



CITY OF VERGAS TRAIL FEASIBILITY STUDY

VERGAS TO HEARTLAND TRAIL VERGAS TO HEART OF THE LAKES TRAIL

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Studied prepared by:

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Special thanks to the Ottertail County and for their invaluable advice and knowledge.

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Introduction

The City of Vergas Trail Feasibility Study stemmed from two separate trail projects. In Becker County engineering is being finalized on the Heartland Regional Trail to the north (connecting Park Rapids and Cass Lake) and in Ottertail County to the south following the completion in 2022 on the Heart of the Lakes Trail to the south (connecting Perham to Pelican Rapids). Vergas could see the opportunity to make trail connections for their community to both regional systems. With a grant from PartnerSHIP 4 Health this study was made possible and focuses on providing safe connections for residents and visitors of Vergas to greater Minnesota’s regional trail system.

This document recognizes that a wide variety of factors will influence future trail development. Routes can and likely will change due to factors that cannot be seen by a study of this scope. Financial realities will necessitate construction in phases; new housing or other forms of development will significantly impact both the layout and potential funding sources for different alignments. Flexibility will be key going forward.

This study does not in any way oblige the City or County to construct or fund trails. Instead, it is intended to act as a guide for future trail development, offering suggestions for preferred routes and listing potential funding sources. The proposed network will require interaction and cooperation between the City and Counties, and ongoing input from regional governmental agencies including but not limited to the US Fish and Wildlife and the Minnesota Department of Natural Resources.

By adopting this study, the City of Vergas is showing a commitment towards providing safe transportation and recreation alternatives to community residents, and a willingness to work with partners to provide a higher quality of living for all Vergas residents and visitors.

Project Goals

This study was commissioned to examine the feasibility and routing to construct a multi-purpose trail or similar facility from the City of Vergas to the Heartland Regional Trail in the City of Frazee and the City of Vergas to the Heart of the Lakes Trail, allowing residents to bike to the City of Perham and/or Maplewood State Park. To guide the process, we evaluated alternative routes to meet several goals for the trail:

1. Develop a safe off-road facility connecting the City of Vergas to the Heartland Regional Trail and/or the City of Frazee.
2. Develop a safe off-road facility connecting the City of Vergas to the Heart of the Lakes Regional Trail and/or Maplewood State Park.
3. Serve local and regional nonmotorized transportation needs and provide access to the trails for residents and visitors.
4. Evaluate opportunities to proceed with the development of selected sections of the trails based on funding.
5. Provide economic and health benefits to communities along the trail.

Characteristics such as cost and constraints were identified based on field observations, consultation with local jurisdictions, and review of existing studies.

Benefits of the Vergas Trail Connections

The Vergas trail connections would benefit people by providing an alternative to driving from one place to another, encouraging physical activity, making connections to other trails, and creating a new community resource that has the potential to bring people together.

What is a regional trail connection?

A regional trail is a shared-use (multi-use), regionally significant, off-road path that provides recreational opportunities and enhances regional mobility and travel. These facilities meet regional trail development guidelines for size, grade, and other characteristics and are suitable for nonmotorized uses such as bicycling, hiking, jogging, roller-blading, roller-skating, and other similar activities.

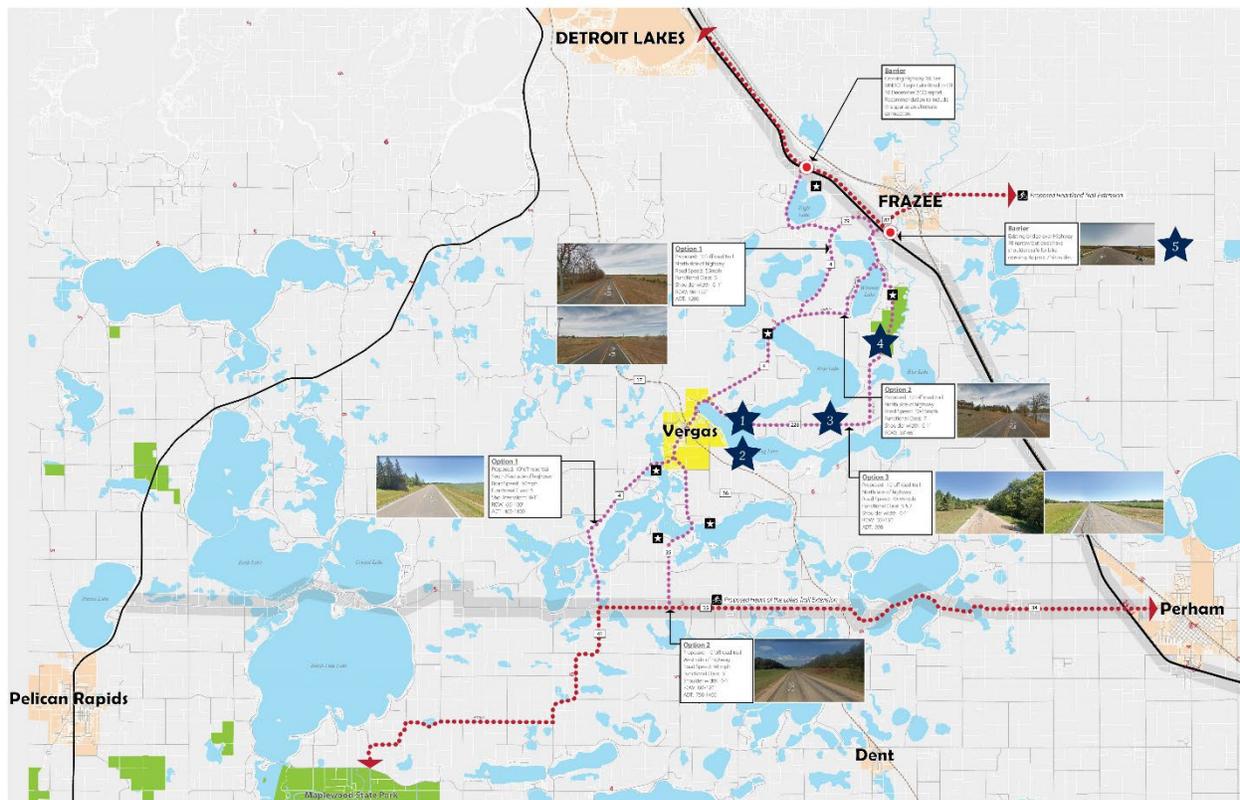
How were alternatives for the Vergas Trail Connections identified?

We reviewed planning documents prepared by the City of Vergas and both Counties. We met with each of them to understand the perspectives and insights of each. Several overarching principles guided our efforts:

- Where available, the preferred alternative would be an off-road facility - a 10' two-way, paved, multi-use path separated as much as possible from roadway traffic and conflicts such as driveways. Where property ownership and cost could delay development, we offered shorter term on-road facilities as alternatives for consideration.
- The objective for shorter-term trail alternatives was to minimize the level of investment and potential known conflicts. Routes were selected that generally required less property conflicts, have a lower cost to construct, and would leave behind an inherent value to the nonmotorized network with the eventual construction of the preferred alignment.
- Preference was given to alignments where nonmotorized investments have already been made or are being made. In some instances, however, these investments may not meet the City's guidelines for an off-road facility at this time.

- We attempted to provide more continuity and consistency for trail users by minimizing the number of times a facility type is switched along a given segment. For example, we advise to minimize switching between off -road and on-road facilities.

In general, recommendations for potential alignments and facility types considered guidelines such as the DNR Trail Development Guidelines, the Guide for the Development of Bicycle Facilities (AASHTO 1999), the Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO 2004) the Minnesota State Department of Transportation (MNDOT) Design Manual, and best professional judgment based on what we have seen work in other locations.



Feasibility Summary

As we identified and evaluated alignments, we considered the criteria below.

1. **Continuous route and right of way** with a common trail treatment increases the ability of users to follow the trail. It also reduces the likelihood of conflict, such as wrong way cycling when a two-way multi-use trail configuration switches to bike lanes. However, natural, and man-made barriers often constrain the continuous route and right of way. To a certain extent, these constraints can be addressed through the design process, though sometimes at substantial cost. For example, bridges could carry users over obstacles such as roadways and rivers, boardwalks could navigate wet areas, and tunnels could cross under railroad tracks.
2. **Safety** first. Trail facilities either on-road or off -road should provide an environment with reduced chance of confusion and conflicts among all users. Difficult and narrow sections should be avoided. Separation from vehicular use should be maximized. However, where the trail facility must interact with other uses, the consistent use of applicable design standards and guidelines would improve safety in many situations.

3. **Environmental considerations** include potential effects on the transportation system, drainage, the natural environment in undeveloped areas, and adjacent properties where the trail would require widening of an existing right of way. Sometimes these effects are a tradeoff for creating a safer, more enjoyable trail. Many of the impacts can be minimized through design or mitigated. During the trail design phase, these tradeoffs can be evaluated in more detail and mitigation developed where needed.
4. **Grades** that are steep present a challenge. Where very steep grades are present, the preference is to find an alternative route that provides a gentler transition. Design features could include switchbacks and level areas after a section of climbing, depending on the type of facility and users to be accommodated.
5. **Cost-benefit** involves weighing the cost of the solution to the overall benefit that it could provide to all users, including motorized users and adjacent property owners. Often, a solution is available for just about any situation, but it might cost a lot of money to do it. In recommending layouts for the trail, a higher level of cost was often accepted if the outcome was a safer, more enjoyable trail with better separation from adjacent uses.

What would this regional trail look like?

We have identified three layouts that could apply to the various alternative alignments, described in the following section. The layouts may be characterized as off -road or on-road and are as follows: 1) two-way multi-use trail, 2) bike lanes 3) shared-use roadway.

Off-road facilities:



Figure 1 - Typical section 370th Ave. running north and south

Two-way multi-use trail

The preferred two-way multi-use trail would consist of a 10-foot-wide paved section, bounded by 2-foot-wide soft shoulders and 1-foot-wide clear zones on both sides. This section would be consistent with DNR regional trail guidelines.

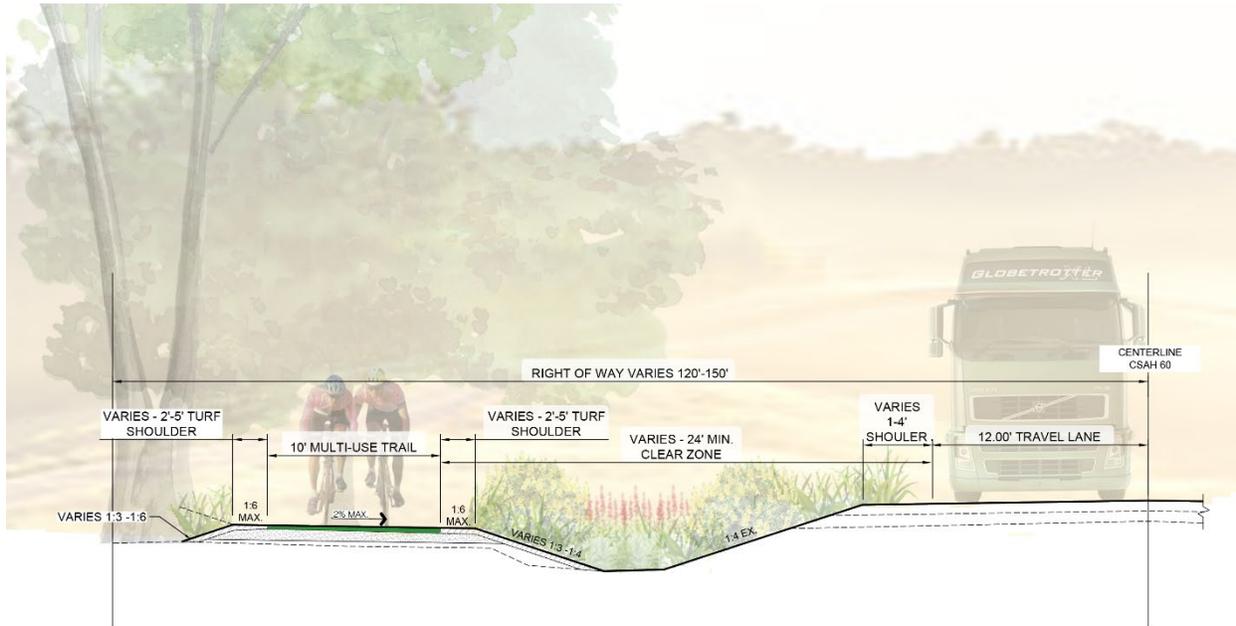
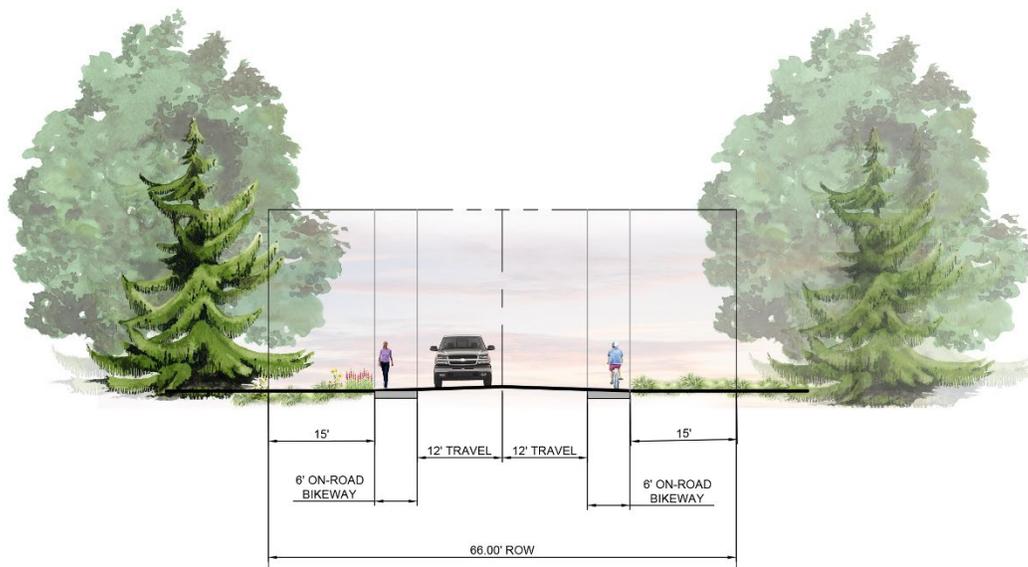


Figure 2 - Typical section CSAH 60 Ave. running east and west

On-road facilities:

Bike lanes

Bike lanes along a roadway provide a cost-effective and safe solution for bicycle and pedestrian users, although they do not technically meet the design criteria of a regional trail. Improvements are typically symmetrical to the existing roadway, avoiding or minimizing the need to shift or reconfigure travel lanes. Often, the roadway surface does not occupy the entire right of way, providing space for

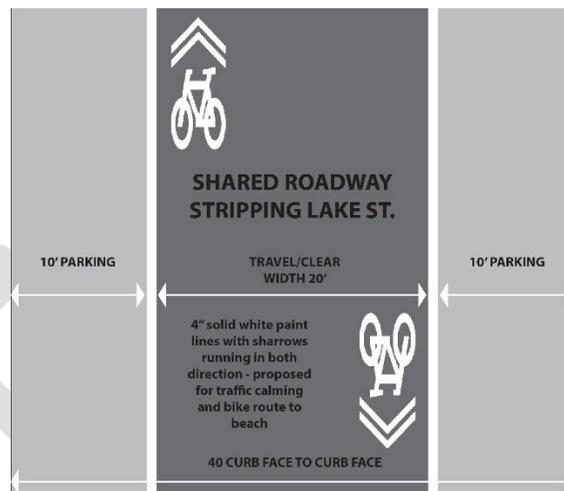


expansion. This layout may be preferred where frequent, multiple driveway crossings occur and adjacent roadway speed and vehicle volumes.

Shared-use roadways

The lowest level of trail accommodation that could be proposed would be a shared-use roadway, which is only recommended on low-volume roadways. This on-road approach essentially uses the street as the trail and would not technically meet the design criteria of a regional trail. These facilities are designated with bike route signage and may include “share the road” striping or “sharrow” markings placed in travel lanes. (i.e. downtown Vergas)

Pictured to the is a “sharrow” roadway marking to alert road users that bicyclists and autos share the roadway



Feasibility Analysis by Trail Segment

As a decision-making tool, this feasibility study evaluated trail segments that begin and end at existing logical locations for each trail connection. Optional trail alignments are also provided where viable alternative alignments are present, and where construction of the preferred alignment could reach considerable challenge or opposition.

Segment Cost Estimates

The planning level cost estimates included in the segment descriptions indicate the characteristics of the improvements as well as the extent. Cost estimates provided are preliminary and for planning purposes only. They should not be relied upon for budget preparation or contracting because they do not include all project costs (e.g., design, permitting, right of way acquisition, mitigation, and owner administration). Instead, they represent a comparative analysis between segments. Cost estimates were developed based on the preferred alignment’s recommended base improvements using the cost-per-mile value from trail projects with similar characteristics.

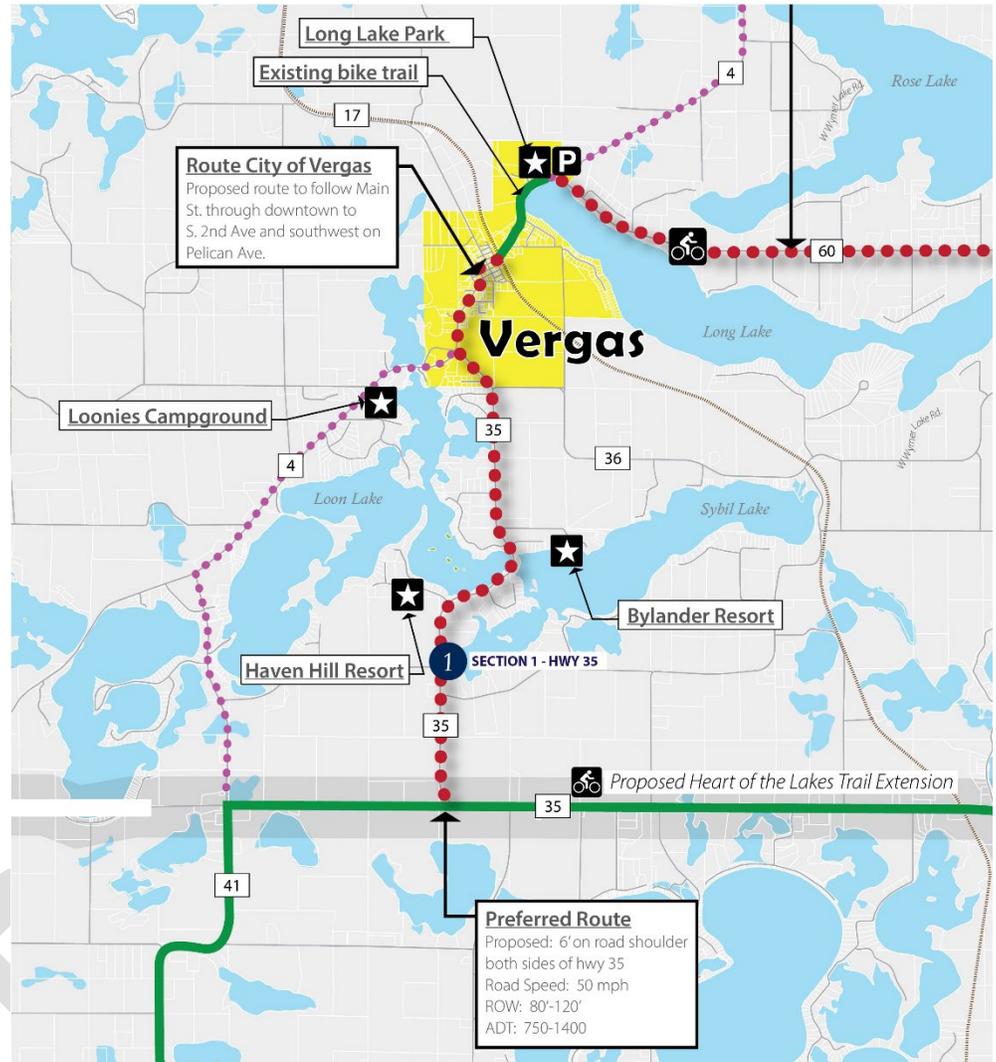
Reliable cost estimates would require ground survey of the proposed alignments and preliminary engineering design of the trail facility, including more detailed geotechnical evaluation and design for specific solutions.

Heart of the Lakes Trail Connection

This trail segment makes the connection through downtown Vergas to the Heart of the Lakes Regional trail. It begins at the termination of an existing trail and will take trail users near the heart of downtown and its residential neighborhoods, the Vergas Event Center, Loon Lake public water access, and near two resorts.

Preferred Alignment

The northern start of the proposed Heart of the Lake trail connection begins at E Scharf Ave and Hwy 4 intersection. The trail is an extension of a recently built two-way multi use trail that provides safe access for the community to the public beach and largest park on the West end of Long Lake. The trail would be a **two-way multi-use trail** on Hwy 4 running southwest and crossing the Soo Line railroad tracks. This segment of the trail could require a right of way agreement with the County and the railroad.



After crossing the tracks, the trail would turn southeast on S. Railway Ave. for 2 blocks then turn southwest on E Linden St. for approx. .13 miles before the road bends into Pelican Ave running southwest. The trail would be consistent through this section as a **shared-use roadway** through the residential section south of downtown to the intersection of Pelican Ave and Hwy 35 where the trail section will change. Traffic volumes are expected to be relatively low on these streets and this will allow on street parking to remain. Currently the existing 40' of pavement curb face to curb face is not sufficient to maintain on-street parking and fit in a bike lane facility. We are considering the shared-use roadway as an interim solution based on these project constraints.

The trail will turn southeast on Hwy 35 and would change to a 6' **bike lane** on both sides of Hwy 35. The right of way along Hwy 35 varies from 75-100' with residences and wetland constraining the corridor. Ottertail County has identified this corridor in the capital improvements plan and heard the city's request for a safe trail

ROUTE THROUGH DOWNTOWN VERGAS



connection to the Heart of the Lakes trail and agreed to put the project on hold and include the bike lane facilities in their grant request. As this facility does not meet some of the desired criteria identified in this study it again can be considered a great interim solution with little effort needed from the city of Vergas. The 6' width on both sides of Hwy 35 is based on the current ADT and identified as a safe with per MNDOT guidelines (see criteria below). This will serve the community well until an off-road facility can be constructed in the future.

Planning-Level Cost Estimate:

Preferred Alignment – Approx. 4.3 miles: \$65,000 to \$95,000

Alternative Alignment Approx. 5 miles: \$1.5 to \$2 million

The trail would connect to the Heart of the Lakes Regional trail at the intersection of Hwy 35 and 440th St. This would require a safe crossing on Hwy 35 as the two-way multi-use trail runs along the south side of Hwy 35 to the east and south side of 440th to the west.

The trail connection would require little cost and future maintenance to the City of Vergas. The trail is set to be constructed in the County plan in 2025.

Alternative Alignments

If the constraints to the preferred alignment would delay construction beyond 10 years, alternative solutions studied included a two-way multi-use path adjacent to Hwy 4 south to the Heart of the Lakes Trail. Depending on future funding opportunities the preferred alignment may be used as an interim solution based on the feasibility studies criteria and a two-way multi-use path could be implemented as a long-term future trail connection in addition to the preferred alignment.



Figure 3 - Railroad Ave downtown Vergas



Figure 4 - Pelican Ave south of Downtown

Heartland Trail Connection

This segment of the trail provides a connection between downtown Vergas and the City of Frazee. This connection would offer a transportation alternative to residents of Vergas working in Frazee and/or Detroit Lakes. This segment of trail also connects to the Heartland Regional Trail which is a 49 miles trail connecting the City of Park Rapids to Cass Lake. In addition the City of Frazee is currently beginning the process of development on a 163 acres parcel purchased by the city and will be developed as a regional park. This will allow the residents of Vergas direct trail access to the only regional park within a 20 mile radius.

Preferred Alignment

Northeast of downtown Vergas, the preferred trail alignment is consistently within the road right of way and is bordered by rural residential, wetlands, and residential shoreland districts. The preferred alignment would be a two-way multi-use trail with one section of shared-use roadway. The trail begins at an existing trailhead on the north side of Long Lake adjacent to Hwy 60. Currently there is a small gravel parking area, signage, and it is the terminus of the recently constructed boardwalk that leads you to Long Lake Park and downtown as well as the beginning of what is known to the locals as "Tin Can Alley", a gravel walking trail along an old roadbed on the north side of Long Lake. Future upgrades to the existing trailhead would include a small asphalt parking area, restroom, and signage.

The trail alignment will begin at the existing trailhead and immediately cross Hwy 60 to run within the right of way along the north side of the highway. No acquisition will be required as the right of way spans from approximately 135-165 ft. The trail will run along the south side of the Ratz Lakeview Subdivision, increasing the property value for homeowners yet to build along the 5 empty parcels and 1

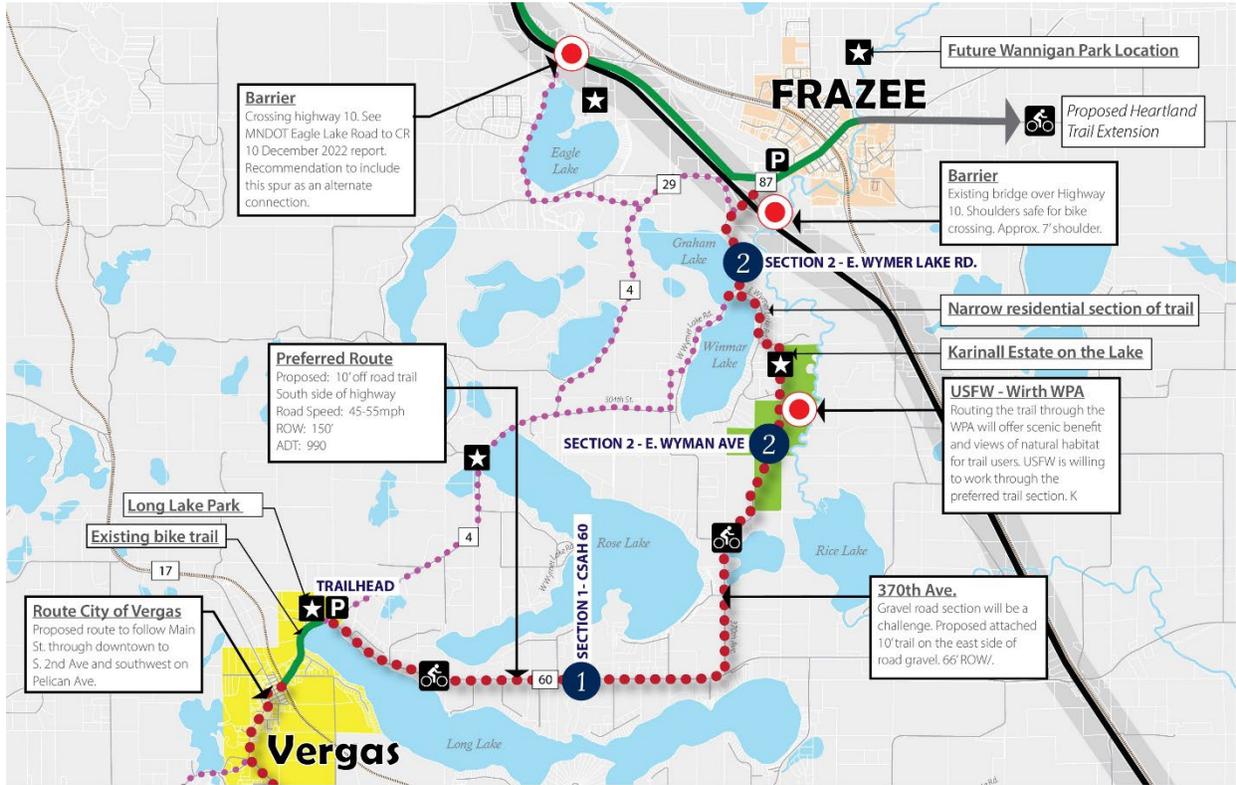
built. The alignment will continue past Wonder Rd. where only 10 additional driveways will be crossed along 3 miles of trail. This segment would require possible construction of a boardwalk and an agreement from the DNR to traverse the existing wetlands that dot this segment of the trail.

The preferred alignment turns north at 370th St. and is characterized by varying topography, a USFW waterfowl production area, and lakeside residences. This segment would result in more grading and additional permitting, but it was determined that the benefits of this alignment outweigh the constraints. This was not the most direct route as an option for a transportation alternative but was the safest option overall for all trail users alike, offered the least amount of property conflict, and the highest opportunity for ecological benefit.

A two-way multi use trail section would continue to run north along 370th St. and turn east onto E Wymer Lake Rd. The section would continue until E Wymer Lake Rd transitions to along the residential shoreline properties. At this point the trail would transition to a **shared use on road** facility and continue along the east side of Wymer Lake Road until the terminus at the intersection of E Wymer Lake Rd. and W. Wymer Lake Rd. where the trail will turn to the east and crossing Hwy 10 along the overpass. The overpass treatment will be consistent with MNDOT specifications for overpass crossings, a painted green bike box within both shoulders on the overpass bridge. The same treatment was installed to the west on the Hwy 10 overpass on Hwy 35 into the city of Perham along the Heartland Regional Trail. The preferred alignment will end at an existing trailhead for the Heartland Trail.



Figure 5 - Trailhead at the end of the recently constructed boardwalk



This map illustrates alternative routes in purple and the preferred alignment in red.

Planning-Level Cost Estimate:

Preferred Alignment Approx 8.51 miles: \$1.4 to \$2.1 million

Alternative Alignment Hwy 4 Approx 6.65 miles: \$1.8 to \$2.5 million



Figure 7 - CSAH 60



Figure 6 - 370th Ave Wirth WPA



Figure 8 - East Wymer Lake Road



Figure 9 - Hwy 10 overpass

Alternative Alignments

If the requirements for a trail within the preferred alignment would delay construction beyond 10 years, alternative solutions could include the following:

- If the delays are due to the cost of environmental reviews to cross the existing wetlands after further discussion with the MNDNR and/or the US Fish Wirth WPA the preferred alternative will remain along the north side of Hwy 60 and turn north on 370th. At the intersection of E Wymer Lake Rd. the trail will turn to the west on 493th St. and immediately turn north onto 396th St. and again turn to the east and run adjacent to W Wymer Lake Rd. until it connects to the preferred alignment intersection and crosses Hwy 10.
- This alignment was studied as an alternate because it is the most direct route to the City of Frazee. This option would be a two-way multi use trail running along the west side of Hwy 4. This alignment posed the most constraints, property owner, grading, drainage, and safety for users. This alignment has the highest ADT and fastest posted speed limit. Due to the high costs, safety issues, and constraints this option is the least desirable.

Next Steps

Steps are being taken to maintain the momentum of this project. The two trail connections were recommended to the City Council as ready for preliminary design and environmental review. The City of Vergas is proceeding forward with funding for both design and construction. The two segments that were submitted to the Vergas City Council as the preferred alignments in July of 2023 are:

- **Heart of the Lakes Trail Connection:** This trail segment makes the connection through downtown Vergas to the Heart of the Lakes Regional trail. It begins at the termination of an existing trail and will take trail users near the heart of downtown and its residential neighborhoods, the Vergas Event Center, Loon Lake public water access, and near two resorts.
- **Heartland Trail Connection:** This segment of the trail provides a connection between downtown Vergas and the City of Frazee. This connection would offer a transportation alternative to residents of Vergas working in Frazee and/or Detroit Lakes. This segment of trail also connects to the Heartland Regional Trail which is a 49 miles trail connecting the City of Park Rapids to Cass Lake. In addition the City of Frazee is currently beginning the process of development on a 163 acres parcel purchased by the city and will be developed as a regional park. This will allow the residents of Vergas direct trail access to the only regional park within a 20-mile radius.

Project costs (presented here) are higher than Construction costs (presented in map segments) as project costs include such costs as project administration, environmental permitting, wetland mitigation, contingency, and an art budget.

The total project cost for delivering these two segments constructed was estimated to be **\$3.8 million** based on planning-level cost estimates. It also includes expenses for certifying agency administration, construction across multiple jurisdictions, and engineering.