CAMPUS CONNECTOR TRAIL

MINI-MASTER PLAN

Duluth, Minnesota

October 09, 2019

THE CITY OF DULUTH MINNESOTA

Duluth Parks & Recreation

DULUTH-SUPERIOR METROPOLITAN INTERSTATE COUNCIL MIC

ACKNOWLEDGMENTS

>> Cover Photo Credit: Bike Racks; City of Duluth

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University of Minnesota– Duluth

College of St. Scholastica

ISD 709/Lowell Elementary

Duluth Bikes Coalition

Zeitgeist Center for Arts & Community

Chester Bowl Improvement Club

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01. BACKGROUND & HISTORY

>>Photo Credit: Striped Bike Lane College Street; City of Duluth Staff

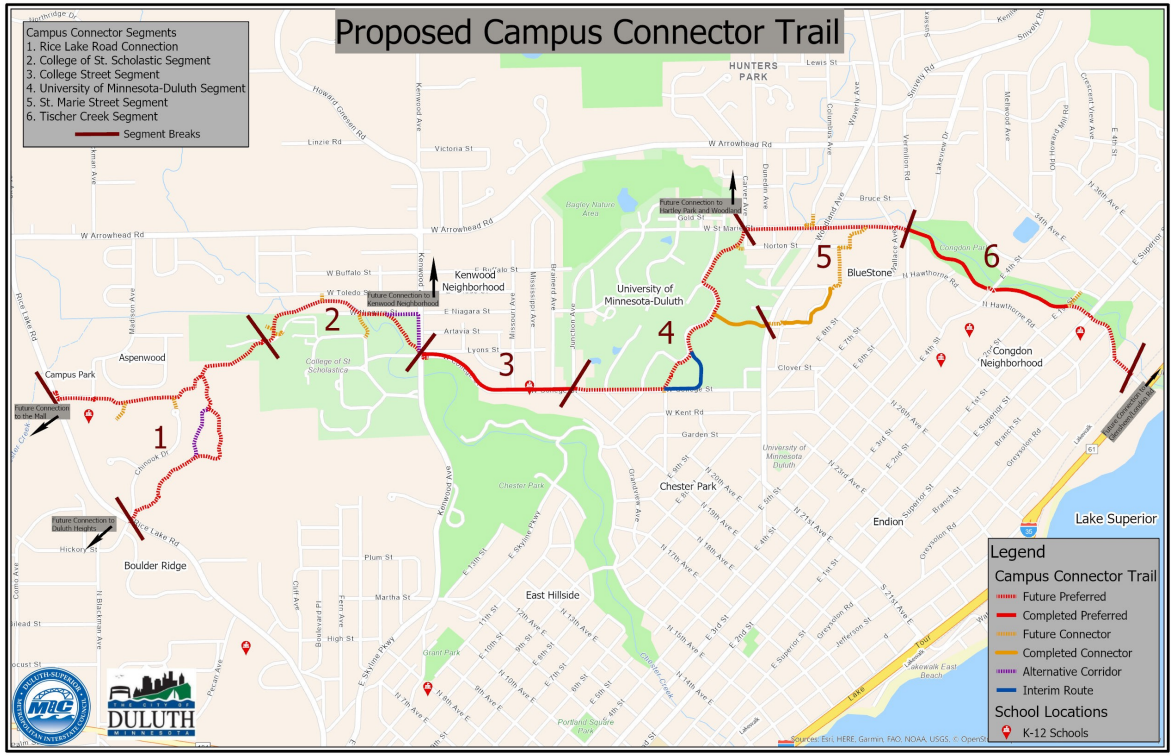
Focus Area

Planning for the Campus Connector Trail focuses on a roughly 4.25 mile corridor running from Lowell Elementary and Boulder Ridge student housing on Rice Lake Road, to the Lakewalk crossing of 32nd Avenue East. This study corridor includes the College of St. Scholastica (CSS) and University of Minnesota-Duluth (UMD), as well as the Bluestone apartment complex and the Mount Royal commercial development. Refer to Appendix G maps depicting the focus areas.

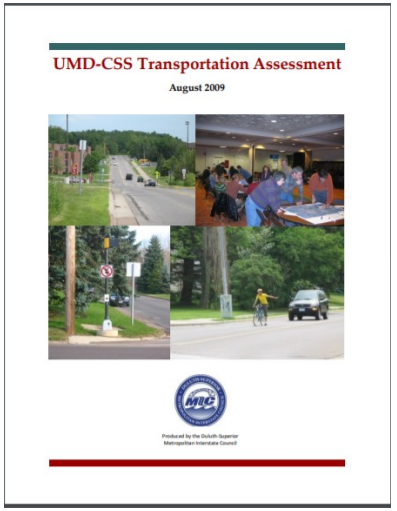
History of Campus Connector Trail

Planning for the Campus Connector has roots in the 2006, *Rice Lake Road Corridor and Traffic Impact Study*. In the mid-2000s, the Rice Lake Road corridor was experiencing significant development, including the Bristolwood, Maple Ridge, and Bluffs Ridge subdivisions and Boulder Ridge apartments. As Boulder Ridge was anticipated to appeal to college students, the need for a trail connection from Boulder Ridge to CSS and to College Street and UMD was identified. City staff and Council representatives served on the Metropolitan Interstate Council (MIC) Policy Board and Technical Advisory Committee to inform and make recommendations related to this study.

In 2008, the MIC completed the *UMD-CSS Transportation Assessment* to improve transportation around the two campuses. While the assessment aimed at improving road transportation, it also recommended a trail connection "between Boulder Ridge and Kenwood Avenue."

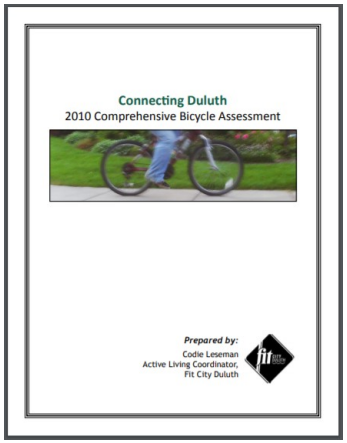


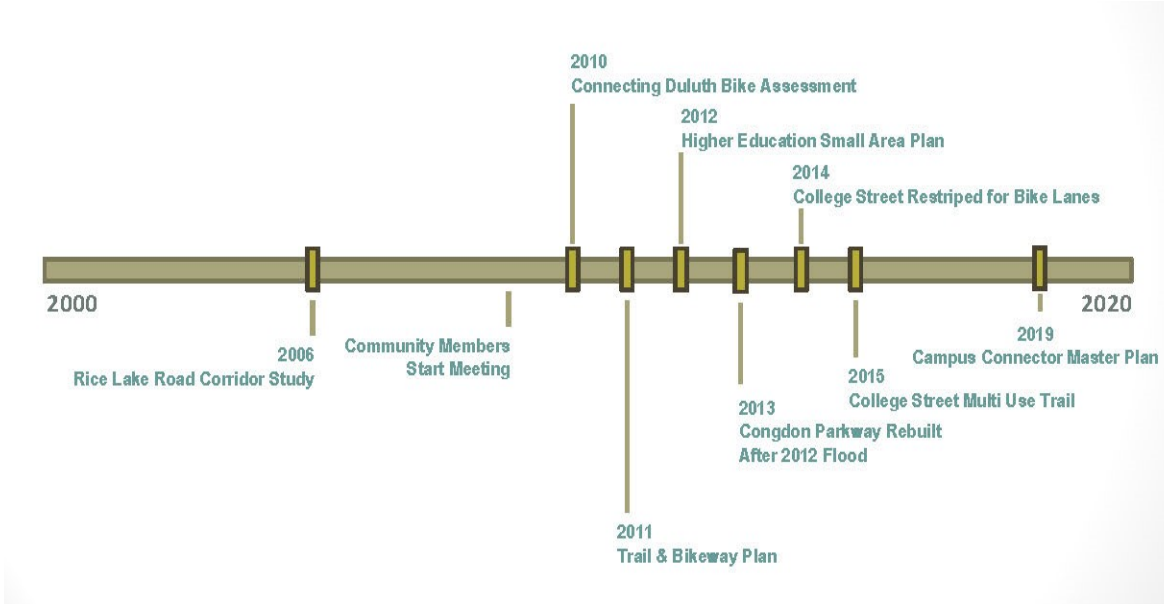
Shortly after these studies, a group of local citizens began advocating for a trail informally referred to as the "Lowell to Lakewalk," connecting Lowell Elementary School to the Lakewalk Trail. The group desired additional recreational opportunities in these neighborhoods, and recommended a trail corridor through neighborhoods versus around them, while too connecting to neighborhood green spaces. This group eventually partnered with Fit City Duluth (later named Healthy Duluth Area Coalition), a nonprofit organization that later merged with Zeitgeist Center for Arts and Community.



History of Campus Connector Trail Cont.

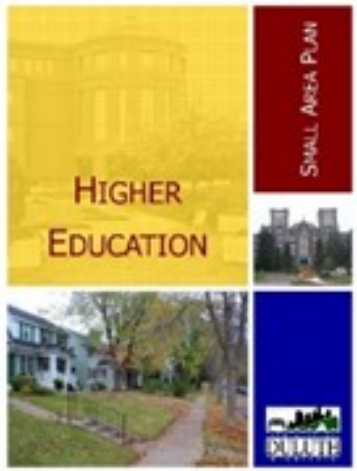
Fit City Duluth conducted its own Comprehensive Bicycle Assessment in 2010. In partnership with the MIC, this assessment provided specific recommendations for bicycle-related improvements. The assessment included the following recommended sections of the Campus Connector Trail: Rice Lake Road, Bong Boulevard/ Niagra Street, College Street, and the Congdon Park Trail. This assessment did not identify a trail through the undeveloped property between Rice Lake Road and the CSS. The assessment identified bike routes on existing streets and roads and therefore recommended a trail through the Aspenwood development.





The City of Duluth adopted the *Trail and Bikeway Plan* in 2011, which recommended a comprehensive and connected system of trails, bikeways, and trailheads. The plan identified the difficulty connecting the lakefront with the ridgeline, and the need for better trail and bikeway access to Duluth schools and colleges. The City Council approved plan demonstrates a connected trail system (see appendix I), and calls for connections to Lowell Elementary, CSS, Chester Park, UMD, Mount Royal, Congdon Park and the Lakewalk. The plan recommended a multi-use paved trail corridor, both on and off street, with trail connections to existing and future neighborhoods.

Also in 2011, the City Planning Division oversaw the *Higher Education Small Area Plan*, approved by City Council in 2012. This plan focused on a small area around the UMD and CSS campuses and determined that increased traffic congestion on Rice Lake Road and near campus intensified with student housing moving further away. The plan recommended an increased use of alternative modes of transportation to reduce campus trips via automobiles and relieve pressure on the roadway network. Among the Among the



History of Campus Connector Trail Cont.

Among the recommendations was, “develop a trail from the Boulder Ridge area to Kenwood Avenue” that would be a paved multi-use trail, plowed in the winter, ultimately connecting to the Lakewalk. In 2015, the City held public events, group rides, and other celebrations to solicit trail name ideas. Following this process, “Campus Connector Trail” was chosen.

After adoption of the *Higher Education Small Area Plan*, City staff began attending meetings with Healthy Duluth Area Coalition, Zeitgeist, and citizen advocates. Six years of planning with multiple agencies and City departments resulted in the same conclusion; the need for a multi-use trail from Rice Lake Road to the Lakewalk, with connection to multiple schools and neighborhoods was a priority.

Population Data

The adjacent neighborhoods of Kenwood and Congdon have a mixture of single-family housing, multi-family housing, institutional uses, and commercial centers. With the Campus Connector linking a diversity of uses, it provides a real transportation alternative for those that live and work in the area.

Approximately 16,000 residents live within 1/2 mile of the proposed trail, based on 2010 Census data. This number has likely increased since 2010 due to the development of the housing at Bluestone and Kenwood Village.

Of these residents, an estimated 900 are K-12 students, based on 2011-2015 enrollment data from ISD 709. This includes ISD 709 students enrolled at district schools, not just the schools along the corridor (Lowell Elementary, Congdon Elementary, Ordean Middle, and East High schools are located along the corridor), meaning this data has a wider margin of error than other data. However, because student populations have generally remained stable, this demonstrates that hundreds of neighborhood residents travel to the four schools along the trail.

In addition to K-12 students, 2018 enrollment data from UMD and CSS shows 15,038 college students. Even students who do not live along the Campus Connector can use it as transportation between college campuses and to nearby commercial areas.

16,000 residents
Within 1/2 mile

900 K-12 students

Over 15,000 college students

Completed Segments

Prior to completion of a focused planning effort for the Campus Connector, portions of the trail were completed as opportunities arose.

2013: Bluestone development along Woodland Avenue completed. UMD constructed a paved multi-use trail off Woodland Avenue, from Bluestone to the heart of campus.

2014: The 2012 flood caused significant damage to the paved trail along Tischer Creek through Congdon Park. Trail reconstructed using FEMA funding.

2014: City of Duluth Engineering Department determined College Street was wide enough to accommodate striped bike lanes and additional on-street parking.

2016: College Street was narrowed to two lanes, and a paved multi-use trail was created along the north side of the street using DNR funds.

2016: St. Louis County completed the paved trail behind the curb along the west side of Rice Lake Road.

>>Photo Credit: College Street; City of Duluth

>>Photo Credit: August 2016 trail construction on West College Street; Steve Kuchera Duluth News Tribune

02. PURPOSE & PROCESS

>>Photo Credit: April 23, 2019 Public Meeting; City of Duluth

Duluth Parks and Recreation Mission Statement

To promote the health and wellbeing of our community, environment, and economy by facilitating recreational opportunities and coordinating the enhancement of our parks, facilities, and natural resources now and into the future.

Duluth Parks and Recreation Vision Statement

Continue to be the central driving force in strengthening the heritage of a healthy, active community for future generations by continuing on the path of improving and enhancing our parks and facilities; protecting our natural resources; and developing partnerships to deliver recreation programs and services.

Metropolitan Interstate Council Mission Statement

Guiding the future of transportation for the Twin Ports Area by encouraging local policy decisions and multi-modal infrastructure projects that will provide a transportation system that serves all users.

Purpose of Mini-Master Plan

A Mini-Master Plan is a planning document focused on specific park or trail infrastructure that can be adopted by the City to guide future development. This plan combines previous and current planning efforts and aims to:

1. Define the purpose of the Campus Connector trail and its audience.
2. Identify where the Campus Connector is in its development and how it should be developed in the future.
3. Create a clear “road map” of how to move forward with future use and development of the trail.
4. Become a resource for the Parks and Recreation Division to guide future decisions in development, operations and maintenance, funding, etc.
5. Offer clear direction to the City and community partners on facility development, operations, and management of the trail system.

Guiding Principles

1. Identify shared goals and vision for trail with stakeholders and community.
2. Generate preferred trail alignment and design considerations.
3. Provide high quality recreational and commuter trail opportunities for local residents and regional users.
4. Develop infrastructure that is in balance with the surrounding built and natural environments.

Project Scope

The Campus Connector is a paved, non-motorized multi-use commuter/recreational trail that will run from the Lakewalk to Rice Lake Road, accommodating bicyclists and pedestrians. The trail will provide vertical connectivity for residents, nodes of business, and education institutions along its path. This will be the first paved, vertical commuter corridor in Duluth.

The preferred width of the trail is 10’-0” to safely accommodate two-way bicycle traffic per MN DNR standards. Due to site constraints, some locations are permitted to be 8’-0” in width. This will be identified in the final stages of design.

The trail addresses a gap in existing bike and pedestrian infrastructure and creates pathways through neighborhoods and business districts instead of around these destinations. The trail is a safe alternative to congested roadways at peak times, such as Rice Lake Road and Arrowhead Road. Refer to Appendix G for maps depicting the study area.

Public Engagement Timeline

Interdepartmental City Staff Kick Off Meeting – February 15, 2019

Hosted at City Hall. Twelve (12) representatives from various City divisions attended to discuss project scope, planning timeline, and to provide input on other division projects and priorities.

Stakeholder Meeting #1 – April 1, 2019

Six (6) representatives attended the stakeholder meeting, representing the following organizations: Aspenwood Condominiums, Summit Management, Zeitgeist Arts, UMD, and Chester Bowl Improvement Club

Public Meeting – April 23, 2019

Hosted by City of Duluth staff and the Metropolitan Interstate Council, with 72 community members attending the meeting held at the Unitarian Universalist Congregation Duluth.

UMD/CSS Student Engagement Survey – May 2019

The City of Duluth distributed an online survey for current University of Minnesota Duluth and College of St. Scholastica students.

Public Comment Period—April to September 11, 2019

Open during the planning process via email, phone, written comment, and website comment form; closed after approval by the Parks and Recreation Commission at their regular September 2019 meeting.

Public Survey – May 10 to 31, 2019

Online survey available online from May 10 to 31, 2019. Received 441 respondents.

Corridor Flagging – May 15, 2019

Parks and Recreation Staff flagged proposed Segment 1 alignment for further study and stakeholder discussion/ review.

Bristolwood Development Meeting – May 16, 2019

Residents in the Bristolwood Development were invited to a meeting at City Hall to review proposed trail alignment for Segment 1 and overall planning process.

CSS Leadership Meeting – May 16, 2019

City staff met with representatives from the College of St. Scholastica to discuss the planning process, CSS priorities, and possible connections through campus.

Traffic Engineering Meeting – May 31, 2019

Representatives from City, County, and MnDOT met to discuss the trail project, alignment/road crossings, and safety considerations.

UMD Leadership Meeting – June 5, 2019

City staff met with representatives from the University of Minnesota Duluth to discuss the planning process, UMD priorities, and possible connections through campus.

Stakeholder Meeting #2 – June 27, 2019

Ten representatives attended this stakeholder meeting, representing the following organizations: Aspenwood Condominiums, Summit Management, Zeitgeist , UMD, Bristolwood Development, Parks Commission, and CSS.
*See Appendix D for a list of all invited stakeholder groups.

Lowell Elementary ISD 709 Meeting – July 8, 2019

City staff met with representatives from Lowell Elementary to discuss project and connection to the school, including safety and parking considerations.

Parks Commission Informational Presentation – August 14, 2019

The draft plan was presented to Parks & Recreation Commissioners.

Public Open House – August 14, 2019

Held on the first floor atrium in City Hall one hour prior to the August 14 Parks Commission meeting, this open house included the draft plan and proposed alignment maps available for public viewing and discussion.

Parks Commission Approval – October 9, 2019

The final plan was presented to the Parks and Recreation Commission for approval.

**Remaining schedule of events contingent upon Parks and Recreation Commission meeting on October 9, 2019*

Metropolitan Interstate Council Board Approval – October 16, 2019

The final plan was presented to Board of Directors at the Metropolitan Interstate Council for approval.
*While MIC approval is not necessary for City Council approval, future grant funding opportunities requires MIC support.

City Council Approval – October 28, 2019

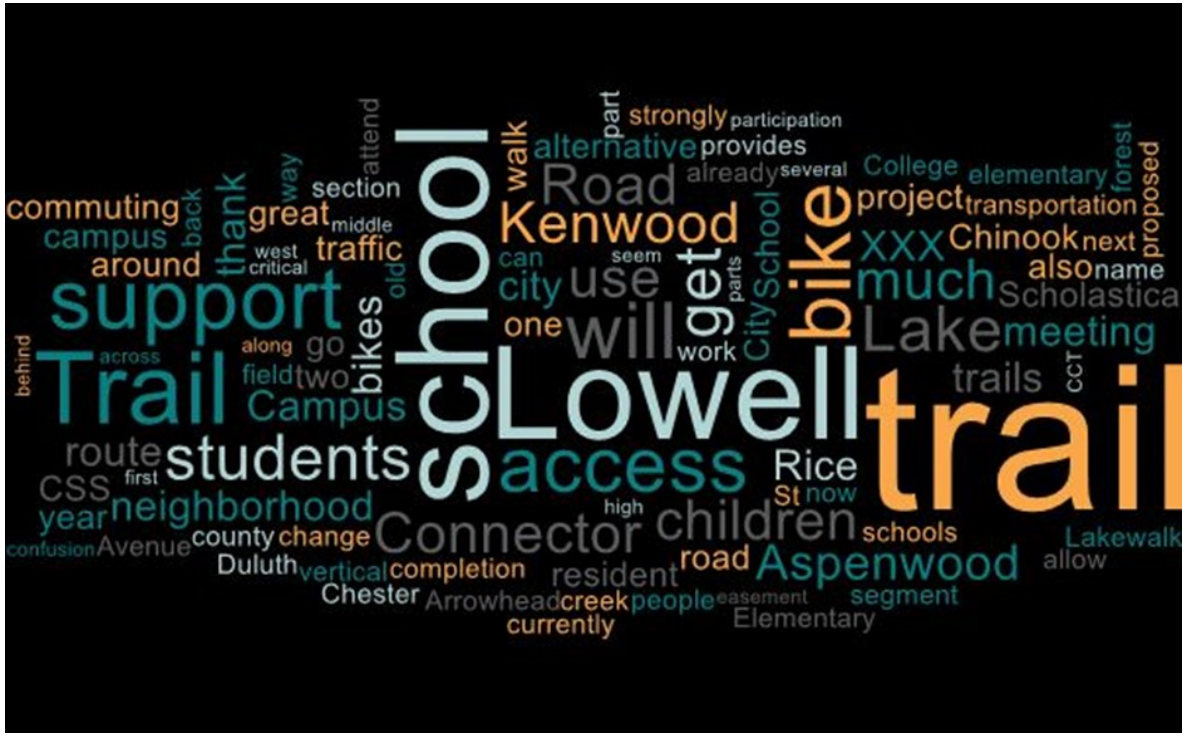
The final plan was presented to City Council for approval.

Public Engagement Process

An interdepartmental staff kick-off included representatives from fire, police, planning and development, parks maintenance, parks and recreation, engineering, and the Metropolitan Interstate Council. The focus of this meeting was to introduce staff to the project and planning timeline, while considering how the project may affect other departments and authorities of the City.

City Staff utilized a stakeholder committee to inform the planning process and in development of a preferred trail alignment. See Appendix D for a full list of invited stakeholder organizations. The committee met at the start of the planning process to discuss goals and objectives, as well as their role as a stakeholder. The responsibilities of the stakeholder committee were:

- Act as a liaison between the City and community groups.
- Work with City staff to identify opportunities and challenges with the Campus Connector project.
- Help address the needs and desires of the various stakeholders who use the trail and surrounding areas.
- Commit to participate in one or more public meetings regarding the Campus Connector.
- Work with the City to educate the public on the Campus Connector decisions and processes.



>>Word Cloud reflects all public comments received during planning process

7 Stakeholders attended Stakeholder Meeting #1

10 Stakeholders attended Stakeholder Meeting #2

12 Representatives attended City Interdepartmental Kick-Off Meeting

Public Engagement Process

A second stakeholder committee meeting was used to address alternative alignments and specific considerations from businesses, homeowners, and neighborhoods. Representatives from the Bristolwood Development attended the second stakeholder meeting.

To better understand preferred transportation modes and perceptions of the proposed Campus Connector Trail, planning staff administered a short survey to students at both UMD and CSS. The survey opened on April 1, 2019, and closed on April 16, 2019, with 180 total responses. CSS sent the survey directly to students, whereas UMD distribution was through informal networks. Survey results found students consider the proposed trail to be both for transportation and recreational needs. Another survey trend is that many students felt they are unable to get where they want without use of automobiles. There was almost unanimous support from students respondents in support of the Campus Connector Trail. See Appendix A for a full summary of survey results. Staff coordinated a meeting with City, County, and MnDOT Traffic Engineers during the planning process to discuss specific road crossings, alignment options, and future road or trail projects that may impact the Campus Connector. Separate meetings were held with leadership at the College of St. Scholastica, University of Minnesota Duluth, and ISD709/ Lowell Elementary School. These meetings provided staff an opportunity to discuss trail connection to each campus and considerations specific to their respective locations.

>>Photo Credit: Public Meeting #1, City of Duluth

72 Community Members attended Public Meeting #1

>>Photo Credit: Public Meeting #1, City of Duluth

>>Photo Credit: Public Meeting #1, City of Duluth

Public Engagement Process

A public survey was available from May 10 to 31, 2019. A total of 441 responses were received, providing additional information to inform decisions regarding preferred alignment, alternative options, important crossings, and segments of greatest urgency for safe human powered transportation. Automobile was the most common mode of transportation used by survey respondents, followed by walking and biking. See Appendix B for a full summary of survey results.

A survey was administered to residents in the Bristolwood Development to help inform trail routing in their neighborhood. Surveys were mailed to all 23 homes in the Development. Eleven (11) responses were received. See appendix C for survey responses.

Public meetings were hosted twice during the planning process. At both meetings, attendees were provided a brief update and opportunity to comment on large maps of each of the five trail segments that make the Campus Connector Trail. These comments were recorded for staff and stakeholder consideration.

The City and Metropolitan Interstate Council collected comments from the public and stakeholder committee during the duration of the planning process from February 15 to August 29, 2019. Comments were submitted via phone, email, parks website comment form, and through handwritten comment cards. Once collected, comments were exported to an excel database, dated, and redacted of any personal contact information to preserve confidentiality. Each comment was reviewed by planning staff to determine commonalities, key considerations, and themes. Please refer to Appendix E for a full list of public comments received.

180 Student Survey Responses

63 Public Comments

11 Bristolwood Survey Responses

94 Mapping Exercise Public Comments

441 Public Survey Responses

Technical Considerations

In addition to the public engagement previously noted, development of this plan was rooted in previous planning recommendations and technical challenges identified by this plan. Those challenges included, but were not limited to, wetland impacts, significant trees, topographic challenges, rock outcrops, streams, utilities, road crossings, pinch points, existing built infrastructure, privacy, and property ownership. Due to identified challenges, the City contracted with SAS Associates to study the corridor at a schematic level of design, including the development of preliminary project cost estimates. Refer to appendix F for schematic designs and appendix H for preliminary cost estimates.

This plan recognizes that other regulating governing units (RGUs) will be responsible for permitting aspects of the project that fall under their jurisdiction. At this level of planning, permitting, such as wetland and historical resource impacts, cannot be fully identified. Further study and permitting will be completed during the final design/engineering process.

City and consultant staff conducted numerous field visits along the entire corridor. Visits focused reviewing constructability, potential natural resource impacts, and surrounding neighborhood impacts.

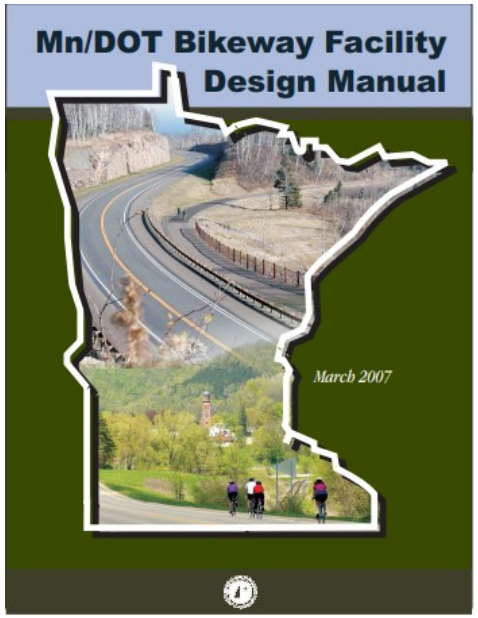
>>Photo Credit: Bike on College Street; MIC Staff

03. RECOMMENDATIONS

>>Photo Credit: August 14, 2019 Public Open House; City of Duluth

Accessibility

This trail system will be designed and constructed to be fully accessible to comply with accessibility recommendations set forth in the *MnDOT Bikeway Facility Design Manual*.



Public Safety, Emergency Access & Response

Emergency response vehicles will have easy access to this trail system in the event of an emergency due to the 10’ wide paved profile of the trail. Throughout the planning process, public safety and emergency response personnel were consulted to ensure compliance with best practices in public safety and design.

Lighting

At this time, additional on-trail lighting, outside of what already exists in the City street and campus lighting system, is not a recommendation of this plan. Both college campuses reserve the right to add lighting along portions of the trail through campus. Colleges will own any lighting and maintain full responsibility for their maintenance and management.

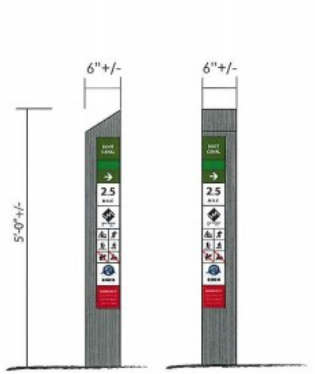
Invasive Species

Per the USDA National Invasive Species Information Center website, trails are identified as pathways for the spread of invasive plant species. Pathways are the means and routes by which invasive plant species are introduced into new environments. Pathways can generally be classified as either *natural* or *human mediated*. *Natural* pathways (i.e., those not aided by humans) include wind, currents (including marine debris), and other forms of natural dispersal that can bring species to a new habitat. Human-mediated pathways are those which are created or enhanced by human activity such as the creation or improvements to a trail.

The Campus Connector corridor has an existing population of invasive plant species and the City recognizes additional development and trail use may increase their prevalence or introduce new invasive plant species along the corridor. This plan recommends monitoring and management of invasive plant species be part of the regular maintenance necessary to support the infrastructure of this trail system.

Signage & Wayfinding

Signage and wayfinding shall adhere to the standards set forth in the City of Duluth *Gates, Signage and Wayfinding Master Plan* approved by Council in 2017. It is recommended that signage be installed at all access points, along the corridor at key intervals, and at key intersections to provide guidance and rules. Appropriate barriers shall be installed at road crossings to ensure legal use of the trail system and to restrict access to non-motorized vehicles.



>>Image Credit: Example trail signage; Gates, Signage and Wayfinding Master Plan

Trailheads & Parking

Development of trailhead facilities or dedicated parking areas are not a significant component of this plan. The trail is designed to be a transportation and recreation facility for local users, not a destination. This plan does not recommend investment in parking facilities at this time.

Improved trailhead parking is recommended for the current parking lot at the intersection of College Street and Kenwood Avenue. The lot currently serves the Chester Park trails and the Duluth Traverse. This lot could easily serve Campus Connector trail users.

Trail Connectors

Throughout the proposed corridor, connector trails at key locations were identified during the planning process. These connections range from neighborhood spurs that provide direct citizen access to the trail system, college campus connections providing easy access for students, and spurs into business districts at Kenwood and Mount Royal. Refer to Appendix G for a map depicting these trail connectors.

Trail Crossings/ Intersections

A schematic level design was prepared as part of the planning process that assessed the physical geometry and technical considerations of each trail intersection with other public transportation corridors such as alleyways and roads. Refer to Appendix F for a map depicting these trail crossings.

Winter Use

The facility will be plowed to allow for year-round use. This plan and previous planning processes have identified commuting as one of the primary uses of this trail facility, and plowing in the winter months will ensure non-restricted use. The importance of dedicated off-street routes where commuting and recreational users are separated from automobile traffic provides a higher level of safety results in an increased number of trail users. This is essential to the success of a multimodal transportation system in Duluth.

Operating Hours

The trail hours will be open according to ordinances and policies within the Duluth City Code, Chapter 35 Parks and Recreation.

Sec. 35-9.3. Use of Parks between certain hours prohibited without prior registration, exceptions.

Except as provided herein, no persons shall enter or remain in any public park or public recreation area, except Canal Park, between the hours of 12:00 midnight and 6:00 a.m. on any day.

Screening

Screening is expected to be implemented at the time of construction with type and extent determined during the design/engineering process. Screening is used to provide additional privacy to adjoining landowners of the trail.

Map Legend Definitions

Proposed trail alignment maps located in Appendix A use the following legend items:

Future Preferred: Identifies preferred trail route that is currently incomplete.

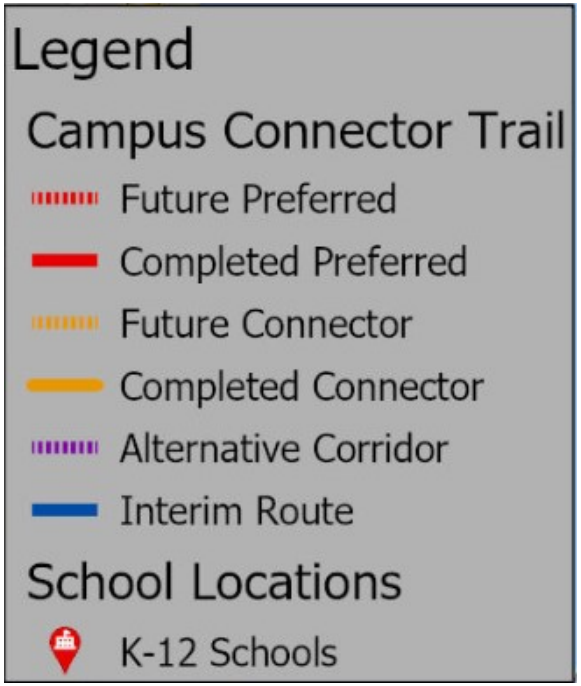
Completed Preferred: Completed trail sections.

Future Connector: Identifies connector spur trail to main trail spine.

Completed Connector: Completed spur trail to main trail spine.

Alternative Corridor: Identifies trail route that will be used if preferred route not possible.

Interim Route: Completed trail route usable until preferred alignment is constructed.



Trail Segment 1—Rice Lake Road Connection

Significant efforts have been taken to identify a Segment 1 route that provides connection to Lowell Elementary and Boulder Ridge, while balancing community needs and neighborhood privacy. This plan recommends an "upper connection" to Lowell Elementary and a "lower connection" to the Boulder Ridge student housing complex. This plan is not recommending "either/or" but recommending both routes in order to make the necessary connections.

Upper Connection

The "upper connection" to Lowell Elementary is proposed to start at the existing Duluth Transit Authority bus stop on Rice Lake Road. An existing Rapid Flash Beacon (RFB) and crosswalk at this location provides safe crossing of Rice Lake Road to the County-owned and maintained multi-use path. It will directly connect to the Rice Lake Road multi-use path, providing connection to MN Power, United Healthcare, and Northstar Edison Charter School.

From Rice Lake Road, the trail is proposed to be routed off-street along the south side of Barnes Road, a private access road to Aspenwood and Campus Park. Easements would need to be secured in this location. The north side of Barnes Road is not preferred by residents due to close proximity of homes and back yards. A retaining wall will likely be needed on the south side in order to accommodate the off-street trail. This portion parallel to Barnes Road will likely be build when the road needs to be reconstructed. Actual trail alignment and easements can be determined at that time. The priority for this segment is connecting to Lowell School over making the full connection out to Rice Lake Road.

ISD 709/Lowell Elementary School prefers their connection to the Campus Connector Trail be in the form of a "connector spur trail". See Segment 1 map in Appendix G for a plan view of proposed routing. This short "student only" connector will help with separating student use from public use, a security concern identified by ISD 709. ISD 709 also requests that signage be installed that identifies the Lowell School parking lots are for school use only.

On the north side of the Bristolwood development, a 10'-0" wide easement was previously dedicated for an east-west trail/pedestrian connection between Lowell Elementary and the College of Saint Scholastica. This is a narrow easement and would require special construction that will be significantly more expensive than traditional trail construction. An elevated trail detail depicting this proposed construction method can be found in Appendix F. This plan recommends seeking additional space for an easement from adjoining landowners to reduce the cost of this segment. If additional easement cannot be secured, it is recommended to construct the elevated trail through the existing dedicated easement.

From the location of the narrow easement at the end of the Bristolwood development the trail makes its way down a forested hillside north east into the Campus of Saint Scholastica.

Lower Connection

The "lower connection" to Boulder Ridge is proposed to begin at the intersection of Rice Lake Road and Chinook Drive. The crossing at the intersection of Chinook Drive and Rice Lake Road is supported by St. Louis County and City of Duluth Traffic Engineers as the most appropriate location. The location will likely require a Rapid Flash Beacon (RFB) and further study to determine best practice for safety and sight lines on Rice Lake Road. It provides direct on-street connection to the Duluth Heights Neighborhood via Hickory Street.

For the off street option east of Bristolwood, there is a "preferred route" and an "alternative corridor" identified in Segment 1. The preferred route was identified by residents as a means to locate the trail further away from homes, and follows a path of previously cleared trees through a wetland. The alternative route follows the slope of the hillside and minimizes wetland impacts. This plan recommends the City seek access through the wetland as shown in the Appendix G map, but recognizes the preferred route passes directly through a large high-quality wetland and may not be permitted by the regulating governing units (RGUs) responsible for permitting wetland impacts. The City reserves the right to construct the alternative alignment as shown in purple on the Appendix G map in the event that permitting cannot be secured for the preferred alignment that crosses the wetlands.

The Bristolwood development was platted with additional trail/pedestrian easements including one at the end of Chinook Drive. This plan recommends the development of a spur trail connection at the end of the Chinook Drive cul-de-sac to provide direct paved trail access for the residents of Bristolwood development. The City recognizes that this connection will likely socially develop over time when the Upper Connection is constructed and prefers to see it developed and maintained under the direction of the City with adequate privacy screening for adjacent residents.


Campus Connector Trail Segment 1
Rice Lake Road Connection
Segment Breaks
N
Mitchell Cir
Madison Ave
Kelly Cir
Kelly St
Chester Creek
Cleveland St
Tilgis Ave
W Toledo St
College of
St Scholastica
Selfridge Dr
Hamilton Dr
Bong Blvd
N Blackman Ave
Aspenwood
Campus Park
Barnes Rd
Lowell Elementary
Rice Lake Rd
Chinook Dr
Sockeye Dr
Como Ave
Butternut Ave
Hickory St
Boulder Dr
Howtz St
Boulder Ridge
E Willow St
Boulder Dr
1
Legend
Campus Connector Trail
Future Preferred
Completed Preferred
Future Connector
Completed Connector
Alternative Corridor
Interim Route
School Locations
K-12 Schools
Duluth Parcels
City
Tax Forfeit
All Other Parcels
Rice Lake Rd Path
Multi-Use Path
Likely Wetlands*
* Data Based On: air photography, soil inventory data and vegetation type cover.
0 275 550 1,100
Feet
DULUTH-SUPERIOR METROPOLITAN INTERSTATE COUNCIL
MIC
THE CITY OF DULUTH MINNESOTA

Trail Segment 2—College of Saint Scholastica

The proposed trail would approach the campus of Saint Scholastica from a forested area to the south, then travel between two student housing buildings before crossing a campus drive and continuing through a parking area. From the parking lots, the route is proposed along the south bank of Chester Creek until it intersects with Niagara Street.

Once on Niagara Street it will parallel the south side of the street, behind the curb, until it hits the existing softball field at the intersection of Kenwood Avenue and Niagara Street. This plan shows an alternative corridor and a preferred alignment around the softball field due to complex land ownership. The City will work with CSS and the landowner to secure the preferred alignment if possible.

Once past the softball field area, the trail continues to the intersection of Kenwood Avenue and College Street, where it will cross at a controlled intersection and connect to the existing trail along College Street. At this intersection is the parking lot and connection into Chester Park.

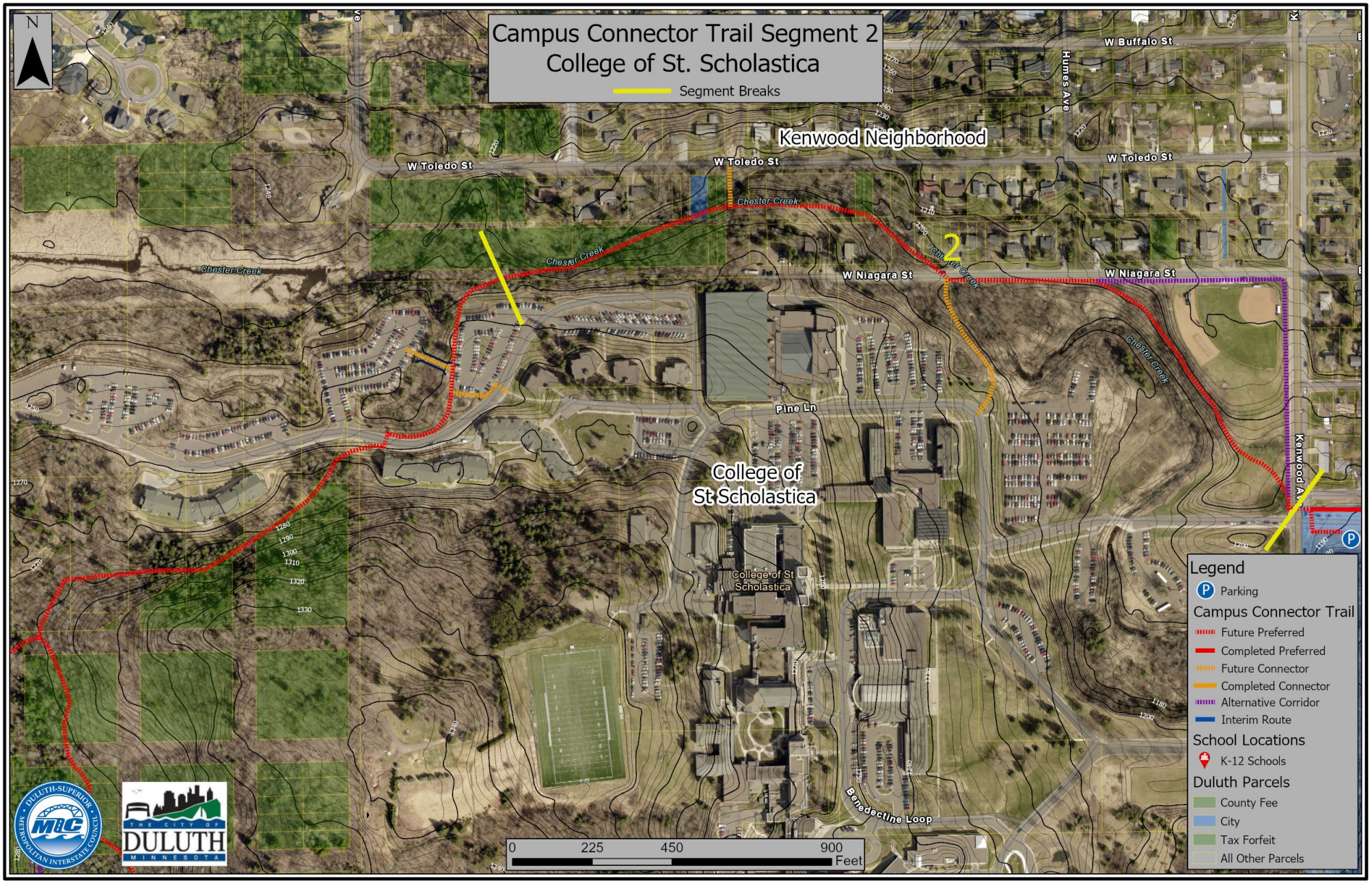
Also identified in this segment are connections to the trail from the heart of campus and parking lots, as well as a connection over Chester Creek from Toledo Street, providing a connection into this residential neighborhood.

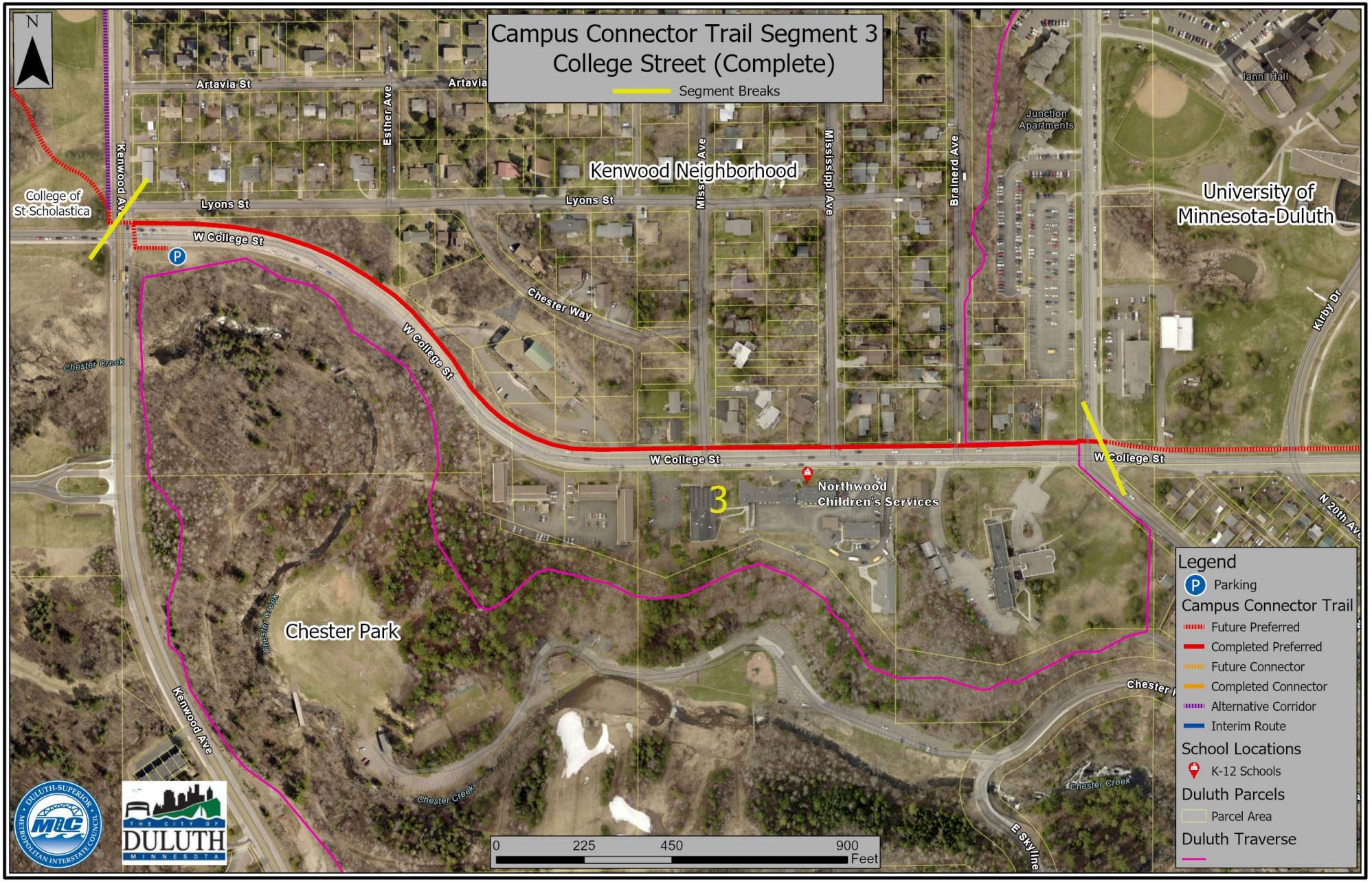
The majority of the main route is proposed to be entirely on publically owned land, easements, or existing right-of-ways. It will not be owned, operated, or maintained by the College of St. Scholastica except for any on campus connectors to the main trail spine and the portion of trail proposed behind the softball field. If the route behind the softball field is secured, a separate agreement between the City and CSS will be developed to determine the ownership, management, and maintenance responsibilities of said trail segment.

Trail Segment 3—College Street

This off-street segment was constructed in 2016 on the north side of College Street from Kenwood Avenue to Junction Avenue. While the trail is already constructed, necessary improvements include:

- A parking area at the southeast corner of the Kenwood Avenue and College Street intersection, as noted above. This is an existing parking lot for Chester Park that will be a shared multi-use trailhead facility for the Chester Park trails, the Duluth Traverse Trail, and the Campus Connector Trail.
- Improvements to traffic signals at major intersections, including College Street/Kenwood Avenue and College Street/Junction Avenue/19th Street. Traffic signals that provide pedestrian lead intervals and prohibit “right turn on red” motor vehicle traffic movements are critical.


Campus Connector Trail Segment 2
College of St. Scholastica
Segment Breaks
Kenwood Neighborhood
W Buffalo St
W Toledo St
W Niagara St
Humes Ave
Kenwood Ave
Chester Creek
Pine Ln
College of St Scholastica
Benedictine Loop
2
0 225 450 900 Feet
Legend
Parking
Campus Connector Trail
Future Preferred
Completed Preferred
Future Connector
Completed Connector
Alternative Corridor
Interim Route
School Locations
K-12 Schools
Duluth Parcels
County Fee
City
Tax Forfeit
All Other Parcels


Campus Connector Trail Segment 3
College Street (Complete)
Segment Breaks
N
Artavia St
Esther Ave
Kenwood Ave
Lyons St
Kenwood Neighborhood
Mississippi Ave
Brainerd Ave
Junction Apartments
Ianni Hall
University of Minnesota-Duluth
College of St Scholastica
W College St
Chester Way
Kirby Dr
Chester Creek
Northwood Children's Services
3
N 20th Ave
Chester Park
Kenwood Ave
E Skyline
0 225 450 900 Feet
Legend
Parking
Campus Connector Trail
Future Preferred
Completed Preferred
Future Connector
Completed Connector
Alternative Corridor
Interim Route
School Locations
K-12 Schools
Duluth Parcels
Parcel Area
Duluth Traverse

Trail Segment 4—University of Minnesota Duluth

Working with the University, a route that best meets the needs for student connectivity as well as other campus priorities was identified. Through the UMD campus, the proposed trail begins at the intersection of College Street and Junction Avenue. From this point, it follows College Street behind the curb on the north side. This alignment currently has a sidewalk that will need to be upgraded to a paved 10'-0" wide multi-use path.

Once the route meets the Facilities Operation building (Lund), the preferred route is to pass along the east edge of the large parking field west of Lund, where Snelling Avenue intersects with College Street. This is already a major bicycle and pedestrian corridor for UMD students, faculty, and staff. The University is not interested in pursuing this route at this time due to potential loss in parking capacity. This route will be studied in detail during the design/engineering process. An interim route has been proposed that currently exists as a mix of 8'-0" wide sidewalks and bituminous multi-use pathways. It will be utilized until a preferred route solution is determined.

The trail would continue north along University Drive, routing along Malosky stadium and the parking lot to the west of the field. This will require special attention in the design phase to reduce any potential loss of parking. Refer to Appendix G for details.

On the north side of campus is the West Branch of Tischer Creek, a designated trout stream, this plan recommends removal of two existing creek crossings and replacement with a new bridge crossing in the general location as shown in Appendix G. The campus portion of the main trail will terminate at the intersection of Carver Avenue and West Saint Marie Street.

A connector is proposed from the end of Norton Street into the spine trail. There is also an existing connector though the sports fields across Woodland Avenue into the Bluestone development.

The entirety of trail segment 4, including connector trails through UMD property, is proposed to be owned and operated by the University.

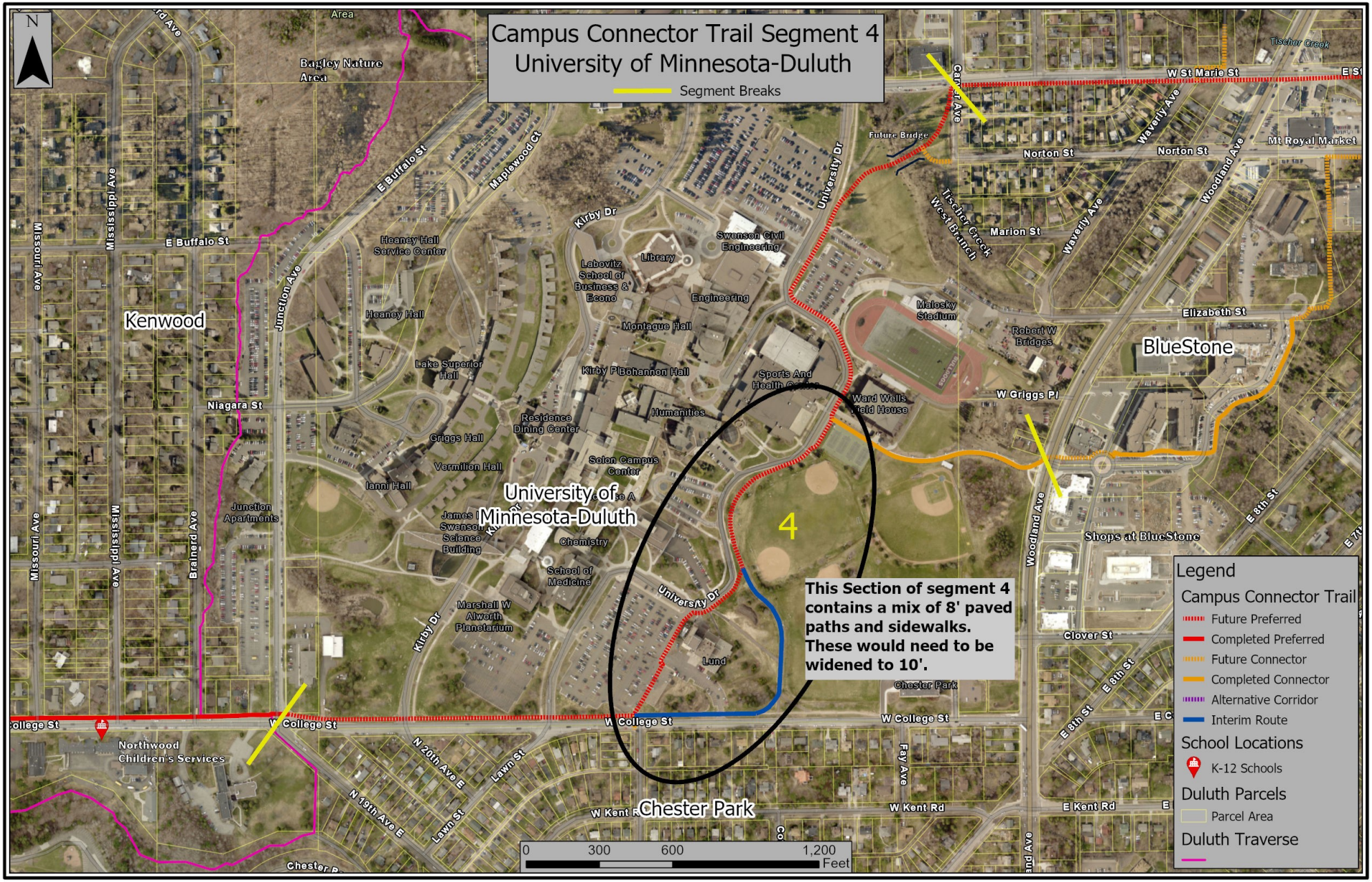
Trail Segment 5—St. Marie Street

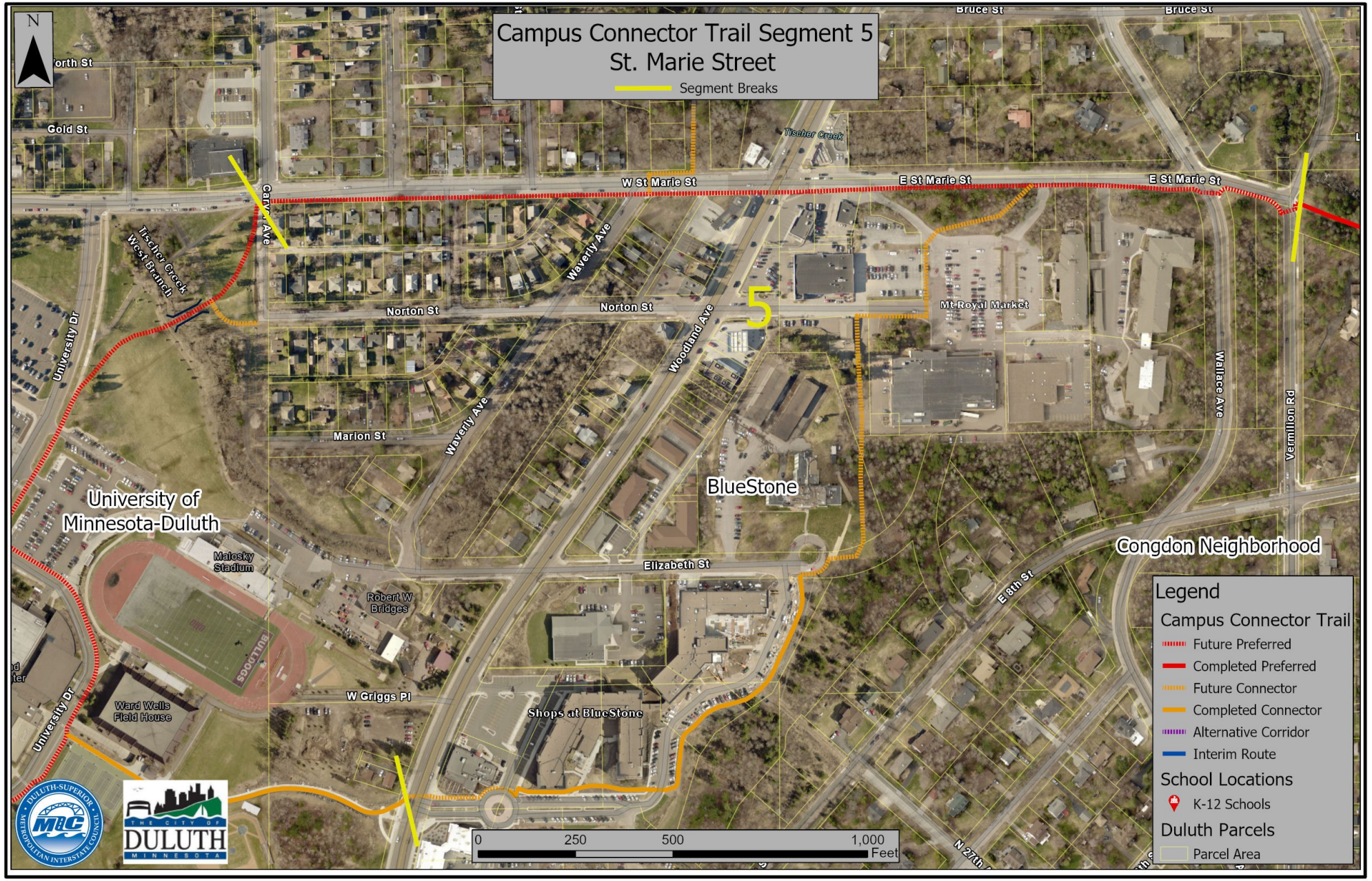
Once off campus, the route is proposed on the south side of St. Marie Street, behind the curb, from Carver Avenue to Woodland Avenue. This plan recommends eliminating a lane of traffic by converting the roadway from a 4-lane to a 3-lane (a travel lane in each direction and a center left turn lane) to accommodate the trail. Current traffic counts do not warrant the existing number of vehicular traffic lanes or the current road width. The segment between Woodland Avenue to Vermilion Road is proposed behind the curb of the existing road on the south side. This road is overly wide (36-feet wide), with limited parking use for nearby residents and businesses, and the parking (free, no meters, no time-limits) is primarily utilized by UMD students when classes are in session.

As an interim route until project funding is received, St. Marie Street could be restriped to provide bicycle lanes in both directions.

Also included in this segment is a partially completed connector across Woodland Avenue, from UMD to Bluestone Commons and the Mount Royal commercial district. This connector has two gaps, from Woodland Avenue in front of the Tavern on the Hill to the traffic circle, and from Elizabeth Street to St. Marie Street. The connector north of Elizabeth Street will need to be developed in close coordination with the property owners and likely will have to wait until redevelopment of the area, and/or reconstruction of the Mount Royal parking lot.

An additional connector trail from the undeveloped right-of-way of Columbus Street was identified during the public engagement process.

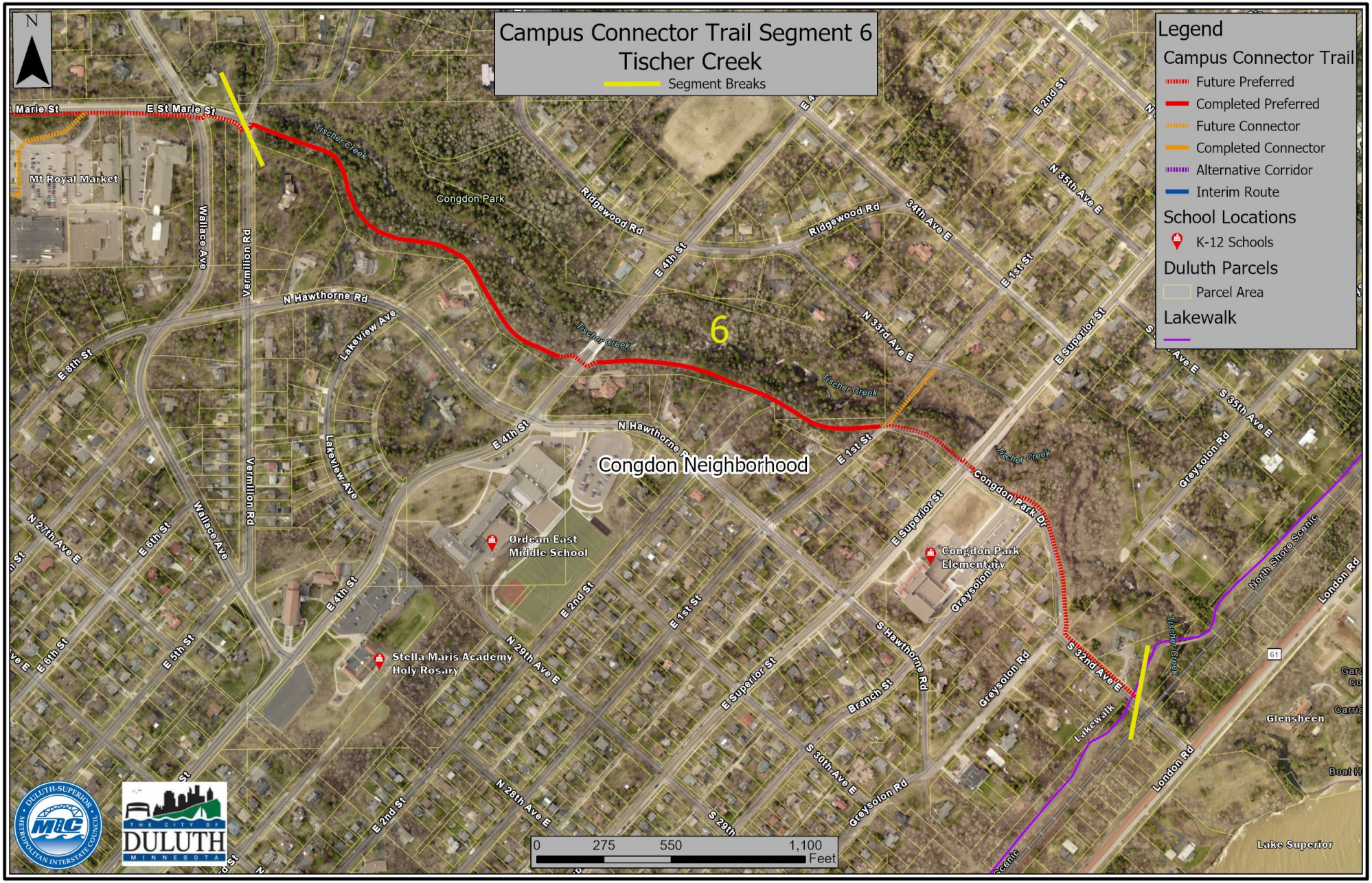

Campus Connector Trail Segment 4
University of Minnesota-Duluth
Segment Breaks
N
Bagley Nature Area
Kenwood
University of Minnesota-Duluth
Chester Park
BlueStone
4
This Section of segment 4 contains a mix of 8' paved paths and sidewalks. These would need to be widened to 10'.
Legend
Campus Connector Trail
Future Preferred
Completed Preferred
Future Connector
Completed Connector
Alternative Corridor
Interim Route
School Locations
K-12 Schools
Duluth Parcels
Parcel Area
Duluth Traverse
0 300 600 1,200
Feet


Campus Connector Trail Segment 5
St. Marie Street
Segment Breaks
5
W St Marie St
E St Marie St
Norton St
Marion St
Elizabeth St
W Griggs Pl
Gold St
Tischer Creek
Tischer Creek West Branch
Waverly Ave
Woodland Ave
University Dr
Wallace Ave
Vermilion Rd
E 8th St
Mt Royal Market
BlueStone
Shops at BlueStone
University of Minnesota-Duluth
Malosky Stadium
Robert W Bridges
Ward Wells Field House
Congdon Neighborhood
Legend
Campus Connector Trail
Future Preferred
Completed Preferred
Future Connector
Completed Connector
Alternative Corridor
Interim Route
School Locations
K-12 Schools
Duluth Parcels
Parcel Area
0
250
500
1,000
Feet
DULUTH
MINNESOTA

Trail Segment 6—Tischer Creek

Beginning at Vermilion Road and terminating at the Lakewalk just above London Road, this portion of trail is largely complete. It utilizes the existing paved carriage path through Congdon Park. This portion of the trail was rebuilt in 2015 with FEMA funding after the 2012 flood damaged the trail. Once past East 1st Street, the trail will be extended on the north side of Congdon Park Drive and South 32nd Avenue East, making the final connection onto the Lakewalk. A connector was identified at East 1st Street utilizing an existing utility bridge structure, connecting the neighborhood across the river.

A future multi-use path connection to London Road should be considered if/when the existing concrete sidewalk along the south side (Lakeside) of London Road is reconstructed into a multi-use path.


Campus Connector Trail Segment 6
Tischer Creek
Segment Breaks
Legend
Campus Connector Trail
Future Preferred
Completed Preferred
Future Connector
Completed Connector
Alternative Corridor
Interim Route
School Locations
K-12 Schools
Duluth Parcels
Parcel Area
Lakewalk
N
6
Congdon Neighborhood
Congdon Park
Mt Royal Market
Ordean East Middle School
Congdon Park Elementary
Stella Maris Academy Holy Rosary
Tischer Creek
E St Marie St
Wallace Ave
Vermilion Rd
N Hawthorne Rd
Lakeview Ave
E 8th St
E 6th St
E 5th St
E 4th St
E 2nd St
E 1st St
Ridgewood Rd
34th Ave E
N 35th Ave E
N 33rd Ave E
E Superior St
Congdon Park Dr
Greysolon Rd
S 35th Ave E
S 32nd Ave E
S Hawthorne Rd
Branch St
S 30th Ave E
S 29th
N 29th Ave E
N 28th Ave E
N 27th Ave E
London Rd
North Shore Scenic
Lakewalk
Glensheen
Lake Superior
61
0 275 550 1,100 Feet
DULUTH-SUPERIOR METROPOLITAN INTERSTATE COUNCIL
THE CITY OF DULUTH MINNESOTA

04. MAINTENANCE PLANNING

>>Photo Credit: Snow Removal Equipment; Park Maintenance Staff

Maintenance Planning

Regular maintenance activities for the trail will include:

- Mowing
- Sweeping and blowing
- Trash collection
- Tree trimming
- Winter trail clearing
- Trail repair
- Bridge repair
- Sign maintenance
- Trailhead facility repair and maintenance
- Snow removal
- Crack filling and sealcoating
- Invasive plant management

Regular maintenance costs for the activities above are anticipated to be $2,000 per mile. These costs will be adjusted annually to account for inflation.

>>Photo Credit: Bike Lane Pavement Striping Lakewalk, Jim Shoberg

Pavement Management

Pavement deteriorates as it ages. Regular pavement maintenance can prolong the trail's lifespan in a cost effective manner. Crack filling and sealcoating fall under this category and are included in the aforementioned regular maintenance cost per mile. The life span of pavement before it requires a full replacement in a trail setting is projected at 20 years.

>>Photo Credit: Munger Trail Repair Area; Duluth News Tribune

05. NEXT STEPS

>>Photo Credit: Bike Use College Street; MIC Staff

Potential Funding

- Transportation Alternatives grant funding
- Safe Routes to School grant funding
- Lake Superior Coastal Program grant funding
- Discuss partnership/collaboration (UMD/CSS)
- DNR grant funding

U.S. Department of Transportation

MINNESOTA SAFE ROUTES TO SCHOOL

Project Prioritization

1. Segment 1 – Rice Lake road to CSS
2. Segment 2 – CSS Segment through Campus
3. Segment 5 – St. Marie Street Connection at UMD
4. Segment 6 – 1st Street to Lakewalk
5. Segment 4 – Connecting existing trail on College street to UMD trail network and upgrade existing trails in campus

This master plan outlines flexible priorities capable of adapting to the political and economic climate in Duluth. As funding and political backing are available, trail sections and amenities will be constructed and implemented. Of the long-term incomplete phases of the trail, Segment 1 – Rice Lake Road to CSS holds the highest priority for future investment for the City and for the community. This segment would not accommodate improved on-street options for non-motorized traffic.

Implementation Timeline

Applications for funding request will begin once the plan has been approve by City Council. A project of this size will require many phases and rounds of funding requests to be fully realized. Phasing would not be determine until a funding package is defined and will be based on the project prioritization as defined in this section.

Proposed Schedule Milestones

2020-2028 – Fundraising

2022 – Segment 1 Construction

2024 – Segment 2 Construction

2026 – Segment 5 Construction

2028 – Segment 6 Construction

2030 – Segment 4 Construction

2030 – Project Completion Goal

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Probable Cost Estimates

Prepared by SAS Associates for the City of Duluth, this cost projection has been developed based upon conceptual trail alignment, assumptions, and anticipated scope of work. Neither detail site investigation, nor any engineering has been completed prior to budget development. Final pricing will not be accurate until all site investigation and design has been completed, and competitive bids received.

	ELEMENT	QUANTITY	UNIT	$ COST PER UNIT	$ TOTAL (SHORT TERM)
SEGMENT 1A:	Rice Lake Road - Trail Junction via Aspenwood (Northern Alignment)				
	Estimated Trail Length - 2,210 L.F.				
	General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)	1	LS	16,240	16,240
	Curb and Gutter, Drainage along Barnes Road	575	LF	35	20,125
	Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration)	2400	LF	118	283,200
	Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)	1	LS	10,000	10,000
	Retaining Walls	1000	FF	22	21,600
	Pre-manufactured Bridges	180	LF	1,350	243,000
	Wayfinding	1	LS	8,750	8,750
	Landscaping (not including construction stabalization)	1	LS	6,000	6,000
	Benches, Trash Recepticles, Bike Racks, Bollards / Gate	1	LS	7,000	7,000
	Sub-Total				615,915
	Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)				92,387
	Contingency - 20%				123,183
	Total Segment 1				831,485
SEGMENT 1B:	Rice Lake Road - Trail Junction via Open Space (Southern Alignment)				
	Estimated Trail Length - 2,850 L.F.				
	General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)	1	LS	16,600	16,600
	Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration)	3000	LF	118	354,000
	Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)	1	LS	34,000	34,000
	Pre-manufactured Bridges	200	LF	1,350	270,000
	Wayfinding	1	LS	8,750	8,750
	Landscaping (not including construction stabalization)	1	LS	4,000	4,000
	Benches, Trash Recepticles, Bike Racks, Bollards / Gate	1	LS	7,000	7,000
	Sub-Total				694,350
	Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)				104,153
	Contingency - 20%				138,870
	Total Segment 1				937,373
SEGMENT 1C:	Trail Junction to CSS				
	Estimated Trail Length - 1,960 L.F.				
	General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)	1	LS	14,620	14,620
	Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration)	2100	LF	118	247,800
	Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)	1	LS	10,000	10,000
	Retaining Walls	4000	FF	22	86,400
	Wayfinding	1	LS	8,750	8,750
	Landscaping (not including construction stabalization)	1	LS	10,300	10,300
	Benches, Trash Recepticles, Bike Racks, Bollards / Gate	1	LS	7,000	7,000
	Sub-Total				384,870
	Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)				57,731
	Contingency - 20%				76,974
	Total Segment 1				519,575

Probable Cost Estimates

Prepared by SAS Associates for the City of Duluth, this cost projection has been developed based upon conceptual trail alignment, assumptions, and anticipated scope of work. Neither detail site investigation, nor any engineering has been completed prior to budget development. Final pricing will not be accurate until all site investigation and design has been completed, and competitive bids received.

SEGMENT 1D: Chinook Dr to Trail Segment 1A (Connect to Northern Trail Alignment)					
Estimated Trail Length - 240 L.F.					
General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)		1	LS	29,500	7,000
Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration)		240	LF	118	28,320
Wayfinding		1	LS	600	600
Landscaping (not including construction stabalization)		1	LS	5,000	5,000
Benches, Trash Recepticles, Bike Racks, Bollards / Gate		1	LS	4,000	4,000
Sub-Total					44,920
Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)					6,738
Contingency - 20%					8,984
Total Segment 1					**60,642**
SEGMENT 2: CSS - Kenwood & College Street					
Estimated Trail Length - 3,000 L.F.					
General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)		1	LS	29,500	29,500
Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration)		3000	LF	116	346,500
Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)		1	LS	18,600	18,600
Box Culvert		1	LS	50,000	50,000
Wayfinding		1	LS	20,300	20,300
Landscaping (not including construction stabalization)		1	LS	14,862	14,862
Benches, Trash Recepticles, Bike Racks, Bollards / Gate		1	LS	13,500	13,500
Sub-Total					493,262
Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)					73,989
Contingency - 20%					98,652
Total Segment 2					**665,904**
SEGMENT 3: Kenwood & College Street - 19th Ave East					
Estimated Trail Length - 1,900 L.F.					
General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)		1	LS	29,500	18,300
Parking Lot Construction		1	LS	57,028	57,028
Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)		1	LS	12,500	12,500
Wayfinding		1	LS	18,000	18,000
Landscaping (not including construction stabalization)		1	LS	8,656	8,656
Benches, Trash Recepticles, Bike Racks, Bollards / Gate		1	LS	11,500	11,500
Sub-Total					125,984
Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)					18,898
Contingency - 20%					25,197
Total Segment 3					**170,078**

Probable Cost Estimates

Prepared by SAS Associates for the City of Duluth, this cost projection has been developed based upon conceptual trail alignment, assumptions, and anticipated scope of work. Neither detail site investigation, nor any engineering has been completed prior to budget development. Final pricing will not be accurate until all site investigation and design has been completed, and competitive bids received.

SEGMENT 4: 19th Ave E - St. Marie St. through UMD					
Estimated Trail Length - 4,750 L.F.					
General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)	1	LS	18,300	18,300
Bituminous Trail & Parking Lot Construction	1	LS	390,632	390,632
Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)	1	LS	11,700	11,700
Pre-manufactured Bridges	50	LF	1,300	65,000
Wayfinding	1	LS	19,800	19,800
Landscaping (not including construction stabalization)	1	LS	60,250	60,250
Benches, Trash Recepticles, Bike Racks, Bollards / Gate	1	LS	20,500	20,500
Sub-Total				586,182
Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)				87,927
Contingency - 20%				117,236
Total Segment 4				**791,346**
SEGMENT 5: St. Marie Street - Vermillion Road				
Estimated Trail Length - 2,400 L.F.				
General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)	1	LS	26,500	26,500
Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration)	2400	LF	146	350,400
Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)	1	LS	69,800	69,800
Wayfinding	1	LS	13,750	13,750
Landscaping (not including construction stabalization)	1	LS	26,500	26,500
Benches, Trash Recepticles, Bike Racks, Bollards / Gate	1	LS	9,750	9,750
Sub-Total				496,700
Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)				74,505
Contingency - 20%				99,340
Total Segment 5				**670,545**
SEGMENT 6: Vermillion Road - Lakewalk				
Estimated Trail Length - 4,750 L.F.				
General Construction Costs (Mobilization, Traffic Control, Fencing, As-Builts)	1	LS	19,500	19,500
Bituminous Trail Construction (Erosion Control, Clearing, Grading, Trail Surface, Restoration, Intersections Changes)	1250	LF	101	126,250
Utility Work (Signals, Storm Sewer Connections, Pole Relocations, Etc.)	1	LS	24,400	24,400
Retaining Walls	500	FF	18	9,000
Wayfinding	1	LS	21,000	21,000
Landscaping (not including construction stabalization)	1	LS	17,800	17,800
Benches, Trash Recepticles, Bike Racks, Bollards / Gate	1	LS	24,000	24,000
Sub-Total				241,950
Professional Fees - 15% (Design, Engineering, Survey, Inspection, Legal, Bond)				36,293
Contingency - 20%				48,390
Total Segment 6				**326,633**
Grand Total Budget Projection				**4,973,580**

Duluth-Superior Long Range Transportation Plan

Segments of the proposed Campus Connector Trail parallel, cross, and/or interact with streets that are scheduled for enhancements or rebuilds. This plan recommends that street improvements planned in the next 10 years included the proposed improvements to the Campus Connector Trail as identified in this plan. For those street improvement projected beyond 10 years it is recommended an interim solution be implemented for necessary trail connections of the Campus Connector Trail.

Street	Segment	Work Type	Timeframe	Project Cost	Trail Improvement Notes
Rice Lake Rd	Central Ent to Arrowhead Rd	Preservation	2020-2024	$750,000	Install enhanced cross-walk at time of preserva-tion project.
Kenwood Ave	Skyline Pkwy to Arrowhead Rd	Reconstruction	2025-2029	$5,600,000	Install trail at time of re-construction project.
College St	Kenwood Ave to Woodland Ave	Reconstruction	2030-2045	$5,400,000	Rebuild trail along UMD.
St. Marie St	Buffalo St to Wallace Ave	Reconstruction	2030-2045	$8,700,000	Interim solution – restripe and install a 2-way pro-tected bikeway along St. Marie St.
4th St	Wallace Ave to 34th Ave E	Preservation	2025-2029	$1,200,000	Install enhanced cross-walk at time of preserva-tion project.
Superior St	21st Ave E to 60th Ave E	Reconstruction	2030-2045	$23,400,000	Install enhance crosswalk at time trail is built.

>> Project costs and timeframe are approximate in nature and for planning purposes only.