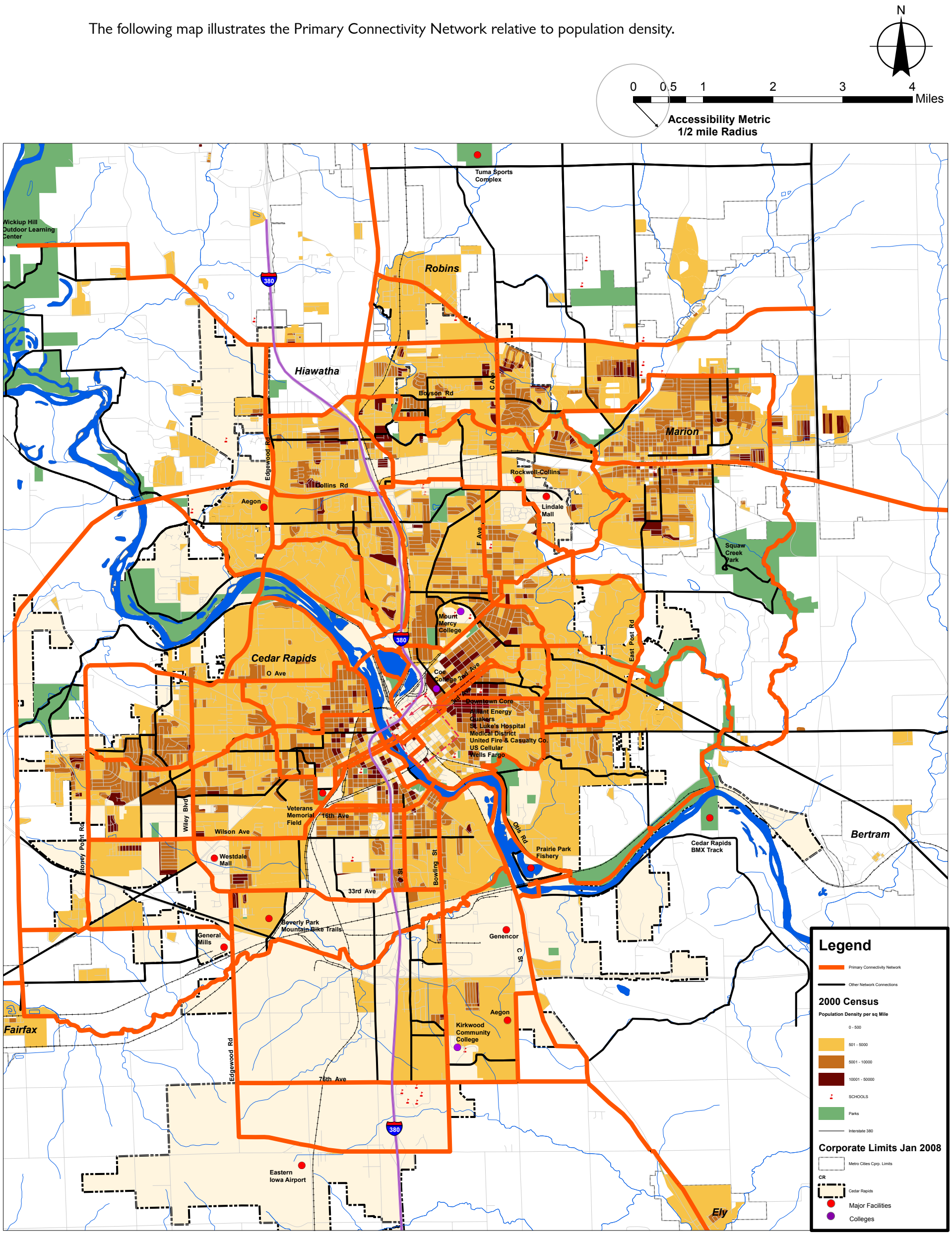
The following map illustrates the Primary Connectivity Network relative to employment opportunities



PLAN DEVELOPMENT

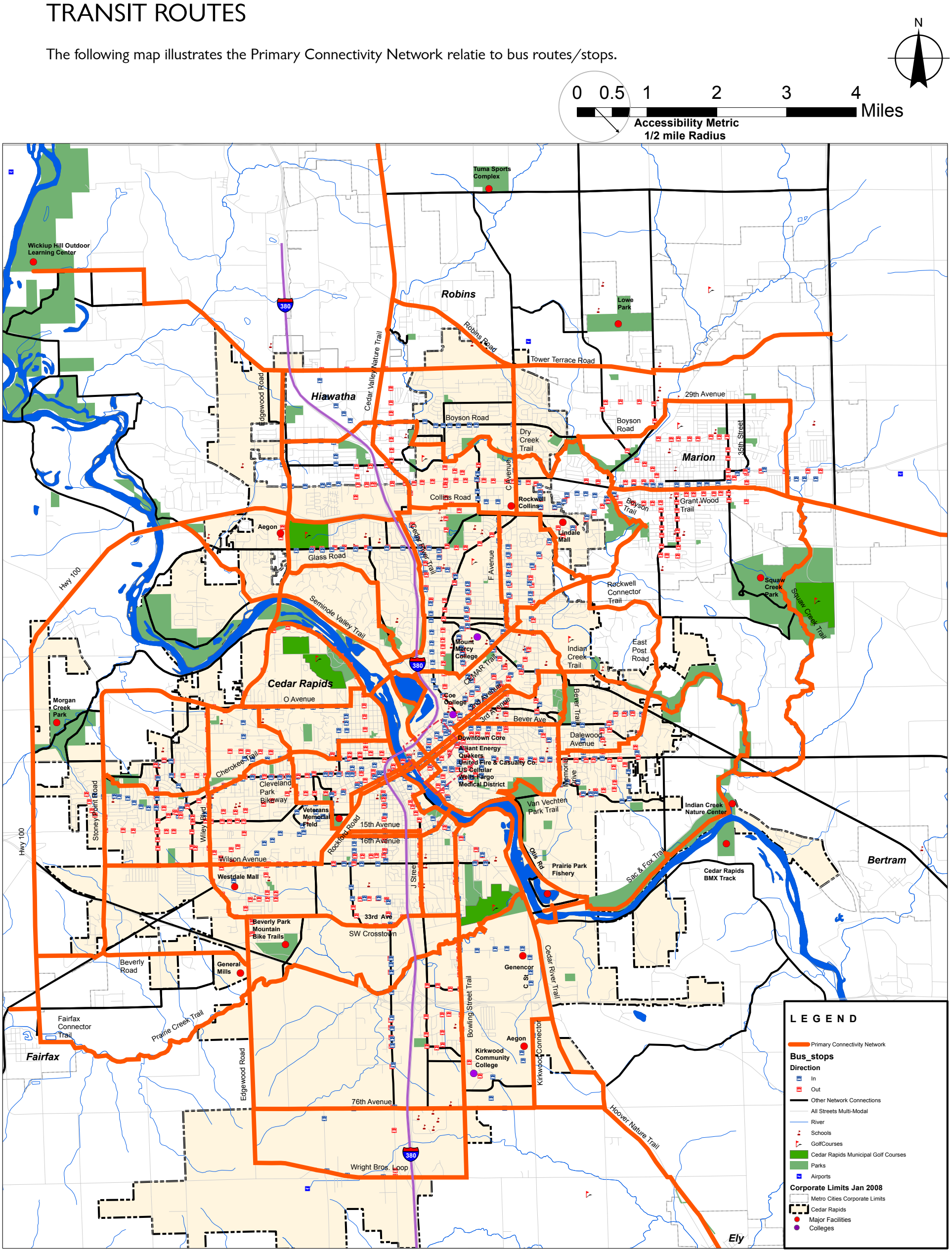
POPULATION DENSITY

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

MIKE DUFOE, PE
Project Manager
City of Cedar Rapids
1201 6th Street SW
Cedar Rapids, IA 52404

STEVE KRUG
Landscape Architect
City of Cedar Rapids Parks
3601 42nd Street NE
Cedar Rapids, IA 52402

GINA WEAVER
Project Engineer I - Traffic
City of Cedar Rapids
1201 6th Street SW
Cedar Rapids, IA 52404

RON GRIFFITH, PE
Project Engineer II - Traffic
City of Cedar Rapids
1201 6th Street SW
Cedar Rapids, IA 52404

ADAM LINDENLAUB
Long-Range Planning Coordinator
Corridor MPO
Cedar Rapids Department of Community Development
3851 River Ridge Drive NE
Cedar Rapids, IA 52402

STEERING COMMITTEE

BRAD BARVINEK
Rockwell Collins Commuter Club

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

MIKE DUFOE, PE
City of Cedar Rapids Project Manager
www.cedar-rapids.org

RON GRIFFITH, PE
City of Cedar Rapids Project Engineer II - Traffic
www.facebook.com/bikecr

ROB JOHNSON
Linn Area Mountain Bike Association (LAMBA) President
www.lambaonline.com

CANDY MULLEN
Cedar Valley Running Association, President

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

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

SAMANTHA DAHLBY
Corridor MPO Board Member
www.corridormpo.com

GEOFF EASTBURN
Linn County Trails Association, President
www.linncountytrails.org

TOM HICKS
Coe College
Assistant Dean of College Life
Director of Student Activities
www.coe.edu

CINDY MONROE
Coordinator
Cedar Rapids Community School District
Safe Routes to School (SRTS)
www.iowadot.gov/saferoutes.com

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

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

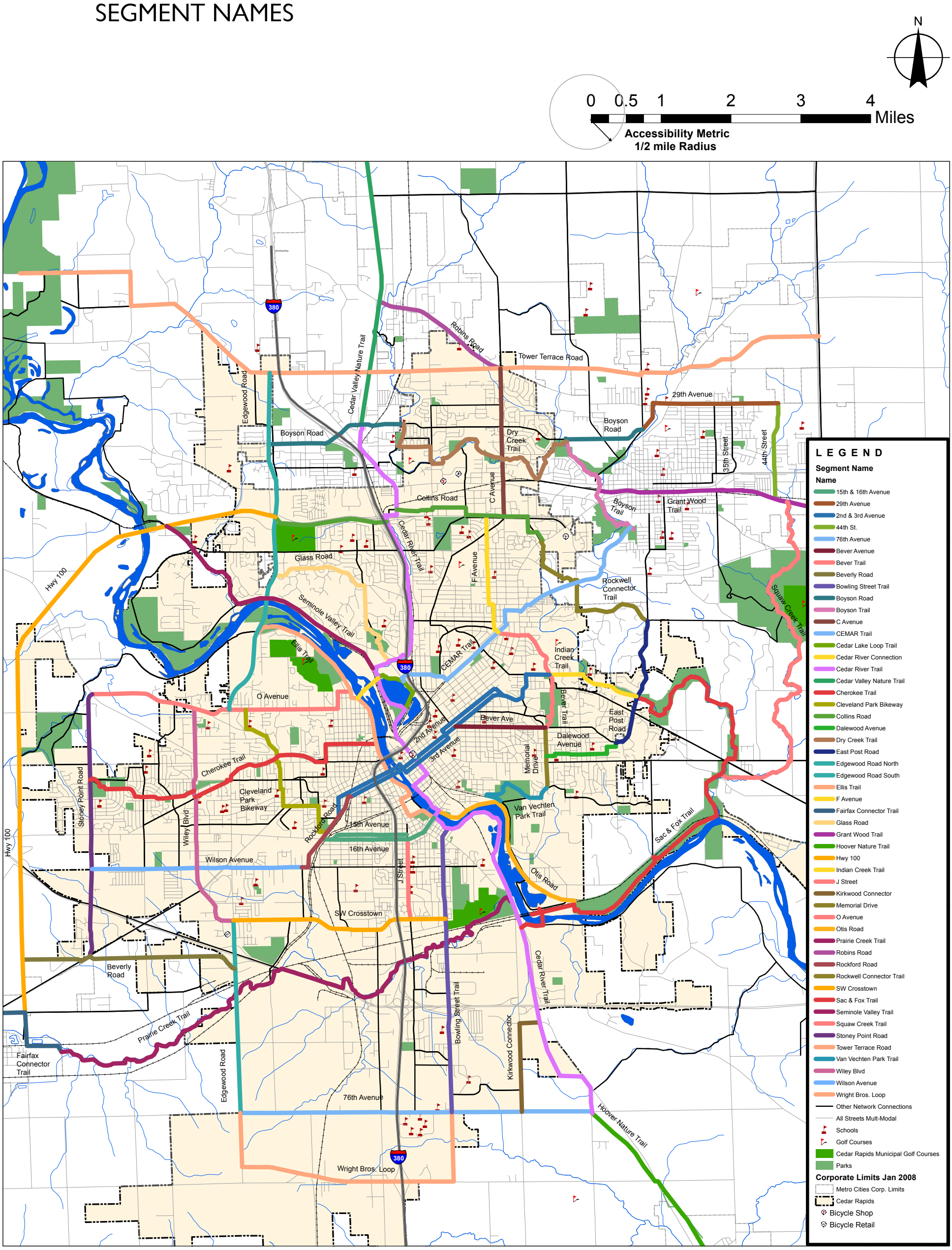
SCHEDULE

	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



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

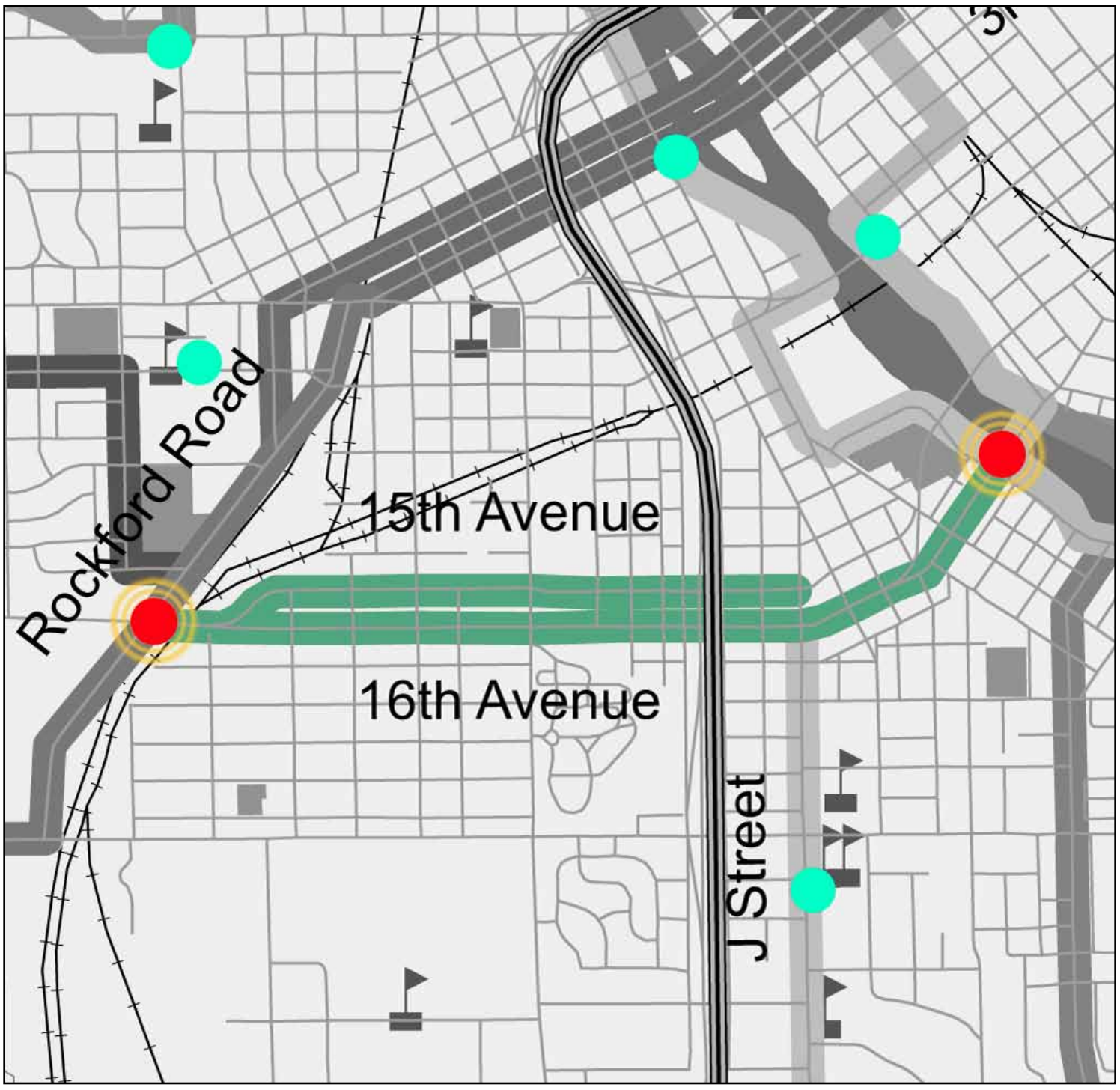
EXISTING		
1	On-Road or Separated Trail	On-Road (15th Ave one-way Westbound & 16th Ave one-way Eastbound)
2	Segment Length (Mile)	1.1 miles (15th Ave) & 1.7 miles (16th Ave) Total 2.8 miles
3	Roadway Classification	Local/ Collector
4	Total Pavement Width (Feet)	Varies: 30',32',36',40',48'
5	Number of 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

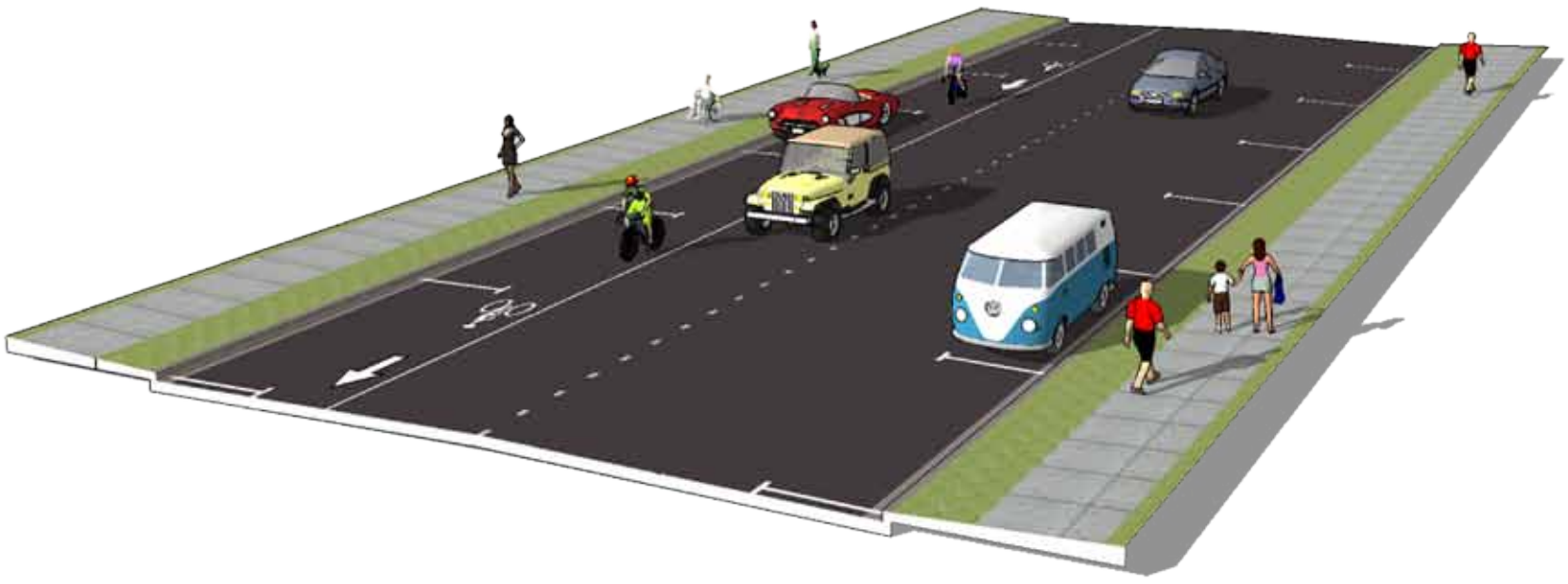
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	159	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	318	$65,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

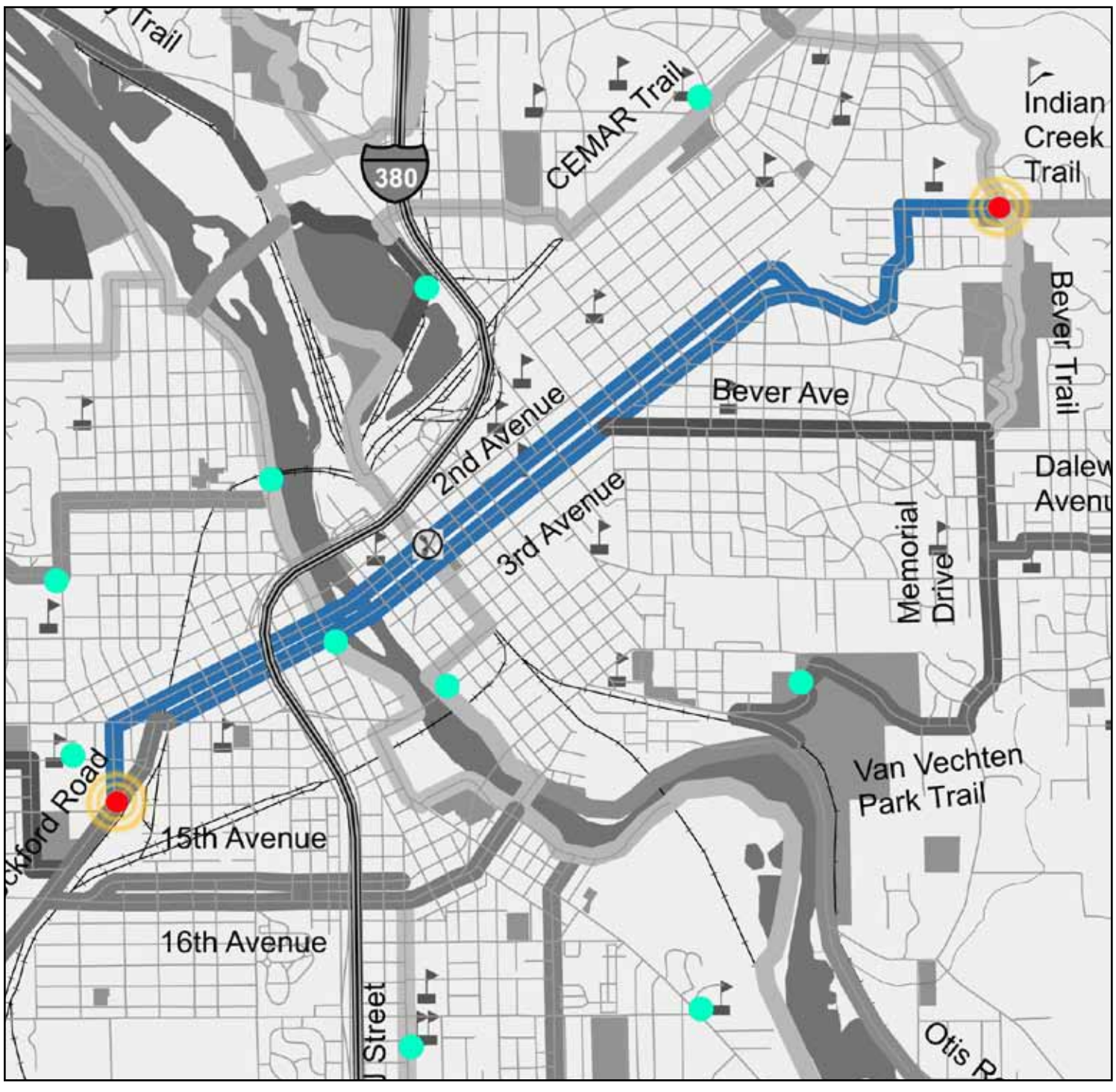
EXISTING		
1	On-Road or Separated Trail	On-Road (2nd Ave one-way Westbound & 3rd Ave one-way Eastbound)
2	Segment Length (Mile)	3.6 miles (2nd Ave) & 3.4 miles (3rd Ave) Total: 7 miles
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	30', 40', 60'
5	Number of Traffic Lanes incl. Center 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

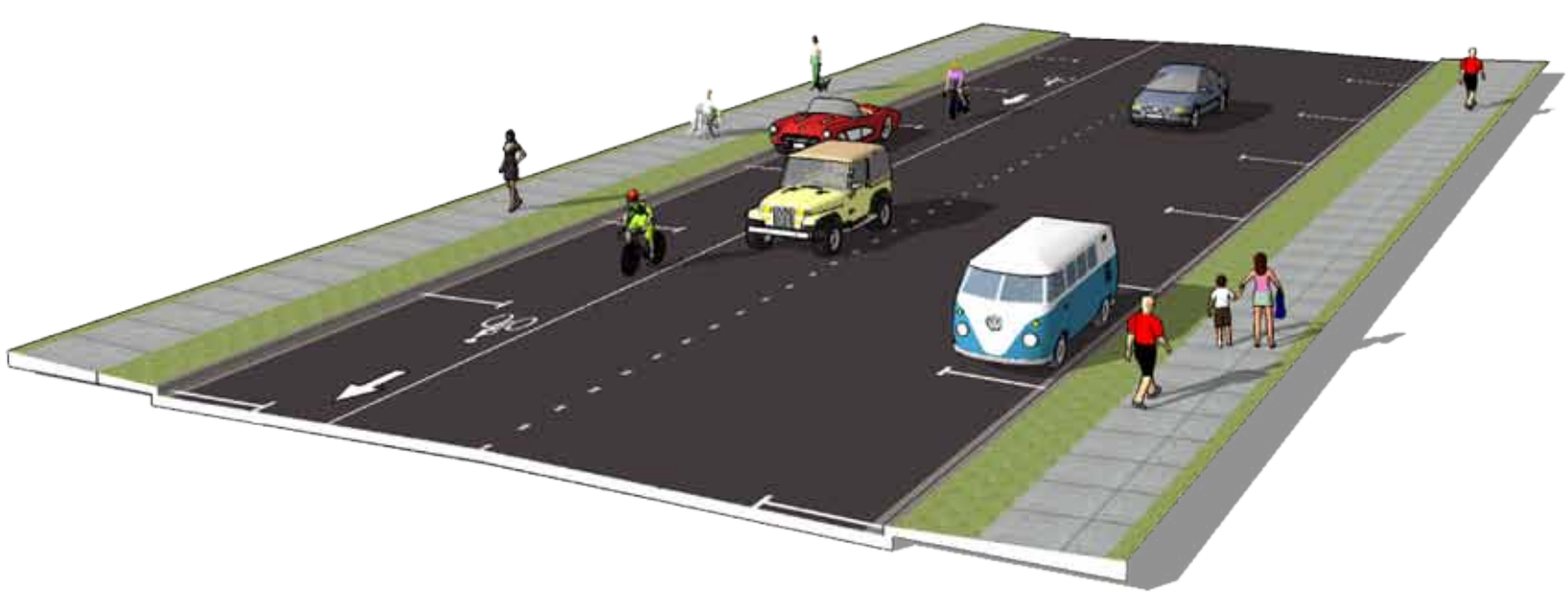
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	360	$15,000
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	360	$75,000
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$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

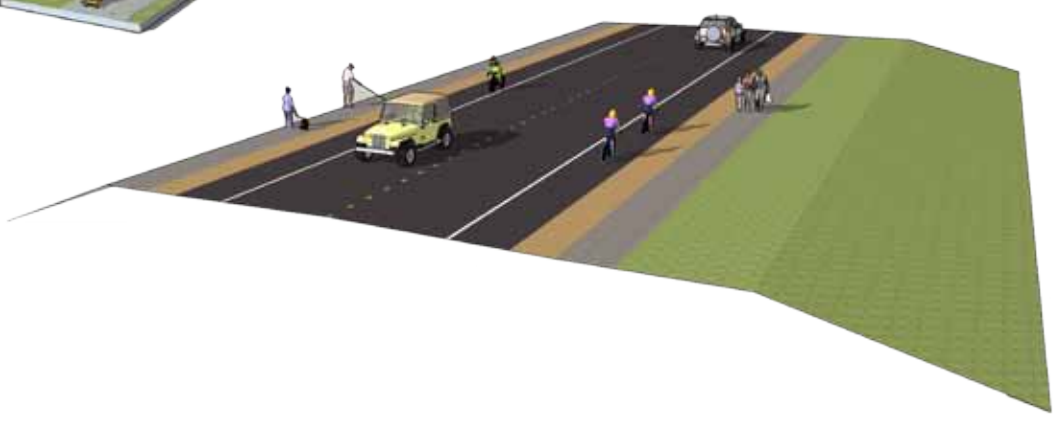
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	4 miles inside City Limits (Total segment mile: 5)
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	24'
5	Number of Traffic Lanes incl. Center Left Turn	2 to 4 lanes
6	Right of Way	66' & 100'
7	Curb & Gutter	Yes
8	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

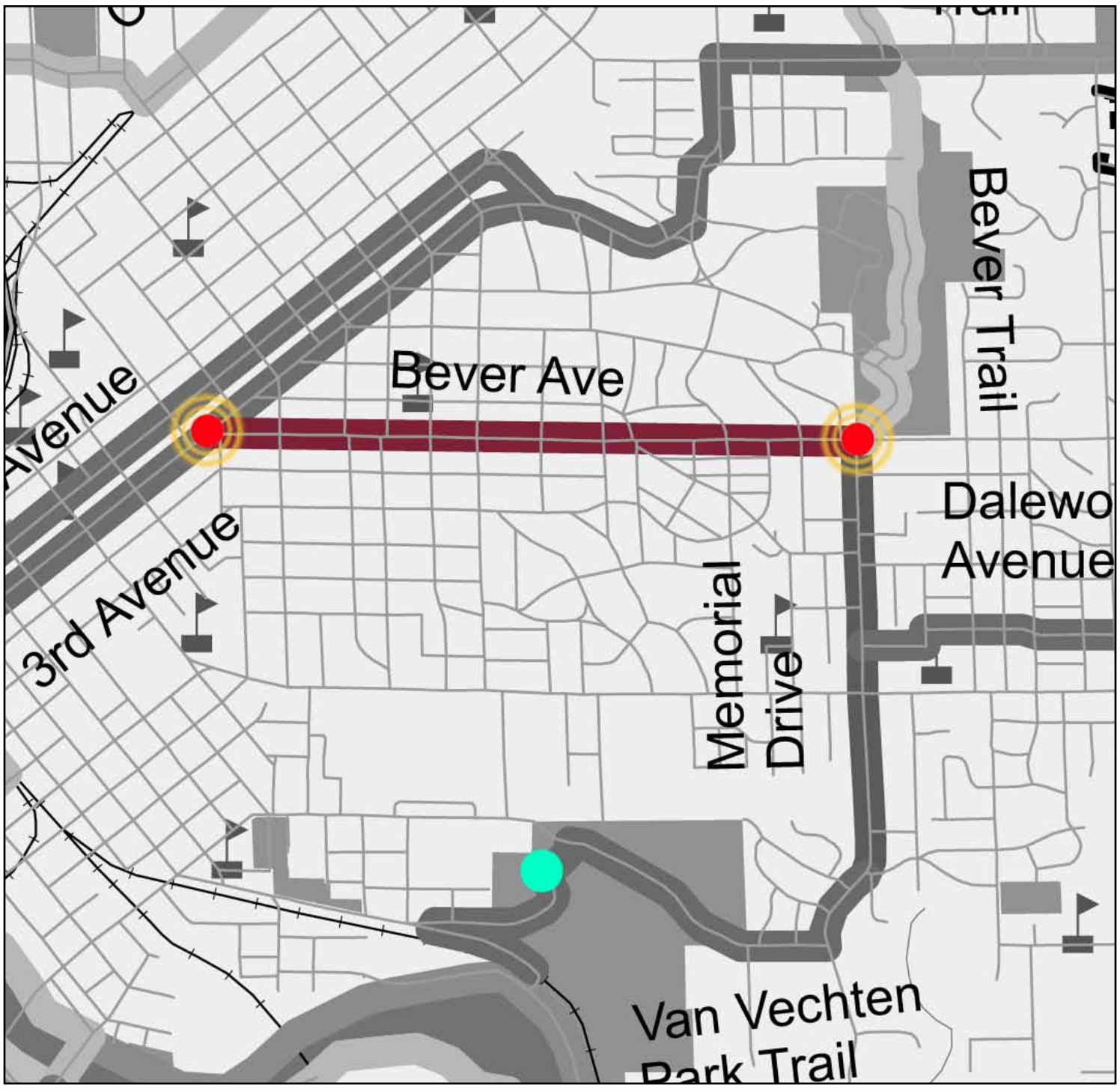
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	1.3 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	40', 38'
5	Number of Traffic Lanes incl. Center Left Turn	2-4 Traffic lanes
6	Right of Way	80'
7	Curb & Gutter	Yes
8	Paved Shoulder	None
9	On-Street Parking	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

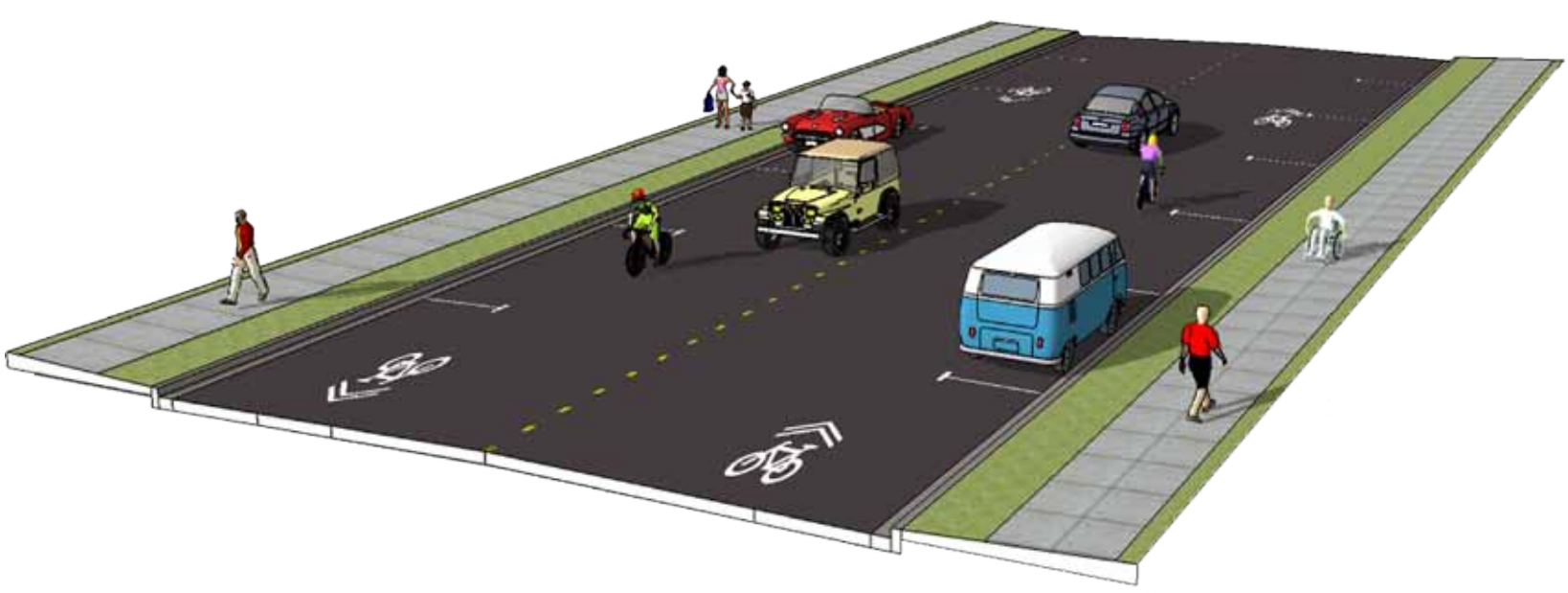
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	74	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	148	$30,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

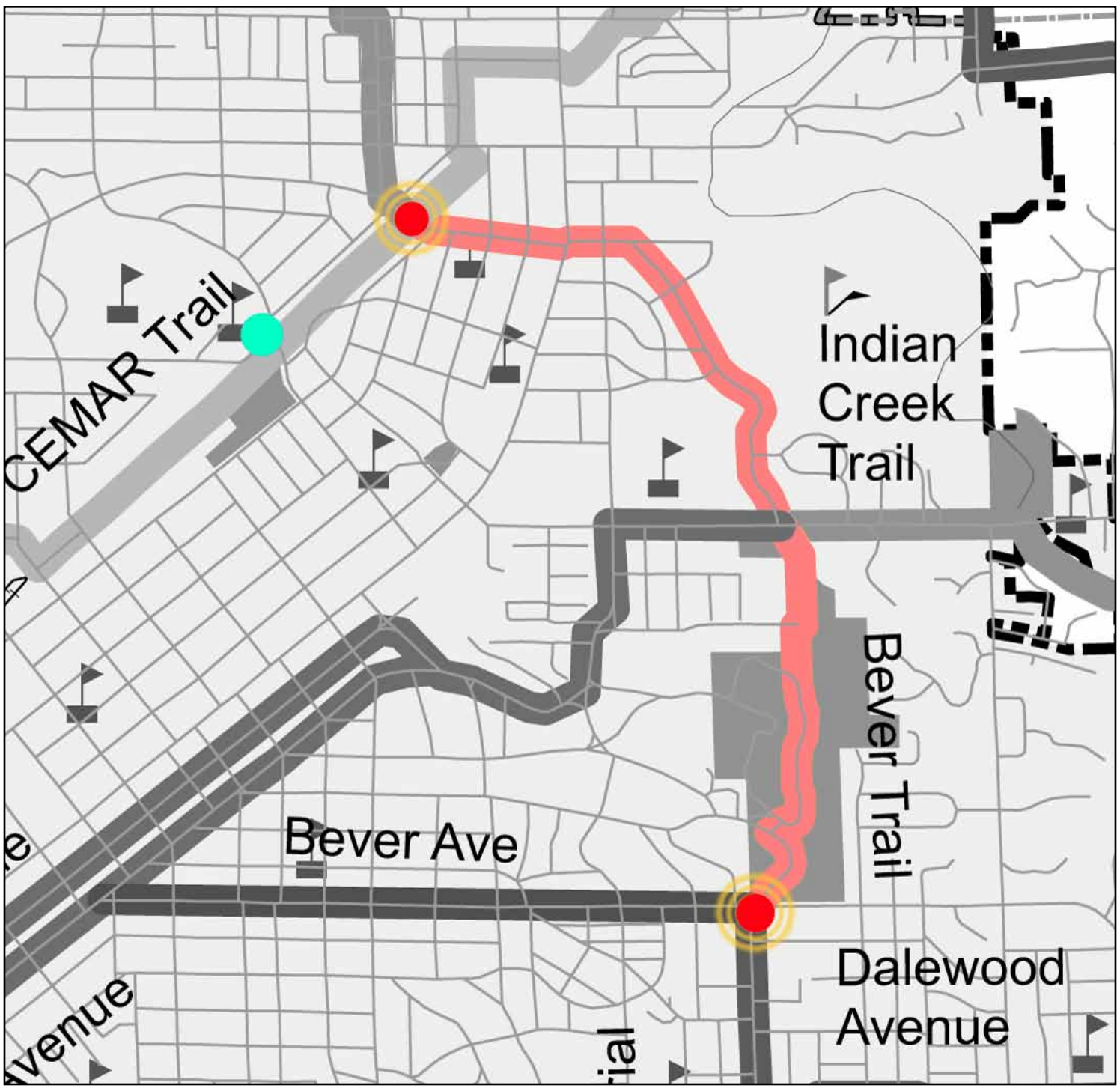
EXISTING		
1	On-Road or Separated Trail	On-Road & Separated Trail Combination
2	Segment Length (Mile)	2 miles
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	24'
5	Number of Traffic Lanes incl. Center Left Turn	2
6	Right of Way	63' & 70'
7	Curb & Gutter	Out side park segment
8	Paved Shoulder	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

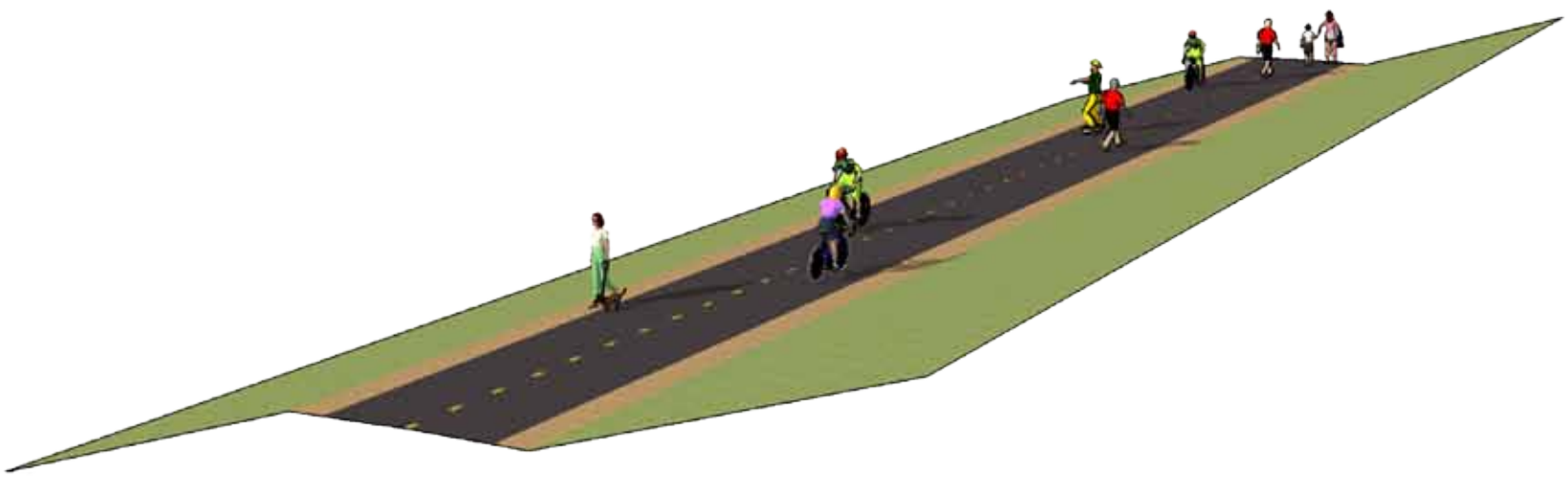
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	88	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	176	$40,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

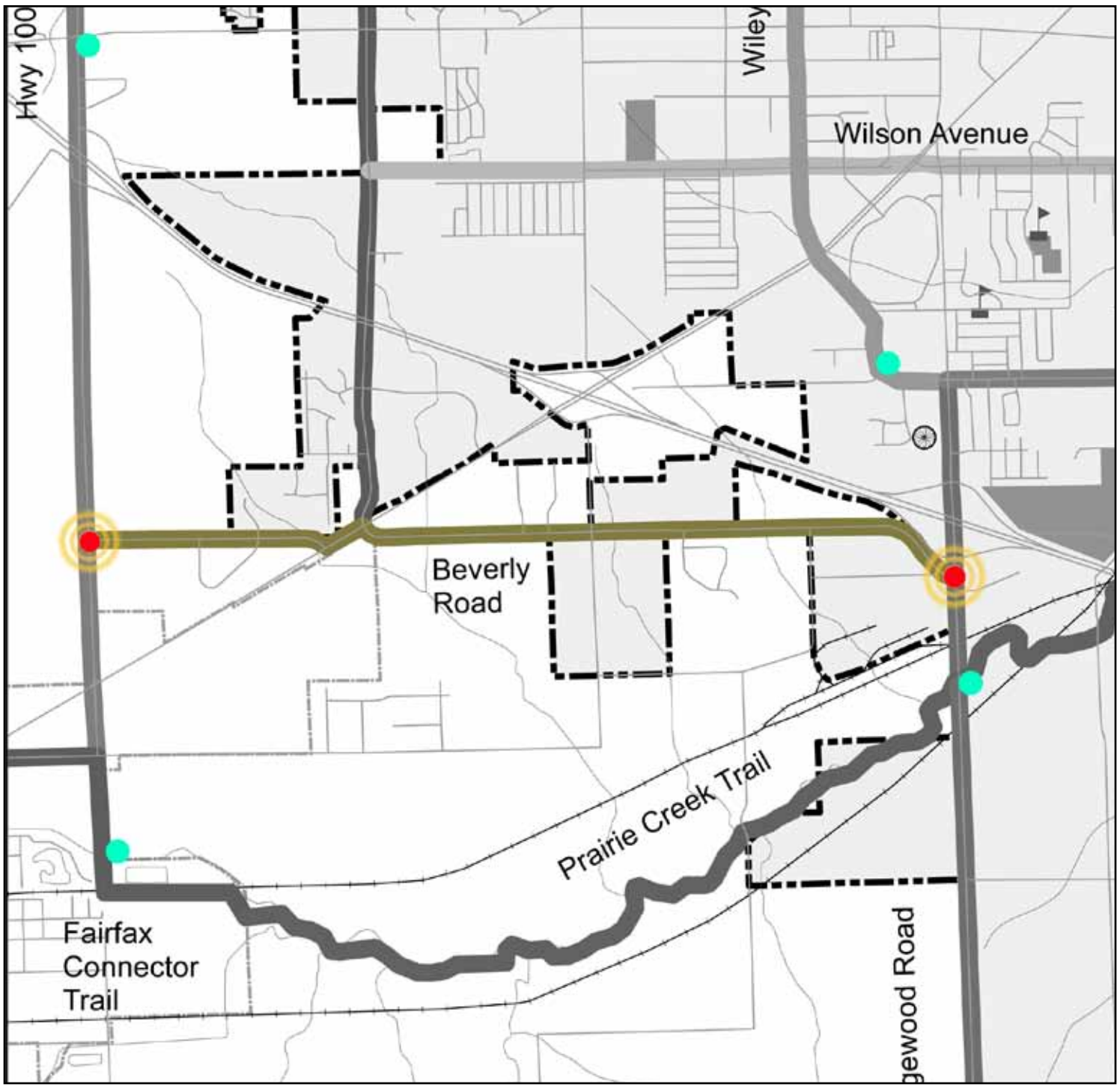
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	Miles Outside Cedar Rapids City Limits 1.5, Inside Cedar Rapids 1.6, Total 3.1 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	24' & 75'
5	Number of Traffic Lanes incl. Center Left Turn	2-4 Traffic lanes
6	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

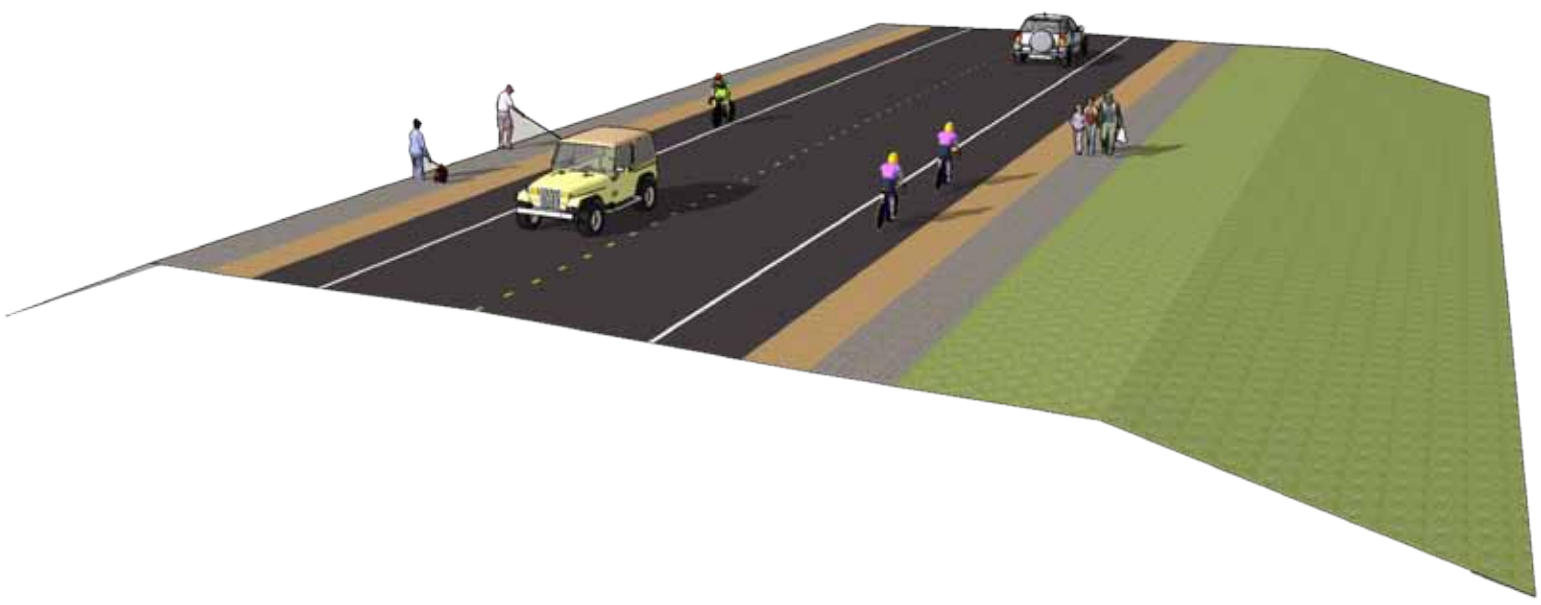
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	80	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	160	$35,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

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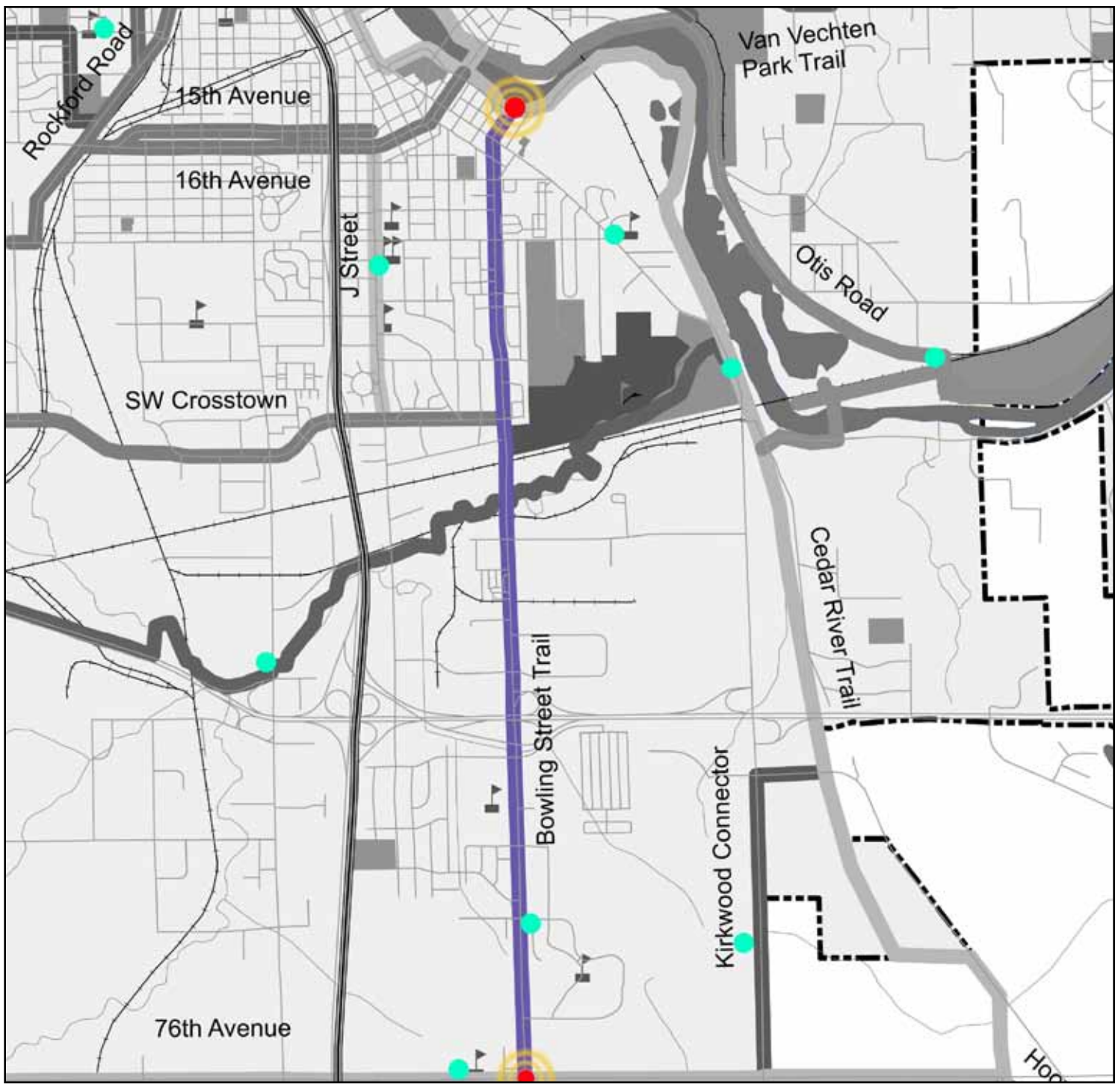
BOWLING STREET TRAIL SEGMENT



C AVENUE SEGMENT

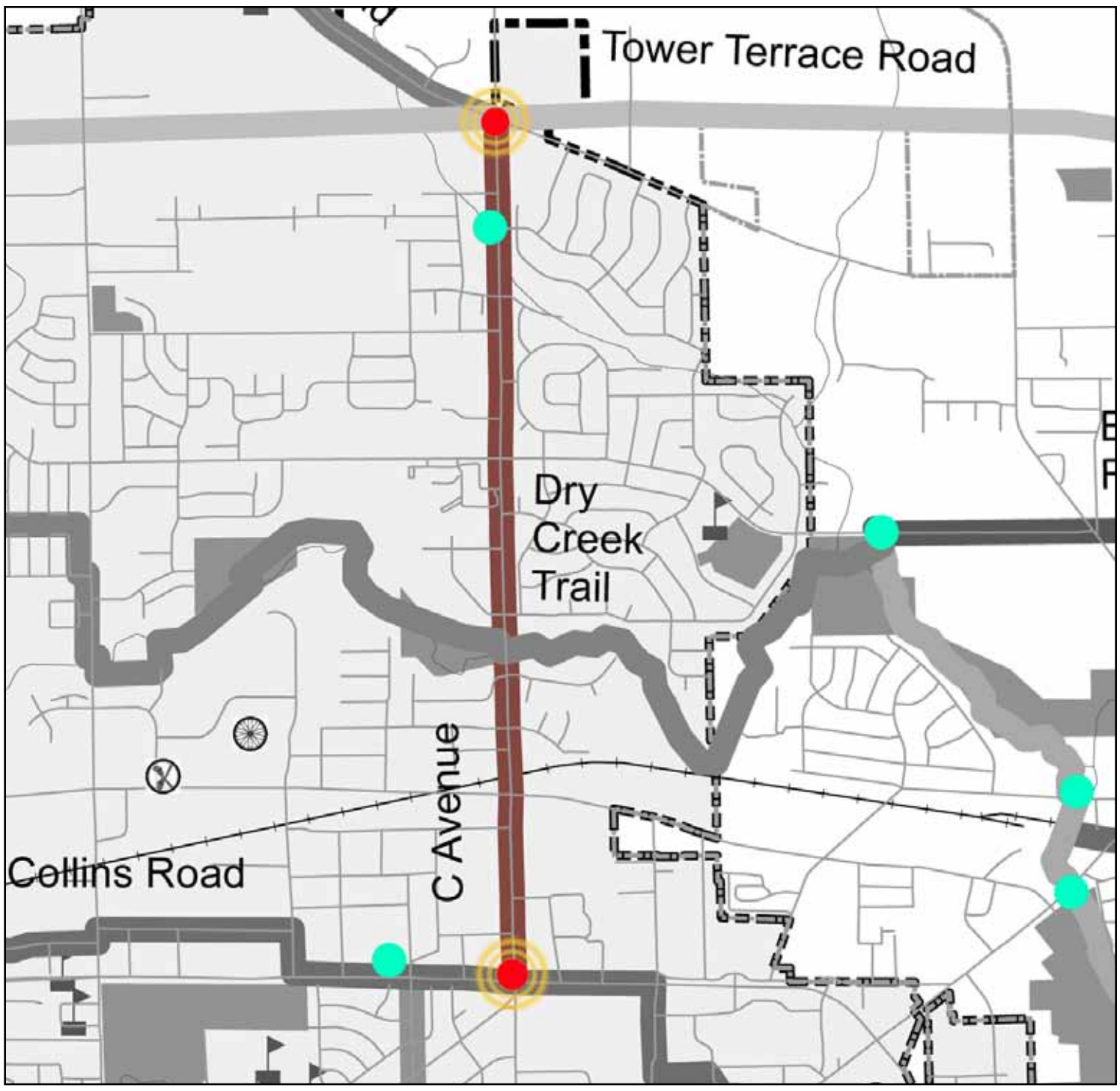
EXISTING		
1	On-Road or Seaparated Trail	On-Road
2	Segment Length (Mile)	0.9 mi (existing) 2.1 miles
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	48' - 64'
5	Number of Traffic Lanes incl. Center Left Turn	2 to 5 Traffic Lanes
6	Right of Way	80', 100', 110', 120'
7	Curb & Gutter	Yes
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

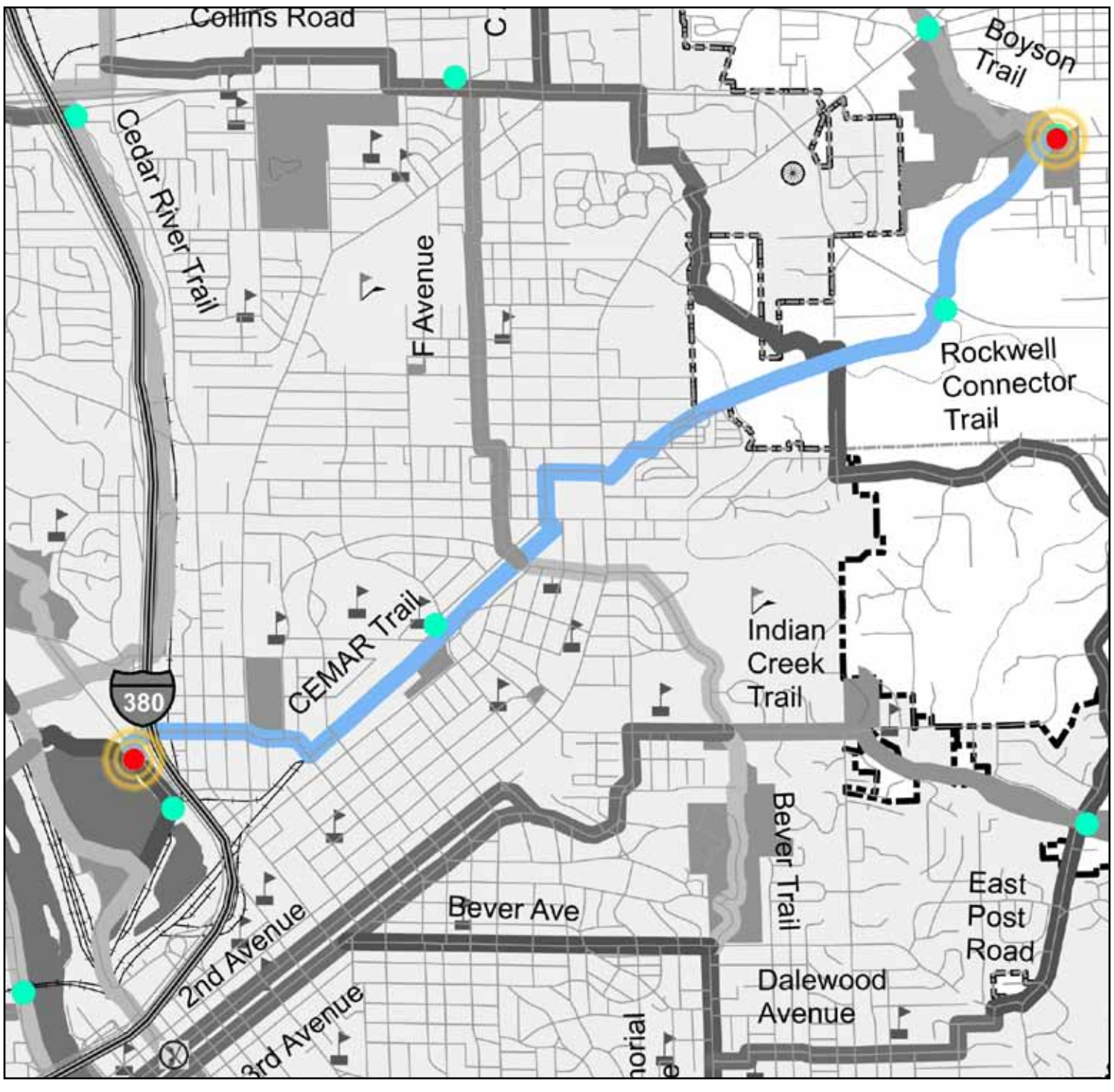
EXISTING		
1	On-Road or Separated Trail	On-Road & Separated Combination Phases I & II in process
2	Segment Length (Mile)	4.5 miles Total 1.8 miles in process
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	30', 36', 40', 44', 48'
5	Number of Traffic Lanes incl. Center Left Turn	2-4 Traffic 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

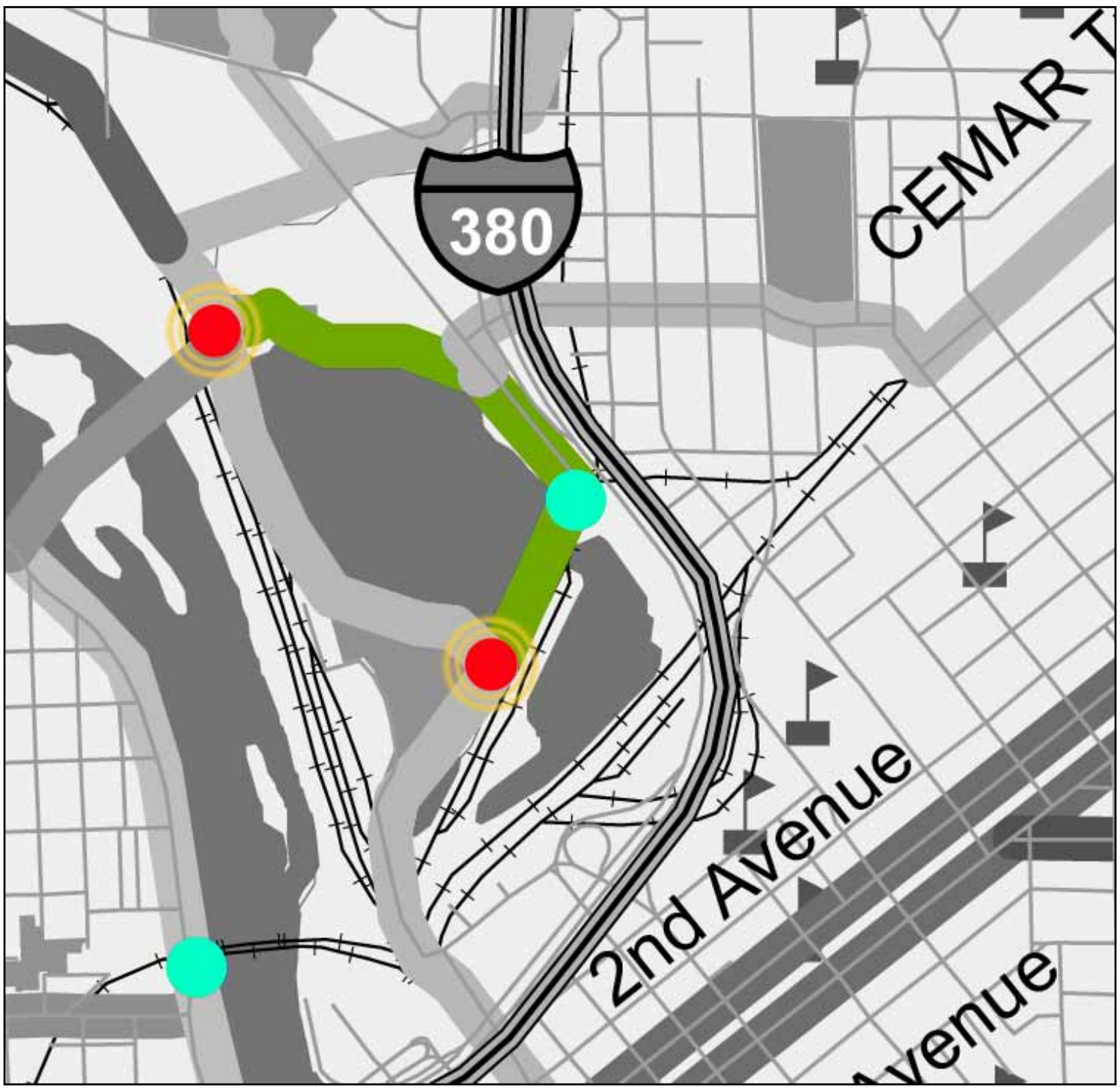
EXISTING		
1	On-Road or Separated Trail	Separated Trail Existing
2	Segment Length (Mile)	0.9 mile
3	Roadway Classification	Partial Local
4	Total Pavement Width (Feet)	8'-10'
5	Number of Traffic Lanes incl. Center Left Turn	None
6	Right of Way	N/A
7	Curb & Gutter	None
8	Paved Shoulder	None
9	On-Street 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

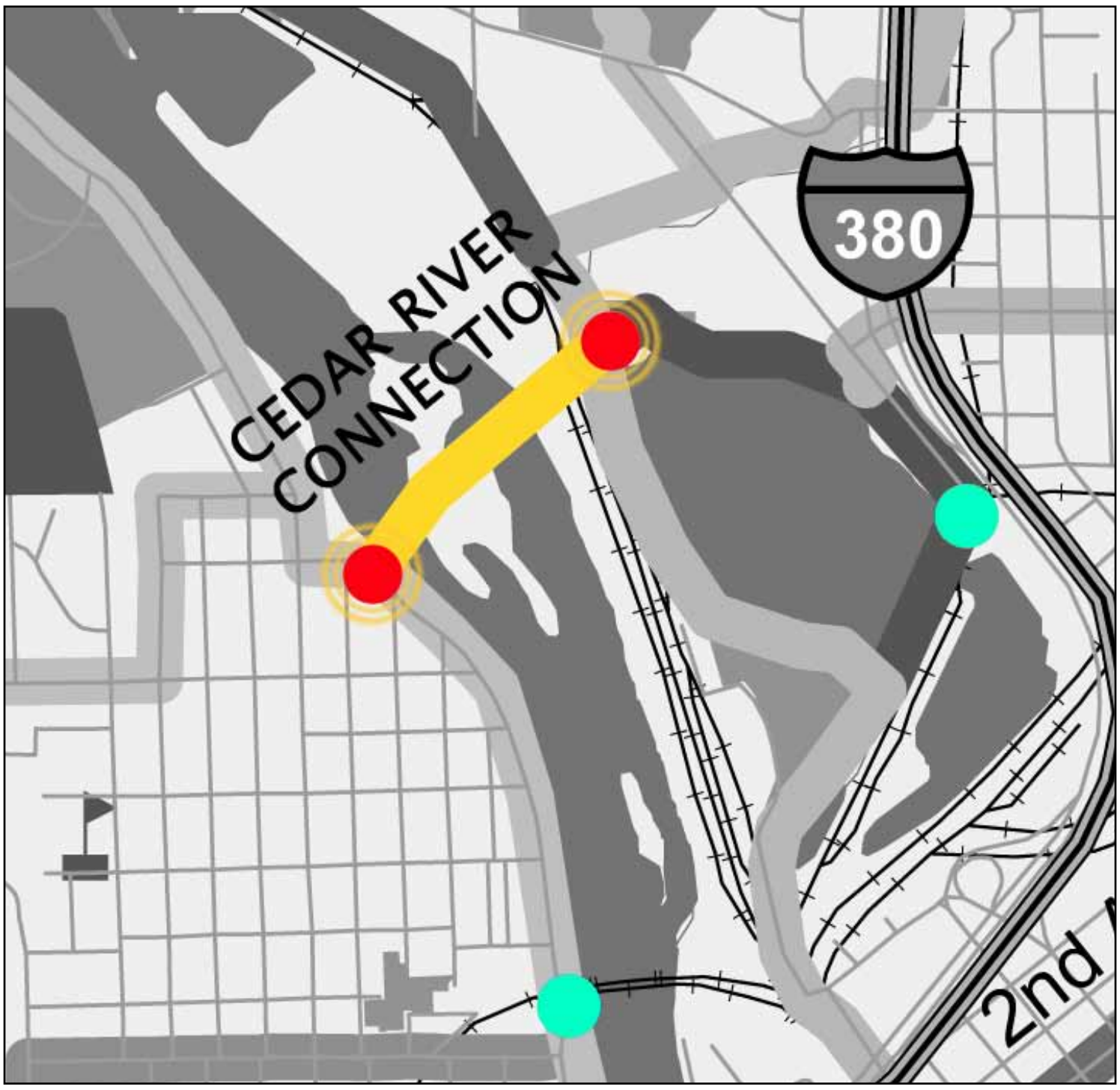
EXISTING		
1	On-Road or Separated Trail	Separated Trail/Bridge
2	Segment Length (Mile)	.4 mile
3	Roadway Classification	None
4	Total Pavement Width (Feet)	14' Railing to Railing
5	Number of Traffic Lanes incl. Center Left Turn	NA
6	Right of Way	NA
7	Curb & Gutter	NA
8	Paved Shoulder	NA
9	On-Street Parking	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

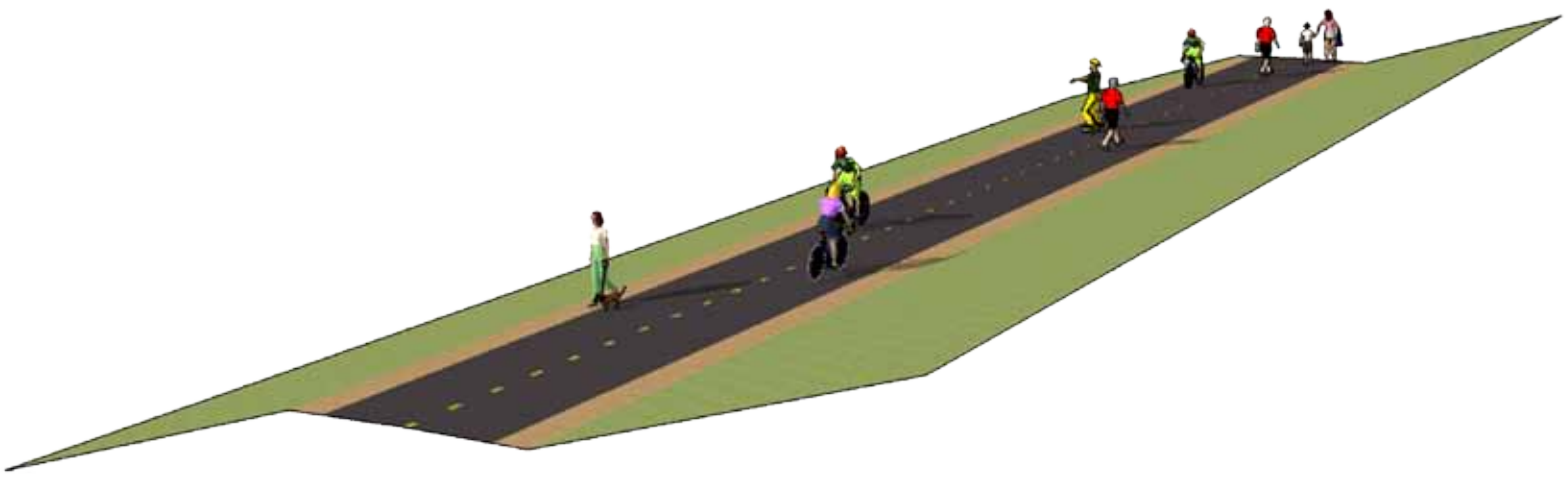
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	0	$0.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	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

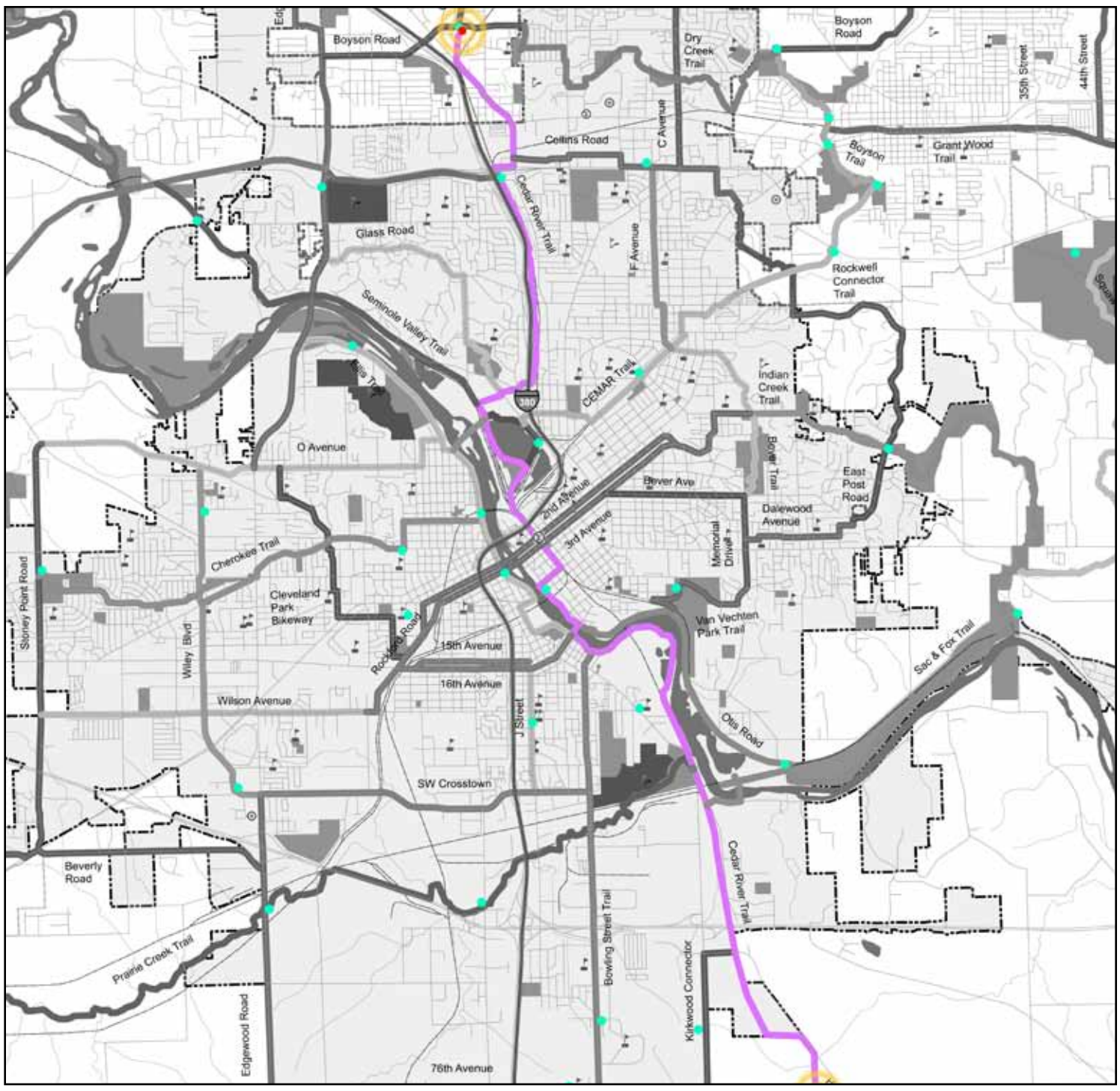
EXISTING		
1	On-Road or Separated Trail	Separated Trail
2	Segment Length (Mile)	13.2 miles (existing) .6 mi outside of Cedar Rapids City Limits
3	Roadway Classification	None
4	Total Pavement Width (Feet)	8'-10'
5	Number of Traffic Lanes incl. Center Left Turn	None
6	Bike Lane Width (Feet)	8' to 10'
7	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

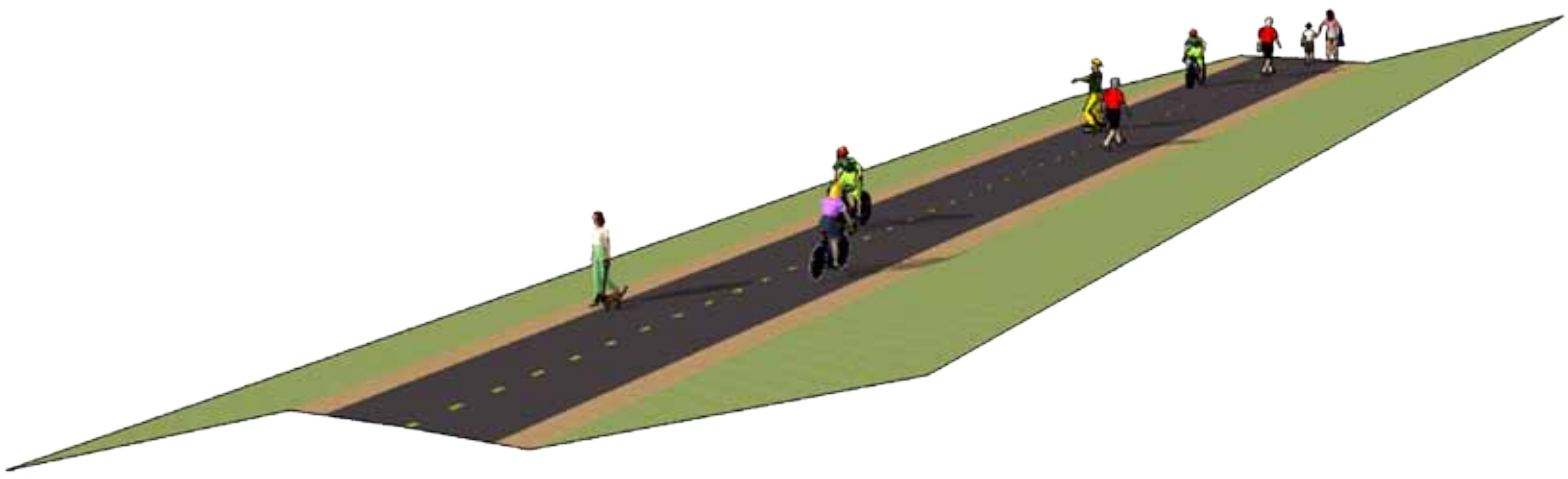
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	0	$0.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	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

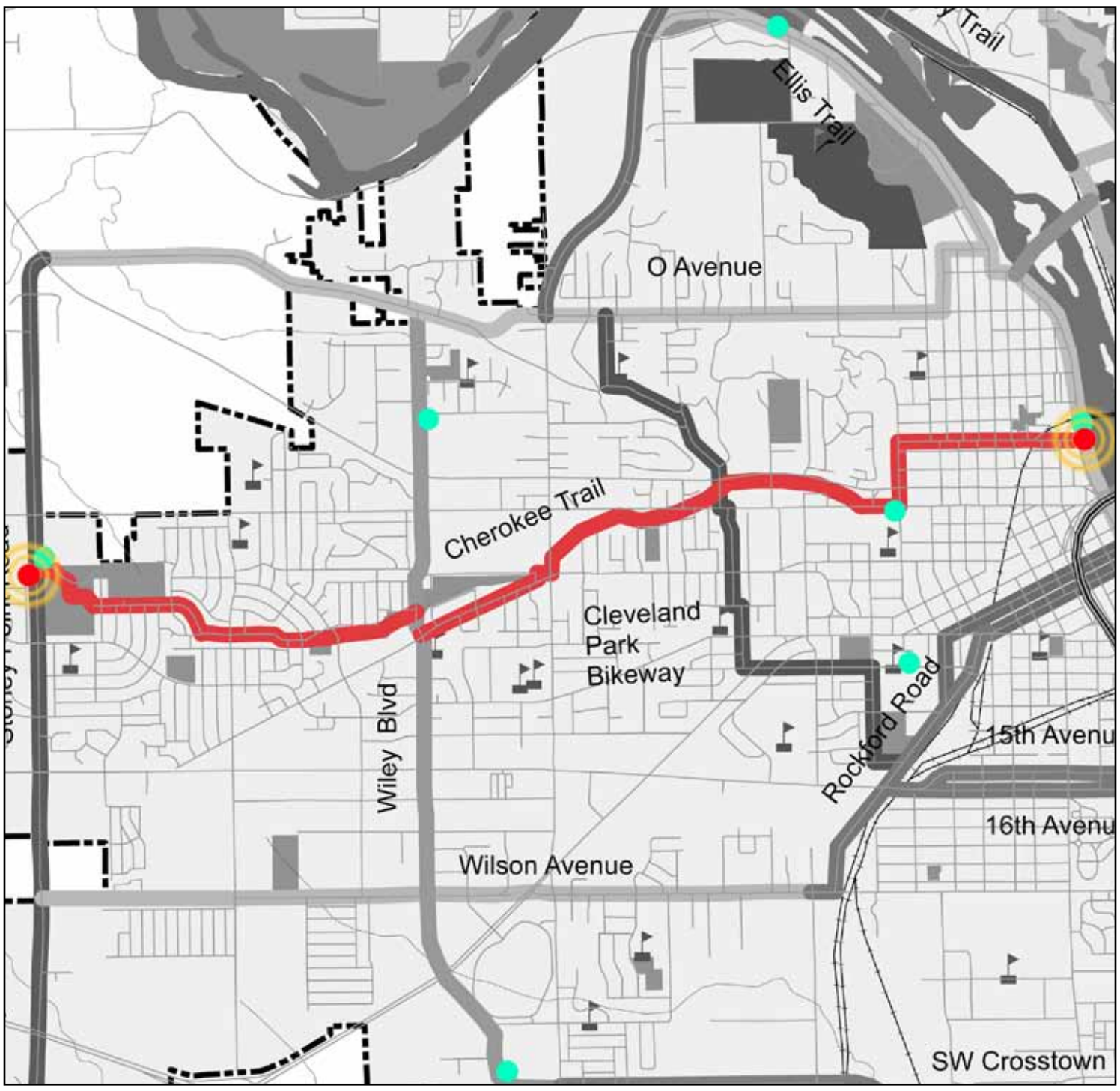
EXISTING		
1	On-Road or Separated Trail	Combination
2	Segment Length (Mile)	2.2 Miles separated trail, 4.8 miles total
3	Roadway Classification	Residential
4	Total Pavement Width (Feet)	28', 30', 35', 41', 61'
5	Number of Traffic Lanes incl. Center Left Turn	2 -4 traffic lanes
6	Right of way	60' & 80'
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

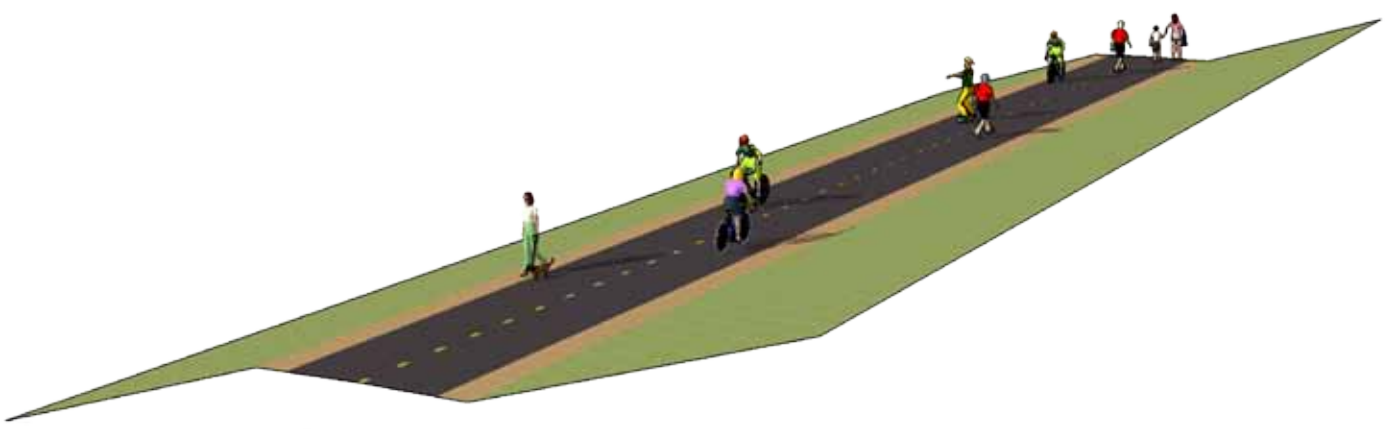
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	133	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	498	$100,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

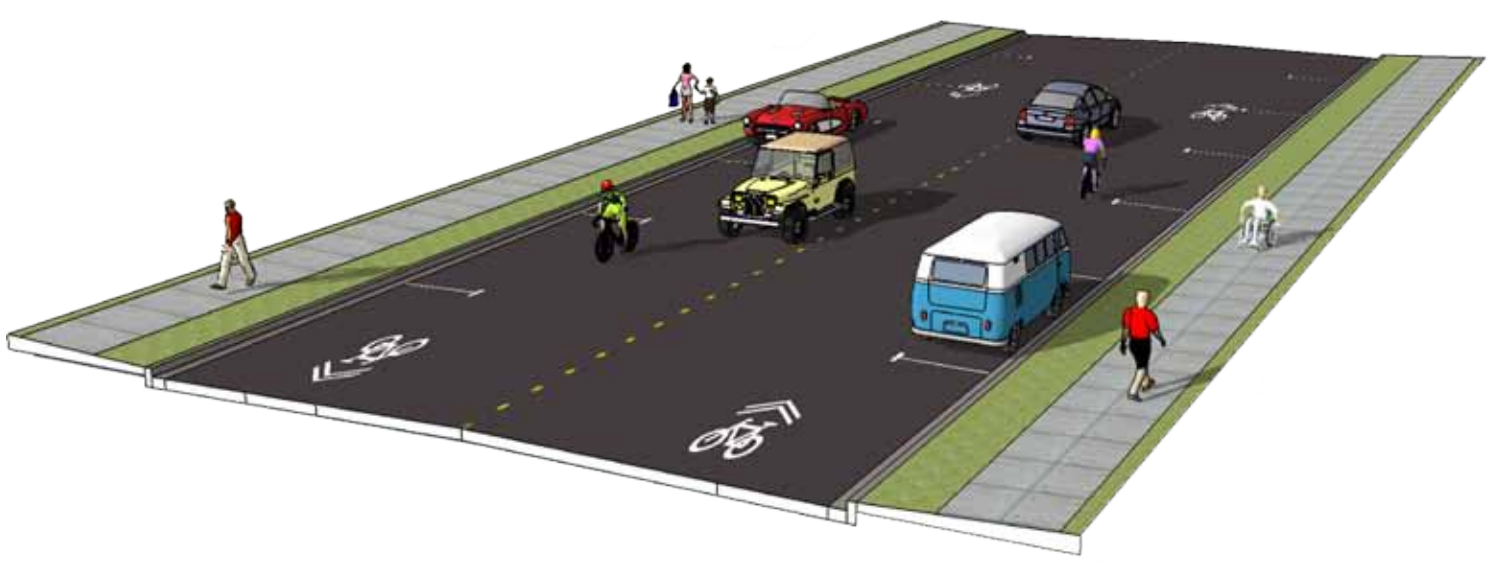
ANNUAL MAINTENANCE COST	UNIT	UNIT COST	QTY	EXTENDED COST
	Mile	$16,000.00	4.8	$76,800.00

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

CHEROKEE TRAIL SEGMENT







CLEVELAND PARK BIKEWAY SEGMENT

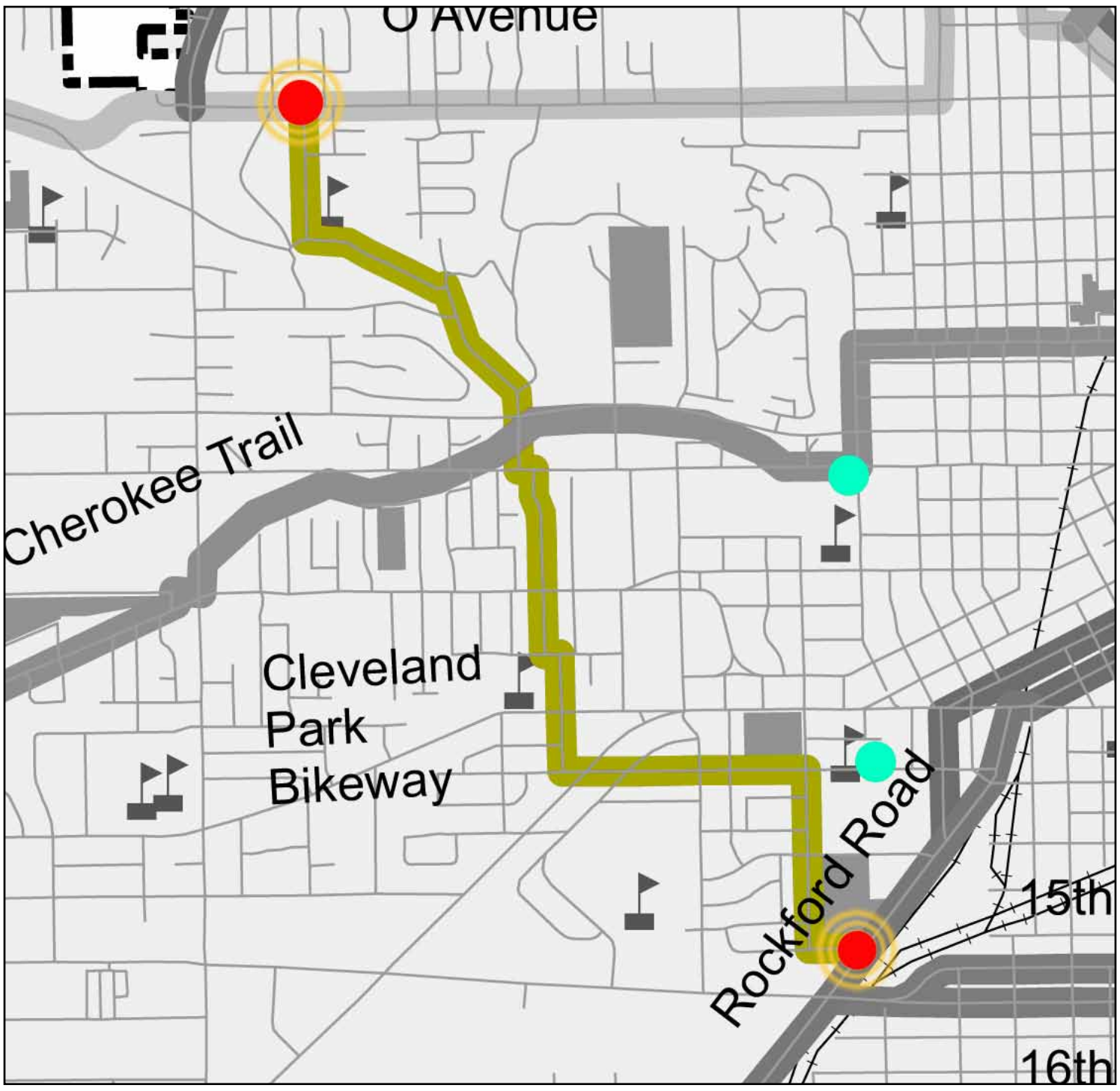
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	2.7 miles
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	24', 28', 36'
5	Number of Traffic Lanes incl. Center Left Turn	2
6	Right of Way	66', 75'
7	Curb & Gutter	Yes; varies
8	Paved Shoulder	
9	On-Street Parking	Yes
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

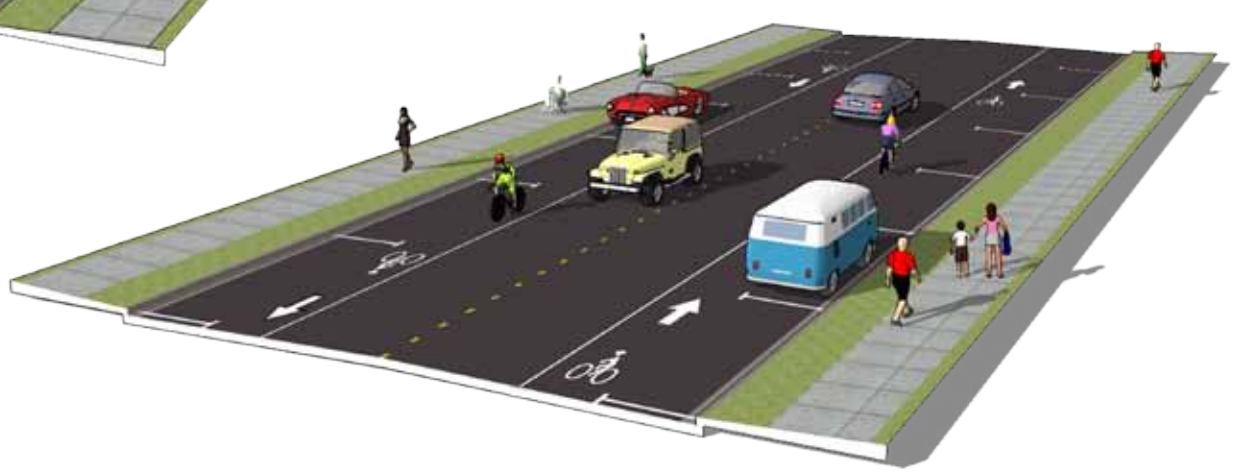
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	143	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	286	$60,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

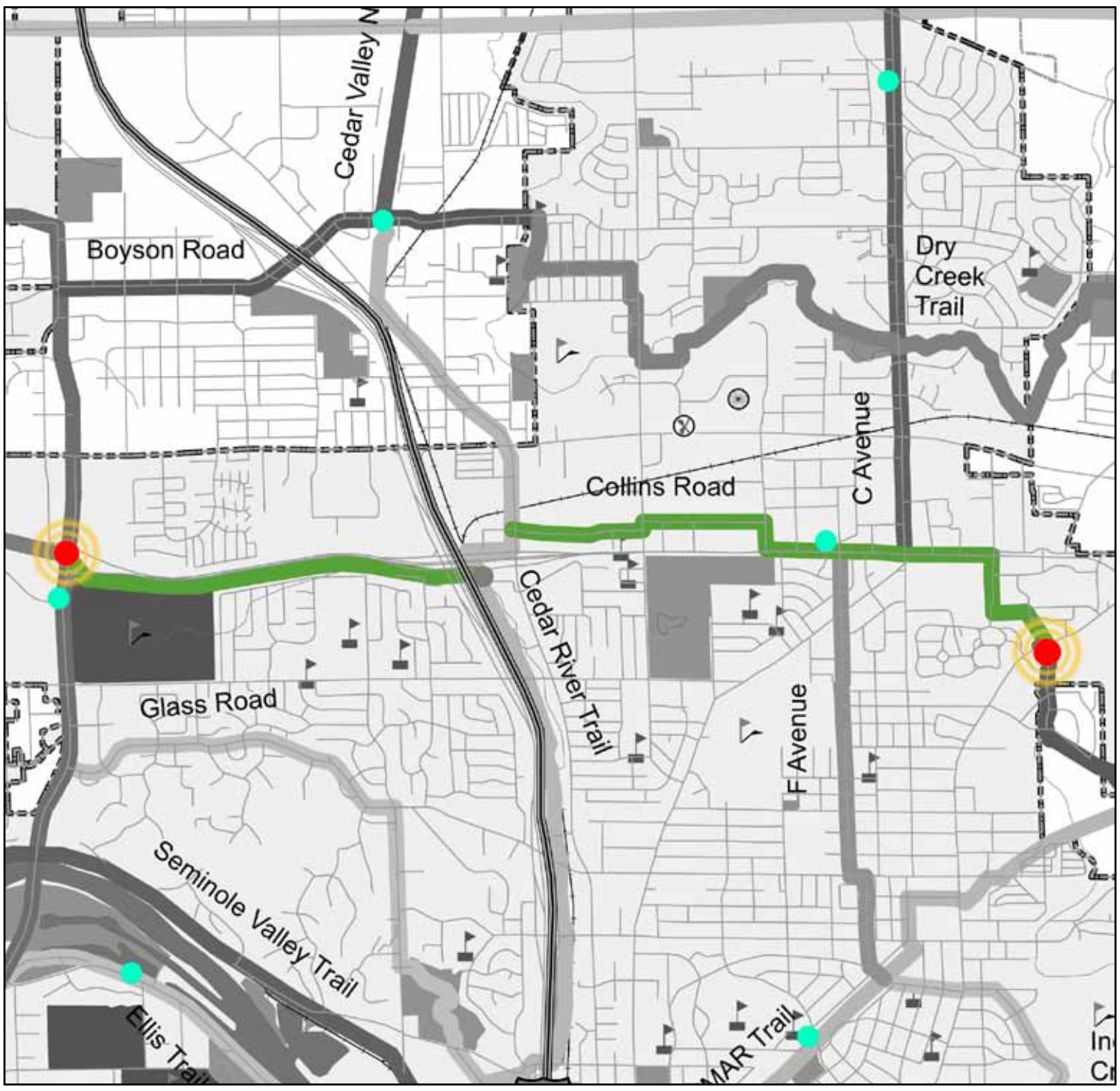
EXISTING		
1	On-Road or Separated Trail	Separated Trail
2	Segment Length (Mile)	4.1 miles
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	40', 44', 60', 68', 100'
5	Number of Traffic Lanes incl. Center Left Turn	2-5 Traffic lanes
6	Right of Way	50', 60', 140'
7	Curb & Gutter	Yes; varies
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

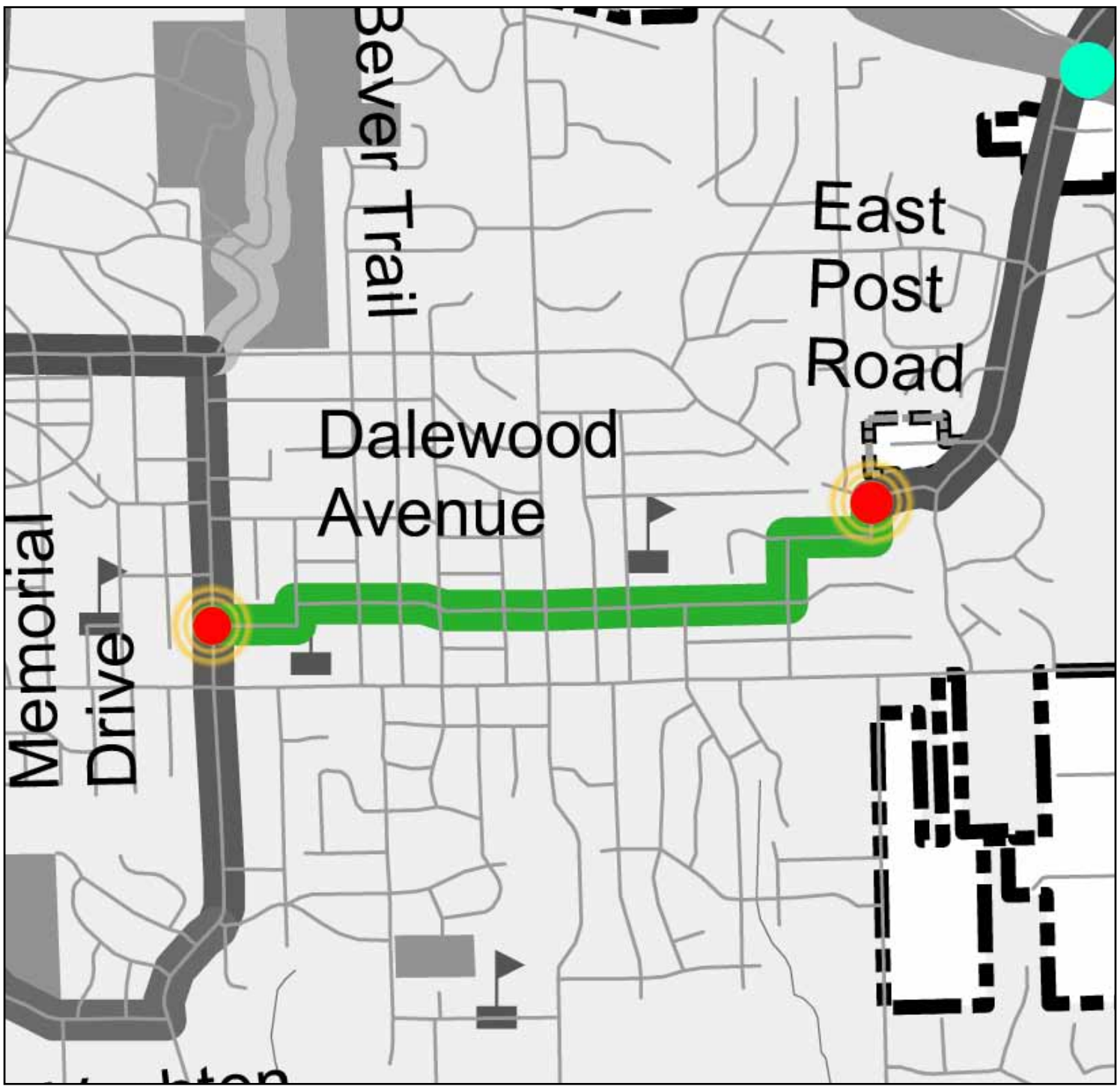
EXISTING		
1	On-Road or Separated Trail	On Road
2	Segment Length (Mile)	1.2 miles
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	34'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way	50', 60', 70',
7	Curb & Gutter	Yes
8	Paved Shoulder	None
9	On-Street Parking	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

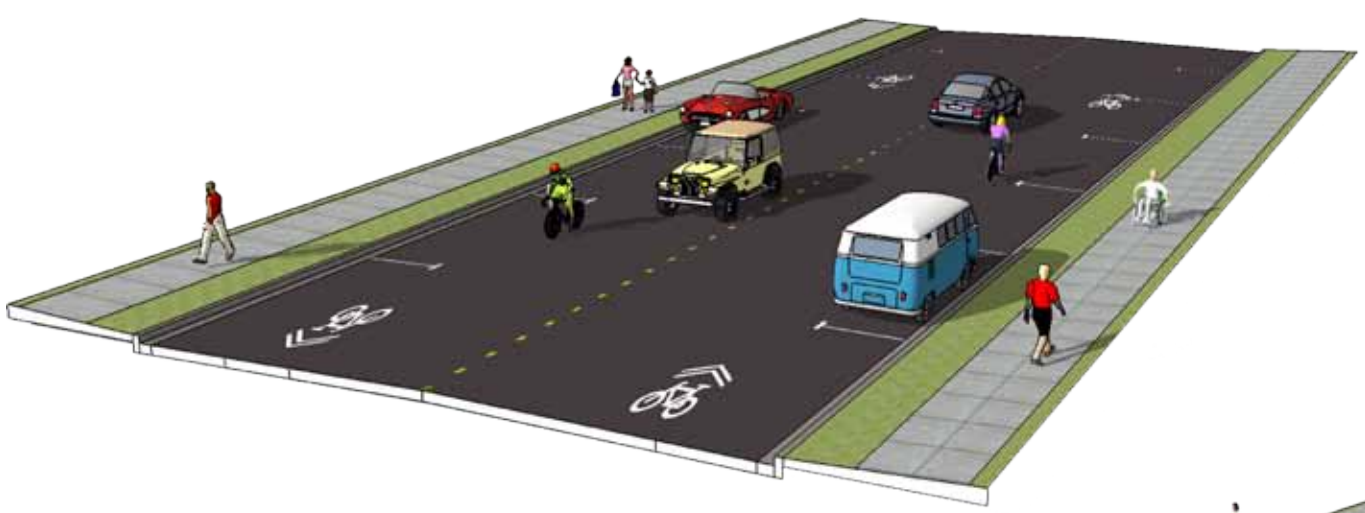
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	64	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	132	$30,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

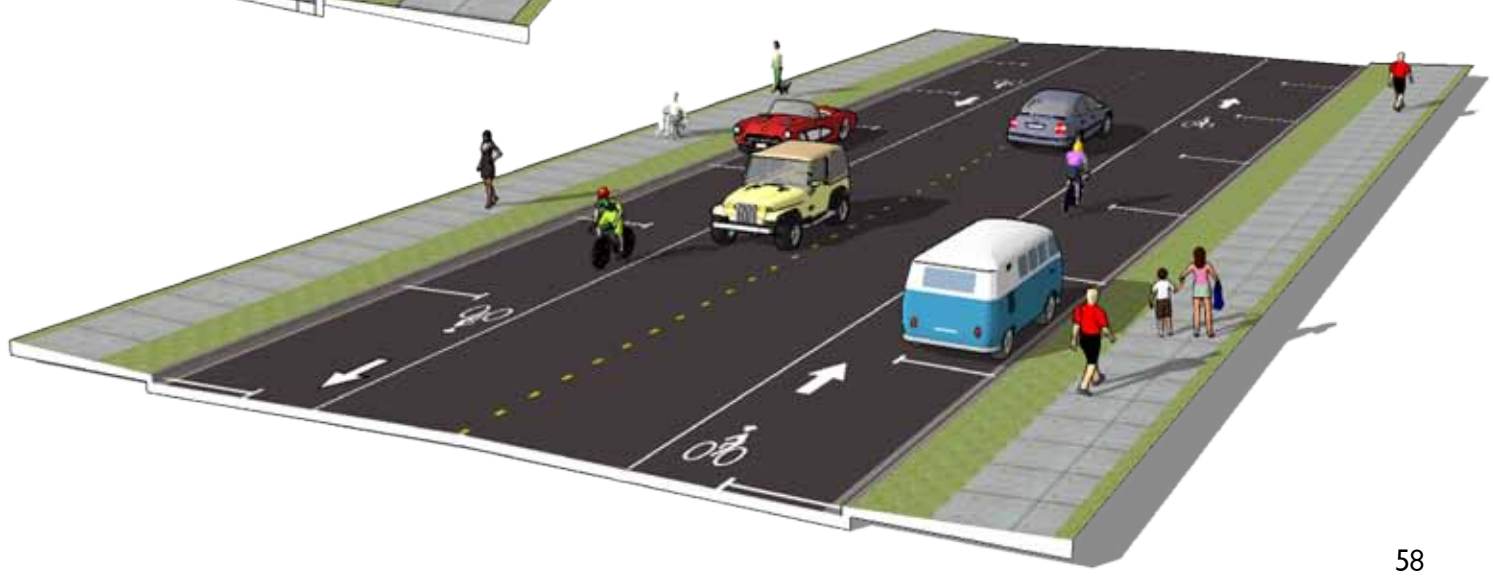
ANNUAL MAINTENANCE COST	UNIT	UNIT COST	QTY	EXTENDED COST
	Mile	$16,000.00	1.2	$19,200.00

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

DALEWOOD AVENUE SEGMENT







DRY CREEK TRAIL SEGMENT

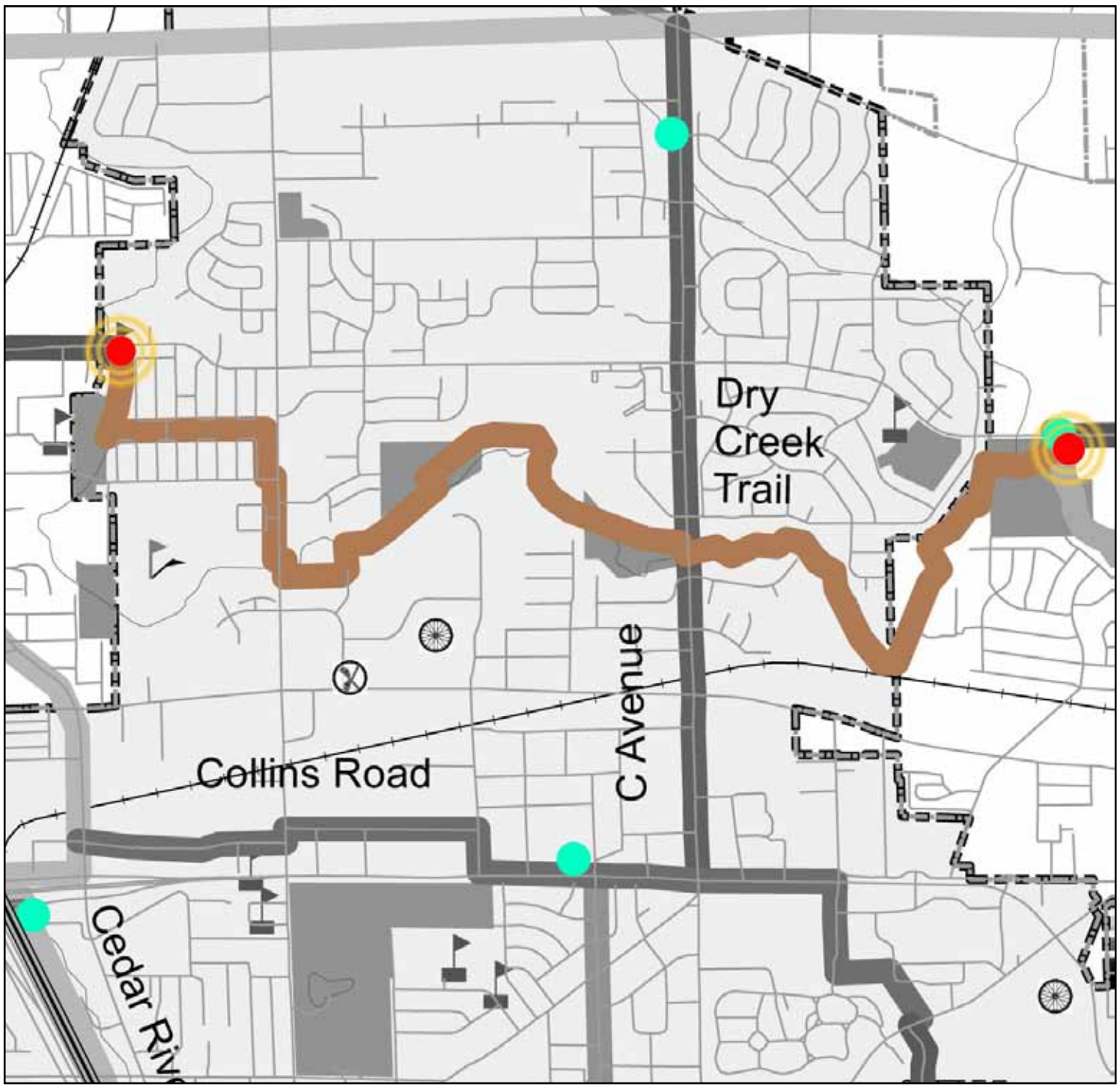
EXISTING		
1	On-Road or Separated Trail	Separated Trail
2	Segment Length (Mile)	3.9 miles
3	Roadway Classification	None
4	Total Pavement Width (Feet)	None
5	Number of Traffic Lanes incl. Center Left Turn	None
6	Right of Way	None
7	Curb & Gutter	None
8	Paved Shoulder	None
9	On-Street Parking	None
10	Adjacent 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

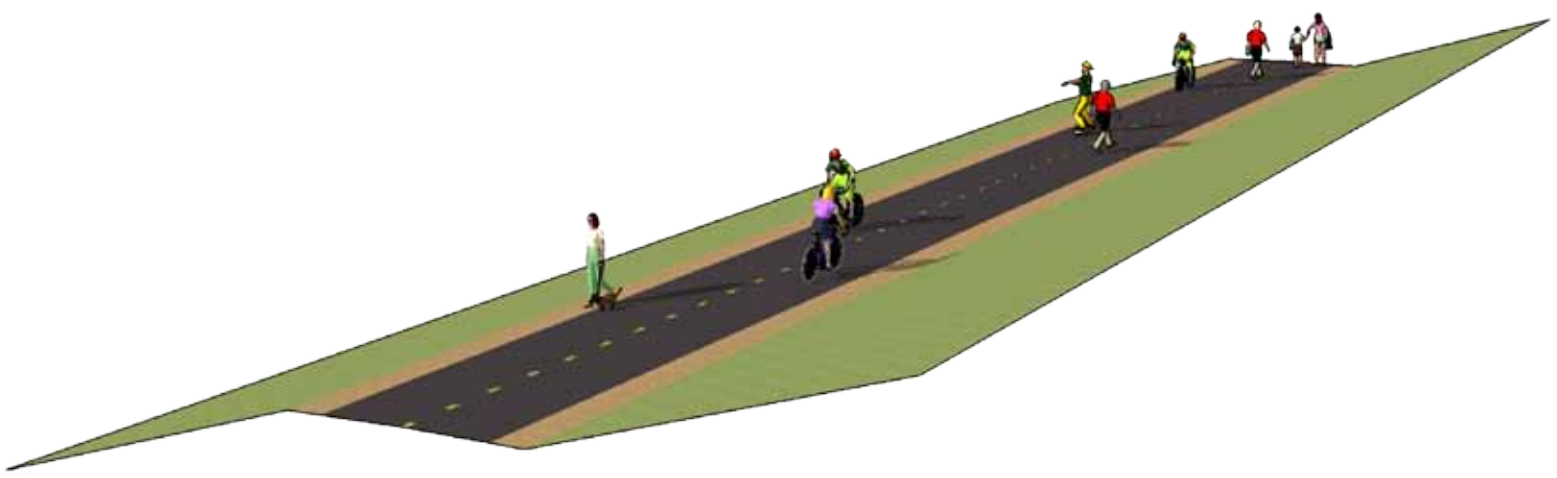
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	412	$85,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	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

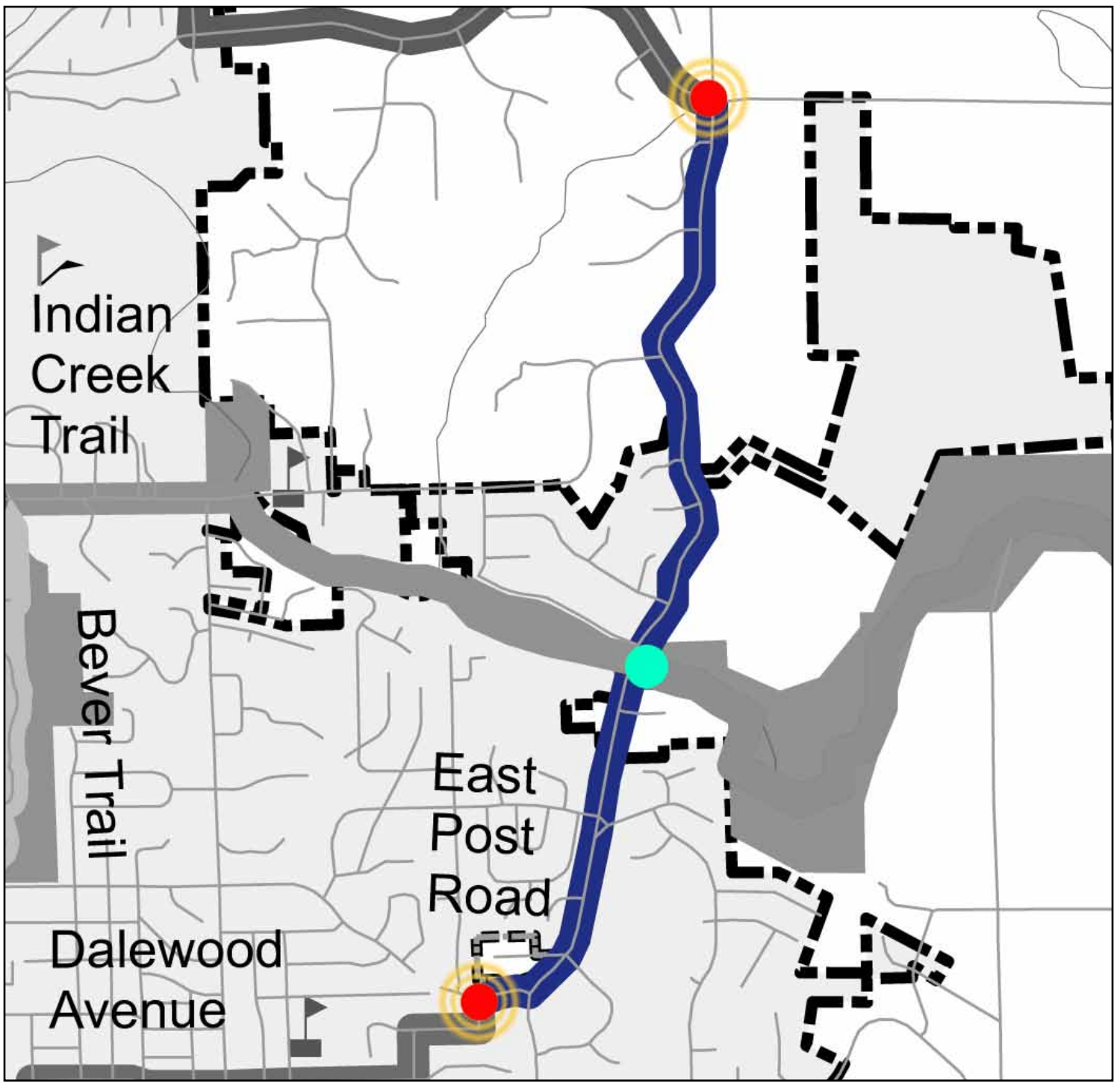
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	1.9 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	40', 24'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way	90', 80', 75'
7	Curb & Gutter	Yes, southern portion
8	Paved Shoulder	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

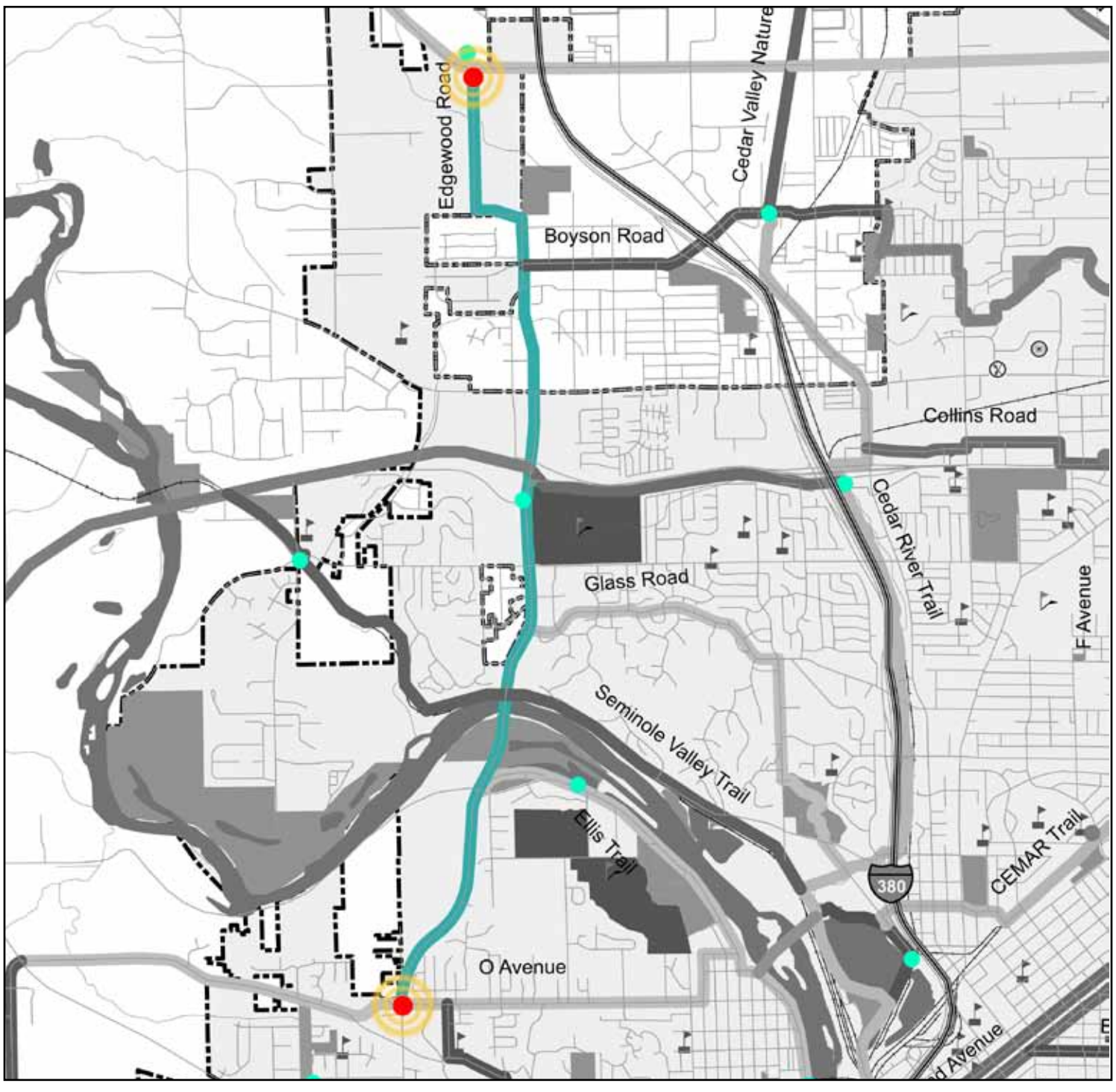
EXISTING		
1	On-Road or Separated Trail	Combination
2	Segment Length (Mile)	5.1 mi
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	North Segment: 24', 64' (inc. 10' median)
5	Number of Traffic Lanes incl. Center Left Turn	2-5 Traffic lanes
6	Right of Way	65', 100', 115', 140'
7	Curb & 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

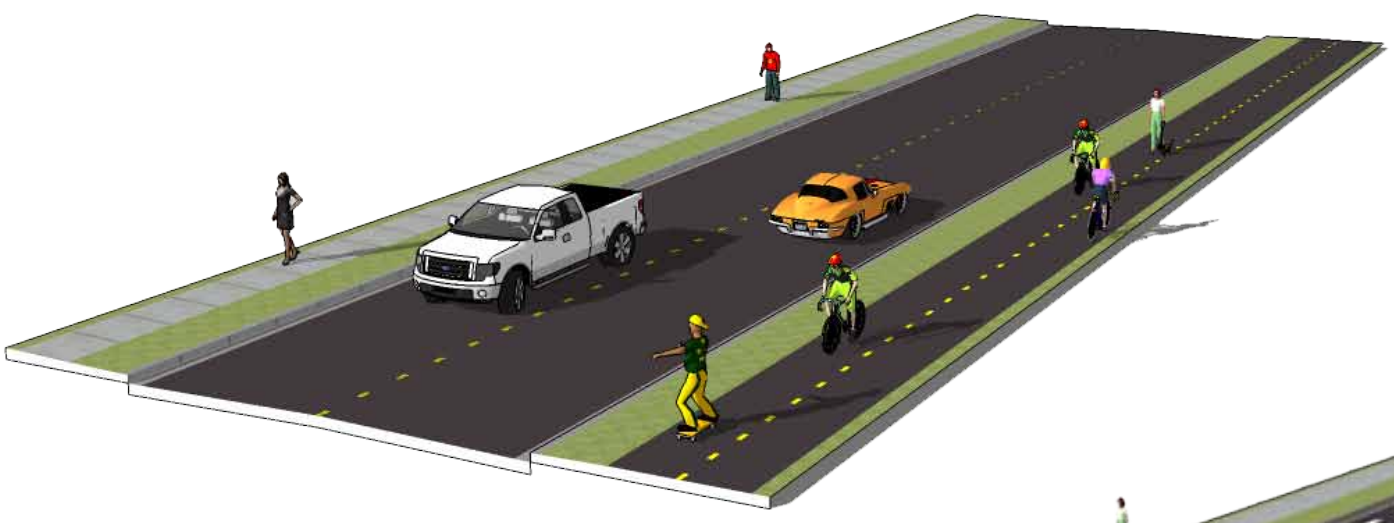
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	269	$15,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	539	$110,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

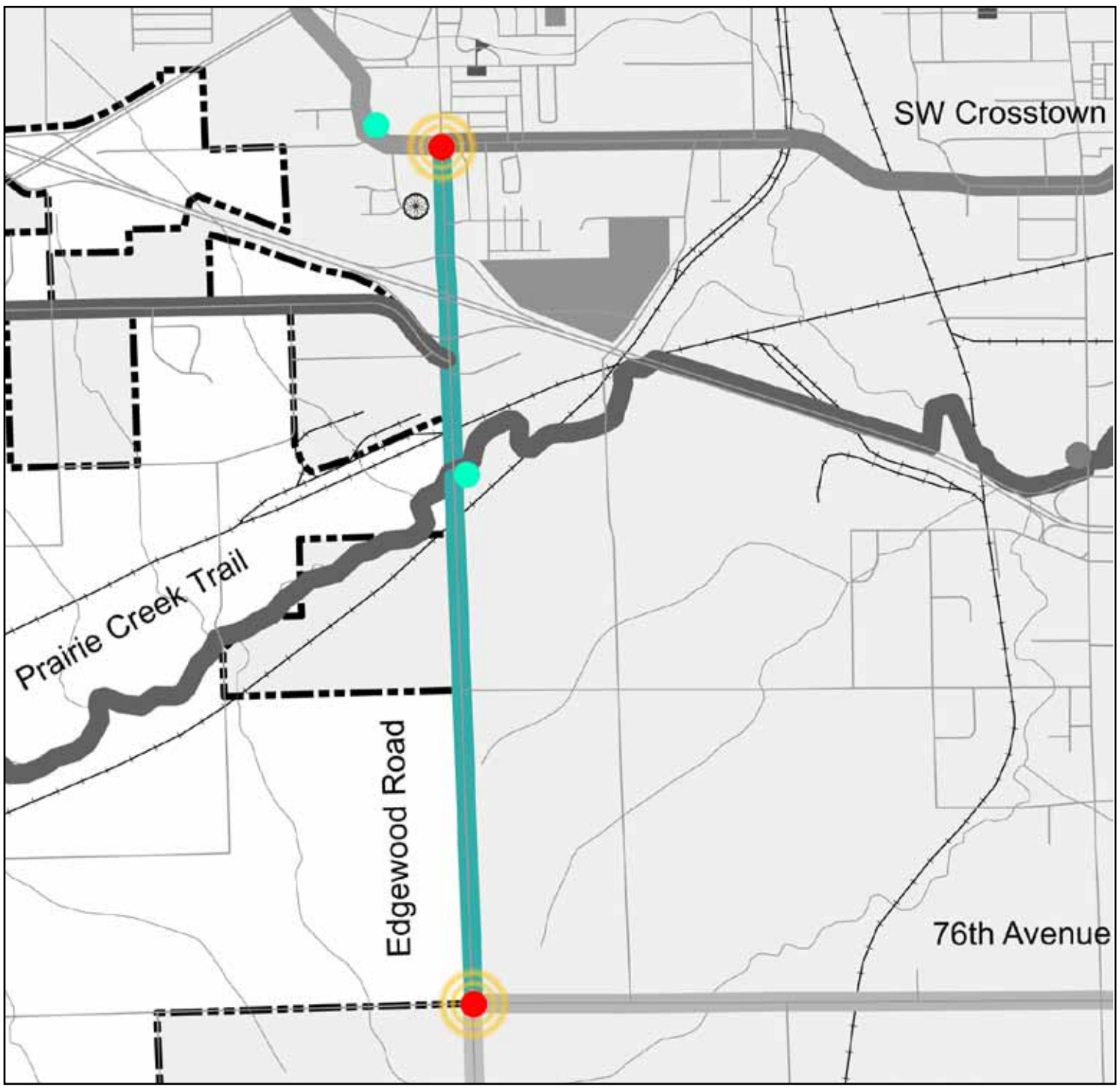
EXISTING		
1	On-Road or Separated Trail	Combination
2	Segment Length (Mile)	2.8 mi
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	South Segment: 76'
5	Number of Traffic Lanes incl. Center Left Turn	2-5 Traffic lanes
6	Right of Way	65', 100', 115', 140'
7	Curb & Gutter (Inches)	None
8	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

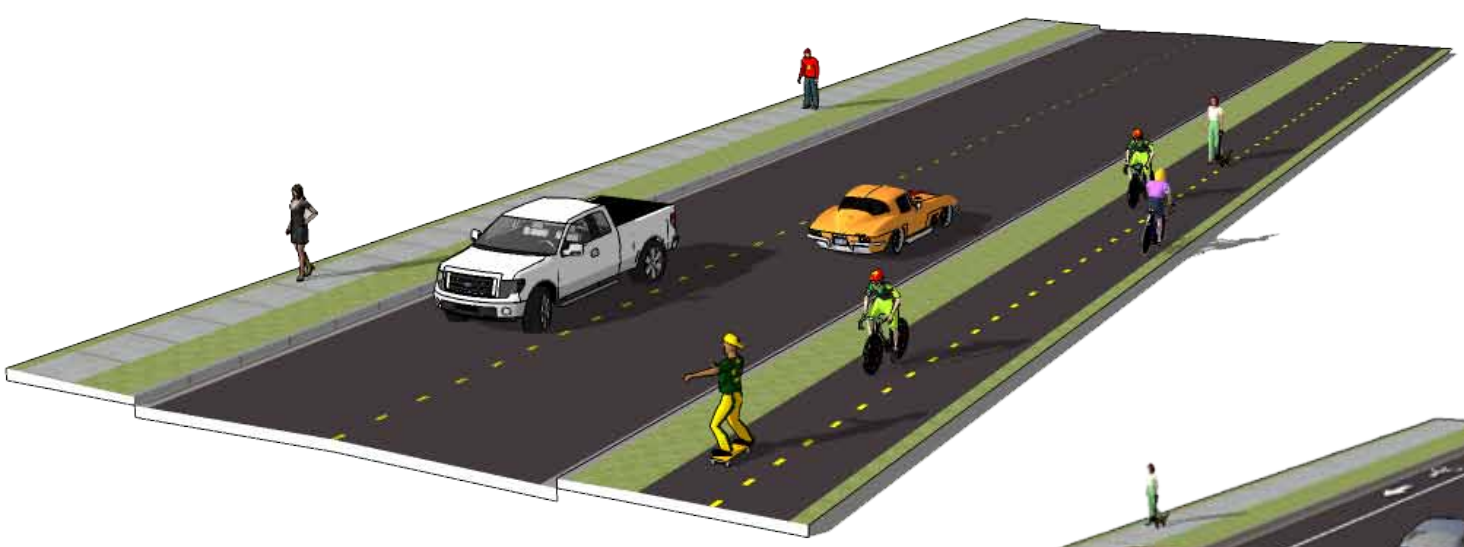
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	148	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	296	$60,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

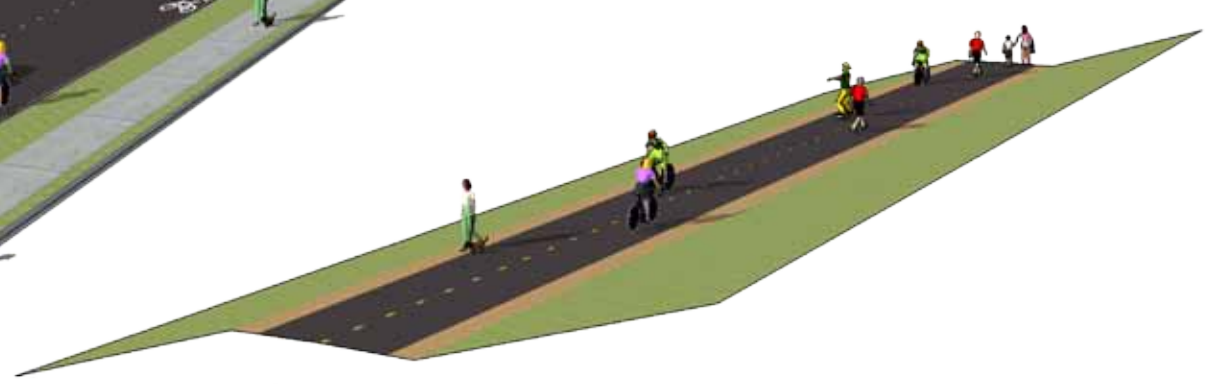
EXISTING		
1	On- or Separated Trail	Combination
2	Segment Length (Mile)	2.9 miles in process, 4.4 miles total
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	24'
5	Number of Traffic Lanes incl. Center Left Turn	2
6	Right of Way	66', 80'
7	Curb & Gutter	none
8	Paved Shoulder	none
9	On-Street 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

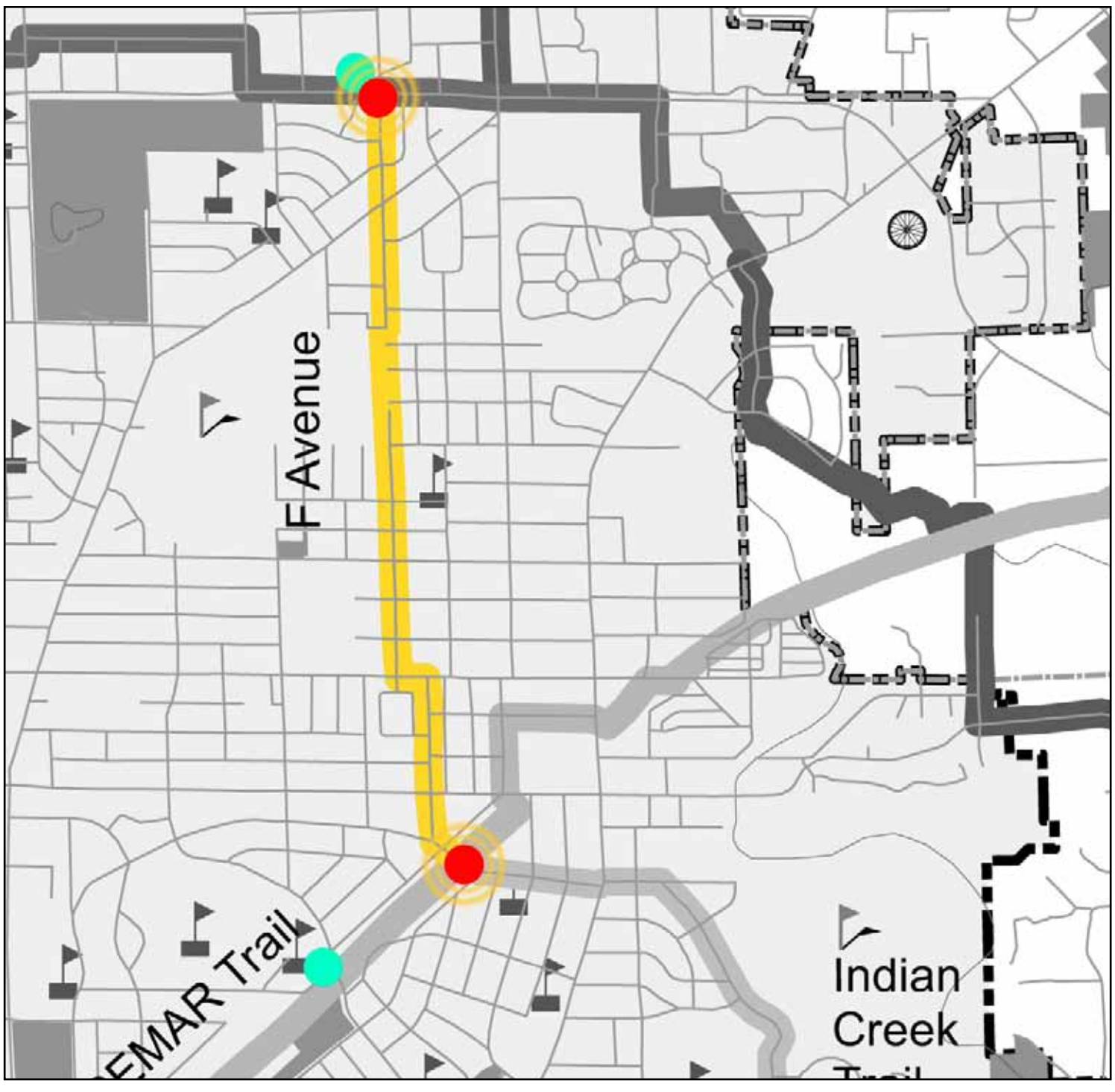
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	1.8 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	32' & 44'
5	Number of Traffic Lanes incl. Center Left Turn	2 - 3 Traffic Lanes
6	Right of Way	60'
7	Curb & Gutter	None
8	Paved Shoulder	None
9	On-Street Parking	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

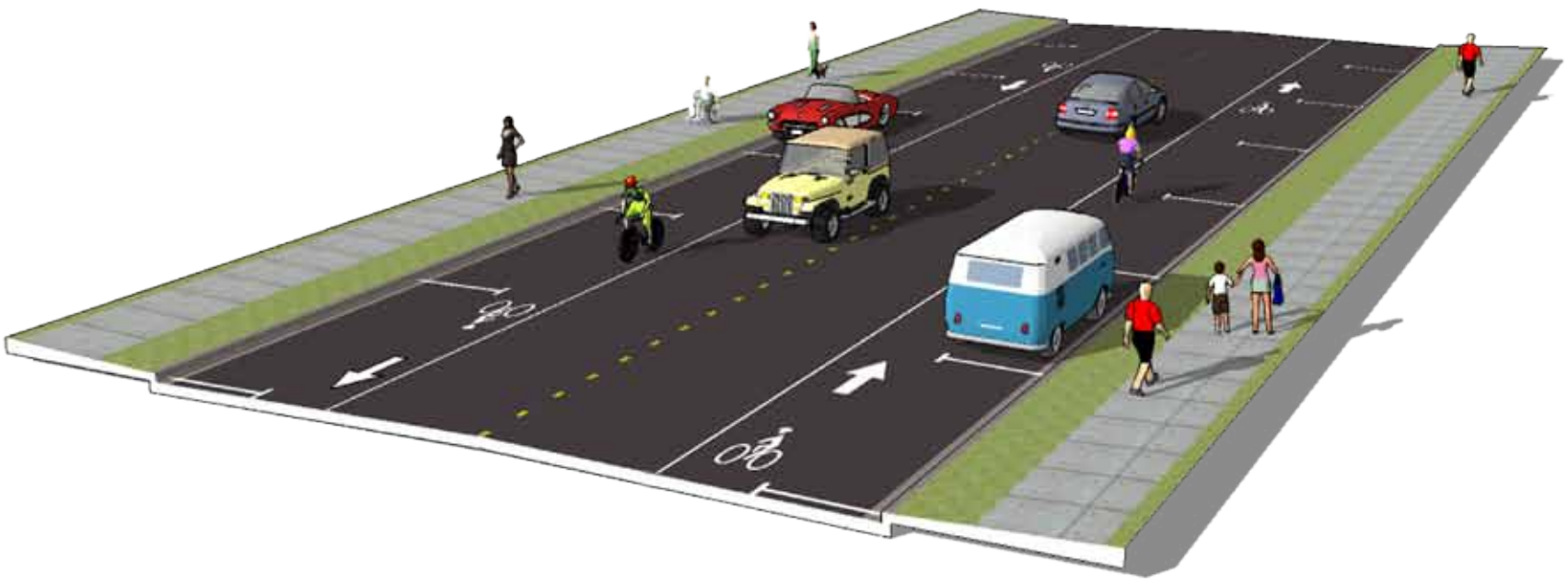
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	95	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	190	$40,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

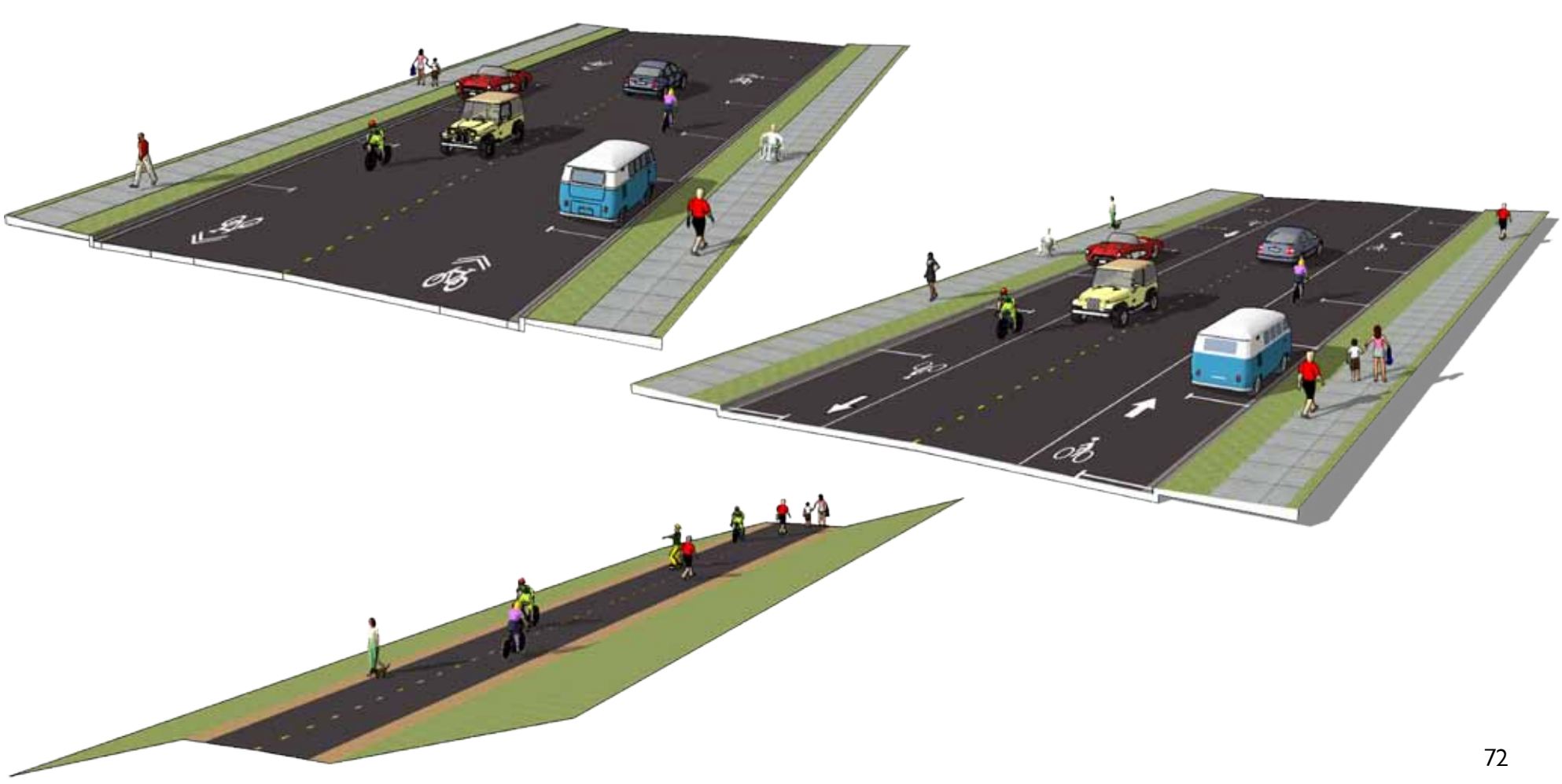
EXISTING		
1	On-Road or Separated Trail	Combination
2	Segment Length (Mile)	2.7 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	27', 32', 36'
5	Number of Traffic Lanes incl. Center Left Turn	2
6	Right of Way	44', 60', 80'
7	Curb & Gutter	Yes
8	Paved Shoulder	None
9	On-Street Parking	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

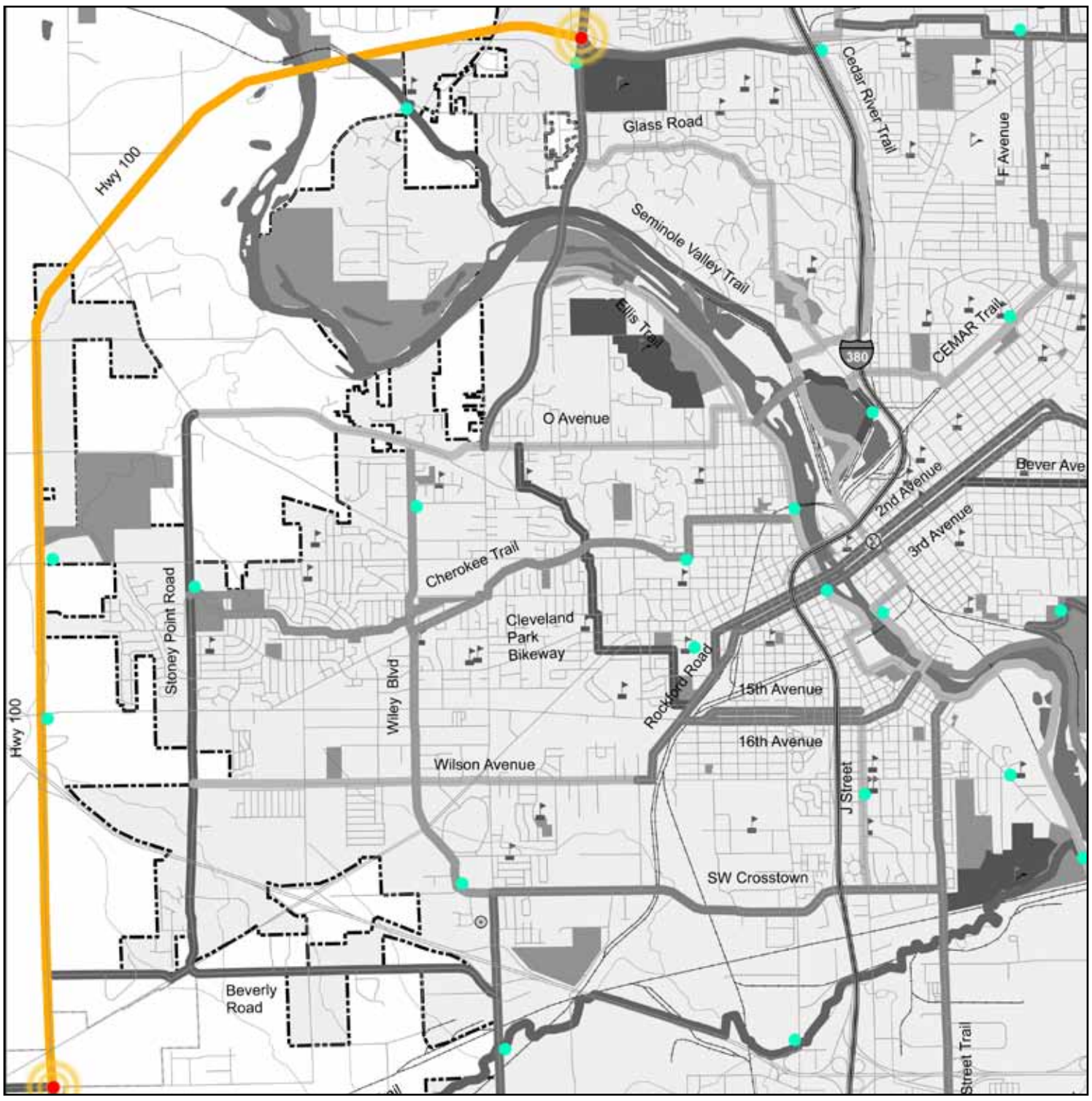
EXISTING		
1	On-Road or Separated Trail	Separated
2	Segment Length (Mile)	9.5
3	Roadway Classification	Major Arterial
4	Total Pavement Width (Feet)	NA
5	Number of Traffic Lanes incl. Center Left Turn	NA
6	None	NA
7	Curb & Gutter	NA
8	Paved Shoulder	NA
9	On-Street Parking	None
10	Adjacent Sidewalk	NA
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

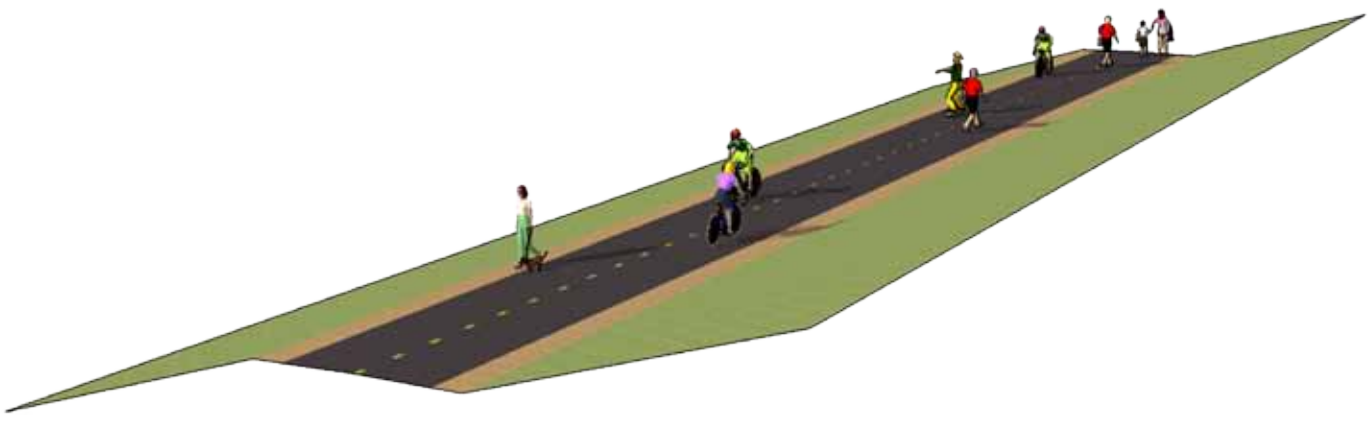
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Striping	Each	$20.00	264	$5,280.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	0	$0.00
4	Sidewalk repair and or New Sidewalk Construction	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

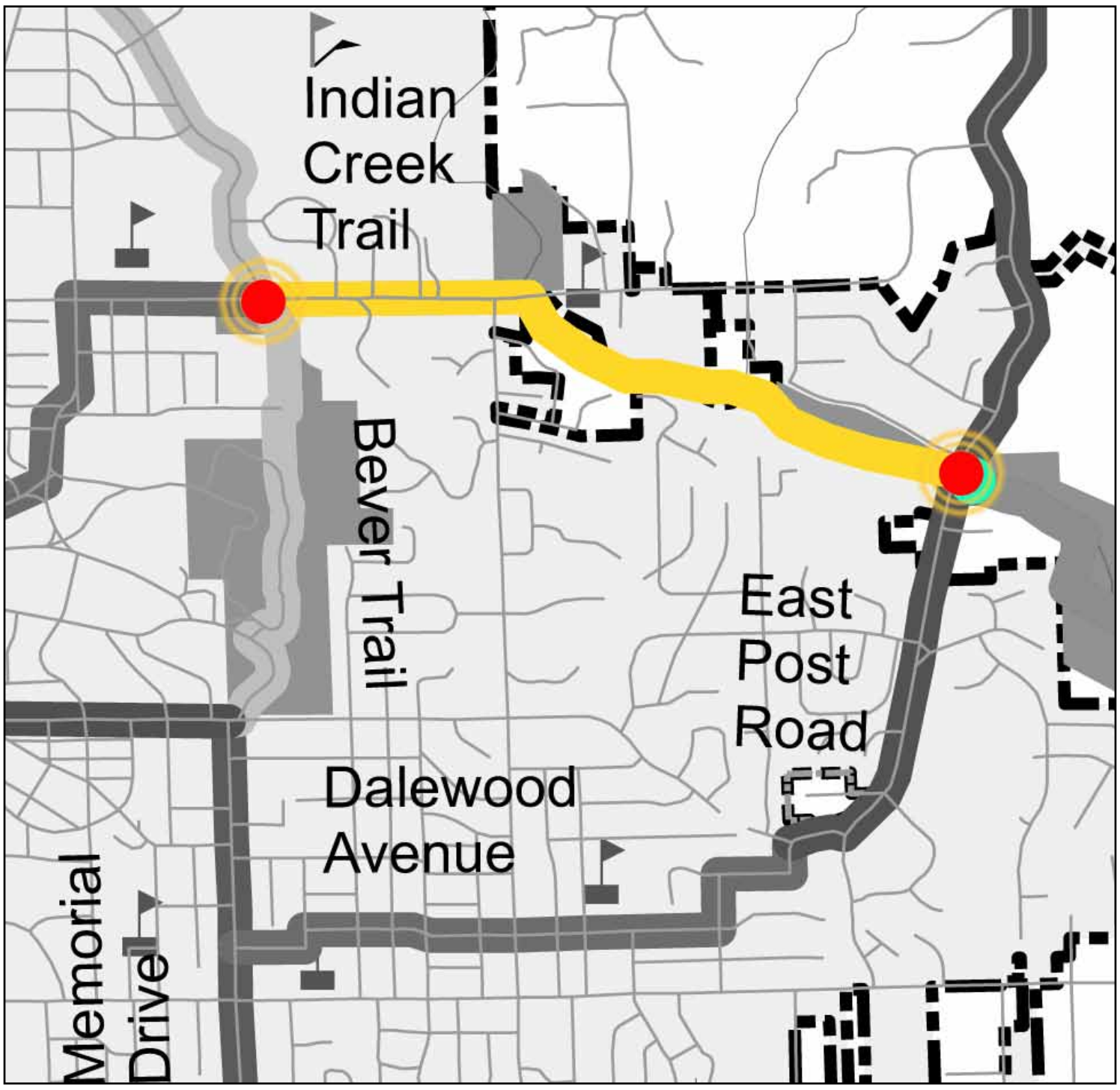
EXISTING		
1	On-Road or Separated Trail	On-Road & Separated Trail Combination
2	Segment Length (Mile)	.5 miles (on-road) & .9 miles (off-road) Total: 1.4 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	36'
5	Number of Traffic Lanes incl. Center Left Turn	2-3 Traffic lanes
6	Right 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

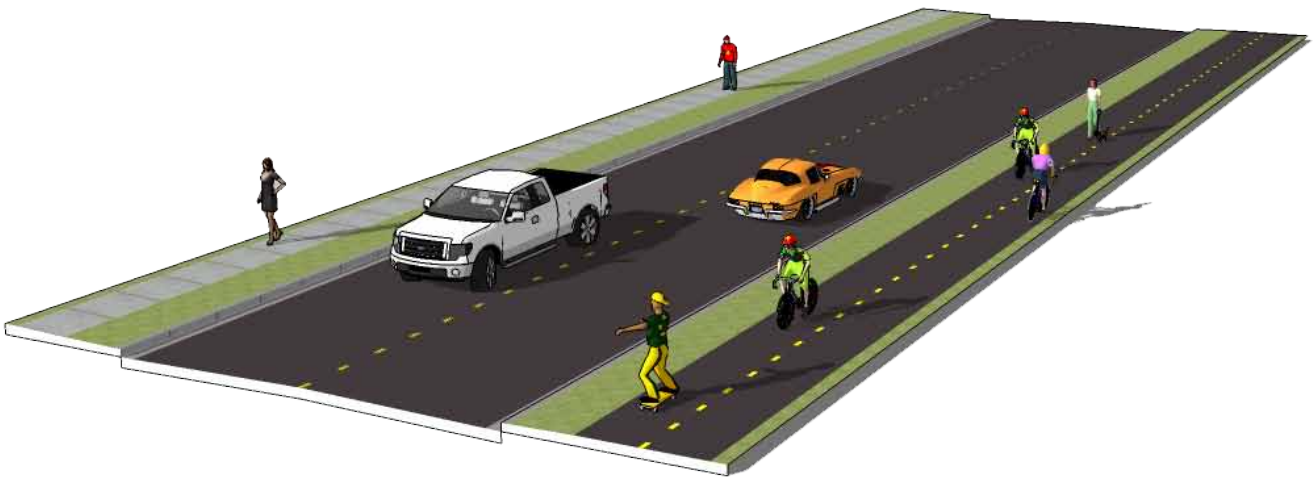
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	26	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	95	$20,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$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

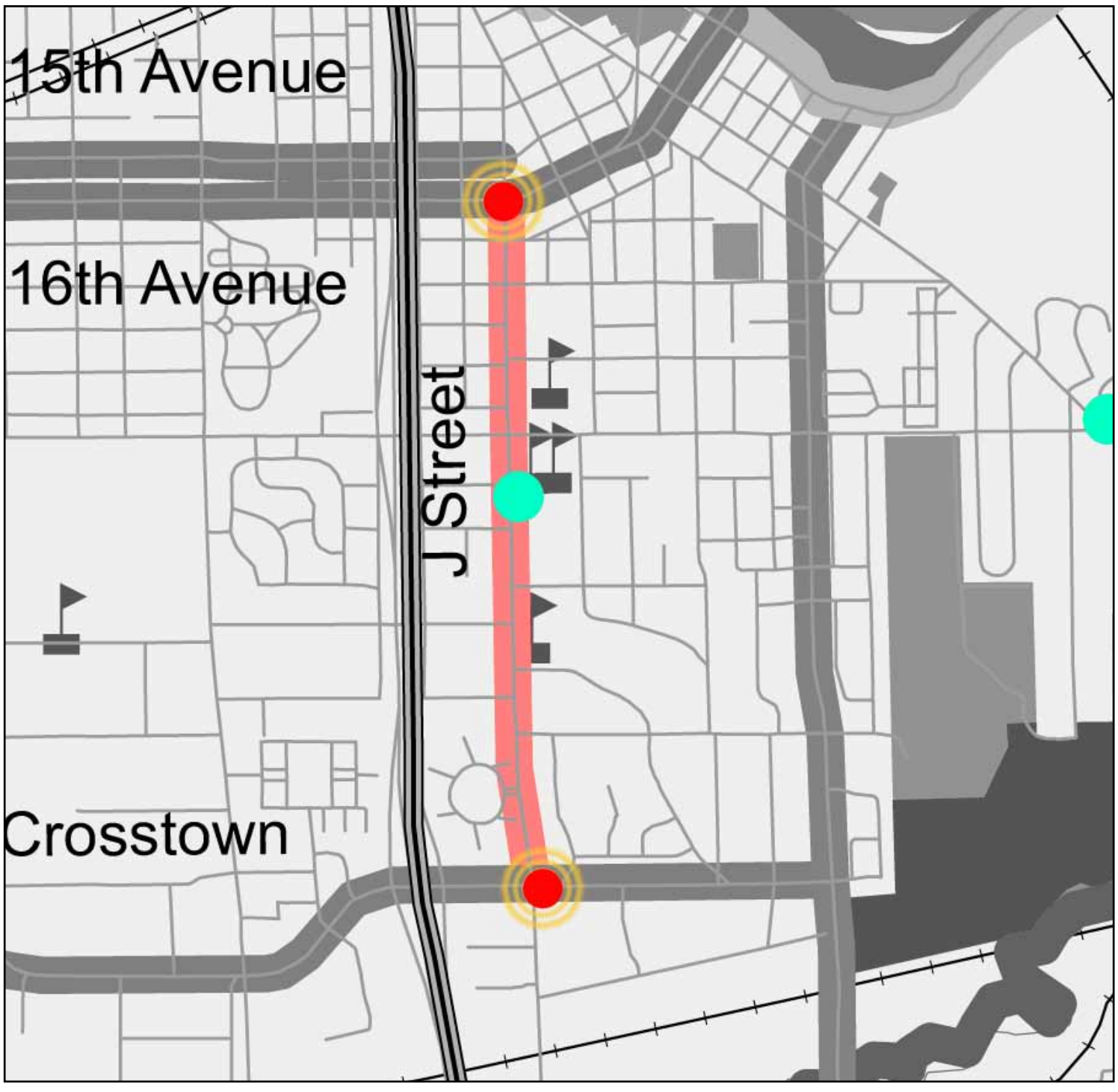
EXISTING		
1	On- or Separated Trail	On-Road
2	Segment Length (Mile)	1.1 miles
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	32',36'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way	70'
7	Curb & Gutter	
8	Paved Shoulder	None
9	On-Street Parking	Yes
10	Adjacent 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

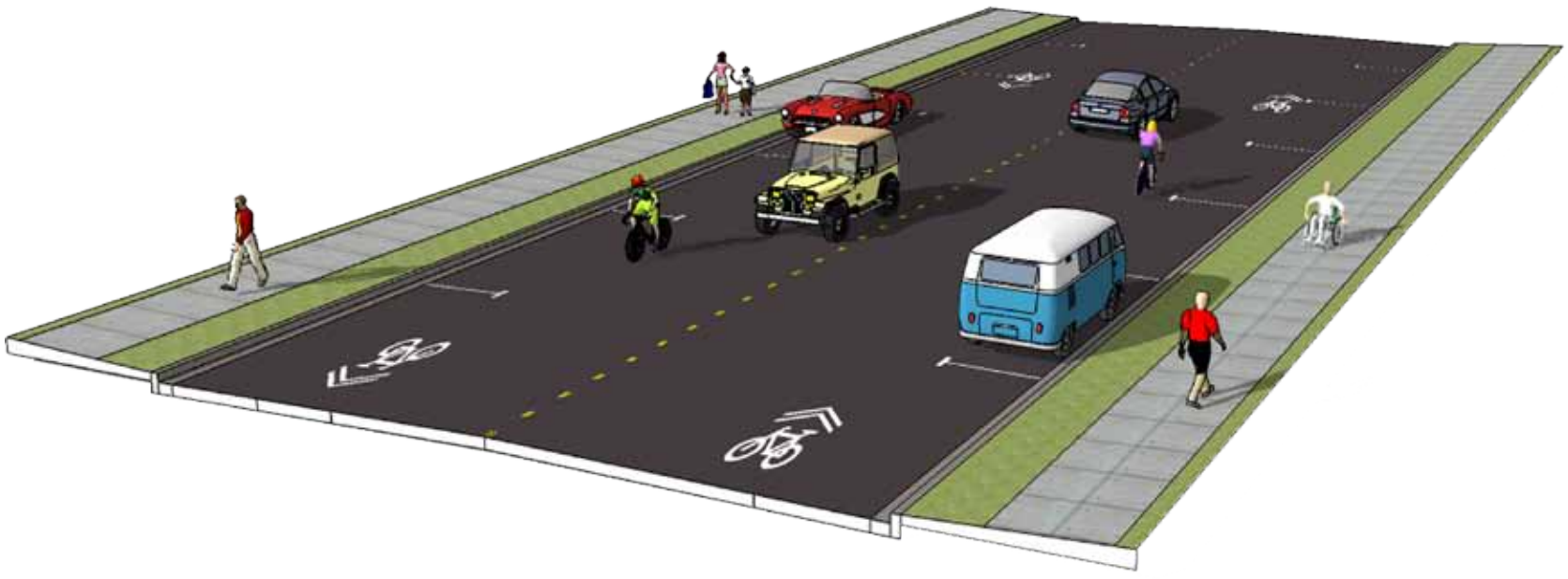
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	58	$15,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	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

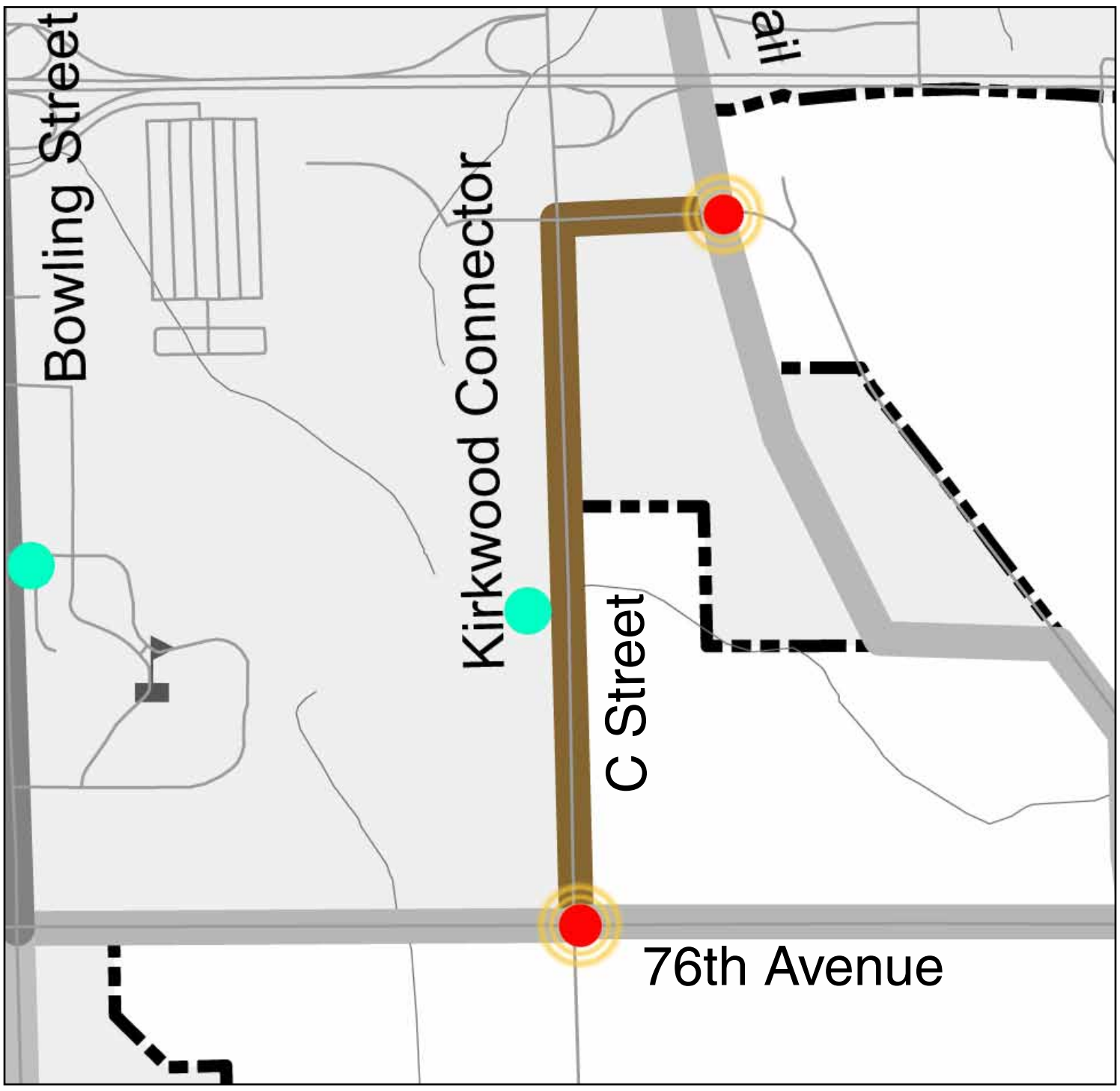
EXISTING		
1	On-Road or Separated Trail	Separated (In process)
2	Segment Length (Mile)	1.6 miles
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	35', 40', 50,' 70'
5	Number of Traffic Lanes incl. Center Left Turn	2-3 Traffic lanes
6	Right of Way	100'
7	Curb & Gutter (Inches)	None
8	Paved 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

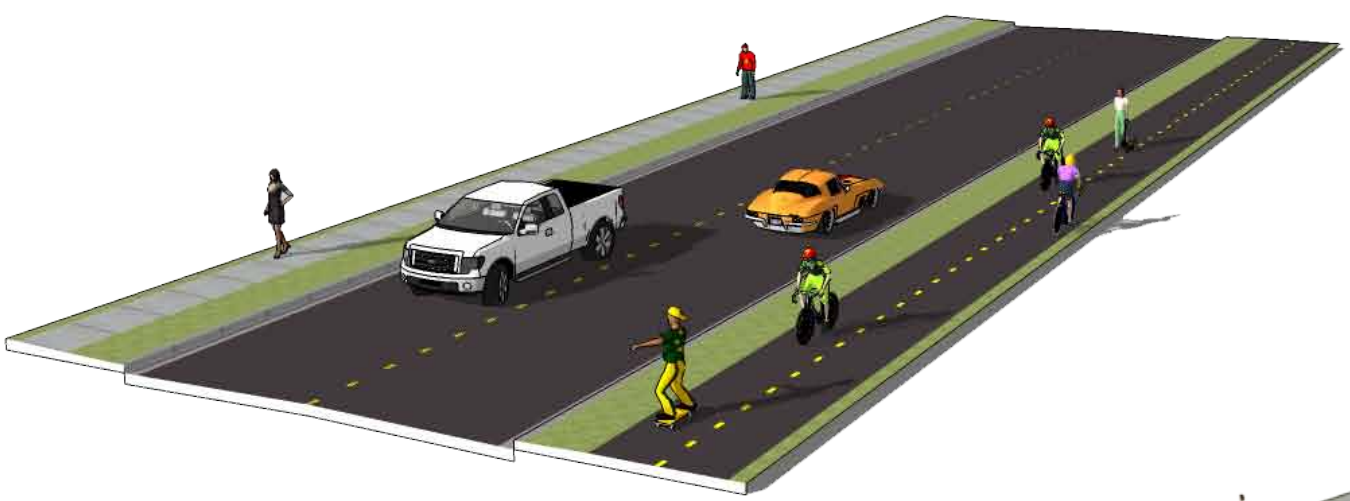
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	0	$0.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	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

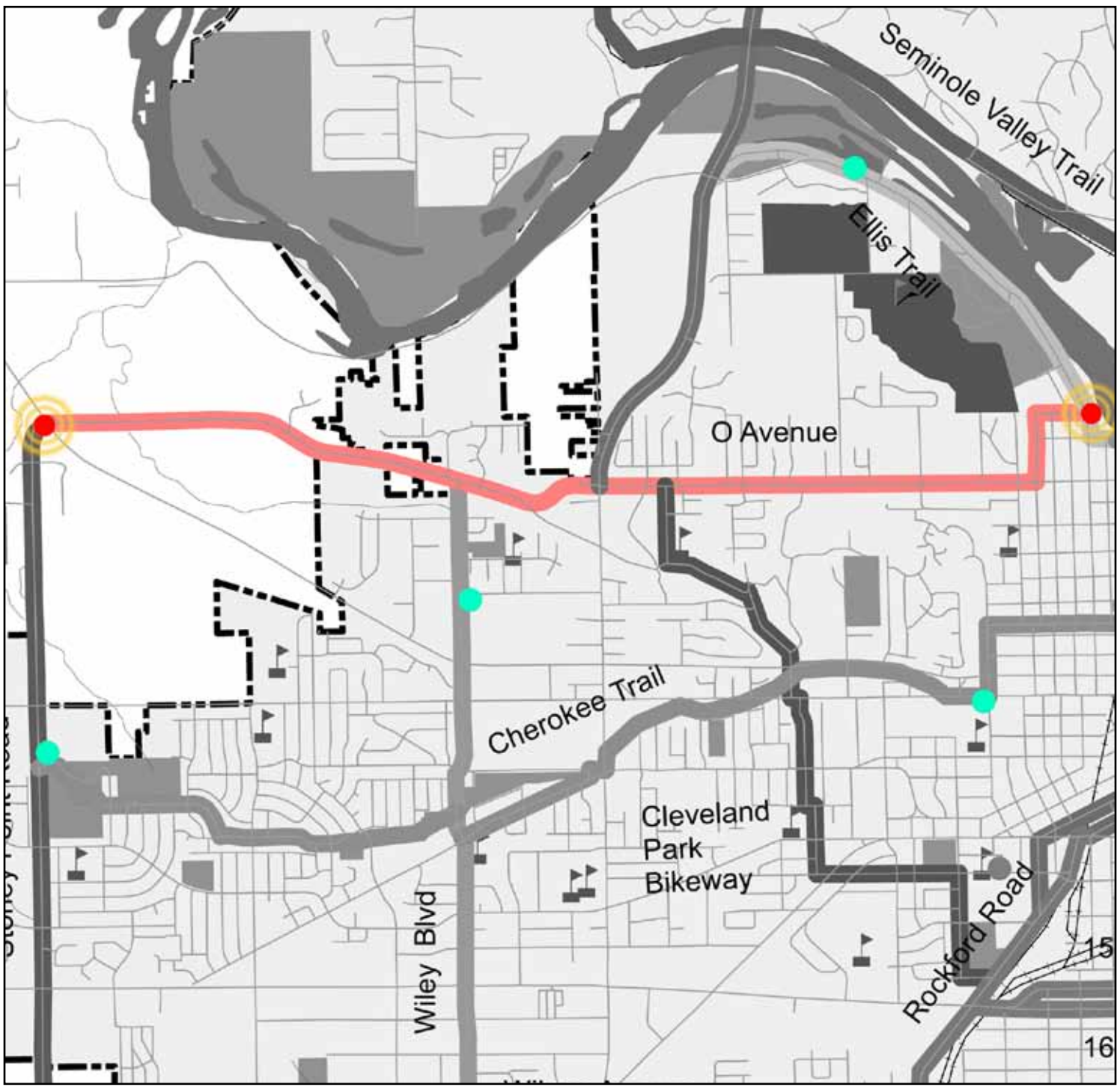
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	3.9 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	32', 45', 40'
5	Number of Traffic Lanes incl. Center Left Turn	2-3 Traffic lanes
6	Right of Way	60', 66', 72', 80'
7	Curb & Gutter	Yes; East residential segment
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

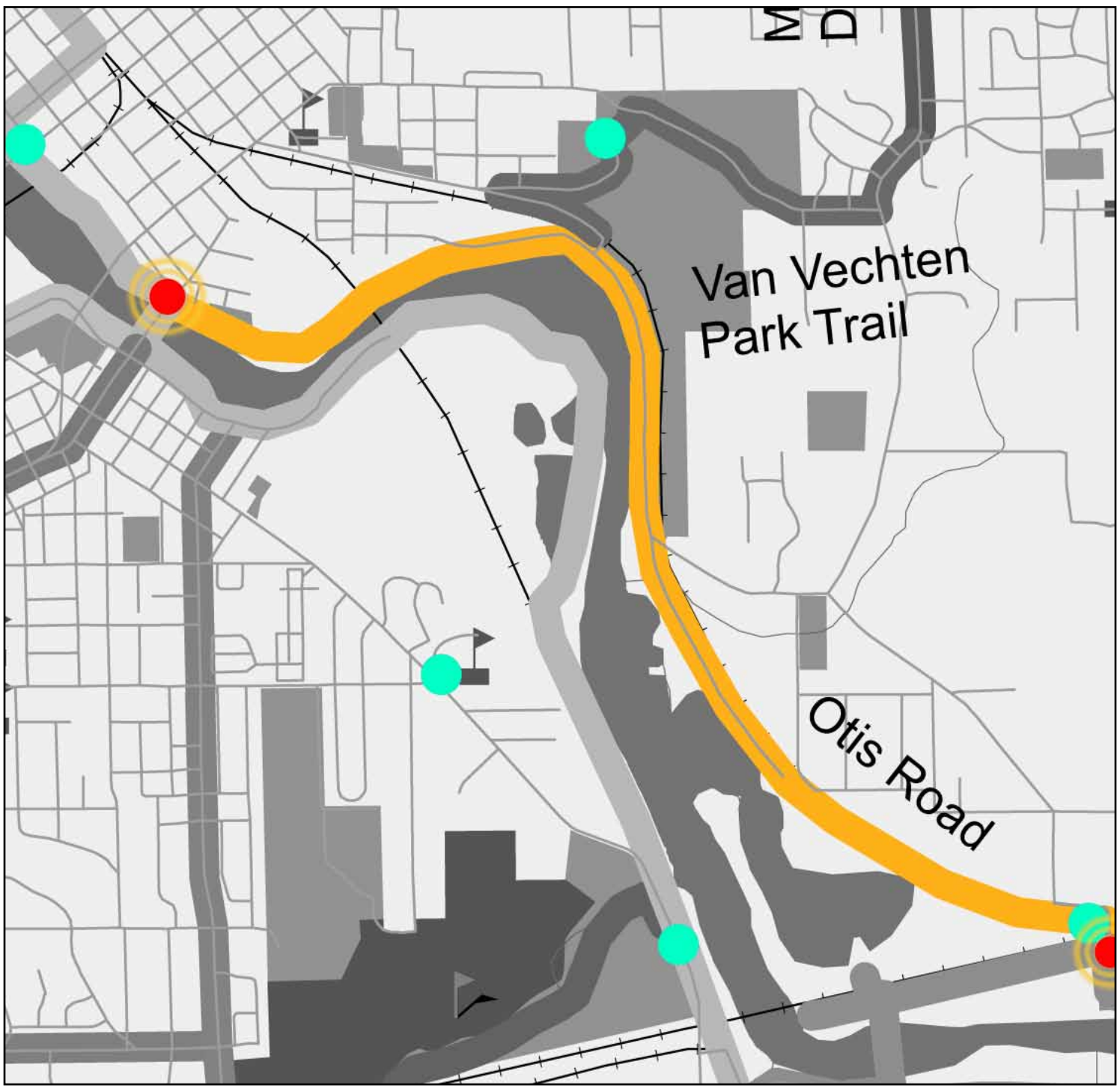
EXISTING		
1	On-Road or Separated Trail	On-Road/Separated
2	Segment Length (Mile)	3 miles
3	Roadway Classification	Rural
4	Total Pavement Width (Feet)	28'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic Lanes
6	Right of Way (Feet)	100', 120', 130'
7	Curb & Gutter	None
8	Paved Shoulder	Yes; 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

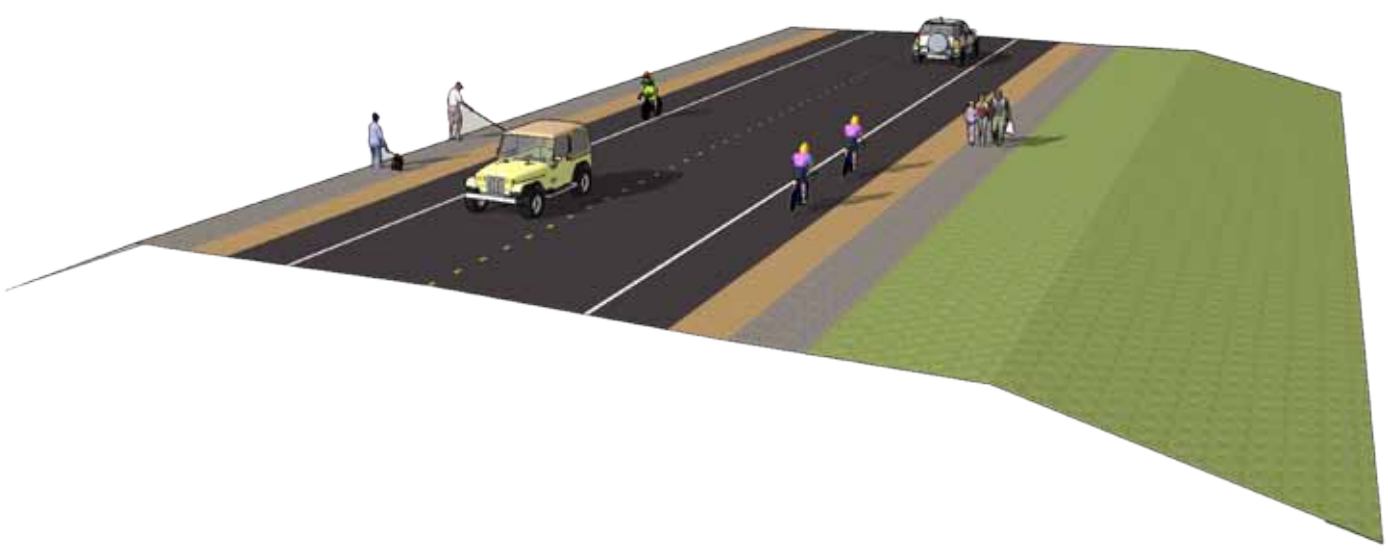
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	95	$3,800.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	95	$19,008.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$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

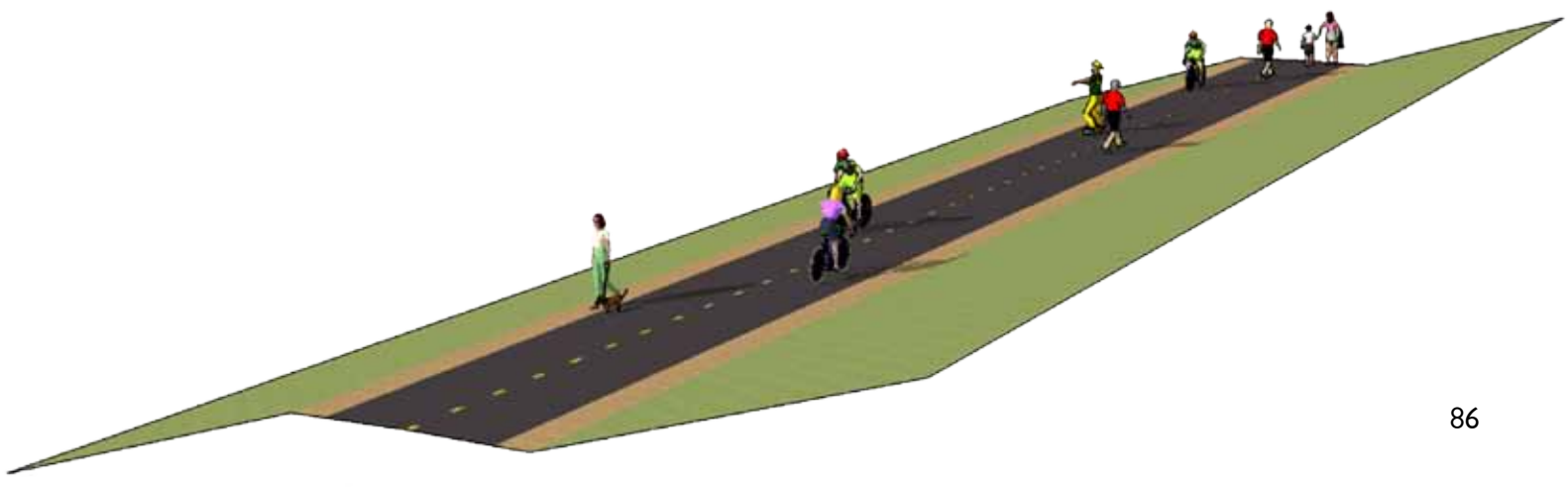
ANNUAL MAINTENANCE COST	UNIT	UNIT COST	QTY	EXTENDED COST
	Mile	$16,000.00	3	$48,000.00

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

OTIS ROAD SEGMENT







PRAIRIE CREEK TRAIL SEGMENT

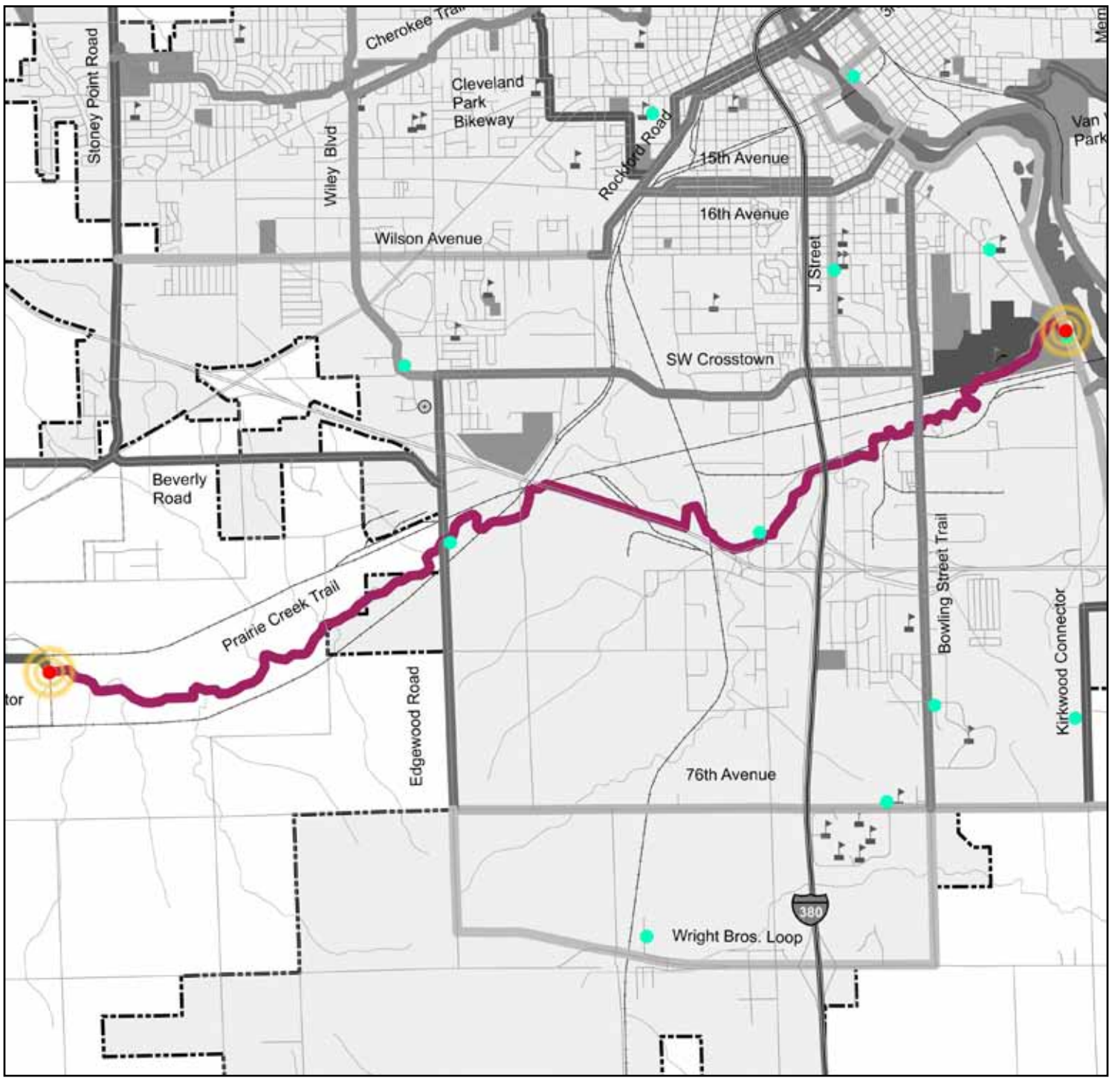
EXISTING		
1	On-Road or Separated Trail	Separated
2	Segment Length (Mile)	6.6 miles in Cedar Rapids 2.2 Other Jurisdiction
3	Roadway Classification	None
4	Total Pavement Width (Feet)	None
5	Number of Traffic Lanes incl. Center Left Turn	None
6	Right of Way	None
7	Curb & Gutter	None
8	Paved Shoulder	None
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

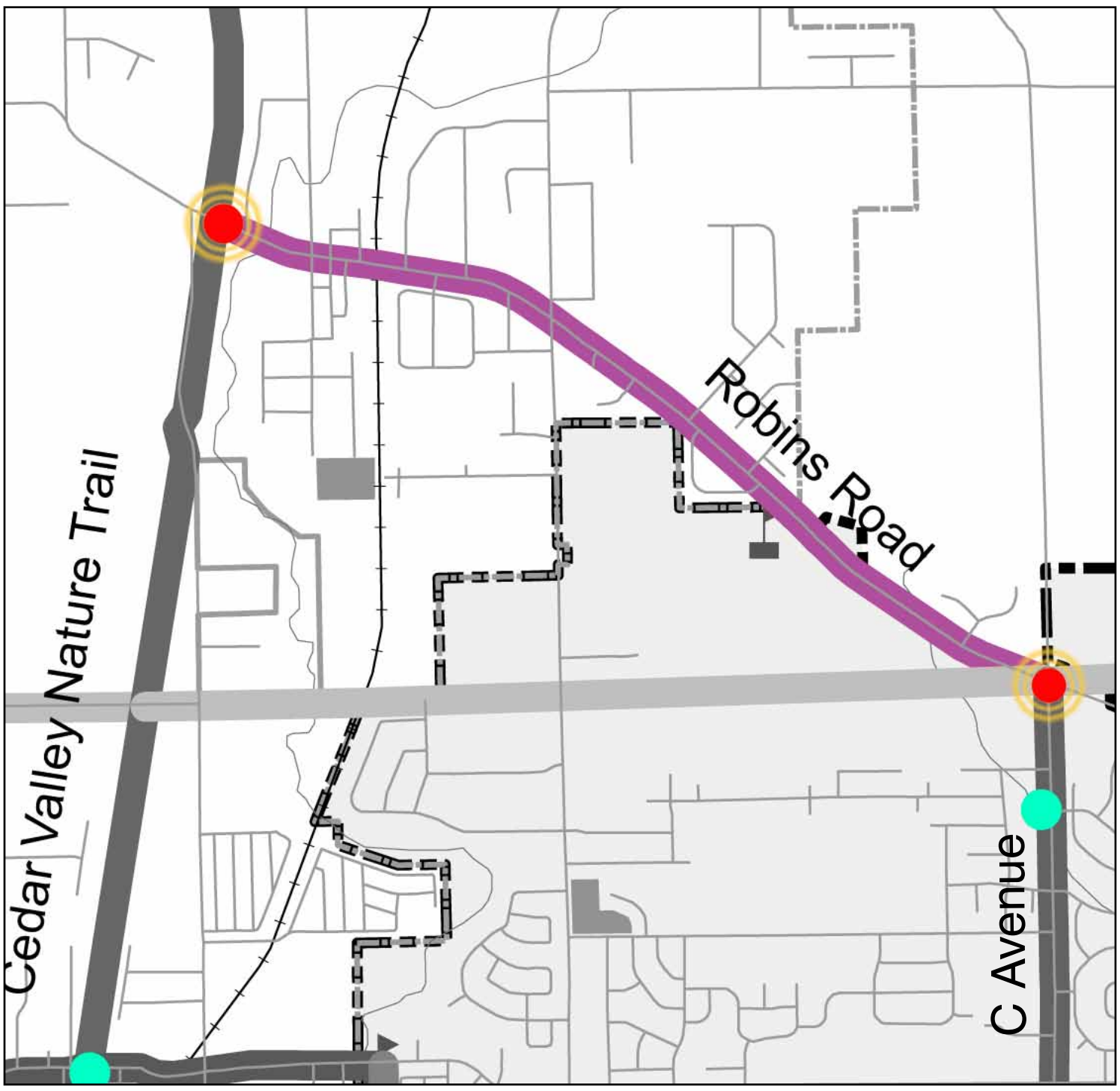
EXISTING		
1	On- or Separated Trail	On-Road
2	Segment Length (Mile)	.6 miles in Cedar Rapids 1.4 mile existing; 2 miles total
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	24', 28'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way	66', 80', 100'
7	Curb & 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

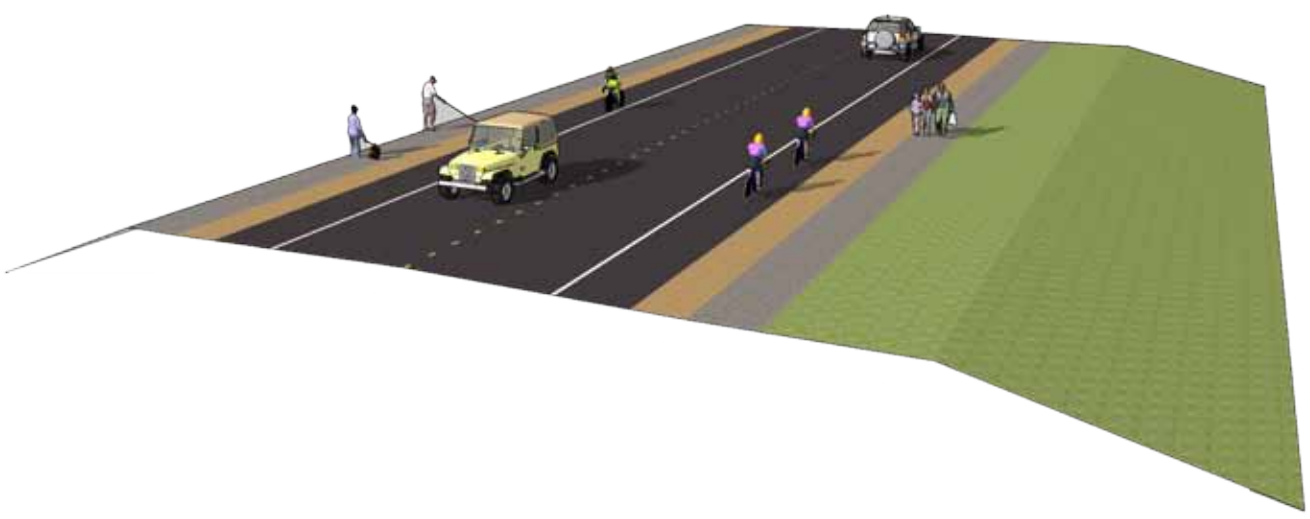
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	32	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	63	$15,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$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

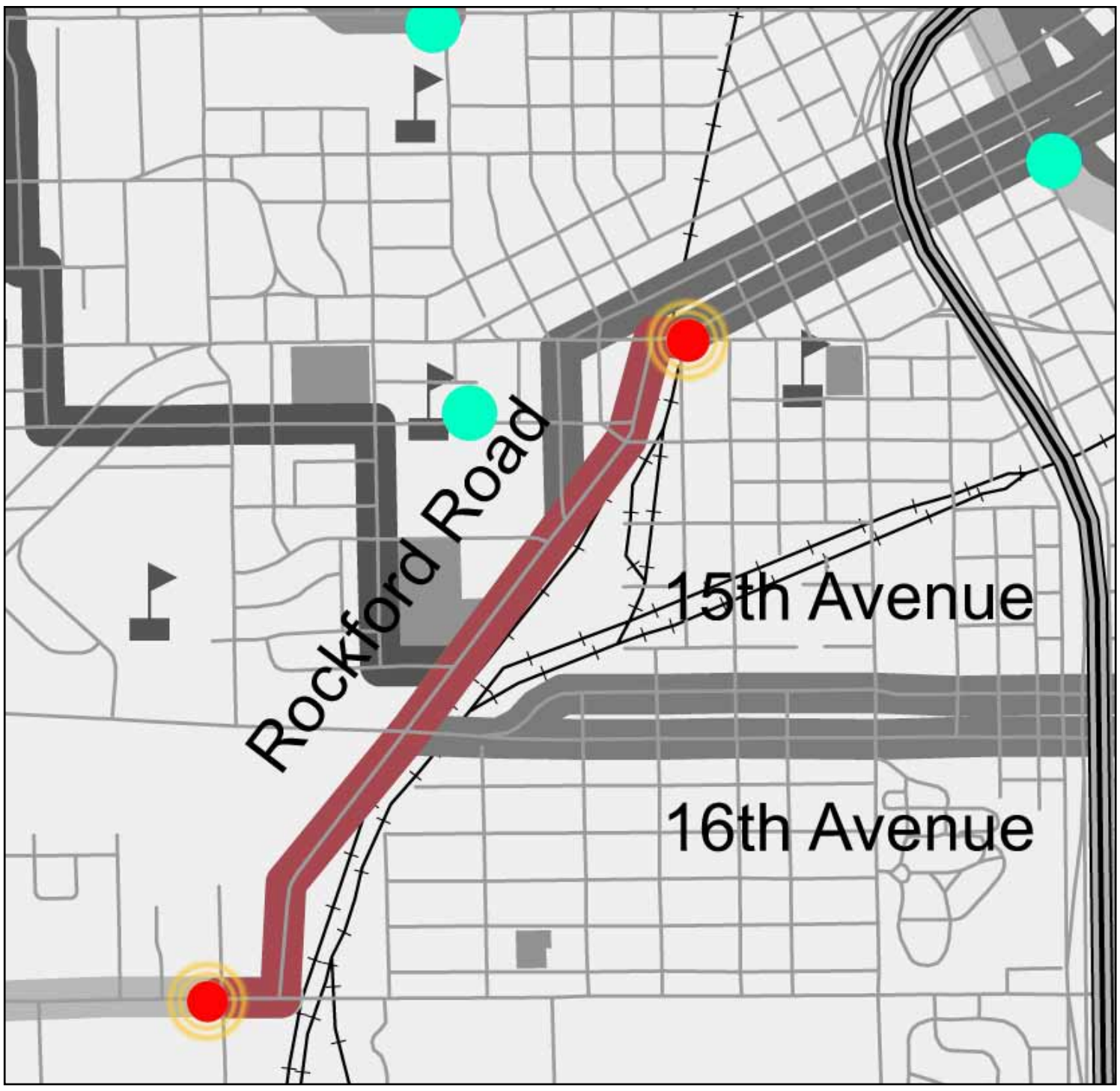
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	1.3 miles
3	Roadway Classification	Collector
4	Total Pavement Width (Feet)	24', 40'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way	65', 70', 72', 80'
7	Curb & Gutter	
8	Paved Shoulder	None
9	On-Street 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

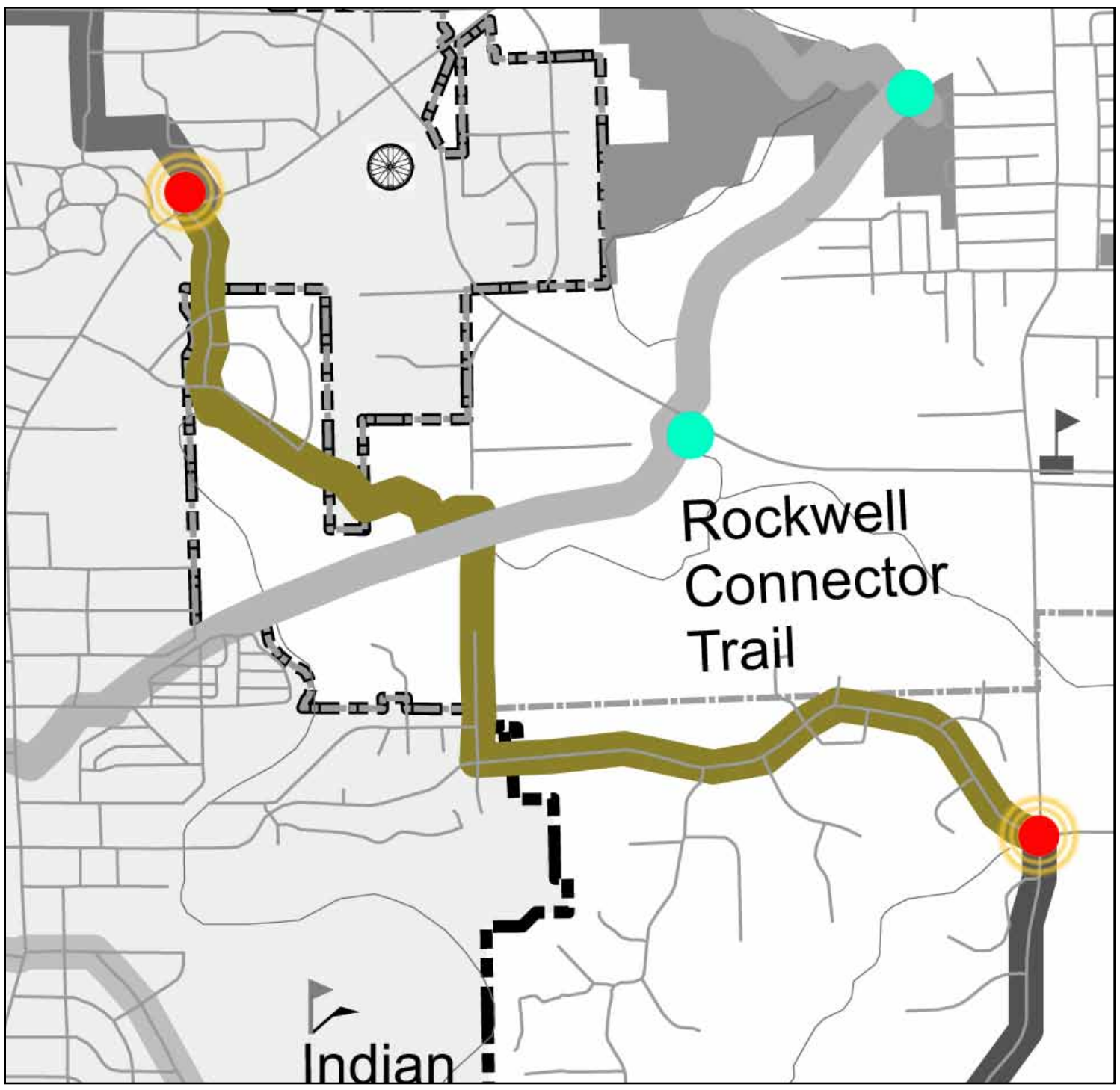
EXISTING		
1	On- or Separated Trail	On-Road & Separated Trail Combination
2	Segment Length (Mile)	0.5 mile in City limits Total Segment Miles: 2.5
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	30', 32', 40'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way	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

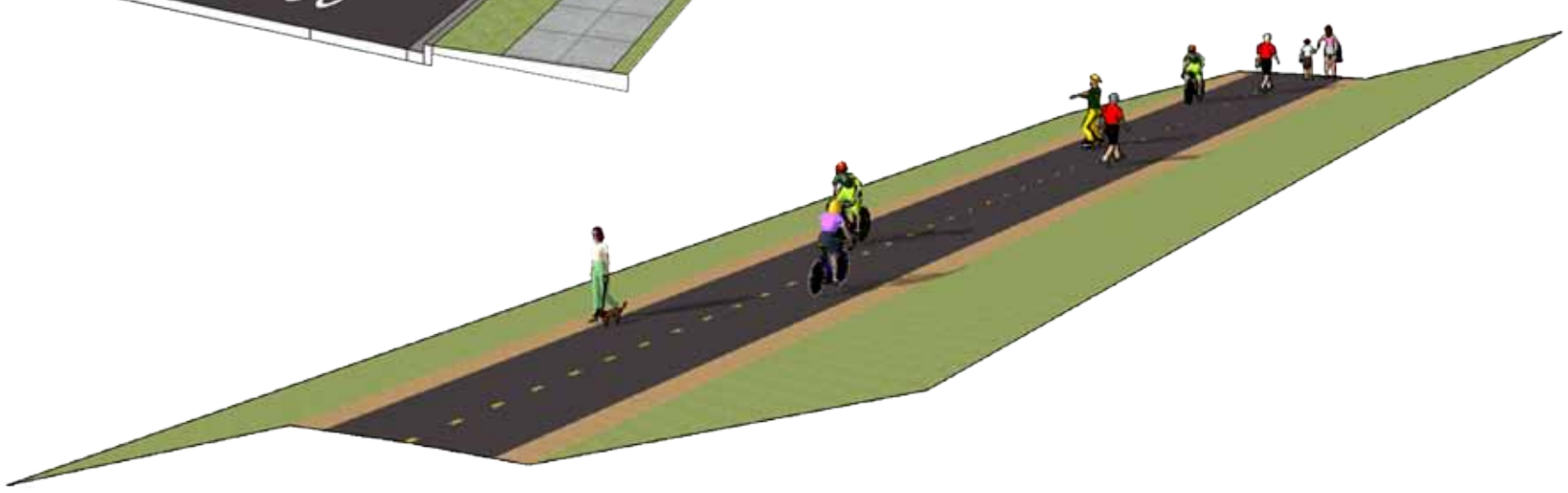
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	26	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	52	$15,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$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

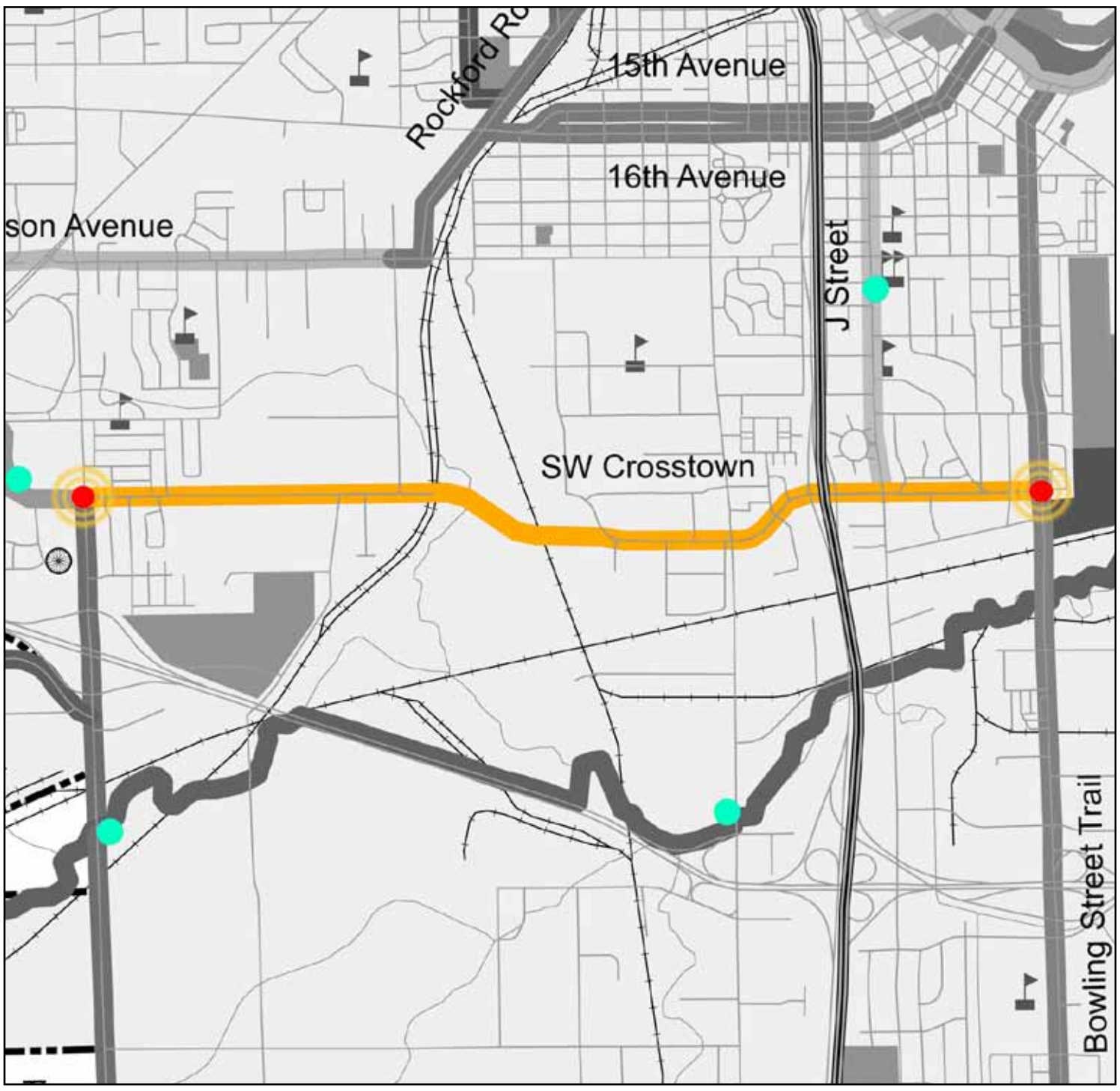
EXISTING		
1	On- or Separated Trail	On-Road (Portions completed fall 2009 and fall 2011)
2	Segment Length (Mile)	3.1 miles
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	24', 32', 44', 48', 55'
5	Number of Traffic Lanes incl. Center Left Turn	2 - 5 Traffic Lanes
6	Right of Way	60', 80', 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

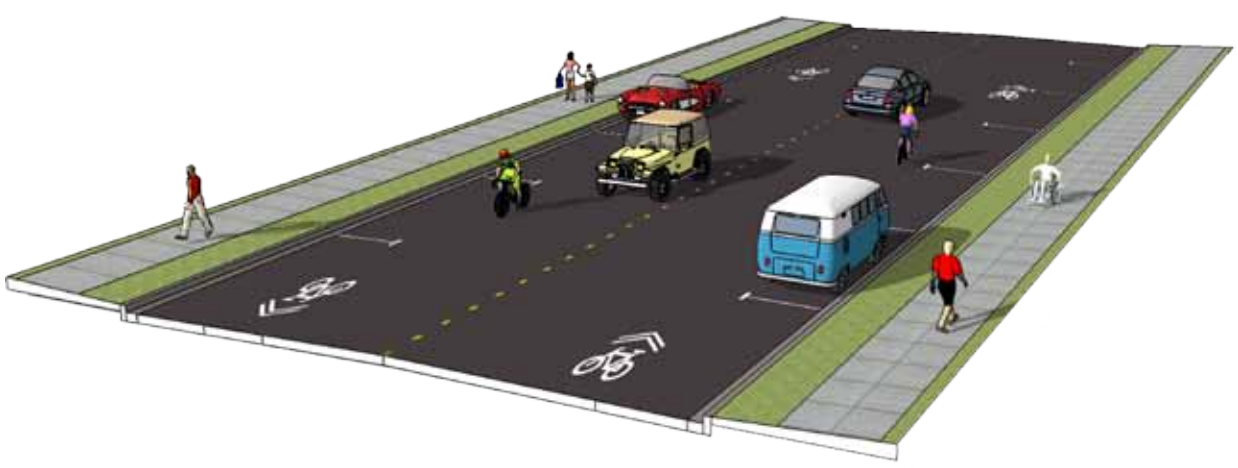
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	0	$0.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	0	$0.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	Sta	$500.00	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

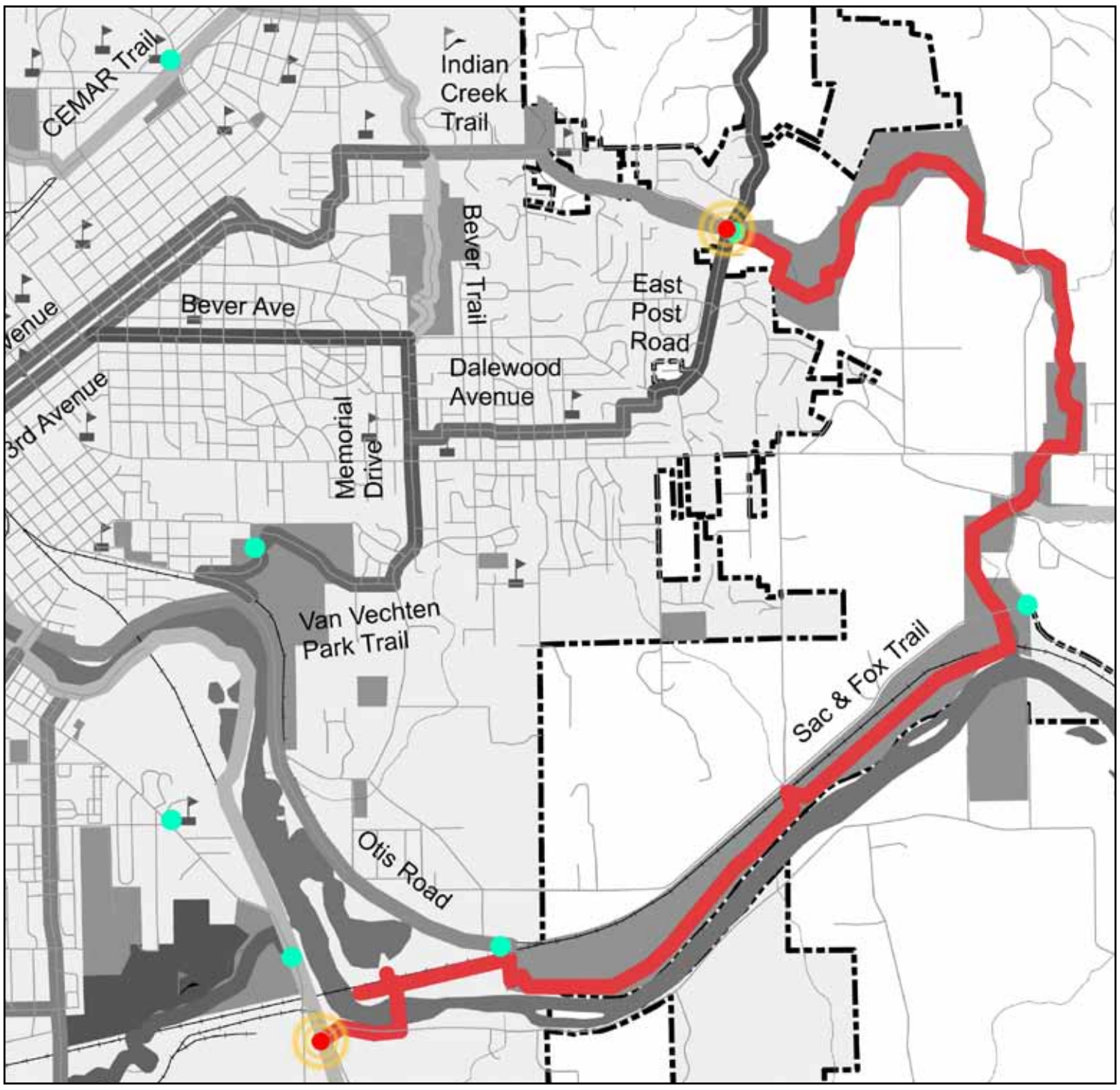
EXISTING		
1	On- or Sepa.rated Trail	Separated (Existing)
2	Segment Length (Mile)	3.3 miles in Cedar Rapids TOTAL:8 Miles
3	Roadway Classification	None
4	Total Pavement Width (Feet)	None
5	Number of Traffic Lanes incl. Center Left Turn	None
6	Right of Way	None
7	Curb & Gutter	None
8	Paved Shoulder	None
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

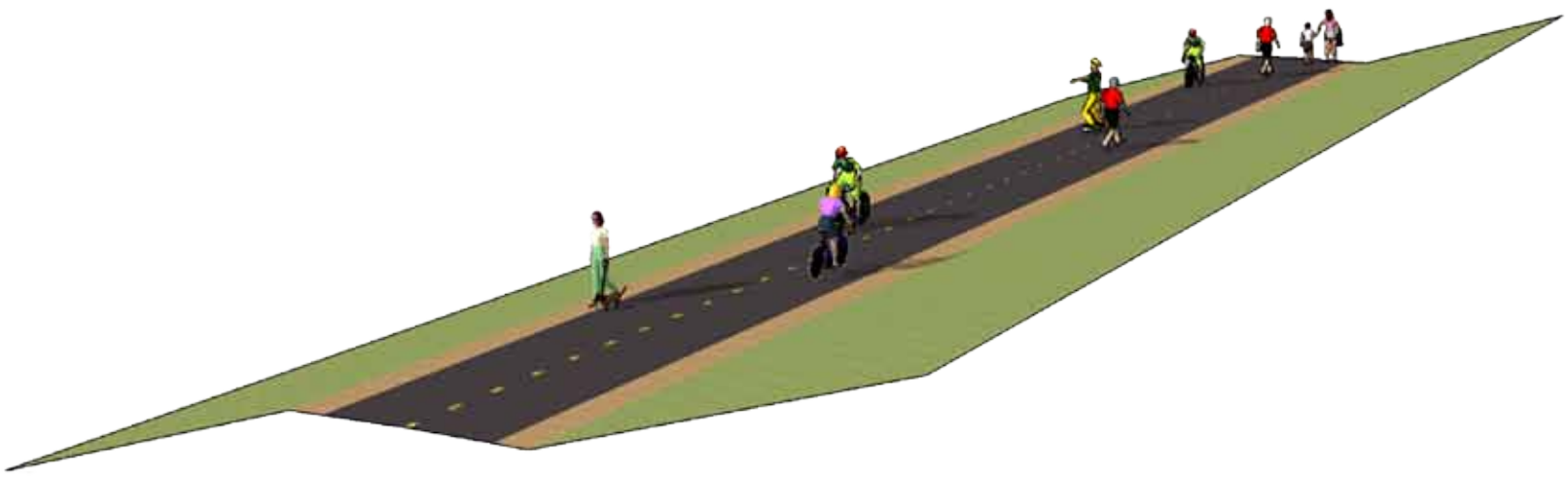
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	63	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	126	$30,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

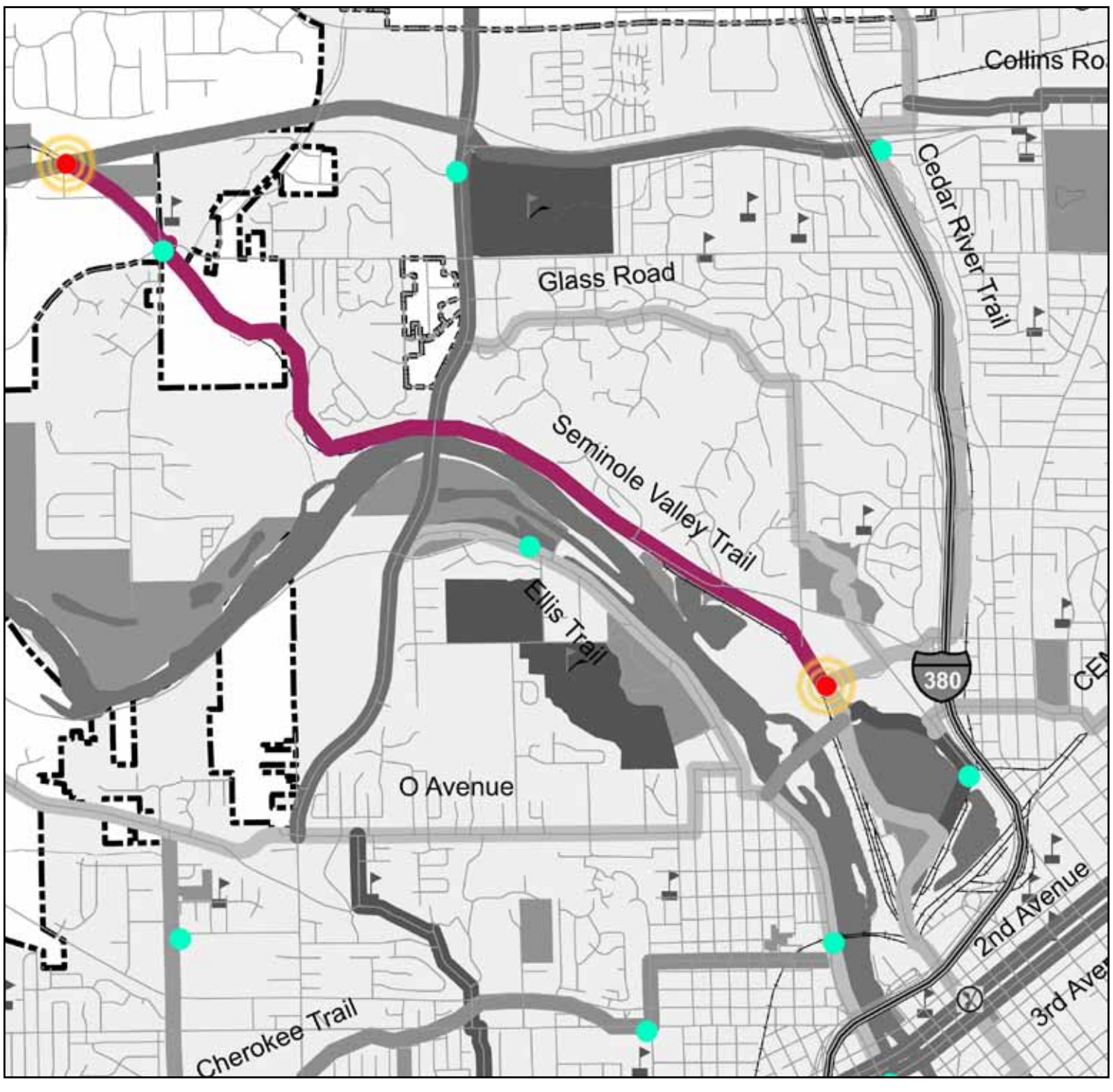
EXISTING		
1	On-Road or Separated Trail	Separated
2	Segment Length (Mile)	2.8 miles in Cedar Rapids Total segment miles: 4
3	Roadway Classification	Local (partial)
4	Total Pavement Width (Feet)	None
5	Number of Traffic Lanes incl. Center Left Turn	None
6	Right of Way	None
7	Curb & Gutter	None
8	Paved 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

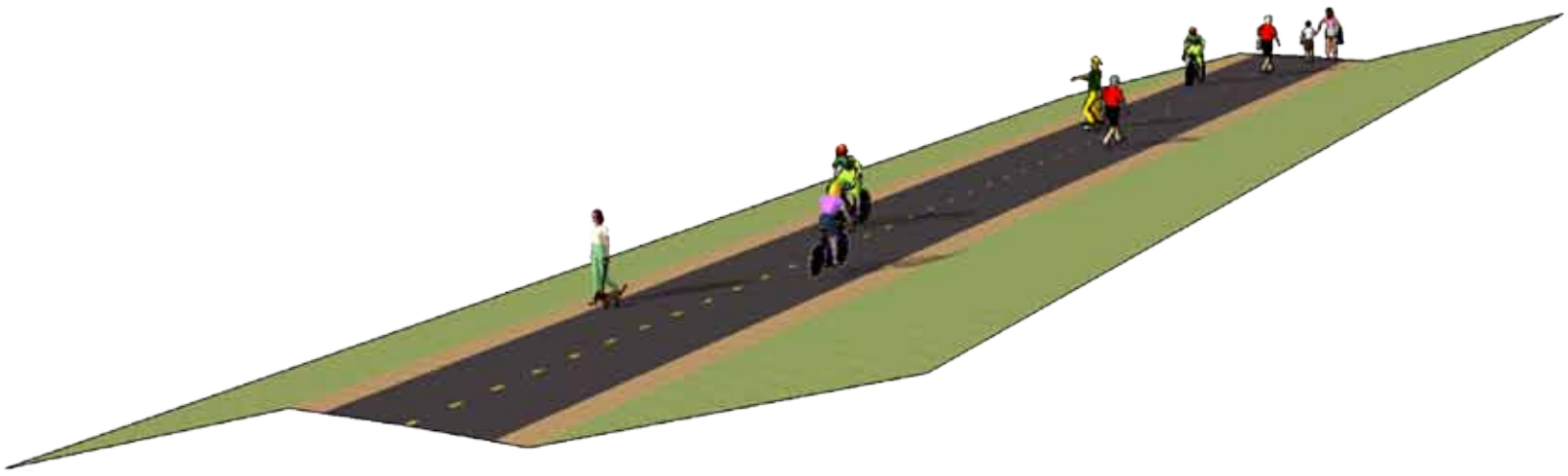
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	148	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	296	$60,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

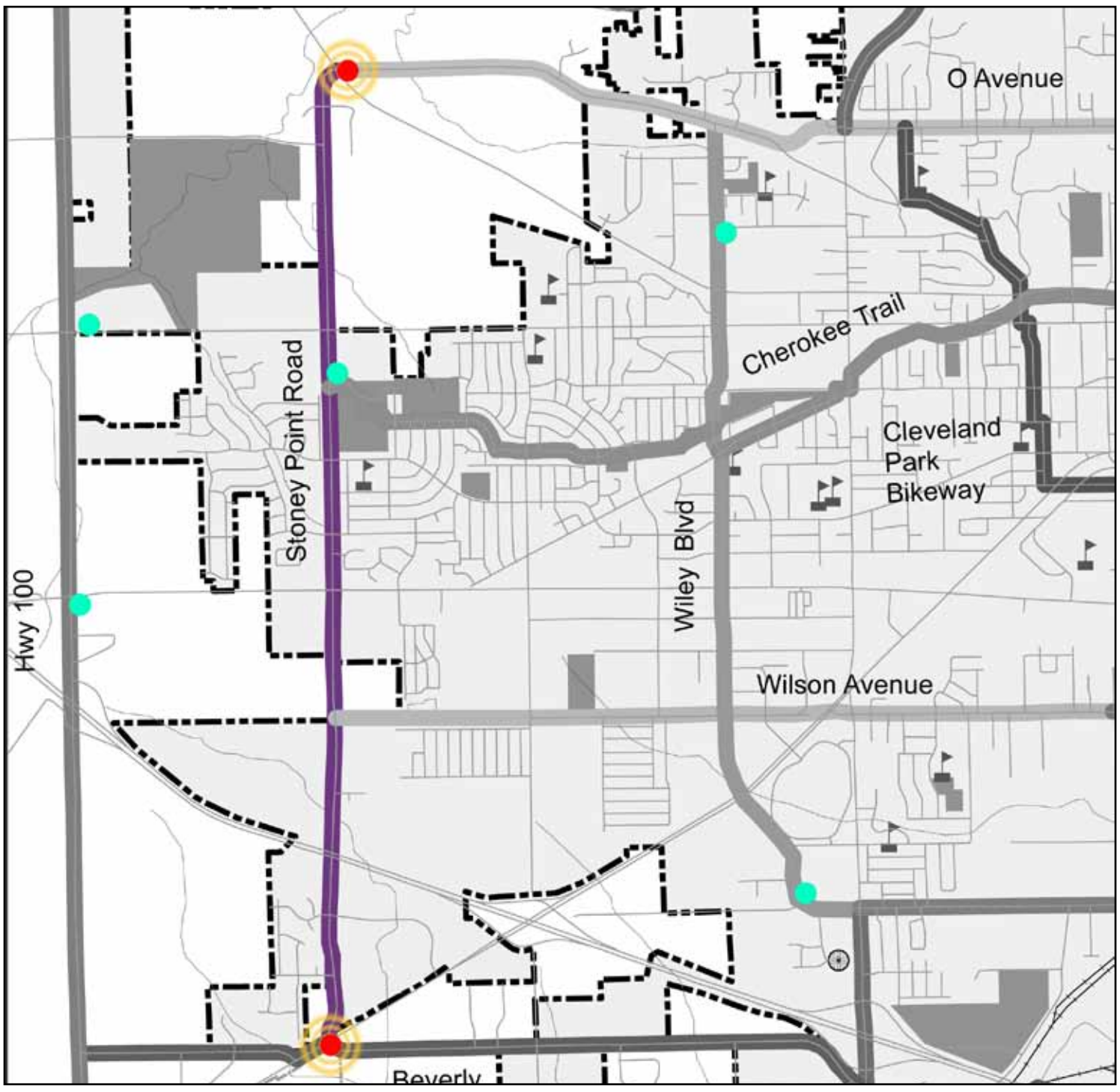
EXISTING		
1	On-Road or Separated Trail	Separated
2	Segment Length (Mile)	2.7 miles in Cedar Rapids Total=3.7 Miles
3	Roadway Classification	Major Arterial
4	Total Pavement Width (Feet)	24', 36'
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic Lanes
6	Right of Way	60', 80', 85', 100' 115'
7	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

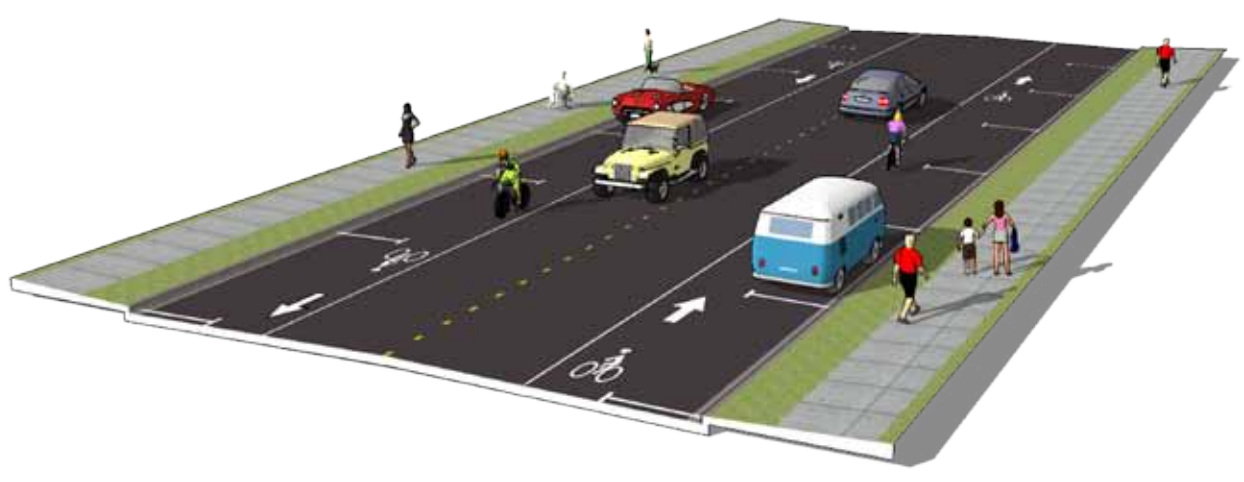
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	143	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	285	$60,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

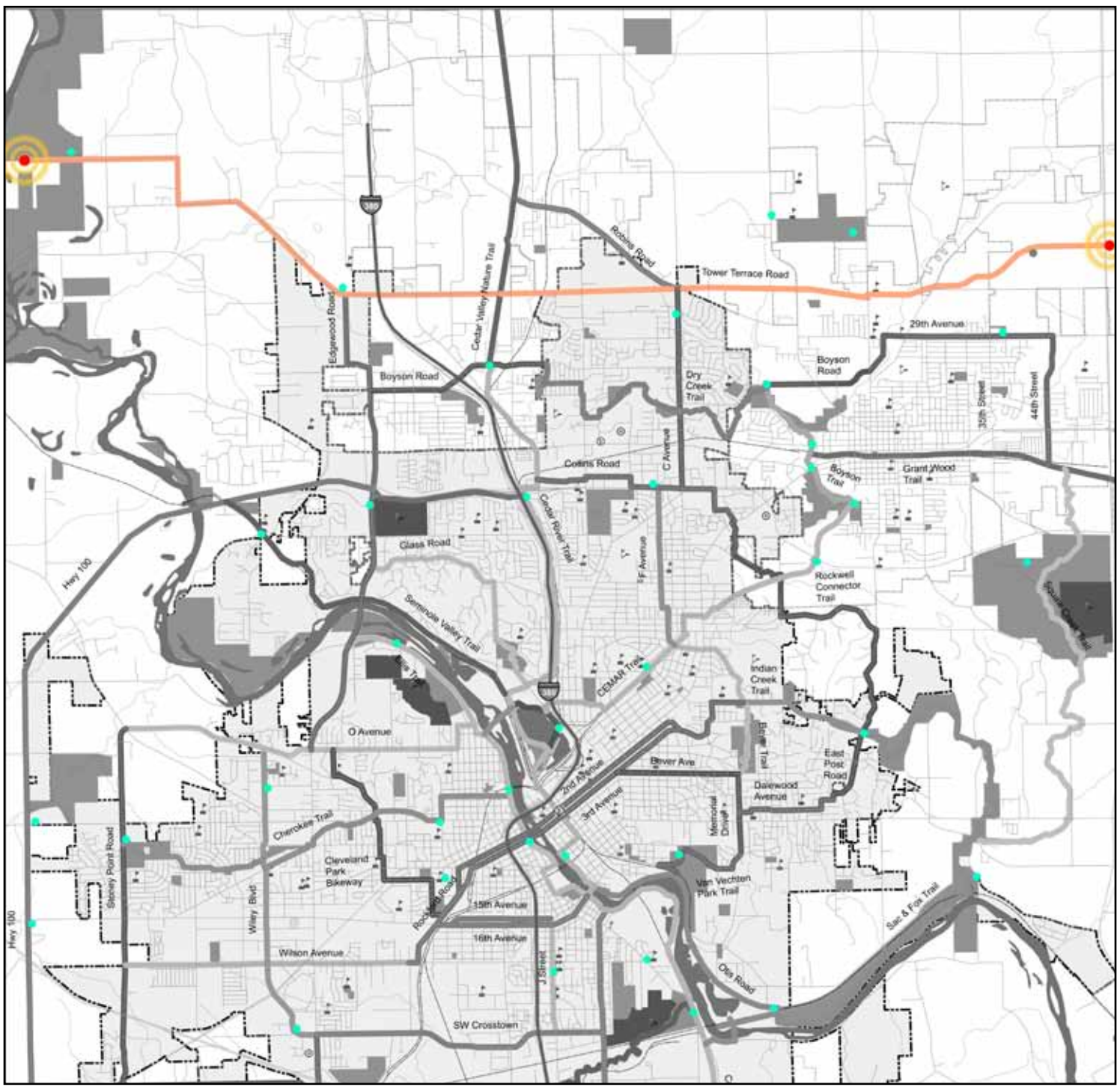
EXISTING		
1	On-Road or Separated Trail	On-Road & Separated Trail Combination
2	Segment Length (Mile)	2.5 miles in Cedar Rapids 12.3 miles
3	Roadway Classification	Major Arterial
4	Total Pavement Width (Feet)	30' existing, Future alignment to be determined and include multi-modal transit
5	Number of 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

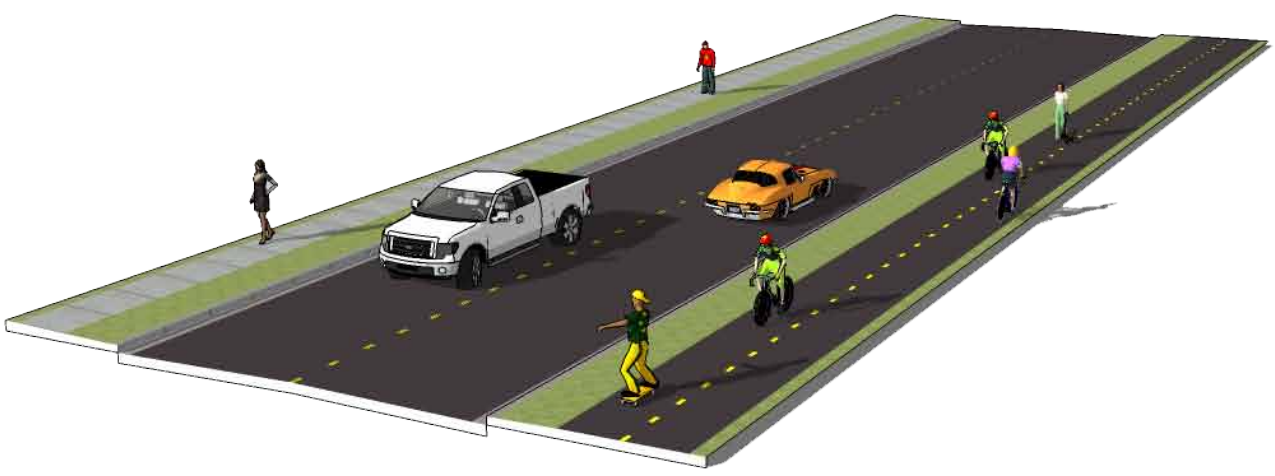
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	132	$5,280.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	264	$52,800.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

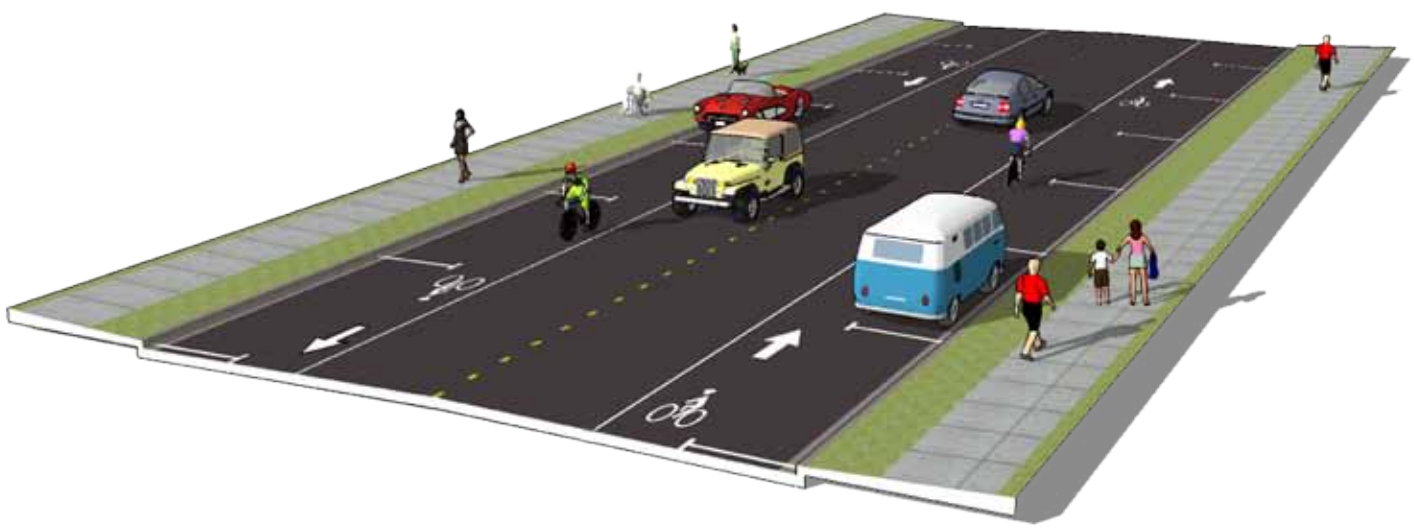
ANNUAL MAINTENANCE COST	UNIT	UNIT COST	QTY	EXTENDED COST
	Mile	$16,000.00	12.3	$196,800.00

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

TOWER TERRACE ROAD SEGMENT







VAN VECHTEN PARK TRAIL SEGMENT

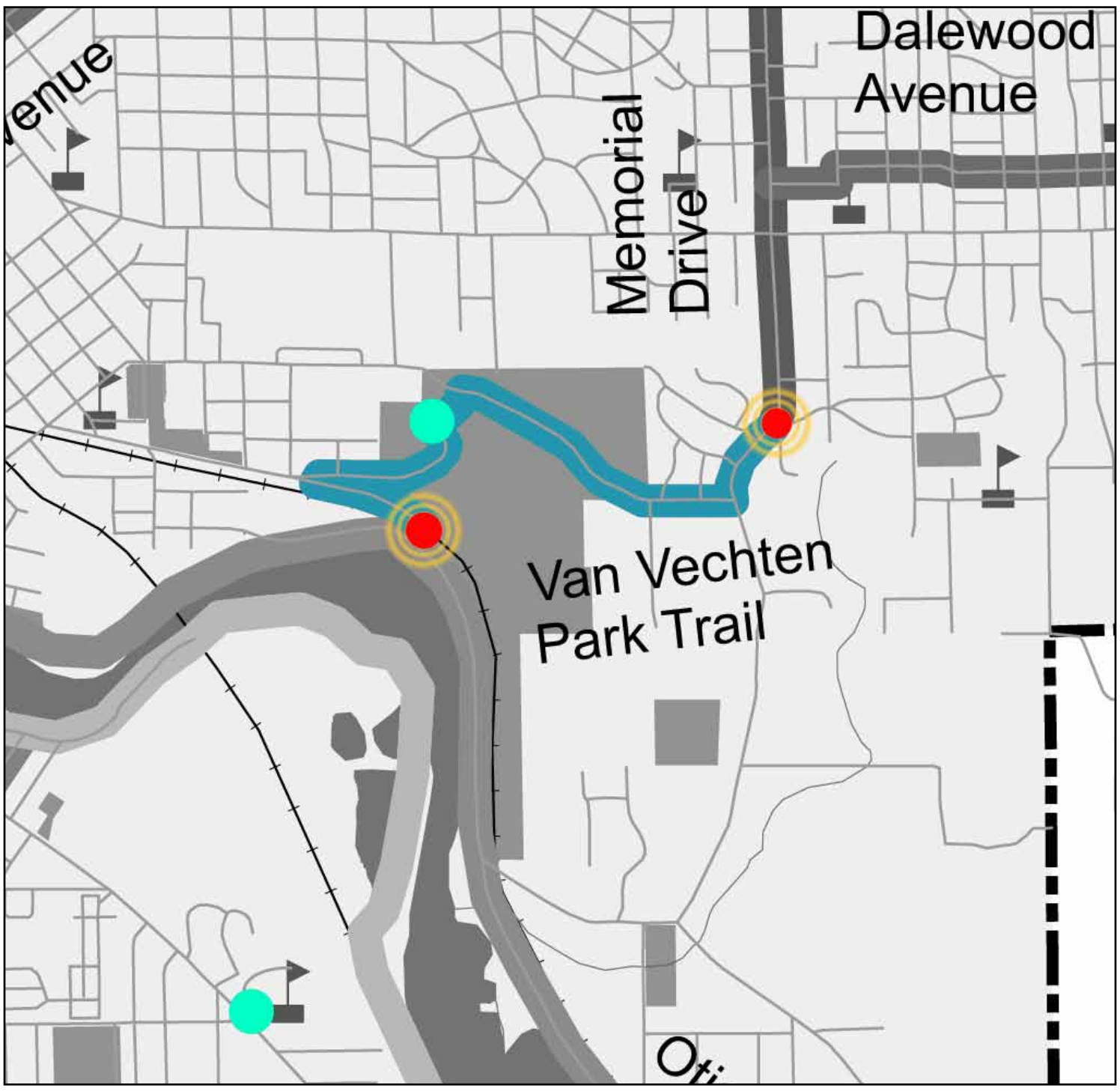
EXISTING		
1	On-Road or Separated Trail	On-Road Separated
2	Segment Length (Mile)	1.4 Miles Total
3	Roadway Classification	Local
4	Total Pavement Width (Feet)	32’
5	Number of Traffic Lanes incl. Center Left Turn	2 Traffic lanes
6	Right of Way (Feet)	60’, 80’
7	Curb & Gutter	None
8	Paved Shoulder	Yes
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

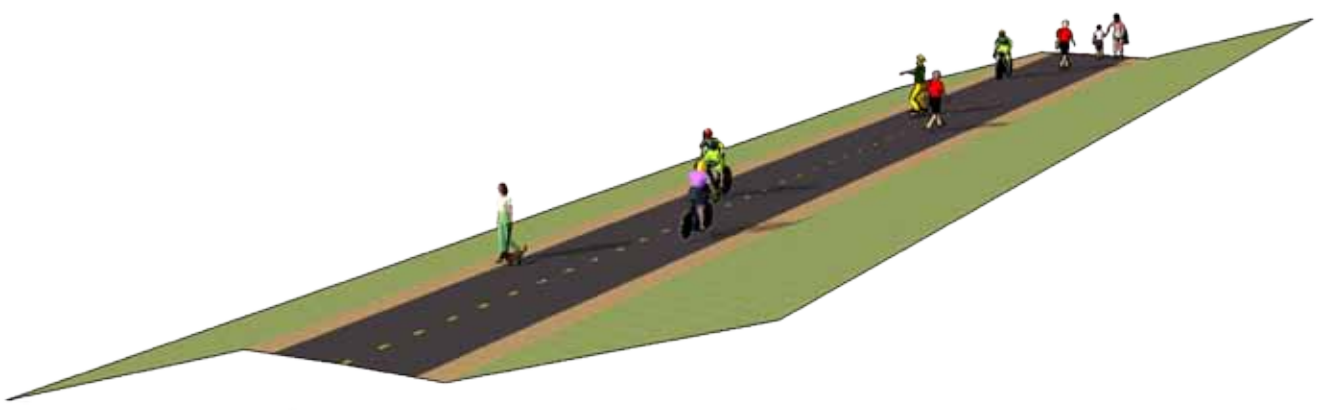
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	74	$5,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	148	$30,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

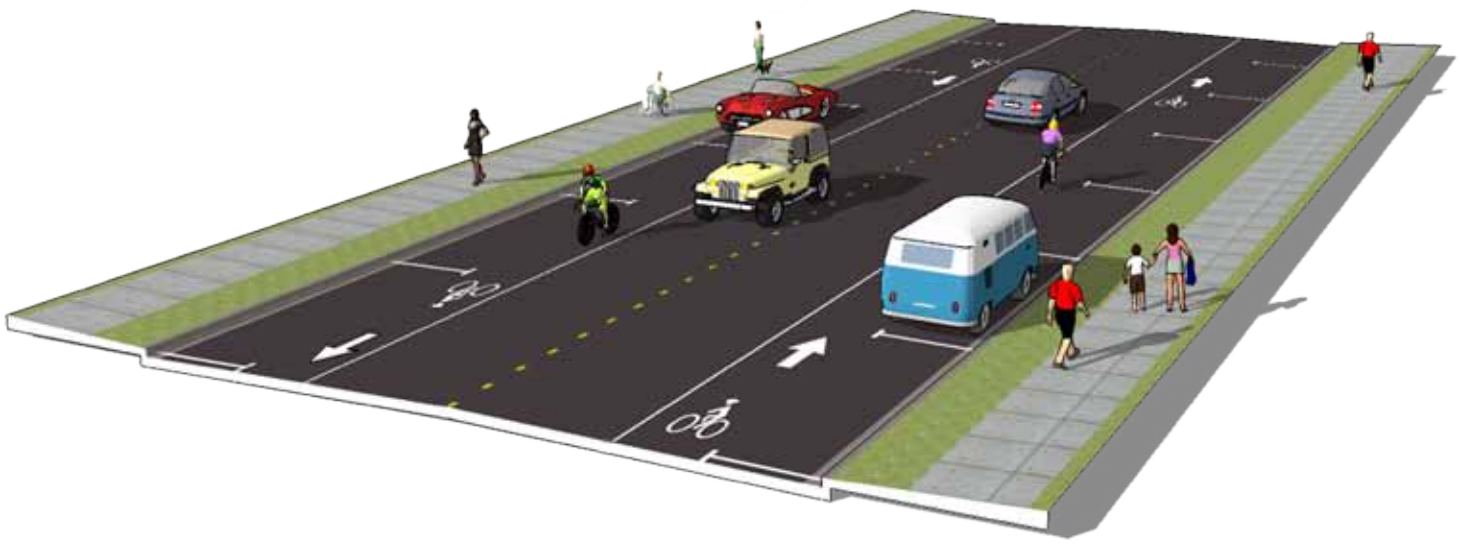
ANNUAL MAINTENANCE COST	UNIT	UNIT COST	QTY	EXTENDED COST
	Mile	$16,000.00	1.4	$22,400.00

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

VAN VECHTEN PARK TRAIL SEGMENT







WILEY BOULEVARD SEGMENT SCHEDULE

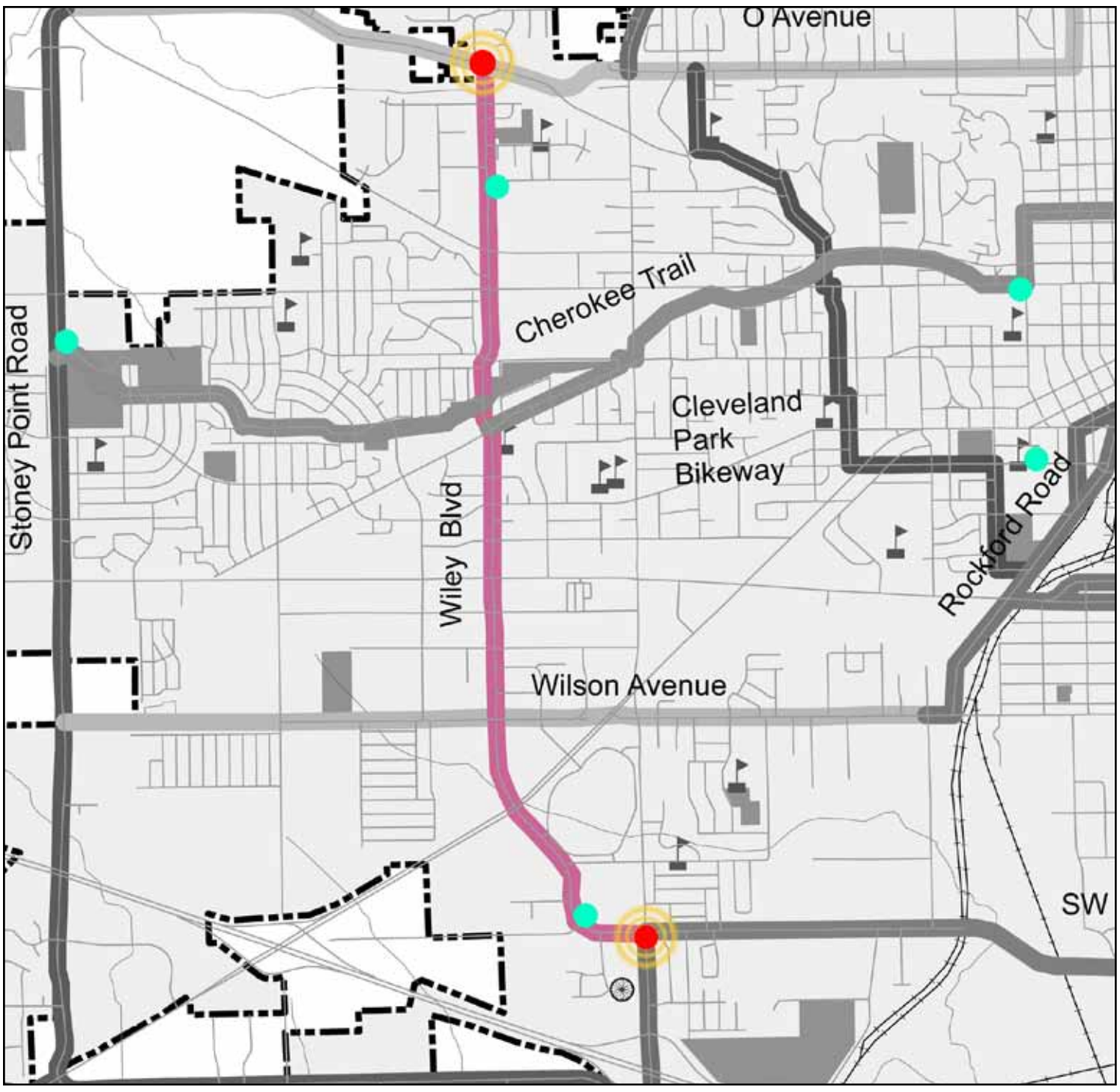
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	3.3 miles
3	Roadway Classification	Arterial
4	Total Pavement Width (Feet)	24'-73' Varies Widely
5	Number of Traffic Lanes incl. Center Left Turn	2 - 5 Traffic Lanes
6	Right of Way (Feet)	66',70, 80', 90', 100', 115' Varies Widely
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

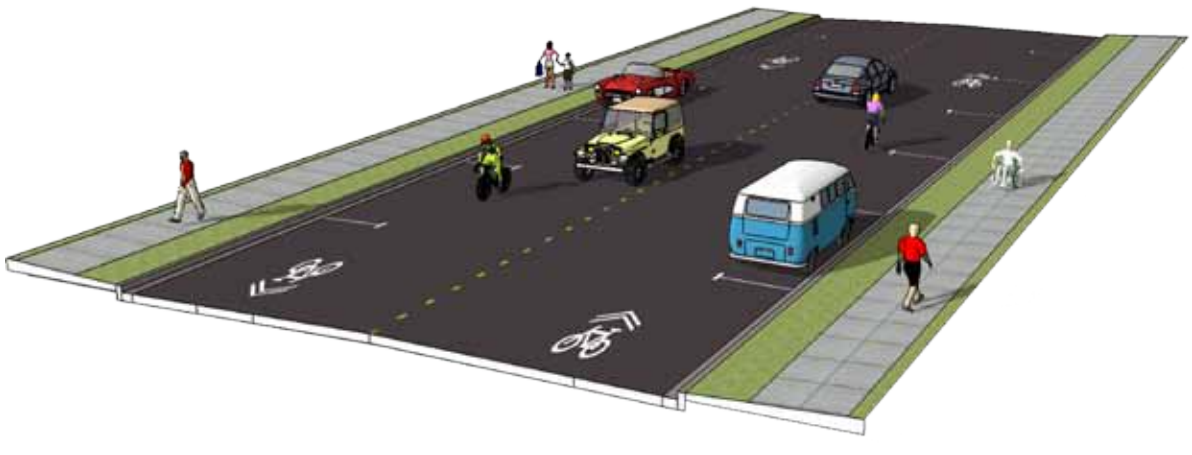
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	174	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	348	$70,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

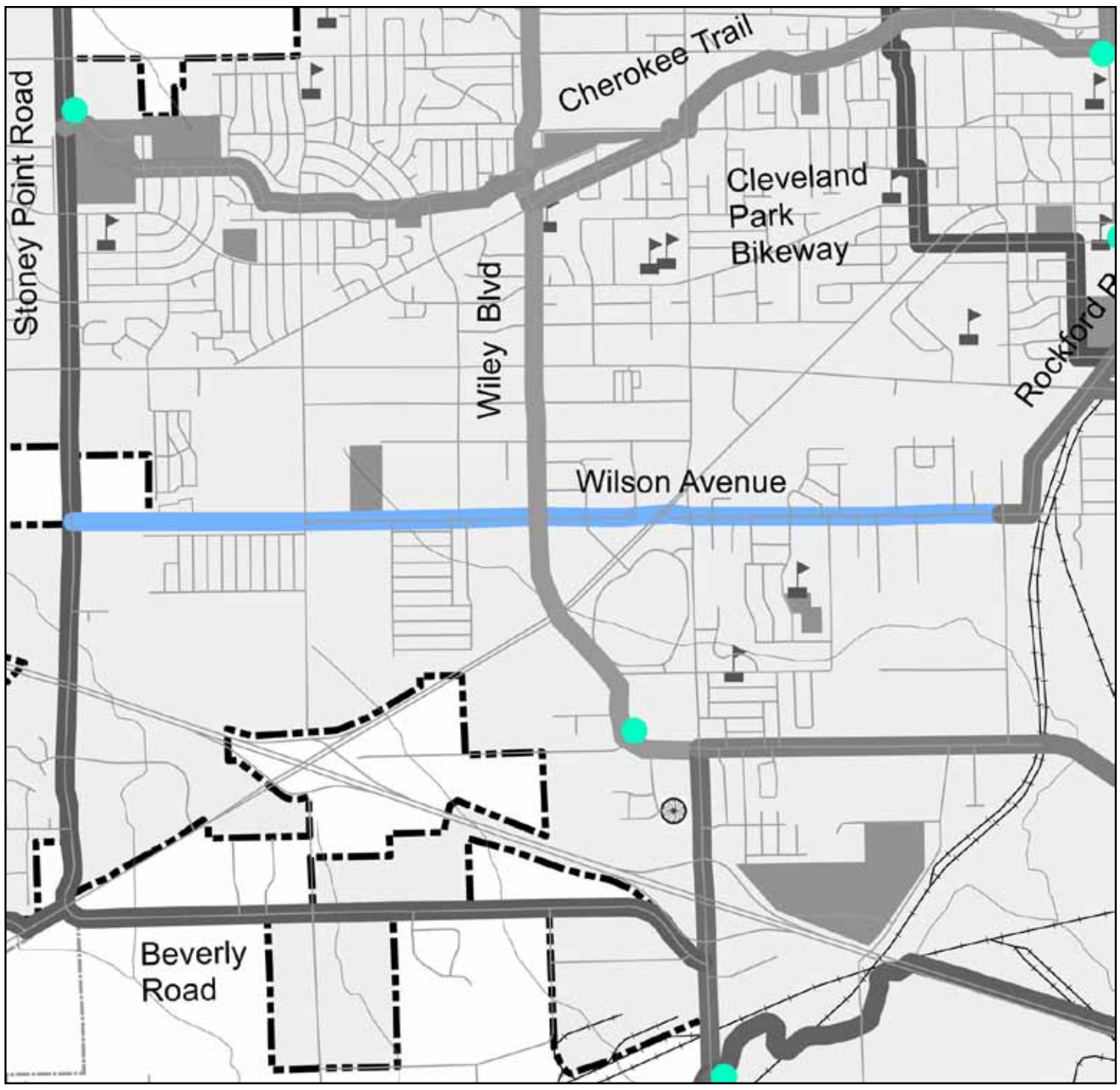
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	3.1 miles
3	Roadway Classification	Minor Arterial
4	Total Pavement Width (Feet)	36', 50'
5	Number of Traffic Lanes incl. Center Left Turn	2-4 Traffic lanes
6	Right of Way	66', 70', 75, 80,
7	Curb & Gutter (Inches)	Yes
8	Paved Shoulder (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

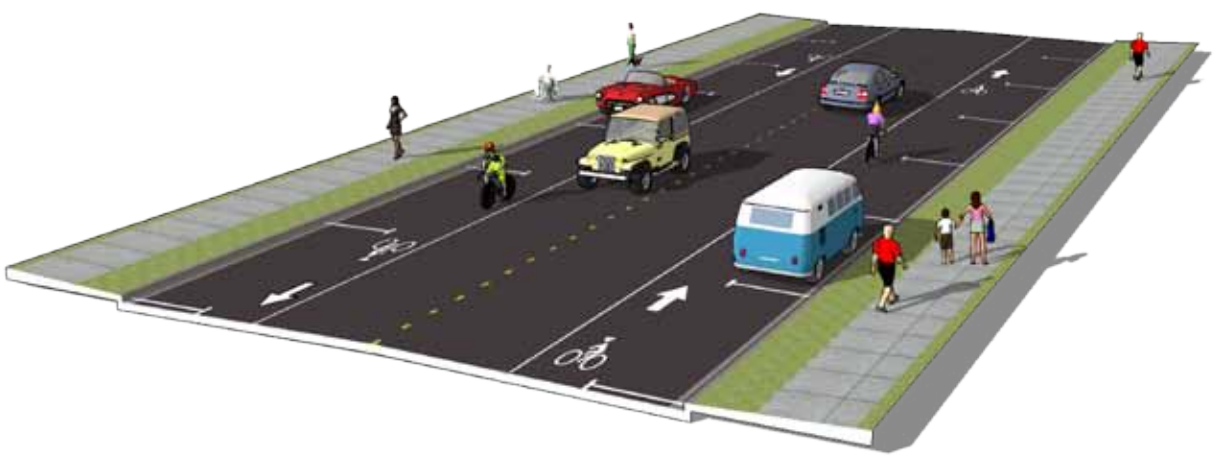
ITEM	ITEM DESCRIPTION	UNIT	UNIT COST	QTY	EXTENDED COST
1	Stripe Removal & Re-Striping for New Bike or Sharrow Lane	Sta	$40.00	164	$10,000.00
2	Bike Symbols and Traffic Markings (bar stops, ped x-ing, etc.); avg. 2 per Sta.	Each	$200.00	328	$70,000.00
3	Remove & Repair Curb System for Bike/Sharrow Lane	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

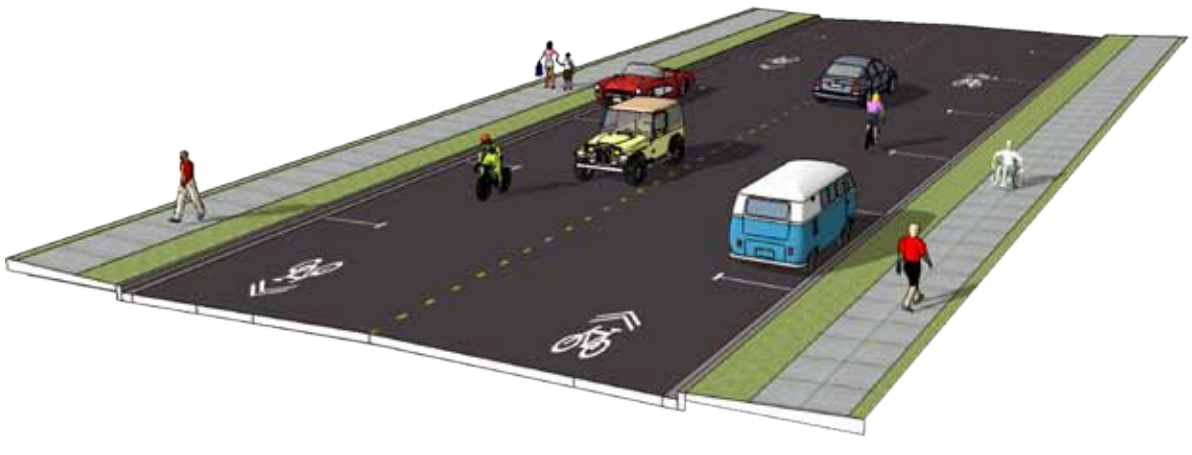
ANNUAL MAINTENANCE COST	UNIT	UNIT COST	QTY	EXTENDED COST
	Mile	$16,000.00	3.1	$49,600.00

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

WILSON AVENUE SEGMENT







WRIGHT BROTHERS LOOP SEGMENT

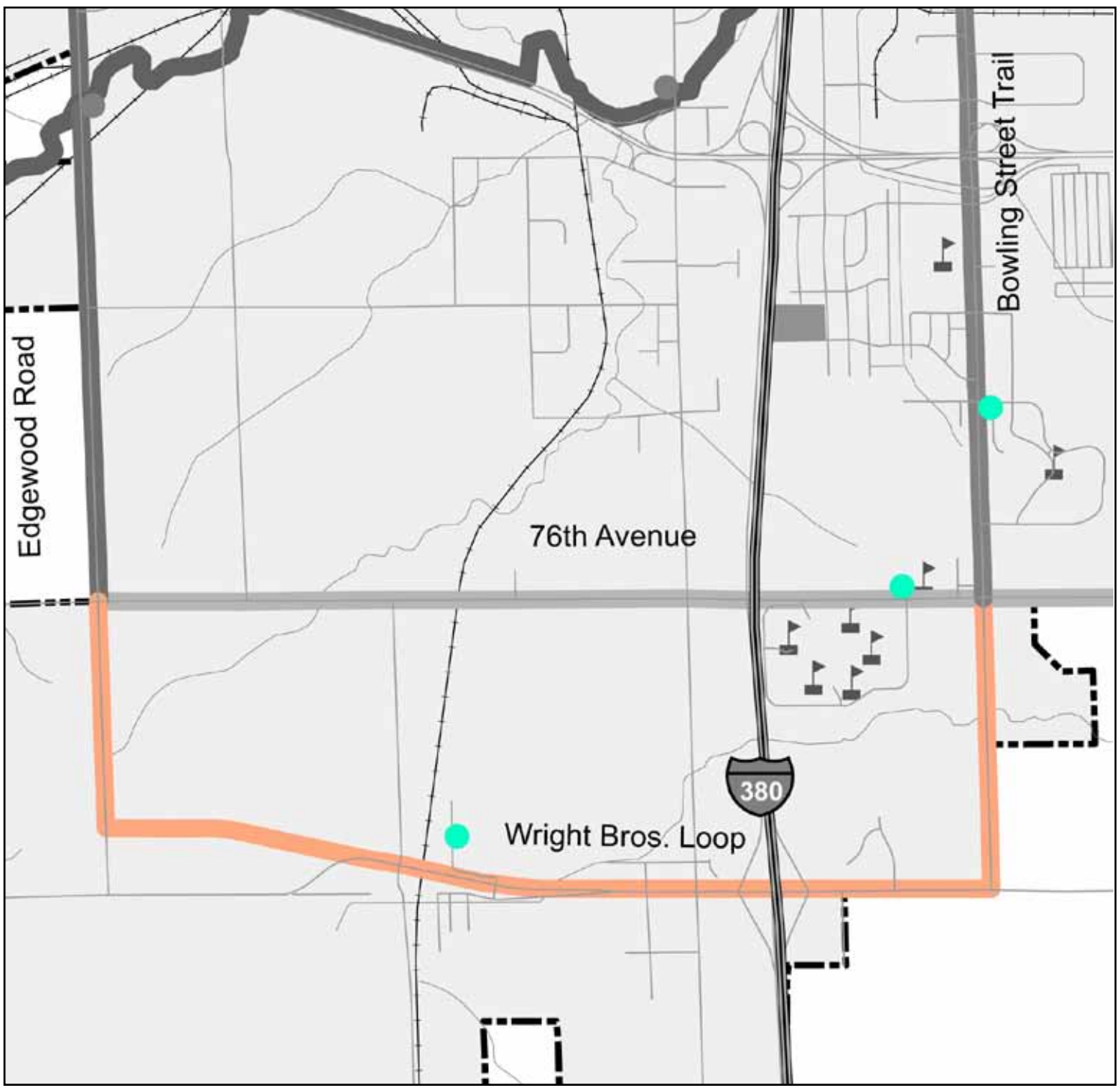
EXISTING		
1	On-Road or Separated Trail	On-Road
2	Segment Length (Mile)	1.4 miles existing Total 4.8 Miles
3	Roadway Classification	Major Arterial
4	Total Pavement Width (Feet)	24', 35', 50', 66', 100', 115' including 30' median
5	Number of Traffic Lanes incl. Center Left Turn	2-6 Traffic Lanes
6	Right 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



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

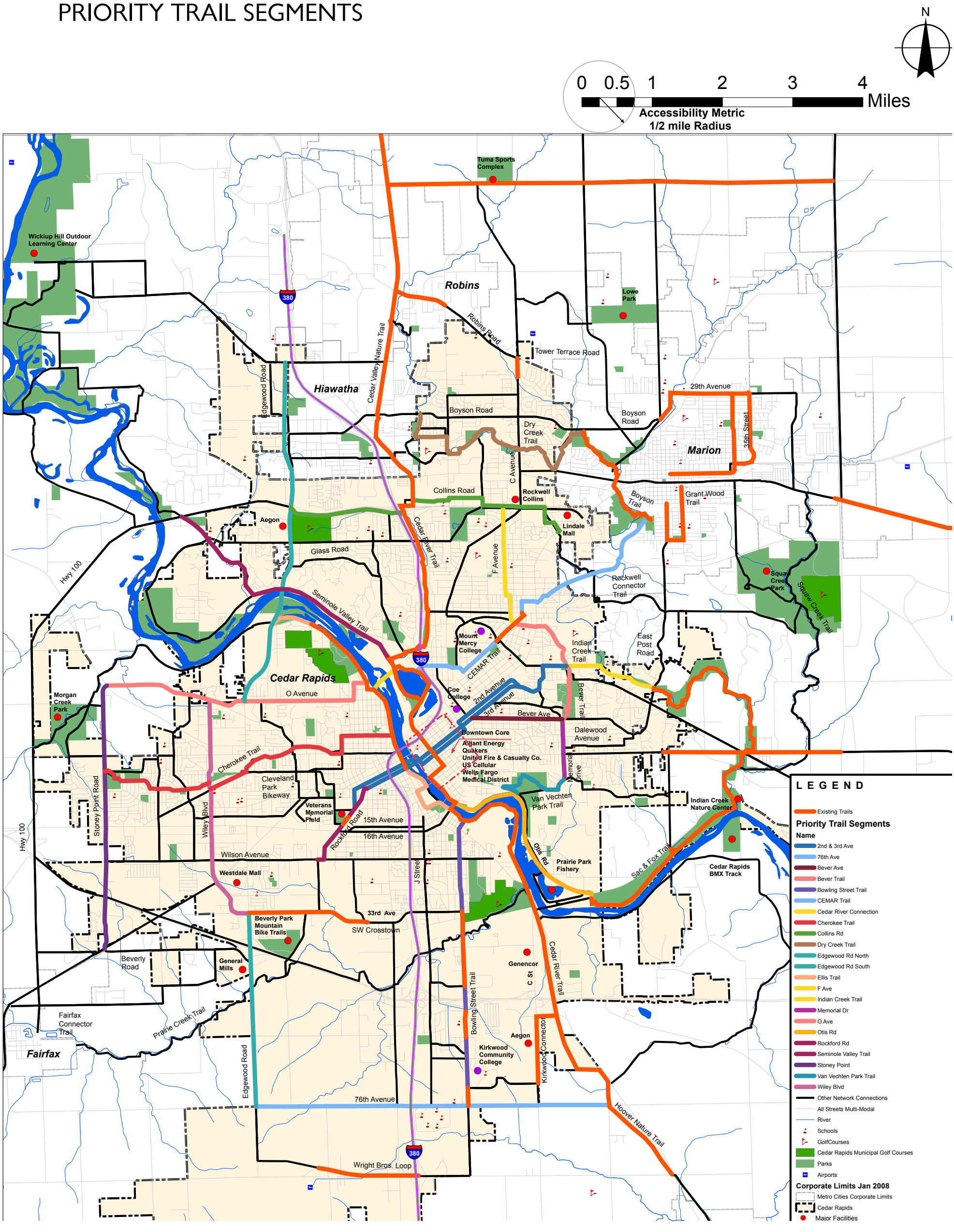
The second assumption and objective was to identify approximately 5 segments that the City could begin designing immediately. After the Steering Committee and public ranked the top 23 in priority. A recommendation was made for the top 5 segments.

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



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

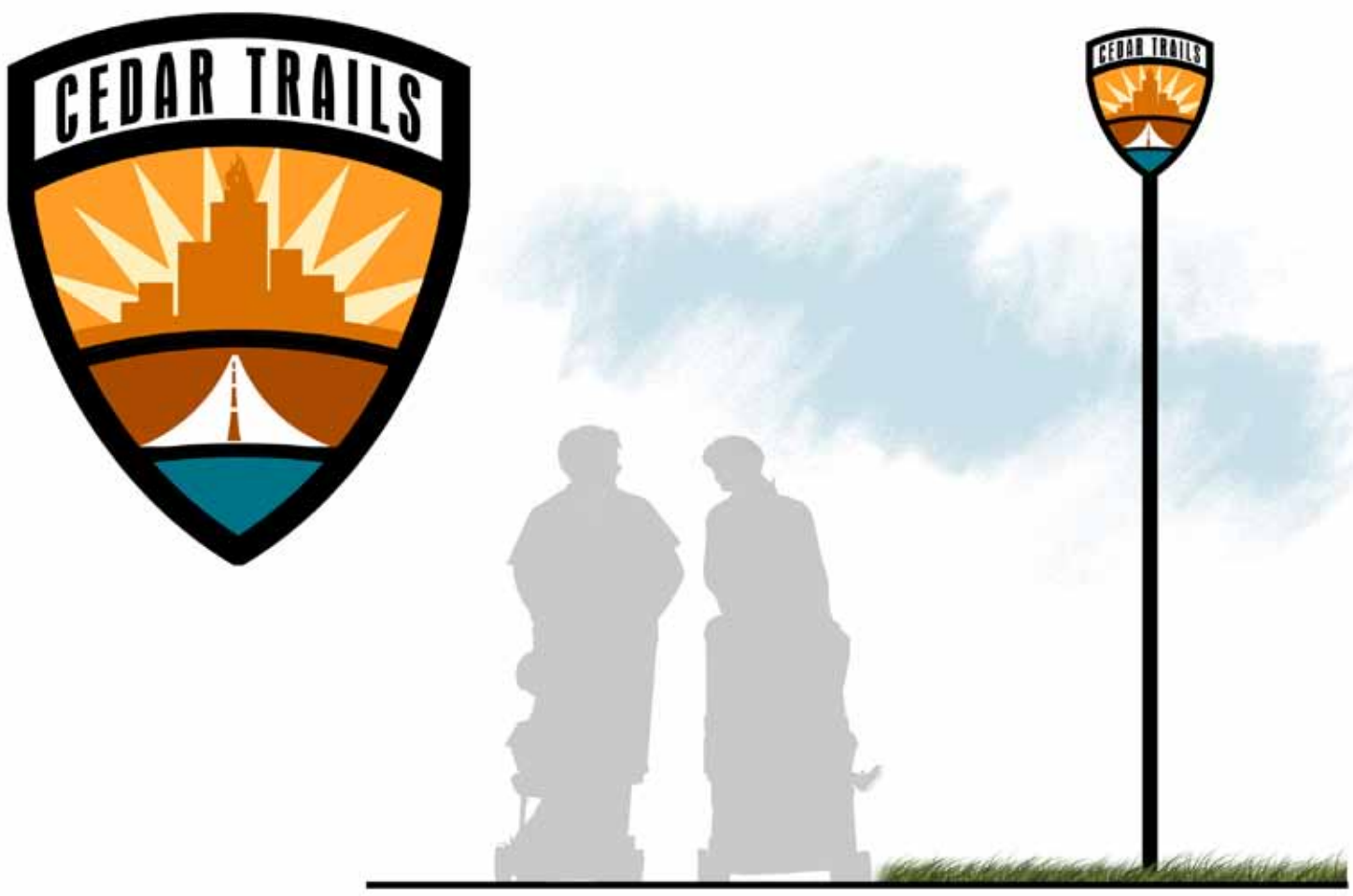
Pavement Markings

Multi-Modal Facilities

Parking Stations

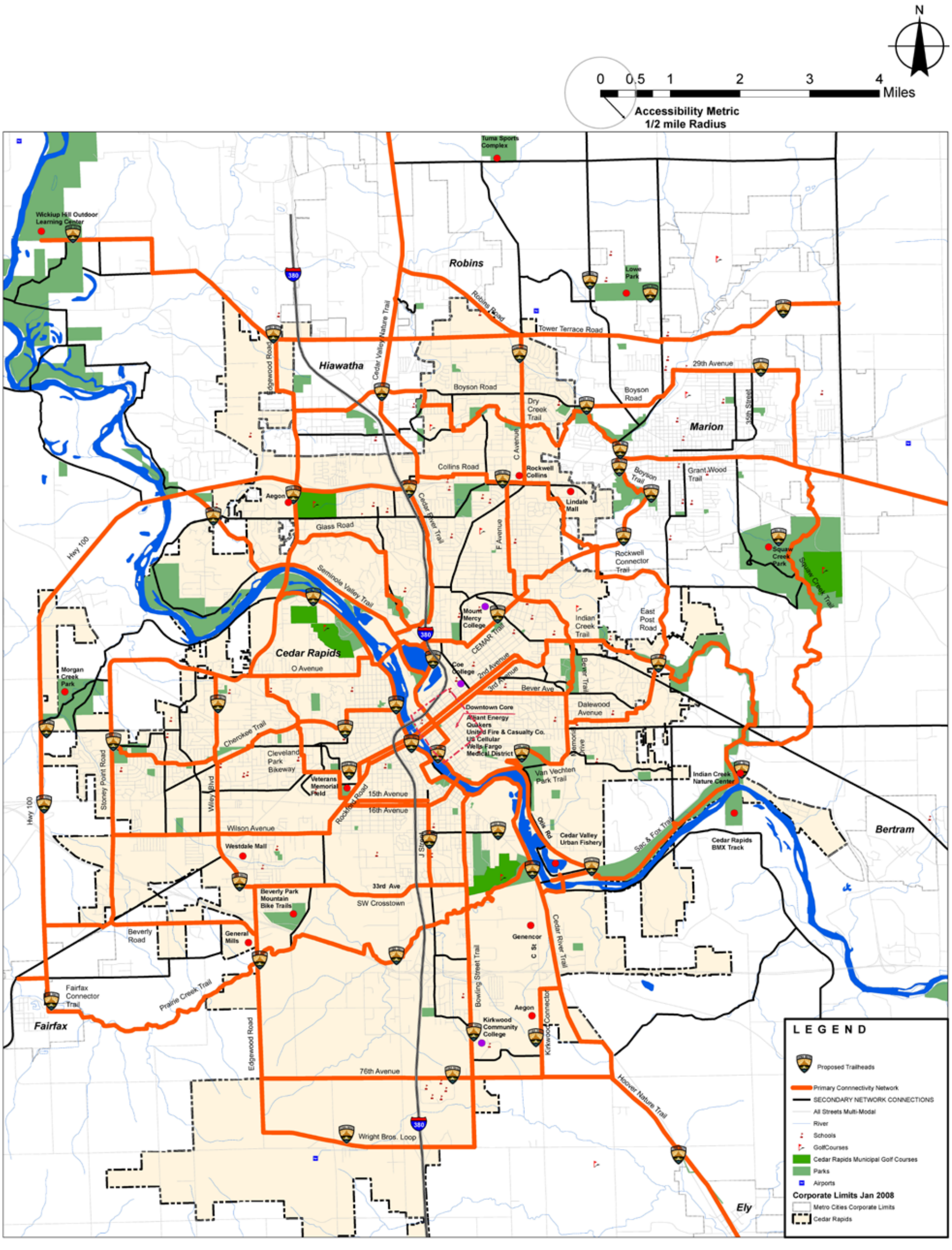
SIGNAGE & WAYFINDING

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.



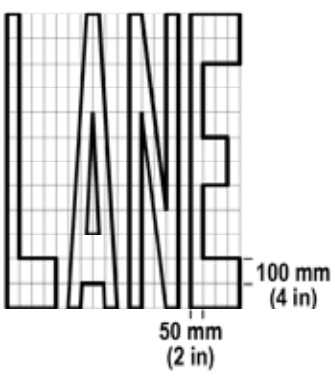
This "brand" was proposed and amended through public process. Final determination of the "brand" for Cedar Rapids trail system will be determined through a seperate process.

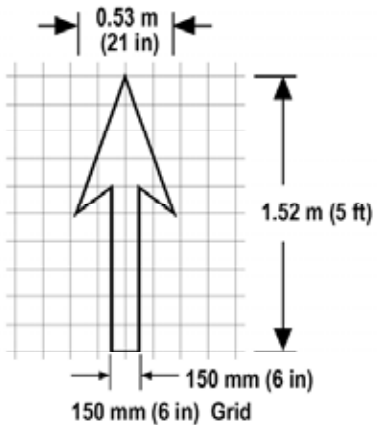
PROPOSED TRAILHEAD LOCATIONS



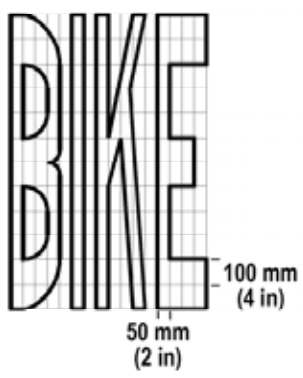
COMPREHENSIVE TRAILS PLAN

PAVEMENT MARKINGS

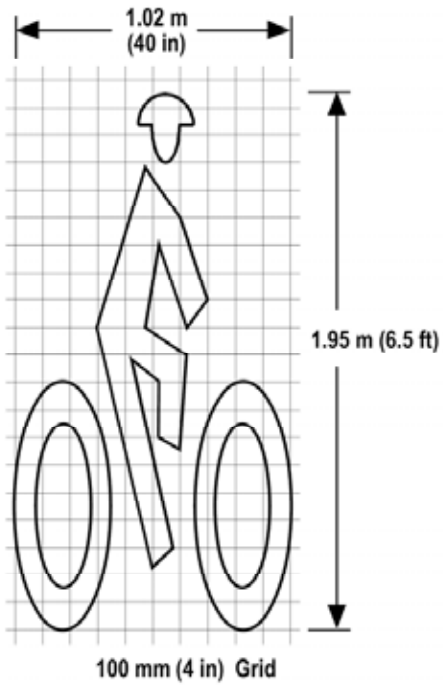




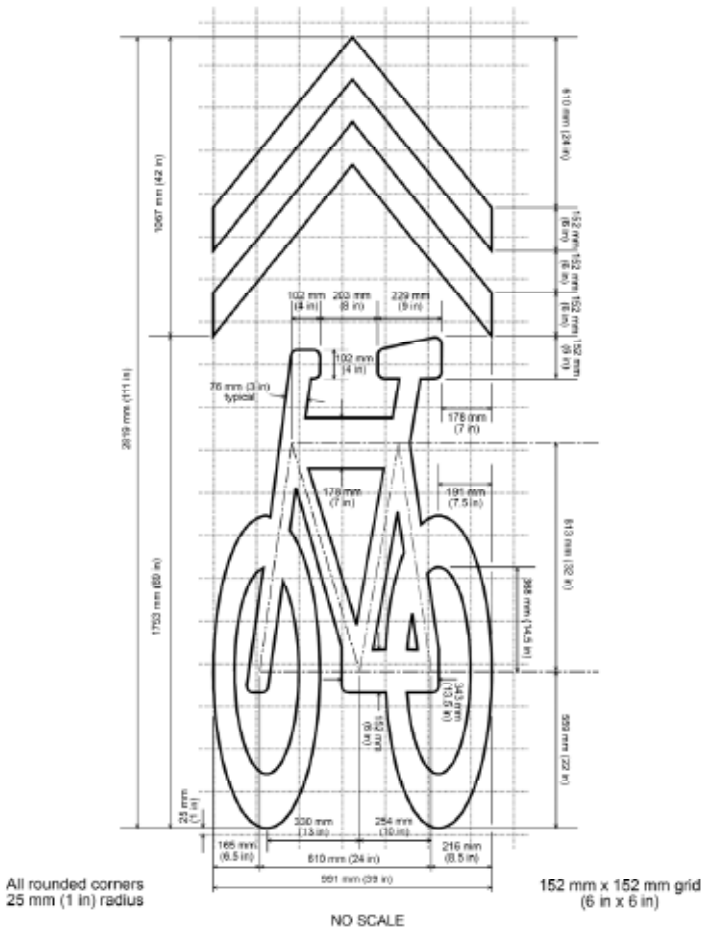
BIKE LANE ARROW



NOT TO SCALE



BIKE LANE SYMBOL



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.

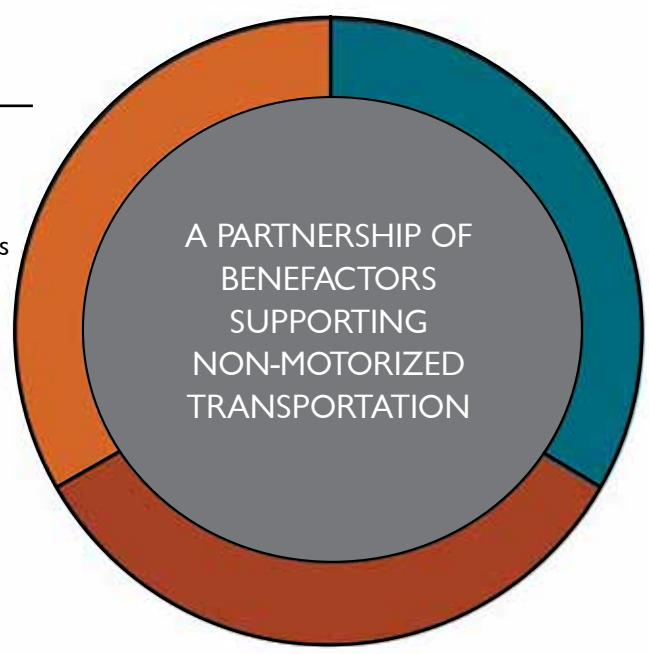
2. Grants. Grants are typically intended to be for a specific purpose. For example, Community Attraction and Tourism, commonly referred to as a CAT Grant, is intended to construct projects with a strong potential for enhancing the attraction of visitors to a destination. These funds would typically be 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.

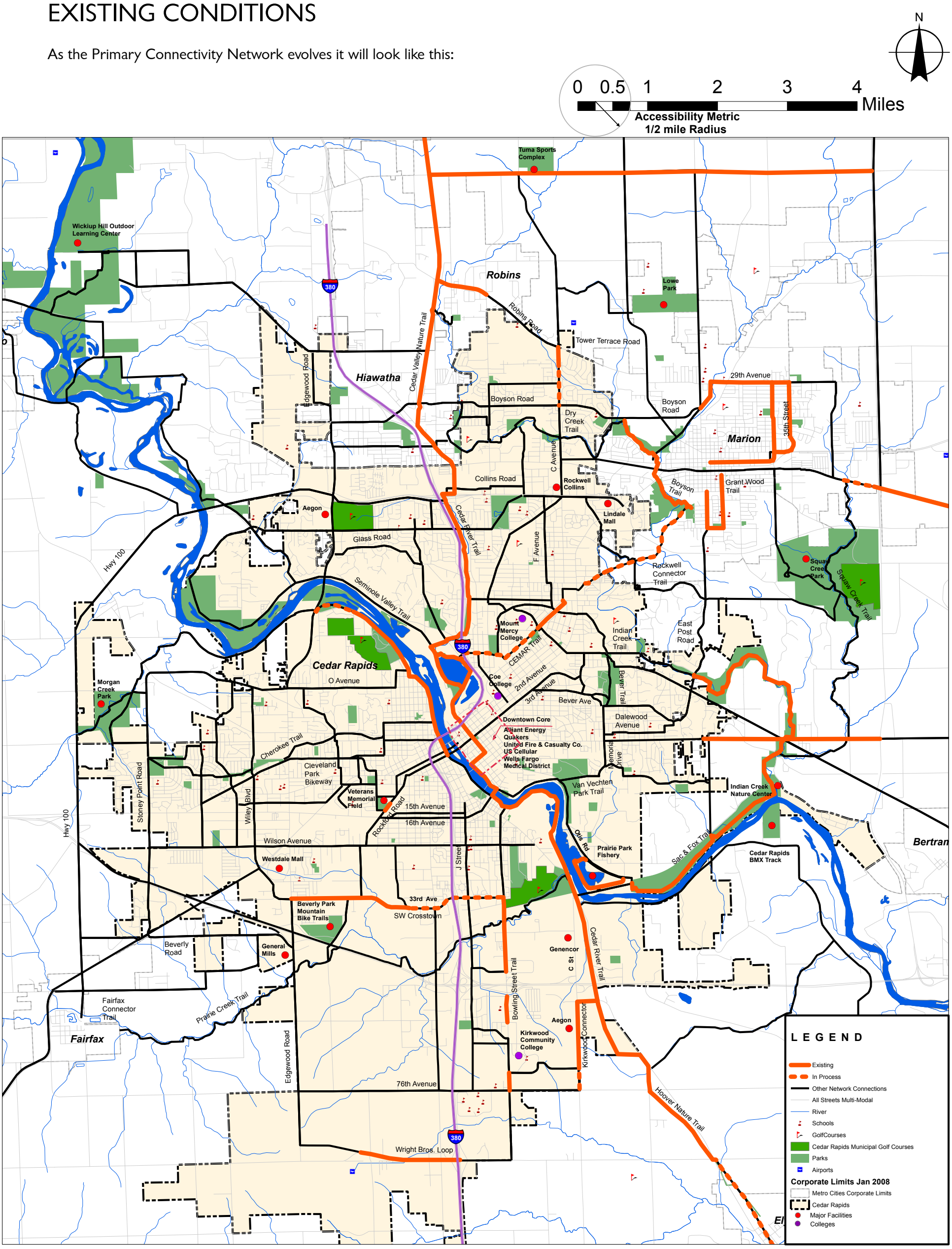
In addition to the annual cost to maintain a trail system in a safe usable condition, there comes a time when it is prudent to replace the paved surface. The length of serviceability can vary greatly between asphalt and concrete and the consistent quality maintenance program. We feel it would be safe 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

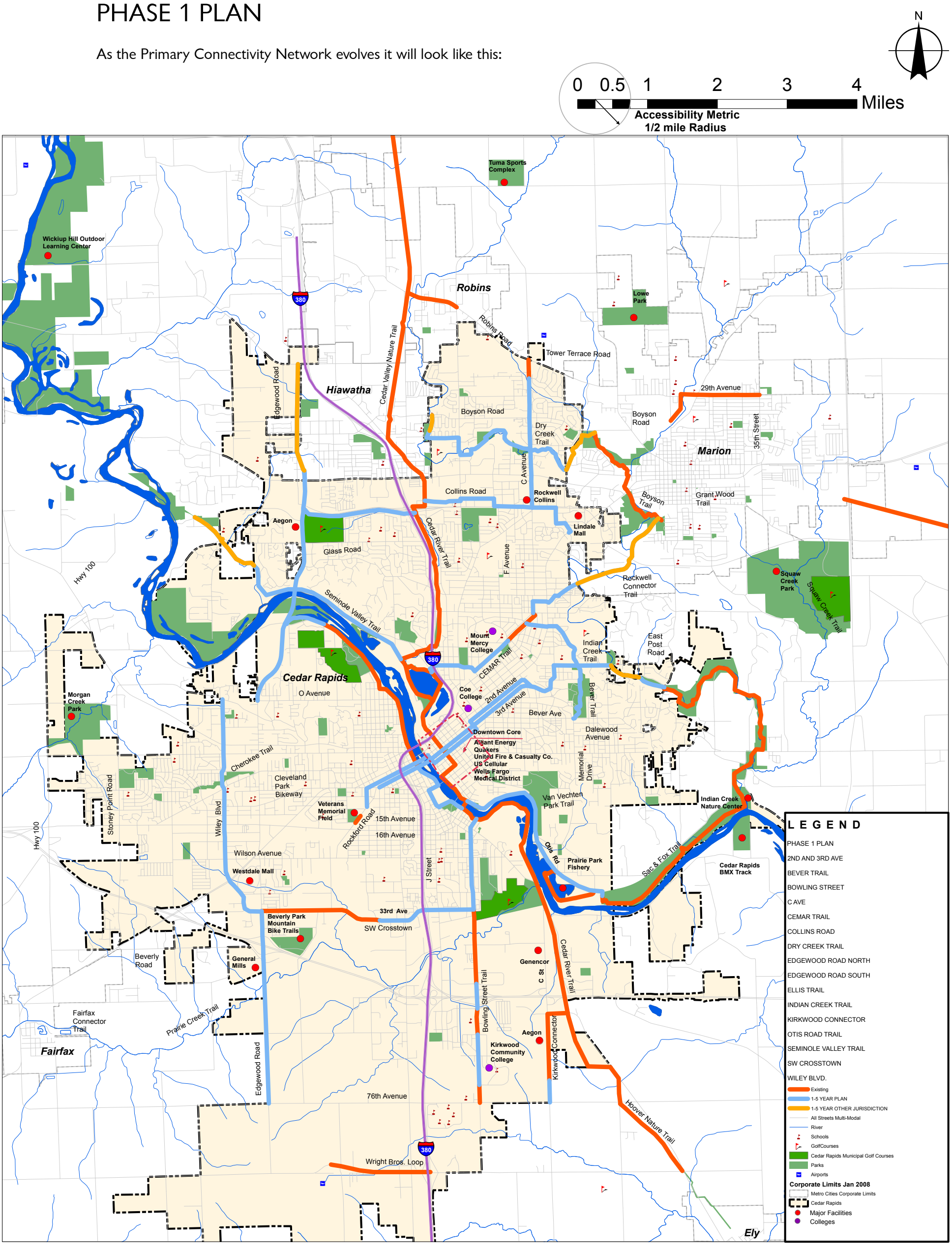
As the Primary Connectivity Network evolves it will look like this:



IMPLEMENTATION STRATEGY

PHASE 1 PLAN

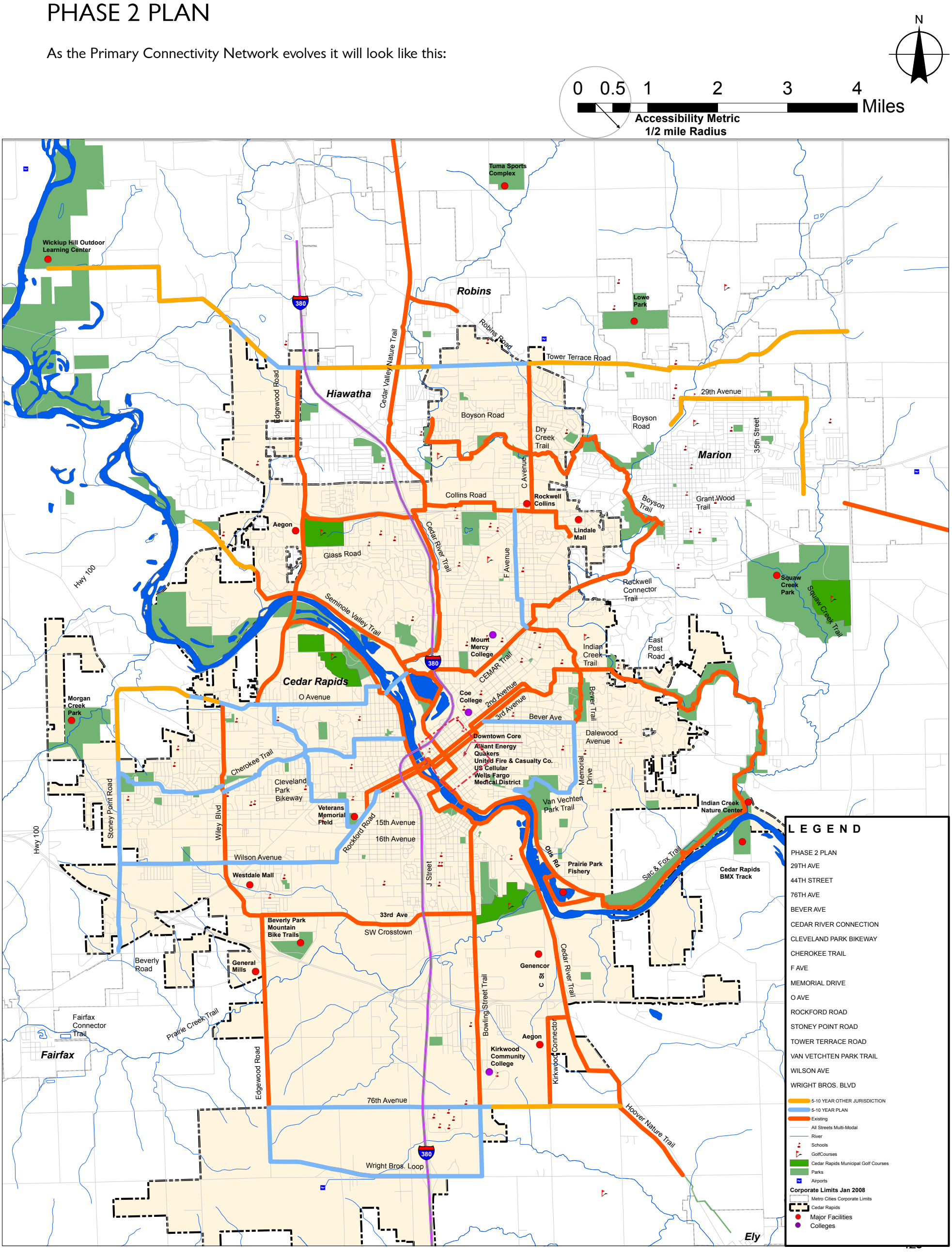
As the Primary Connectivity Network evolves it will look like this:



IMPLEMENTATION STRATEGY

PHASE 2 PLAN

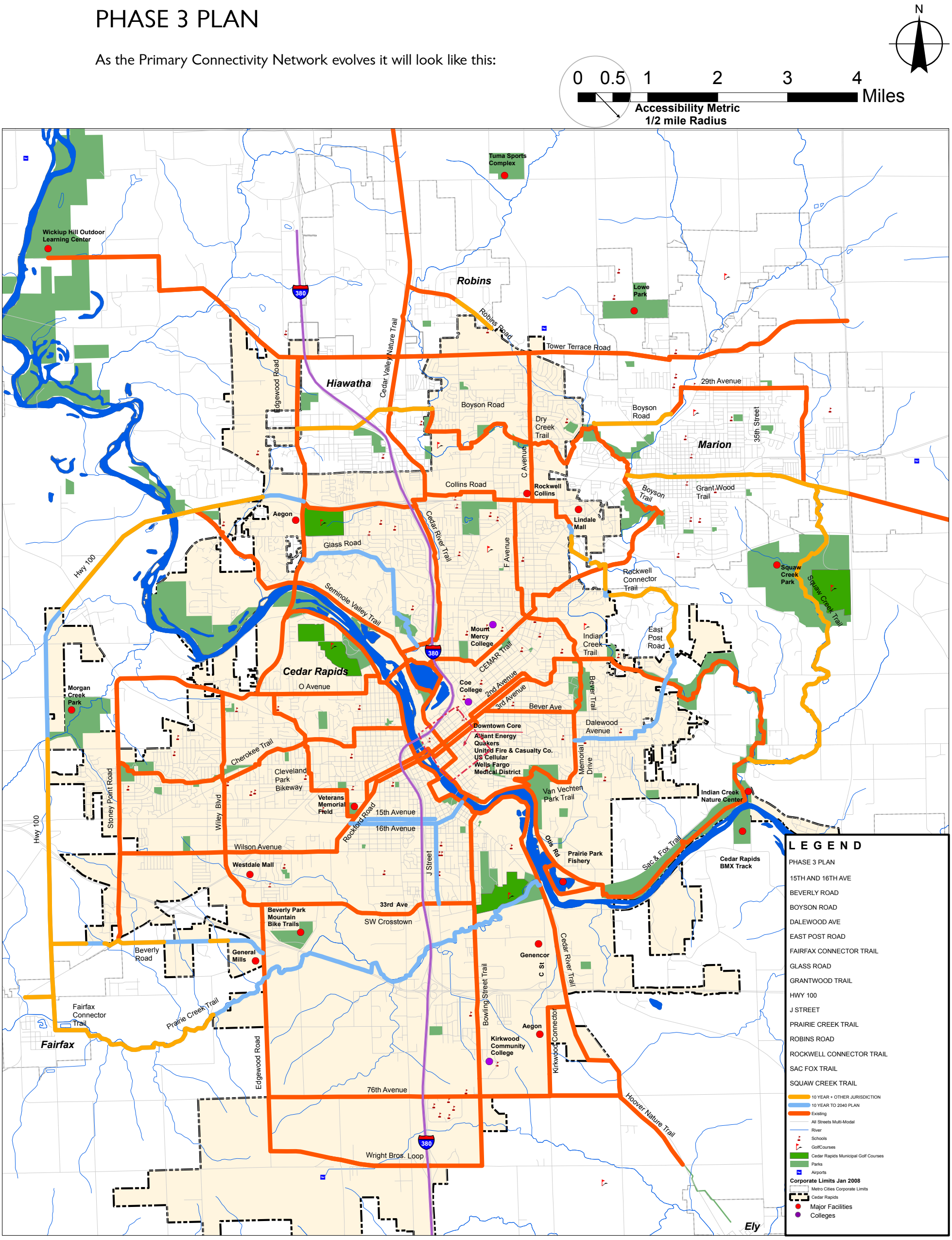
As the Primary Connectivity Network evolves it will look like this:

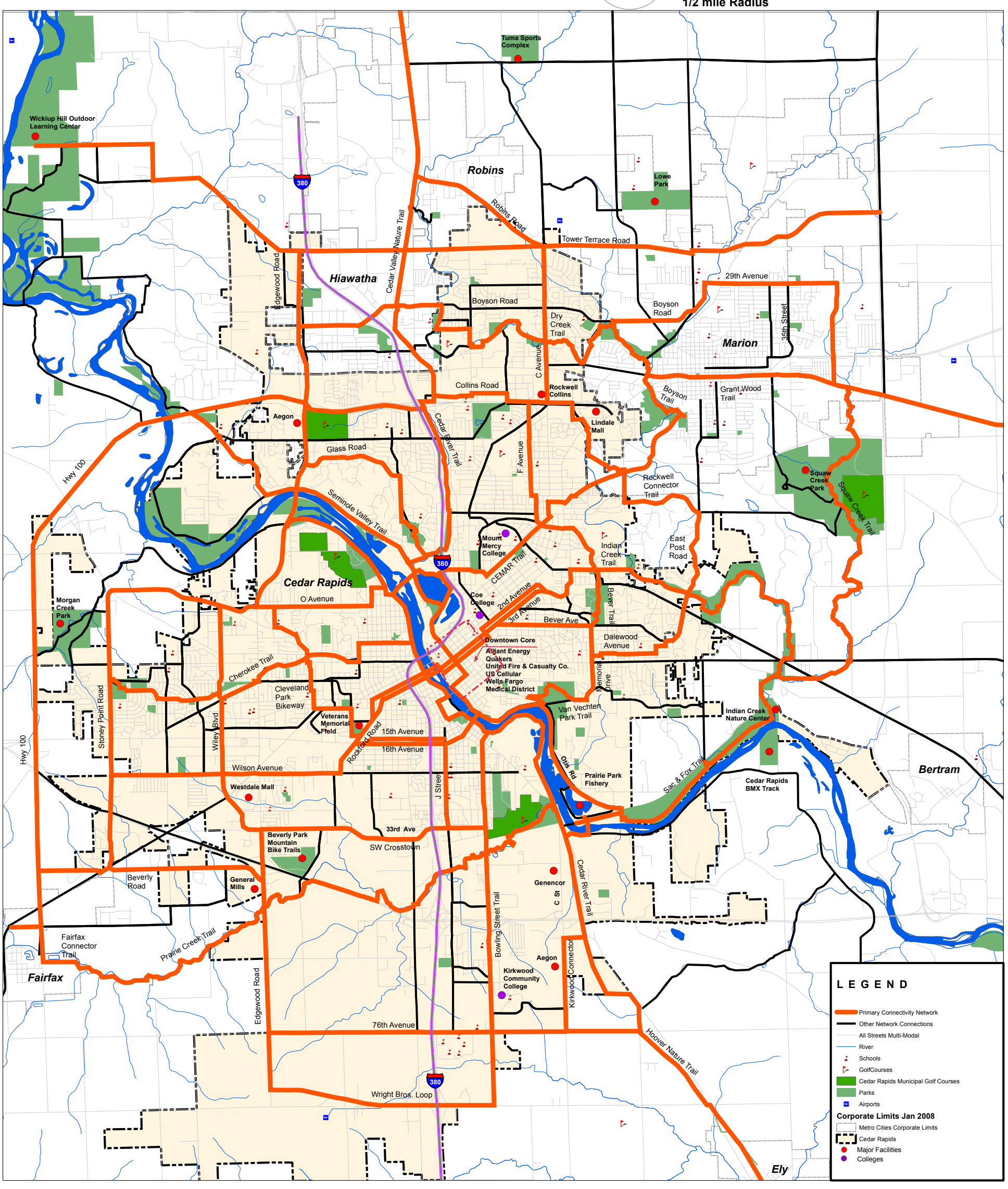


IMPLEMENTATION STRATEGY

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: