Shooting Star State Trail Master Plan



Prairie Shooting Star

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Executive Summary

Trail Alignment

The Shooting Star State Trail is a legislatively authorized state trail which, when complete, will connect LeRoy, Lake Louise State Park, Taopi, Adams, Rose Creek, Austin and Lyle. The Shooting Star State Trail will be an important link in the emerging southeastern Minnesota trail system, providing linkage to the Blazing Star State Trail, the Blufflands State Trail System, and potentially to Iowa's state trail system.

For purposes of planning, the trail has been divided into five segments: LeRoy to Taopi; Taopi to Adams; Adams to Rose Creek; Rose Creek to Austin; Austin to Lyle. The total distance of the trail will be approximately 43 miles.

An alignment has been determined for the segments from LeRoy to Rose Creek. Most of the trail will utilize the abandoned railroad grade, with the exception of the segment from Lake Louise State Park to near Taopi. Where an alignment has not been determined, specifically from Rose Creek to Lyle by way of Austin, a list of criteria and alternative corridors has been developed to guide the location of the trail.

Recommended Trail Uses

The Shooting Star State Trail is a multi-use trail but the limitations of width dictate that not all uses can be accommodated at all times on the entire length of the trail. Following are the recommended trail uses: bicycling, hiking and walking, cross-country skiing, dog walking, running/jogging, in-line skating/skate skiing, hunting, except where discharge of firearms is regulated by community ordinance, and environmental education/interpretation. Trail development will be accessible to people with disabilities wherever possible. Certain segments of the trail can be used for fishing access, particularly at Rowe Pit.

Trail Management

The plan contains recommendations for maintenance, enforcement, and interpretation of natural and cultural resources. The plan recommends that an adequate level of enforcement be provided via a multifaceted approach to help maintain a safe and secure trail environment and to encourage trail users to understand and obey trail rules and respect other trail users and adjoining properties. Interpreting the natural and cultural features along the trail is also recommended.

Natural and Cultural Resources

The ecological value of the trail corridor will be enhanced through intensive resource management and by offering technical assistance to adjoining landowners who wish to restore or preserve native vegetation. The resources within the trail right-of-way will be managed to provide a healthy diversity of prairie, wetland and woodland communities for wildlife habitat and for the appreciation of trail users and adjoining landowners. Native grasses, flowers, trees and shrubs will be planted and managed. Remnant native prairie tracts will be given special attention due to their significance within the railroad right-of-way.

Planning Process: Purpose and Scope

Master planning for the Shooting Star State Trail was conducted in order to:

- Provide a unifying vision for trail advocates who are working to secure a trail alignment and funds for development and maintenance of the trail. Prairie Visions, a cooperative venture/joint powers formed by the communities of LeRoy, Taopi, Adams and Rose Creek, is a driving force behind the establishment, acquisition and development of this trail. Their mission is to preserve the area's natural and historic resources while creating a diverse, sustainable economy based on agriculture, tourism, and small businesses.
- Guide the development, management, maintenance, and operation of the Shooting Star State Trail so that quality recreation experiences are provided.
- Provide a forum for open public discussion and debate concerning trail use and trail development options, trail maintenance and management issues, and trail operations and enforcement needs.
- Support partnerships and processes that will help carry out the plan and contribute to providing quality trail experiences.
- Inform the decision-making process by assessing the projected impacts of trail development on natural, cultural, and historic resources, and on local communities.
- Satisfy the intent of Minnesota Statutes, Chapter 86A.05 which requires that a master plan be prepared for state trails.

Shooting Star State Trail Master Planning Process

STEPS IN THE PROCESS	WHO'S INVOLVED?
Information Gathering and Issue Identification	Trail Association Trail User Groups Resource Managers Communities
Formulate Vision, Goals, and Design Concepts	Resource Managers Trail Association Trail User Groups Communities
Formulate Trail Development and Management Recommendations	Trail Association Communities Trail User Groups Resource Managers
Draft Plan and Internal DNR Review	DNR Interdisciplinary Review Team Resource Managers
Final Plan Written and Public Review	Trail Association Communities Trail User Groups Citizens
Trail Plan Adopted - Implementation Begins	Trail Association Communities Trail User Groups Resource Managers
Public Workshop for Each Segment After Alignment is Determined and Before Construction is Completed	Trail Association Communities Trail User Groups Resource Managers
Evaluation and Adjustment The evaluation component will address trail user satisfaction, vegetation restoration success, interpretive success, and an assessment of whether or not natural features have been preserved and enhanced.	Trail Association Trail User Groups Landowners Communities Elected Officials Other Agencies Resource Managers

Trail Authorization

The Shooting Star State Trail was legislatively authorized in 1994 (<u>Minnesota Statutes</u> 85.015, Subdivision 17).

(a) The trail shall originate in the city of LeRoy and extend in a northwesterly direction through Lake Louise state park and the cities of Taopi, Adams, Rose Creek, and Lyle, to the city of Austin.

(b) Additional trails shall be established to connect with the Blufflands trail system in Fillmore County and the trail from Riceville, Iowa.

The Blufflands Trail System is comprised of developed and legislatively authorized state trails in Olmsted, Winona, Fillmore and Houston counties, with the exception of the Douglas State Trail and the legislatively authorized Stagecoach Trail. (See the map of Minnesota's State Trail System on page 7.)

(c) The trail shall be developed primarily for hiking and non-motorized riding.

The Shooting Star State Trail is one of the legislatively authorized state trails in the State Trail System. (See the map of Minnesota's State Trail System on page 7.) State trails are one unit of the state's outdoor recreation system established by the Legislature. In 1975, the Minnesota Legislature enacted the Outdoor Recreation Act (ORA) (<u>Minnesota Statutes</u> Section 86A.05, Subdivision 4 and Section 85.015). This act established an outdoor recreation system comprised of eleven components or "units" classifying all state-managed recreation lands. The ORA requires that the managing agency prepare a master plan for the establishment and development of each unit. This plan fulfills this mandate.

The Shooting Star State Trail meets the following criteria established for state trails in the Outdoor Recreation Act, <u>Minnesota Statutes</u> 86A.05, Subdivision 4, State Trail: purpose; resource and site qualifications; administration; designation.

(a) A state trail shall be established to provide a recreational travel route which connects units of the outdoor recreation system or the national trail system, provides access to or passage through other areas which have significant scenic, historic, scientific, or recreational qualities or reestablishes or permits travel along an historically prominent travel route or which provides commuter transportation.

(b) No unit shall be authorized as a state trail unless its proposed location substantially satisfies the following criteria:

(1) Permits travel in an appropriate manner along a route which provides at least one of the following recreational opportunities:

(*i*) travel along a route which connects areas or points of natural, scientific, cultural, and historic interest.

The Shooting Star State Trail connects the communities of LeRoy, Taopi, Adams, Rose Creek, Austin and Lyle. There are many historical and cultural resources in the communities along the trail including several buildings that are on the National Register of Historic Places. The old town of LeRoy is a significant historical and cultural resource that can be found in Lake Louise State Park. Of natural interest along the trail are the Shooting Star Prairie Scientific and Natural Area, the Mower County Natural and Scenic Area site, the Rustic Retreat Wildlife Management Area, the Taopi Prairie site, and the resources of Lake Louise State Park including forest and prairie. Part of the route will parallel Minnesota TH 56, also known as the Shooting Star Wildflower and Historic Route Scenic Byway (also referred to as the Shooting Star Scenic Byway in this document.)

(ii) travel through an area which possesses outstanding scenic beauty.

Trail users will enjoy views of rural pastoral landscapes and up-close sightings of wildflowers. An abundance of prairie wildflowers flourish between TH 56 and the abandoned rail line. A sampling includes prairie smoke, orange puccoon, asters, goldenrods, blazing stars, blue-eyed grass and in the future – shooting stars.

(iii) travel over a route designed to enhance and utilize the unique qualities of a particular manner of travel in harmony with the natural environment.

Traveling through the area by trail allows users to observe the natural environment at a slower pace. The wildflowers, which are one of the highlights of this trail, can best be observed and appreciated by walking or bicycling through the landscape. Much could be missed if traveling by car. Wildlife enthusiasts can utilize the trail to observe and experience wildlife.

(iv) travel along a route which is historically significant as a route of migration, commerce, or communication.

A significant portion of the trail will be located on the abandoned railroad grade. The Chicago, Milwaukee, St. Paul and Pacific Railroad utilized the grade. Certain intact segments of the railroad grade have been recognized as historically significant because it was part of the first line that allowed people to travel by railroad from Minneapolis/St. Paul to Chicago and Milwaukee.

(v) travel between units of the state outdoor recreation system or the national trail system.

The Shooting Star State Trail will be an important link to many systems. First of all, it will connect to the Blazing Star State Trail, which will link Albert Lea and Austin. It also has potential to connect to other trails in the Blufflands Trail System in southeast Minnesota. A trail connection with Iowa's trail system is also a possibility. The trail will also connect to Lake Louise State Park.

(2) Utilizes, to the greatest extent possible consistent with the purposes of this subdivision, public lands, rights-of-way, and the like.

Segments of the Shooting Star State Trail will utilize public lands, road rights-of-way and Lake Louise State Park. A large segment of the trail will be located on the abandoned

railroad grade that is currently owned by Southern Minnesota Municipal Power Agency (SMMPA). SMMPA will be granting an easement for trail purposes.

Between Lake Louise State Park and Taopi, the trail will utilize various state, county and township road rights-of-way to make the connection to the abandoned railroad grade east of Taopi.

Where specific alignments have not yet been determined, alternative road rights-of-way have been identified in the plan for potential trail alignments.

(3) Provides maximum potential for the appreciation, conservation, and enjoyment of significant scenic, historical, natural, or cultural qualities of the areas through which the trail may pass.

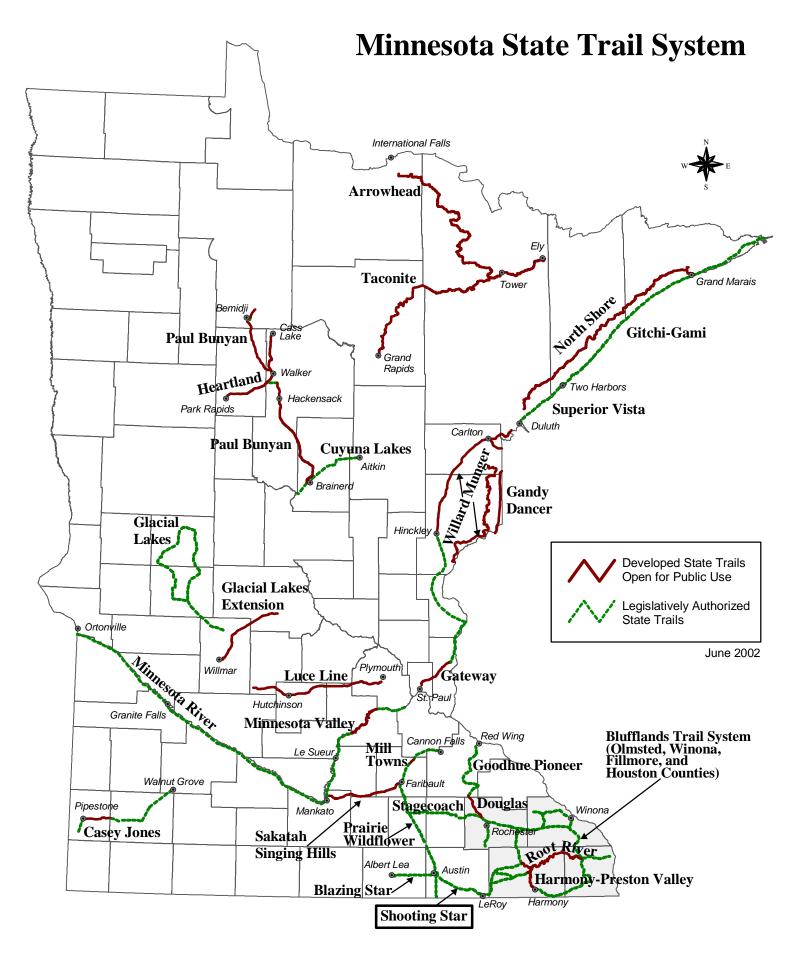
Extensive wildflower plantings and vegetation management are recommended to enhance the wildflower theme and forge a close connection with the wildflower route. The plantings will contribute to the creation of the unique identity of the trail.

Wayside rests and interpretive facilities have been proposed to increase trail users appreciation and understanding of the various resources along the trail.

The trail will be developed to minimize the impact on the natural resources within and adjacent to the trail corridor.

(4) Takes into consideration predicted public demand and future use.

The master plan evaluates and uses the current research and trends on existing use of trails and demand for trail opportunities. Information gathered at public workshops is also considered.



Vision for the Shooting Star State Trail

The Shooting Star State Trail will be:

- A multi-use trail
- A legacy for the future
- A strong connector between towns
- A strong connector between trails
- A part of a growing interconnected system of trails in Southeast MN
- An economic bloodline. The railroad once brought the outside world into the towns, providing the basis for commerce and transportation. Now the trail can do the same.
- A transportation alternative for people of all abilities to school, work, and play
- A safe place for children and families to recreate
- A fun place to visit both for visitors and local residents
- A place to showcase the natural resources of the area.

The Shooting Star State Trail offers exciting possibilities to:

- Share the history of the towns, landmarks and surrounding areas
- Protect, restore and create prairie, oak savanna, and riverine areas along the trail
- Show how nature and culture have shaped the landscape
- Interpret natural features (plants, wildlife and scenic features) along the trail
- Interpret railroad history
- Connect to Iowa's trail system.

The Shooting Star State Trail is a vital component in the efforts of Prairie Visions. "In 1989, the communities of LeRoy, Taopi, Adams, and Rose Creek established Prairie Visions, a cooperative venture to preserve the area's natural and historic resources while creating a diverse, sustainable economy based on agriculture, tourism, and small businesses." (www.mowercounty.com/prairievisions/) In addition to the trail, Prairie Visions was instrumental in establishing the Shooting Star Scenic Byway which is the state's first designated Wildflower and Historic Route.

Goals for the Shooting Star State Trail

Trail Integrity/Connectivity

Provide a high quality, continuous multi-use recreational trail which serves as a component in the emerging southeastern Minnesota trail system

Connect regional tourist travel destinations and population centers

Connect state and local outdoor recreation lands and facilities.

Environmental

Preserve and enhance the natural and cultural features of the trail corridor

Provide educational information about native prairie areas, oak savannas, riverine systems, history of communities, watershed projects and the adjoining Shooting Star Scenic Byway

Design, construct, and maintain the trail in a way that protects and enhances the natural environment and minimizes the trail users' impact

Protect, restore, and manage plant communities, wildlife, soil, and water resources in a way that is appropriate to the surrounding landscape.

Adjacent Landowner Relationships

Develop and maintain the trail so that impacts to adjacent landowners are avoided or minimized

Partner with Mn/DOT on a vegetation management plan and activities along the shared corridor.

Meeting Trail User Needs

Provide access for a wide range of people with varying degrees of abilities

Promote the safety and security of trail users

Work with local communities in developing, managing, and maintaining the trail right-of-way to mutually benefit both trail users and the community

Complement the character and economic vitality of the communities through which the trail passes

Involve local units of government, Prairie Visions, user groups, adjacent landowners, and other concerned citizens in the planning, design, and operation of the trail so that their needs are identified and addressed

Work cooperatively with other units of the DNR and public agencies to fulfill mutual objectives.

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Summary of Recommended Trail Uses

This page summarizes the recommended allowable uses for the trail. The Shooting Star State Trail is a multi-use trail but the limitations of width dictate that not all uses can be accommodated at all times on the entire length of the trail. Following are the recommended trail uses: bicycling, hiking and walking, cross-country skiing, dog walking, running/jogging, in-line skating/skate skiing, hunting, except where discharge of firearms is regulated by community ordinance, and environmental education/interpretation. Trail development will be accessible to people with disabilities wherever possible. Certain segments of the trail can be used for fishing access.



Bicycling

Hiking/Walking



Cross-Country Skiing



Dog Walking



Running/Jogging



In-Line Skating



Hunting



Environmental Education/Interpretation



Accessibility



Fishing

Bicycling

Bicycling is a popular activity in Minnesota. According to the Executive Director of the Minnesota Coalition of Bicyclists, 175,000 bicycles are sold annually in Minnesota. Currently, there are approximately 350 miles of paved state trails. There are over 500 miles of mountain biking opportunities as well. Bicycling is recommended as a use on the entire length of the trail.

Hiking and Walking

On state trails, hiking or walking is second only to biking in numbers of summer users. Pushing strollers or walking for low-impact cardiovascular fitness is popular on state trails. The Shooting Star State Trail, which mainly follows an abandoned railroad grade, has a lengthwise gradient of about 2% and is easy for most people to walk and hike. Hiking and walking are recommended as a use on the entire length of the trail.

Cross-Country Skiing

Cross-country skiing will be allowed on the paved treadway only. A parallel treadway will not be constructed in order to minimize disturbance of remnant prairie that may exist along the trail alignment. The terrain along the Shooting Star State Trail is relatively flat. Lake Louise State Park offers three miles of cross-country ski trails.

Dog Walking

Dog walking will be allowed on the trail as long as dogs are leashed and owners properly dispose of pet wastes. State trail rules require all pets to be attended and restrained by a leash not more than 6 feet in length. Dog walking is a recommended use on the entire length of the trail.

Running and Jogging

Many people use the state trails for running or jogging. Besides the individuals who regularly use the trails for exercise, nearby school track and cross-country running teams sometimes use the trails for training. Running and jogging are recommended uses on the entire length of the trail.

In-Line Skating

According to 1997 Rollerblade, Inc. statistics, in-line skating is still a popular sport. There has been a steady increase in total participant numbers since 1989. As of 1997, there were 29.1 million in-line skaters in the U.S. However, the *percentage* increase has seen a decline that means the sport is not increasing in total participant numbers as fast as it did in the past.

The participation rate in Minnesota is still strong, according to 1998 American Sports Data. Based on a 3-year average, Minnesota was in the top ten list of states in participation rates. Minnesota ranked eighth in total number of participants in the sport and ranked fourth in participants per 100 people.

In-line skaters need a smooth, wide surface, such as asphalt, and prefer trails with no surface debris, twigs or stones. In-line skating is recommended as a use on the entire length of the trail.

Hunting

During legal hunting season only - Currently, state trail rules allow hunting within the trail right-of-way, except where restricted by local ordinance. The current rule states: "No firearm or bow and arrow shall be discharged within the trail at any time, except for the purpose of lawful hunting during the period from September 15 to March 30 only. No rifle, shotgun with slug, or bow and arrow shall be discharged upon, over, or across the trail treadway at any time."

Communities may restrict firearms or bow and arrow discharge, or trapping, by ordinance. These ordinances take precedence over state trail rules.

Environmental Education/Interpretation

Use of the Shooting Star State Trail for environmental education, both for individual trail users and formal groups is encouraged. Schools or organizations that wish to use the trail can work with DNR staff on specific projects.

Accessibility

Since the majority of the Shooting Star State Trail is on a former railroad grade, the nearly level slopes are ideal for accessible use along with the fact that the trail will be paved. In new facility construction, such as adjoining parking areas or rest areas, the DNR designs barrier-free facilities.

Fishing

Some anglers use state trails to get to public waters. There will be an opportunity for fishing at the Rowe Pit water impoundment near LeRoy.

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Trail Alignment

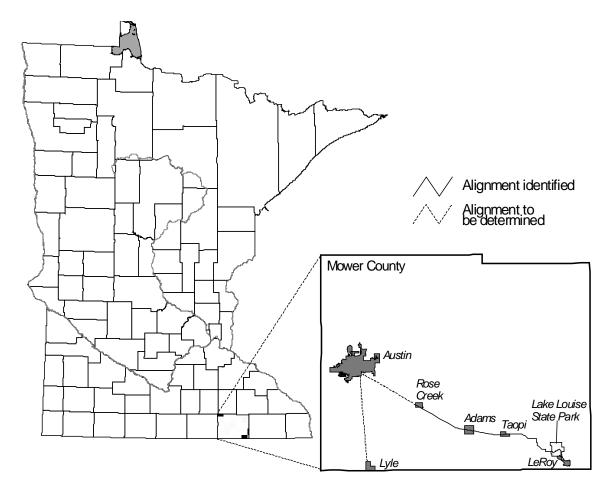
General Overview of the Trail Alignment

The Shooting Star State Trail is a legislatively authorized state trail which when complete will connect LeRoy, Lake Louise State Park, Taopi, Adams, Rose Creek, Austin and Lyle. The total distance of the trail will be approximately 43 miles.

The Shooting Star State Trail will be part of an emerging trail system in southeast Minnesota. The eastern end of the Shooting Star State Trail will be an important link to the Blufflands Trail System in Fillmore County. The west end of the trail will connect to the Blazing Star State Trail connecting Austin to Albert Lea. (See the map of Minnesota's State Trail System on page 7.) Future plans also include connecting with the state trail system in Iowa.

For purposes of the master planning process, the trail has been divided into five segments:

- ♦ LeRoy to Taopi
- Taopi to Adams
- ♦ Adams to Rose Creek
- Rose Creek to Austin
- Austin to Lyle



LeRoy to Taopi

Description of the Trail Environment

The trail begins north of LeRoy at the intersection of County Road 14 and the Upper Iowa River. It extends in a northwesterly direction towards Lake Louise State Park, paralleling the Upper Iowa River. It passes by Rowe Pit, an abandoned gravel pit now owned by the MN DNR, containing a small pond that provides a fishing opportunity. A small parking lot will be developed here and trail users will be able to park and access the trail.

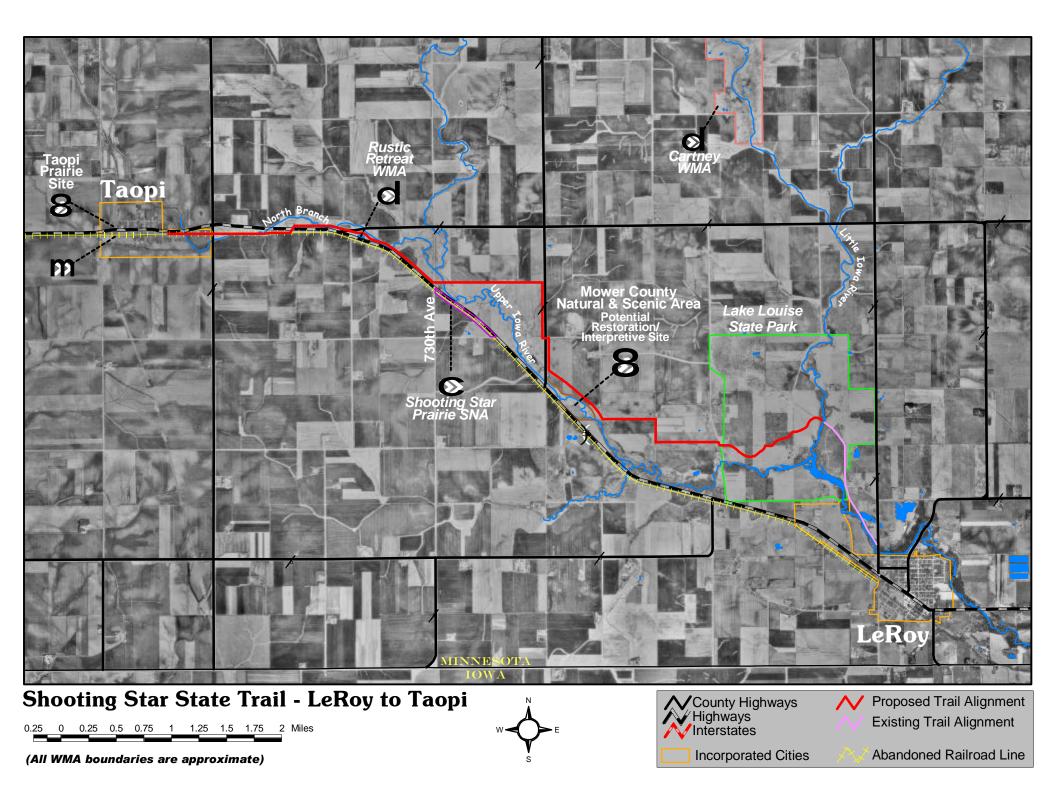
As the trail enters Lake Louise State Park, it passes through wooded and old field areas that contain some remnant or prairie species. The park will provide a unique trail environment because it is one of the few wooded areas along the trail. Trail users will have the opportunity to observe wildflowers, including shooting stars (in season). The Shooting Stars were introduced to the park. The seedlings were grown from seed collected at the Highway 56 site, the only known native population in Minnesota. Other highlights include Lake Louise, old growth oak stands, other various stands of hardwoods, and old field areas that contain some remnant or prairie species.

Agricultural fields will flank the trail as it leaves Lake Louise State Park. In one location, a segment of trail right-of-way will be wider than is typical, 200 feet in width. Here, 14 acres of former cropland will be seeded to native prairie. There are additional opportunities along this corridor to restore and enhance the native vegetation.

There will be opportunities to view wetlands and remnant oak savanna from the trail as it approaches County Road 8 and continues in a northwesterly direction towards Taopi. The trail will pass by the Rustic Retreat Wildlife Management Area, also affording views of wetlands and wildlife. Approximately one mile east of Taopi the trail will cross under TH 56 to make use of the abandoned railroad grade on the south side of TH 56.

Trail Access and Parking Areas, Rest Areas and Interpretive Sites

- LeRoy trail access and parking/rest area. One option is available for the location of a trailhead facility within LeRoy. It would be located south of Lowell Street adjacent to the ball diamond. Parking for approximately 20-30 cars, restrooms, drinking water, and a picnic shelter would be available. An informational kiosk would be recommended at the trailhead that would outline trail orientation, community services and points of interest. See LeRoy city map on page 31.
- *Rowe Pit trail access and parking/rest area.* Trail users will be able to park and access the trail at this location. See the LeRoy city map on page 31. A small pond provides a fishing opportunity. Native vegetation has been planted here. A restoration effort is ongoing to reclaim the gravel pit. It will take time to establish the native plants.
- Lake Louise State Park trail access and parking/rest area. Lake Louise State Park will serve as a trail access, parking area, and rest area. The existing parking lot at the picnic area and swimming beach will accommodate trail users. This area will also serve as a trail rest area. See the Lake Louise State Park map on page 47. Picnic tables, water and restrooms are available. A vehicle permit is required to enter the park. The park offers numerous scenic and recreational amenities including overnight camping.



- *Lake Louise State Park Interpretive Site.* An interpretive sign providing information on the history of the dam and the old town of LeRoy should be located adjacent to the trail in the vicinity of the dam. See the section on the history of LeRoy on page 29.
- *Mower County Natural and Scenic Area oak savanna/streambank restoration interpretive site.* An interpretive sign providing information about oak savanna and the restoration and management of this plant community should be located here. This 36-acre site was acquired with assistance from the DNR through the Natural and Scenic Area Grant Program. The trail will run adjacent to the site but will not enter the main portion of the site as the grant imposes such a restriction. The use of this site for interpretation and restoration is encouraged. There is an opportunity to do a streambank restoration demonstration project here and provide interpretive information about the issue of streambank erosion and restoration techniques.
- ♦ Shooting Star Prairie Scientific and Natural Area Interpretive Site. Interpretive information about the Shooting Star Prairie Scientific and Natural Area, located on the south side of TH 56, should be provided at the intersection of the trail and 730th Ave. Trail users may want to detour to visit this significant prairie site. Trail users are welcome to explore the Scientific and Natural Area by foot, as bikes are not allowed.

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Taopi to Adams

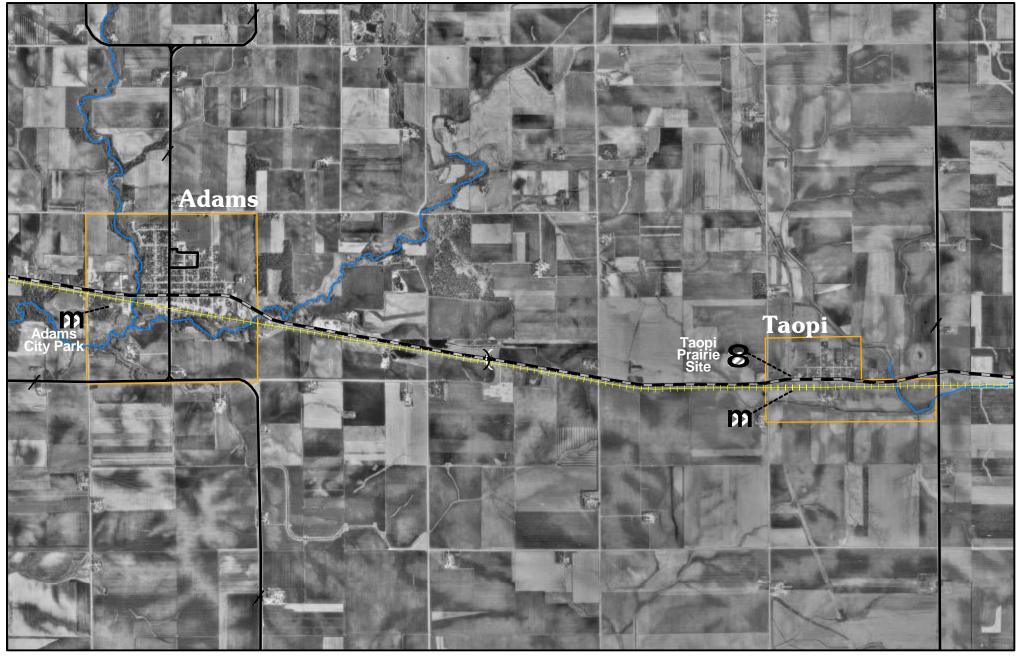
Description of the Trail Environment

The entire alignment is not fully secured at this time. The trail will generally follow the abandoned railroad grade on the south side of TH 56 between Taopi and Adams. This section of trail will offer trail users views of the rural landscape as well as the vegetation along TH 56, which is a designated Wildflower and Historic Route. This scenic byway is also a national Prairie Passage site. The Prairie Passage program is a pioneering partnership between Minnesota, Iowa, Missouri, Kansas, Oklahoma and Texas to develop a plan for a national wildflower corridor. Plans for the corridor include *protection* of remnant native grasses and wildflowers along highway right-of-ways, *restoration* of native grasses and wildflowers along highway right-of-ways, and *education* to promote awareness of the natural and cultural resources along the Prairie Passage route. A significant feature of this segment is the remnant prairie located along the trail and highway right-of-way.

The highway right-of-way is currently being managed for prairie vegetation including various wildflowers by the Minnesota Department of Transportation and local community organizations.

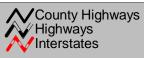
Trail Access and Parking Areas, Rest Areas and Interpretive Sites

- ◆ Taopi trail access and parking/rest area. A small trailhead is proposed in Taopi, to be located on the south side of TH 56 across from the Taopi Prairie. A small parking lot, picnic tables, water and a kiosk with trail orientation information should be located here.
- *Taopi Prairie Interpretive Site*. An interpretive kiosk already exists here, which describes the prairie ecosystem.



Shooting Star State Trail - Taopi to Adams





Abandoned Railroad Line Incorporated Cities

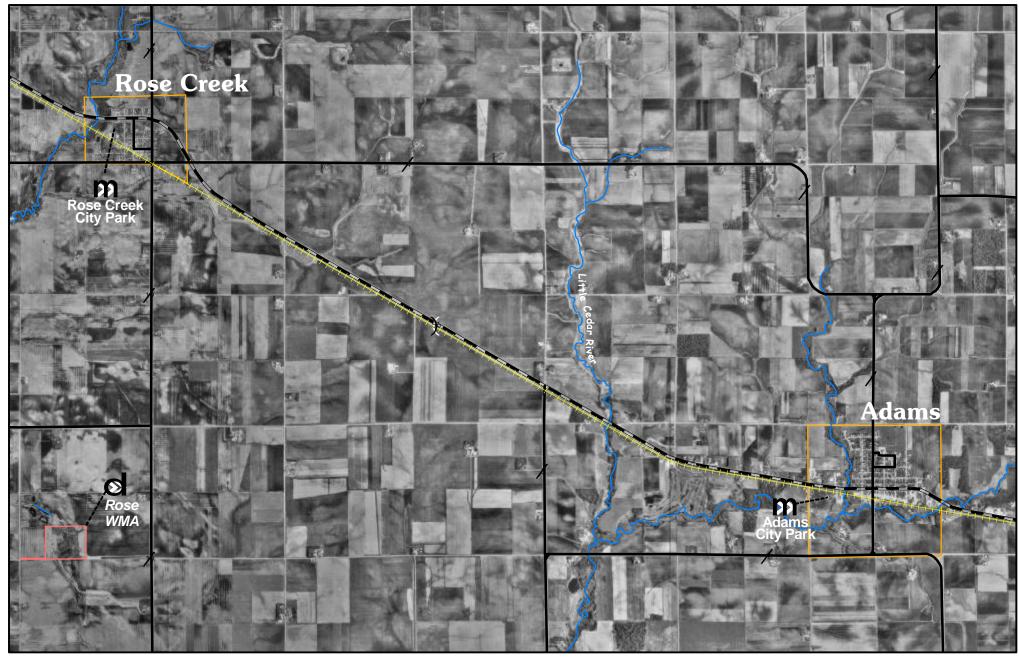
Adams to Rose Creek

Description of the Trail Environment

The entire alignment is not fully secured at this time but the trail will generally follow the abandoned railroad grade along the south side of TH 56. This section of trail is similar to the section between Taopi and Adams in that it will afford trail users views of the rural landscape as well as the vegetation along TH 56, which is a designated Wildflower and Historic Route. A significant feature of this segment is the prairie located in the trail and highway right-of-way. This section of the trail is relatively straight. Curves and plantings of native vegetation should be designed into the trail alignment in this section to create a more interesting trail experience but priority will be given to avoid disturbance of remnant prairie and savanna areas.

Trail Access and Parking Areas, Rest Areas and Interpretive Sites

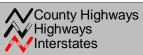
♦ Adams trail access and parking/rest area. Adams City Park will serve as a trailhead and provide parking and access to the trail as well as serve as a rest area for trail users. The park provides all the amenities trail users need including restrooms, water, a parking lot and picnic tables. The addition of a kiosk to provide trail orientation and community services information is recommended for this location.



Shooting Star State Trail - Adams to Rose Creek







Abandoned Railroad Line

(All WMA boundaries are approximate)

Rose Creek to Austin

Description of the Trail Environment

A specific trail alignment for this section has not yet been determined. The following criteria should guide decisions about the future location of the trail. Several conceptual corridors have been discussed as possible linkages between Rose Creek and Austin. They are listed below to provide a basis for continuing discussions about trail alignment as stakeholders (landowners, Prairie Visions, local units of government, trail users, and DNR) strive to reach consensus. The surrounding landscape is agricultural.

Criteria for location of the trail (order does not indicate priority)

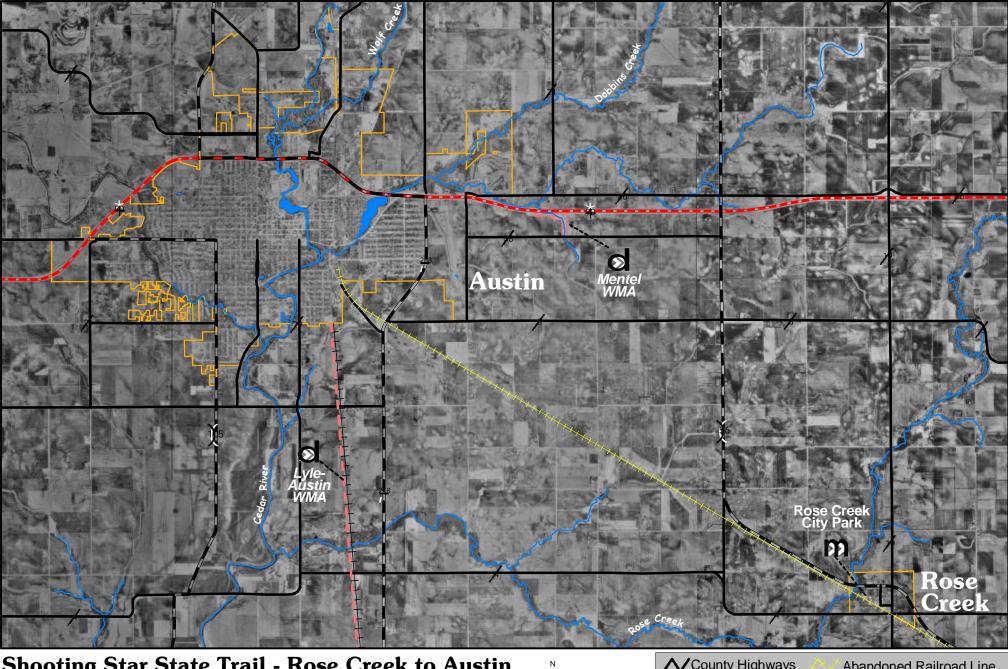
- Avoid acquisition of high quality agricultural land
- Use existing public right-of-way where necessary for connections
- Work with willing landowners to acquire right-of-way that showcases features of the landscape (wooded views of rivers, vistas, cultural features, historic sites)
- Minimize trail user exposure to vehicular traffic
- Avoid negative impacts on rare and endangered species, and avoid fragmentation or disturbance of significant native plant communities identified by the Minnesota County Biological survey
- Avoid or minimize wetland impacts.

Alternative corridors for future trail alignment (order does not indicate priority)

- Abandoned railroad grade from Rose Creek to Austin
- ♦ TH 56 right-of-way
- County Road 4 corridor
- County Road 3 corridor
- County Road 58 corridor
- Township roads
- Field edges and boundary lines
- Abandoned railroad grade between Austin and Lyle
- Any combination of the above.

Trail Access and Parking Areas, Rest Areas and Interpretive Sites

- *Rose Creek trail access and parking/rest area.* The city park will serve as a trailhead. The park provides most of the amenities needed by trail users including a parking lot, restrooms, picnic tables and water. The addition of a kiosk including trail orientation information and community services is recommended as an addition to this site.
- Austin trail access and parking/rest area. The city of Austin will be the junction of two state trails, the Blazing Star and Shooting Star. Todd Park is the site identified to serve as the trailhead for both trails. See the map on page 41 for the location of Todd Park. Parking areas, restrooms, water, and picnic facilities are available here. The addition of a kiosk with trail orientation and community services is recommended.



Shooting Star State Trail - Rose Creek to Austin







(All WMA boundaries are approximate)

Austin to Lyle

Description of the Trail Environment

A specific trail alignment for this section has not yet been determined. The primary focus has been on the abandoned railroad corridor that is presently the Lyle-Austin Wildlife Management Area. The Division of Wildlife would entertain a land exchange to make this corridor available for the trail. The high quality remnant prairie and rare species identified in this corridor will necessitate very careful location of the alignment and future vegetation management. The following criteria should guide decisions about the future location of the trail. Several conceptual corridors have been discussed as possible linkages between Austin and Lyle. They are listed below to provide a basis for continuing discussions about trail alignment as stakeholders (landowners, Prairie Visions, local units of government, trail users, and DNR) strive to reach consensus. The surrounding landscape is agricultural.

Criteria for location of the trail (order does not indicate priority)

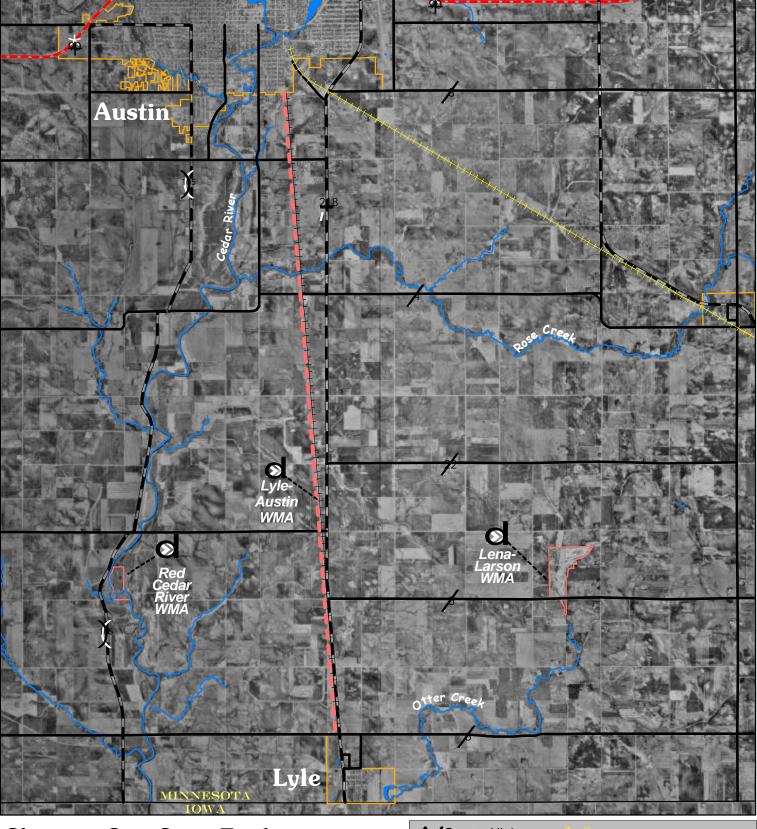
- Avoid acquisition of high quality agricultural land
- Use existing public right-of-way where necessary for connections
- Work with willing landowners to acquire right-of-way that showcases features of the landscape (wooded views of rivers, vistas, cultural features, historic sites)
- Minimize trail user exposure to vehicular traffic
- Avoid negative impacts on rare and endangered species, and minimize fragmentation or disturbance of significant native plant communities identified by the Minnesota County Biological survey
- Avoid or minimize wetland impacts.

Alternative corridors for future trail alignment (order does not indicate priority)

- The abandoned railroad grade that is currently the Lyle-Austin Wildlife Management Area. The Division of Trails & Waterways would perform a land exchange with the Division of Wildlife to obtain this corridor
- Highway 218 corridor
- Follow property lines; acquisition from landowners.

Trail Access and Parking Areas, Rest Areas and Interpretive Sites

• Lyle trail access and parking/rest area. The existing city park on the north edge of town has been identified as the trailhead. In addition to the amenities there, a kiosk with trail orientation and community services is recommended.



Shooting Star State Trail -Austin to Lyle

1.5

1

2 Miles

0.5

0

0.5



Abandoned Railroad Line

(All WMA boundaries are approximate)

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Interrelationship of the State Trail and Communities

LeRoy

History

The original village of LeRoy was located on the Upper Iowa River approximately one mile northwest of its present location, part of which is now in Lake Louise State Park. The first settler in the area was Henry Edmonds who erected a mill along the river in 1855. The town began to grow and prosper along the banks of the Little Iowa River until the railroad came to the area. The tracks were laid in 1867, approximately one mile southeast of the original village. Economic activity began to flourish around the railroad, which resulted in villagers moving the town of LeRoy to its present day site. Some buildings and homes were moved intact from the old village to the new site. The new town of LeRoy was platted in 1867 and was incorporated in 1876.

Community Today

LeRoy was one of the community partners that formed the Prairie Visions group and were instrumental in the establishment of the Shooting Star Wildflower & Historic Route Scenic Byway along TH 56.

LeRoy, population 925, is located on TH 56 approximately 30 miles southeast of Austin. The city has many active businesses including two banks, several restaurants, a supermarket, hardware store, various agricultural and construction oriented companies and a weekly newspaper.

LeRoy offers many recreational opportunities. There are two city parks to enjoy. Amenities offered between the two are tennis courts, playground equipment, restrooms, picnic shelters and ball diamonds. Lake Louise State Park, located just north of town, offers camping, canoeing, horseback riding and various hiking and biking trails. The LeRoy-Ostrander Public School has a swimming pool, which is open to the public.

LeRoy has two buildings on the National Register of Historic Places – the LeRoy Public Library and the First State Bank. The LeRoy Public Library was built in 1915 and is an example of Carnegie-type Classical Revival Style. The First State Bank, which is an example of the Prairie style by Purcell and Elmslie, was built in 1914.

Trail Alignment

Currently, the trail does not come into LeRoy proper. It starts north of the Upper Iowa River and west of County Road 14. The city is considering alternatives to get the trail into town. The Upper Iowa River is the main obstacle to bringing the trail into town. Alternatives for crossing the Upper Iowa River are:

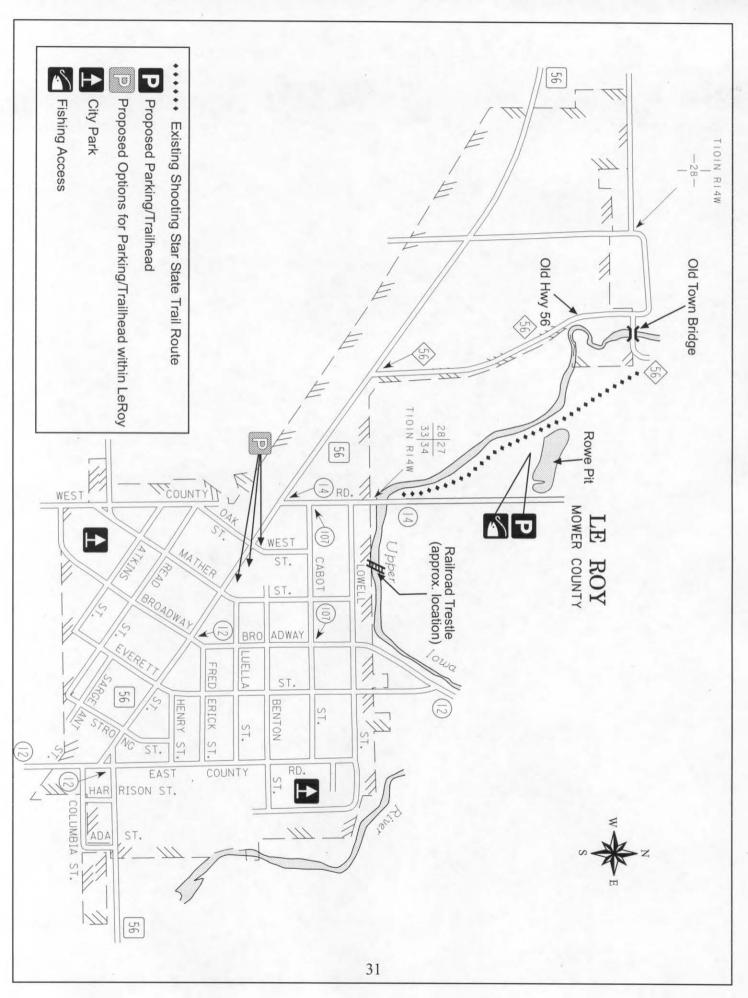
Alternative 1: Cross under County Road 14 at the road bridge where the existing trail ends. Bring the trail east to the abandoned railroad trestle, which is north of Lowell Street, and cross the river. Alternative 2: Cross the Upper Iowa River adjacent to the County Road 14 bridge.

Alternative 3: Utilize old TH 56 and the Old Town Bridge. Follow old Highway 56 to TH 56 and bring the trail into town along TH 56.

One option is available for the location of a trailhead facility within LeRoy. It would be located south of Lowell Street adjacent to the ball diamond. Parking for approximately 20-30 cars, restrooms, drinking water, and a picnic shelter would be available. An informational kiosk would be recommended at the trailhead that would outline trail orientation, community services and points of interest.



Main Street LeRoy - circa 1925 Moen Photo Service, Minnesota Historical Society



Таорі

History

Taopi was platted in 1875 by the Taopi Farming Company and was incorporated in 1878 and reincorporated in 1907. Taopi was named after a leader of the farmer band of the Dakota, which means Wounded Man. He was one of the first converts to Christianity at the Redwood Mission located on the Minnesota River. During the Dakota War of 1862, he was friendly to the European settlers and helped in the rescue of many people.

The village was the site of the largest steam-flouring mill in the southern part of the state. The mill, owned by the Taopi Mill Company, was able to grind 300,000 bushels of wheat per year. Taopi was also where the Chicago Great Western and the Chicago, Milwaukee & St. Paul Railroads crossed.



Portrait of Ta-o-pe, circa 1860 Minnesota Historical Society

Community Today

Taopi was one of the community partners that formed the Prairie Visions group and were instrumental in the establishment of the Shooting Star Wildflower & Historic Route Scenic Byway along TH 56.

Taopi, population 93, is located on TH 56 approximately 22 miles southeast of Austin. The city is one of the smallest in Mower County and has the smallest Post Office in the state of Minnesota. Businesses in Taopi include two tiling companies and a bar.

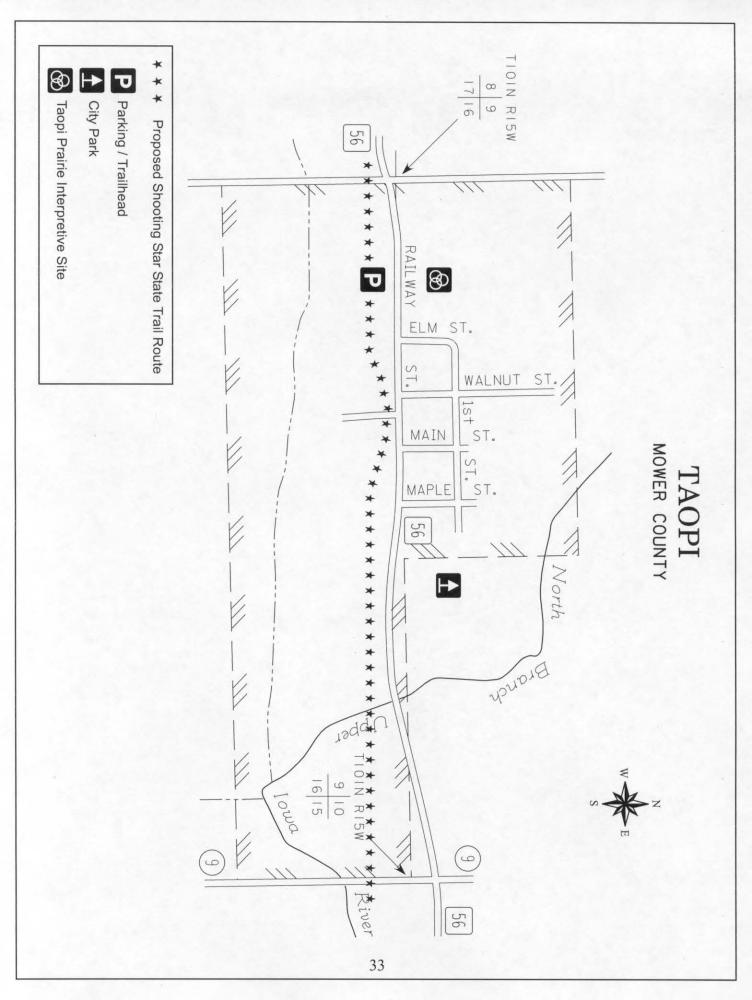
The Taopi Prairie Site, which offers a 0.7-mile hiking trail, is located on the western edge of the city and is a small tract of native prairie. An informational kiosk is located at the site that describes the plants, animals, and ecology of the prairie that once flourished in the area. There also are nice tracts of remnant prairie in the TH 56 right-of-way.



Trail Alignment

The trail will generally follow the abandoned railroad grade through town on the south side of TH 56. Development of a small trailhead is proposed on the south side of TH 56, where the old depot used to be. It will be across the highway from the Taopi Prairie Site. Bathrooms, water, an informational kiosk and approximately 10 parking spaces are recommended at the trailhead. The old Taopi townsite, located along the intersection of the two abandoned railroads, offers an interpretive opportunity. An historical walking tour using the old plat map of Taopi and identifying significant

sites such as the railroad depots, blacksmith shop, etc. could be developed.



Adams

History

The village of Adams was platted in January of 1868 by Selah Chamberlain and by 1873 it was a very active trading center. It was incorporated in March of 1887. The first post office was located in the farmhouse of John Ingen in 1859. Adams served as a station for the Chicago, Milwaukee, St. Paul and Pacific Railroad.

Community Today

Adams was one of the community partners that formed the Prairie Visions group and were instrumental in the establishment of the Shooting Star Wildflower & Historic Route Scenic Byway along TH 56.

Adams, population 800, is located on TH 56 approximately 18 miles southeast of Austin. The city supports a variety of businesses including a grocery store, restaurants, several automotive services, a home and garden store, and a hardware store.

Adams also offers a variety of recreational opportunities such as the Town and Country public swimming pool, an 18-hole golf course and Adams City Park. Playground equipment, a volleyball court and basketball court are also available at Adams City Park.

The First National Bank building on Main Street is listed on the National Register of Historic Places. Completed in 1920 by Purcell and Elmslie, the bank was typical of Prairie Style architecture which incorporated terra cotta and stained glass into the design. The interior of the bank also had a vaulted ceiling and a fireplace. The bank closed in 1932. However, since that time, it has been used by other businesses and it is currently used as a gift shop which offers for sale the work of 25 local artisans.

Trail Alignment

The trail will generally follow the abandoned railroad grade paralleling TH 56 through town. Adams City Park, located on the west side of town, will serve as the trailhead. There are existing facilities such as bathrooms, shelters, water and hookups for parking and camping at the city park. Camping is allowed in the park.

ADAMS MOWER COUNTY 7 111 11 17 11 1 ST. LINCOLN ST. 3 2 10 11 6th TIOIN RIGW LEWI SON 06 ST. LEWILISON ST. ST. ST. STS (106) (106 WATER ST. 5+1 4+h. ST. ST. ST. BER GEN 56) 3rd 1st T5 2nd 56 ST. MAIN * SCHMITZ COM MERCE * * * * * * * * * 120/15 * * * 57. * * * * × ADAMS 56 * * * * * 7 TIOIN RIGW 11/12 14 13 18 1 7 11 11 18 ¥ Proposed Shooting Star State Trail Route ¥ ¥ Parking / Trailhead City Park Camping Å

Rose Creek

History

Rose Creek got its name from the stream that runs just west of town. The village developed around the Chicago, Milwaukee and St. Paul railroad in 1867 and a railroad depot was built in 1878. Rose Creek was also platted by Selah Chamberlain in 1873 but was not incorporated until 1899. The first school was built in 1874 and in 1908 the building was sold to the village to be used for the town hall. A new four-room brick building replaced the old school. The Rose Creek Literary Club was organized in April of 1922 and was an important element in the development of the Rose Creek Library.



Railroad Station, Rose Creek - circa 1890, Minnesota Historical Society

Community Today

Roe Creek was one of the community partners that formed the Prairie Visions group and were instrumental in the establishment of the Shooting Star Wildflower & Historic Route Scenic Byway along TH 56.

Rose Creek, population 354, is located on TH 56 approximately 12 miles southeast of Austin. The community supports several businesses including restaurants, a hardware store, various agricultural services and several automotive repair stations.

The city park has many amenities to offer. There is a large picnic shelter, playground equipment, courts for tennis, volleyball and basketball, a softball diamond, and horseshoe pits. A wildflower garden is located on the western edge of the park. Camping is not available at the park.

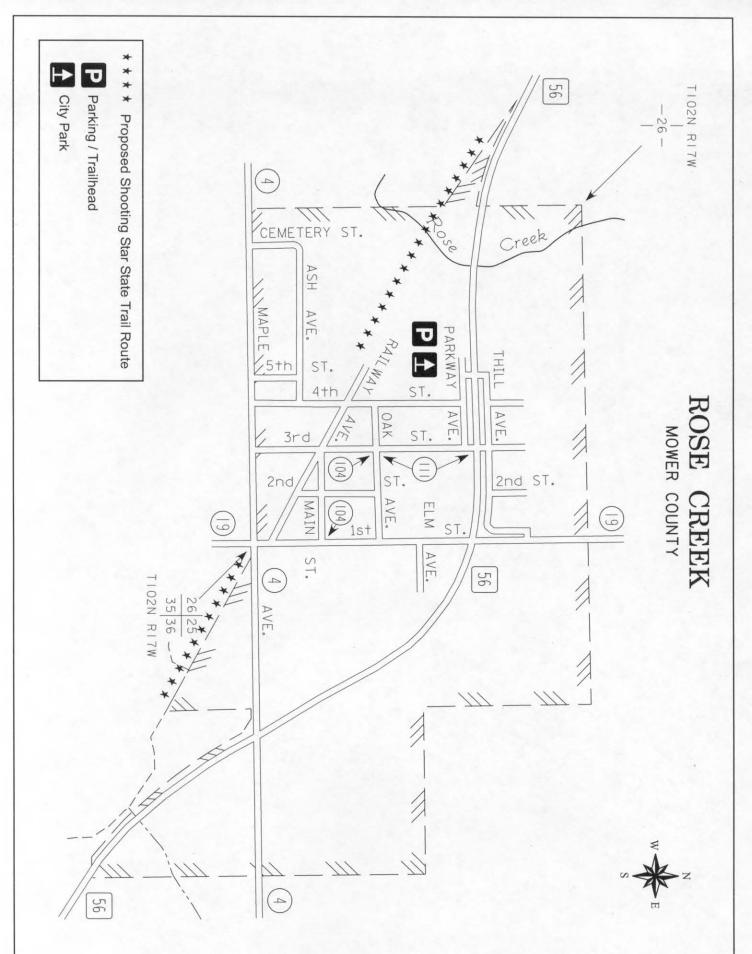
Trail Alignment

There is not a definitive trail alignment through the city of Rose Creek. The abandoned railroad grade, which has tracts of remnant prairie in the right-of-way, runs through town past the grain elevators, however, the city wants to avoid that area because of traffic conflict concerns. Because of those concerns, alternatives to using that part of the grade need to be considered. Alternatives for trail alignment (entering town from the southeast) are:

Alternative 1: The trail will follow the abandoned railroad grade to the intersection of CSAH 4 and 19. The trail will then follow Railway Avenue where it will connect with the abandoned railroad grade at the city park.

Alternative 2: The trail will follow the abandoned railroad grade to the intersection of CSAH 4 and 19. The trail will then follow Maple Street to 4th Street to Railway Avenue where it will connect with the abandoned railroad grade at the city park.

The city park will serve as the trailhead for Rose Creek. Facilities, such as parking, bathrooms, water and shelter, already exist at the park. Portable toilets are available year-round while the permanent structure bathrooms are only open during special events. The addition of trail orientation and interpretive information should be added in the future. The old cemetery on the north side of TH 56 could be utilized as a site for interpretation as well.



Austin

History

Austin was incorporated as a village in 1868 and as a city in 1871. The city was named after the first settler in the area, Austin R. Nichols, a trapper who staked his claim and built a log cabin in 1853.

Railroads played an important role in building the community of Austin. Along with other small railroad lines, Austin had a station of the Chicago, Milwaukee, St. Paul and Pacific Railroad. The many rail lines helped the city become an important rail center.

In 1891, George Hormel started a food processing business in Austin. It was originally named George A. Hormel and Company and is now the Hormel Foods Corporation. The food products have become household names with the most recognizable of the products being SPAM®, Dinty Moore® beef stew, and Cure 81® Ham, to name a few.



Hormel plant, Austin – 1910, Minnesota Historical Society

Community Today

Austin, the county seat of Mower County, has a population of 23,314 and is located in western Mower County at the junction of U.S. Highway 218 and Interstate 90. It is approximately 100 miles south of the Twin Cities.

Many businesses thrive in the community of Austin with the food industry being the foundation. The Hormel Foods Corporation, a Fortune 500 company, is headquartered in Austin. The main plant is still located in the city and employs 1,500 people. There are many other food producing companies in the city including Quality Pork Producers, Austin Packaging Company, and

Aegean Cheese. A Weyerhauser branch that produces corrugated packaging for food companies is also located in town.

Austin supports a strong retail community as well. The historic downtown area has many specialty shops and restaurants. Other shopping can be found at the Oak Park Mall, approximately five minutes from the downtown district. Also located in town is the Hormel Spam® Museum that attracts more than 60,000 visitors annually.

Austin has more than 26 community parks located throughout the city with various amenities at each one. The J.C. Hormel Nature Center, a standout among the parks, is comprised of 278 acres of prairies, woodlands, and wetlands. A fully staffed interpretive center showcases native Minnesota plants and animals along with other hands-on displays. There are approximately 10 miles of nature trails with cross-country skiing provided in the winter. Bikes are not allowed on the paths within the Nature Center.

Trail Alignment

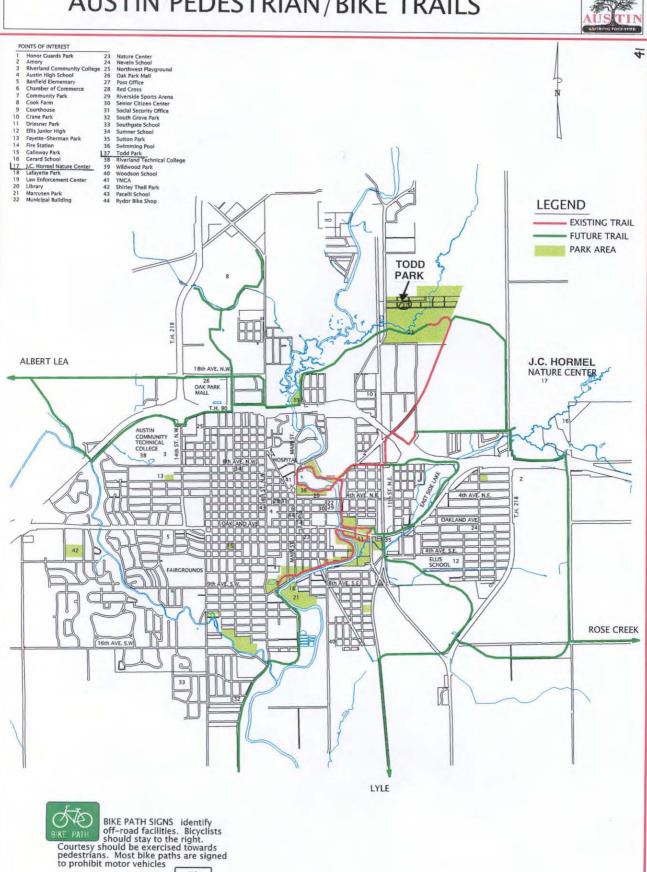
There is not a definitive trail alignment for bringing the Shooting Star State Trail into the city of Austin because the alignment coming from Rose Creek has yet to be determined. However, if the trail does enter Austin from the southeast, near the Austin Municipal Airport, the city would like to see the trail take a northerly route along County Road 58 and make its way to J.C. Hormel Nature Center where it would be located on the edge of the park with a connection to the interpretive center. Trail alignment and management adjacent to and within J.C. Hormel Nature Center will be given special attention. Concerns include: crossing Highway 218 safely, getting from 28th Street to 21st Street; crossing an eroded gully near 28th Street; accessing the Nature Center facilities with a trail along the existing road (not a new trail through habitat); and preventing bikers on the proposed trail along the south boundary (easement area) from accessing the Nature Center trails). An aesthetically appropriate fence should be erected between the bike trail and the Nature Area. The alignment should be located to minimize impact to wildife habitat. There has been recent use of the mowed easement to the south by a badger.

The trail would eventually lead to Todd Park. The route to Todd Park has not yet been determined. Although it is not final, Todd Park is recommended as the trailhead for the Shooting Star State Trail as well as the trailhead for the Blazing Star State Trail. Amenities in the park include shelters/picnic pavilions, picnic tables, a playground, soccer fields, softball/baseball diamonds, an 18-hole disc golf course, 5-6 parking lots, and the Izaak Walton Cabin that can be rented for events.

Austin's existing trail system follows the Cedar River through town and connects various community parks to Mill Pond Park. At Mill Pond Park, the trail leaves the river and follows a northeasterly course through the city where it eventually enters Todd Park.

The proposed city trail system will link existing community trails, neighborhoods, community parks, surrounding cities and the Blazing and Shooting Star State Trails. The existing and proposed trails can be seen on the following map.

AUSTIN PEDESTRIAN/BIKE TRAILS





Lyle

History

The city was named for Robert Lyle who was the Mower County Probate Judge from 1861-1866. The original village of Lyle, which encompassed 40 acres, was platted in 1870 and was incorporated in 1875.

Railroads were an important part of Lyle's growth. Many freight and passenger trains ran daily through the city of Lyle. At one time in the city's railroad history there were three depots in town serving the Chicago, Milwaukee & St. Louis Railroad, the Illinois Central Railroad, and the Chicago Great Western Railroad. The last depot, the Milwaukee, was removed in 1965.

Community Today

Lyle, population 566, is a small community approximately 12 miles south of Austin and is located on U.S. Highway 218.

The community currently has an antique shop, a restaurant, a mechanic shop and a spacious city park as well as other visitor amenities.

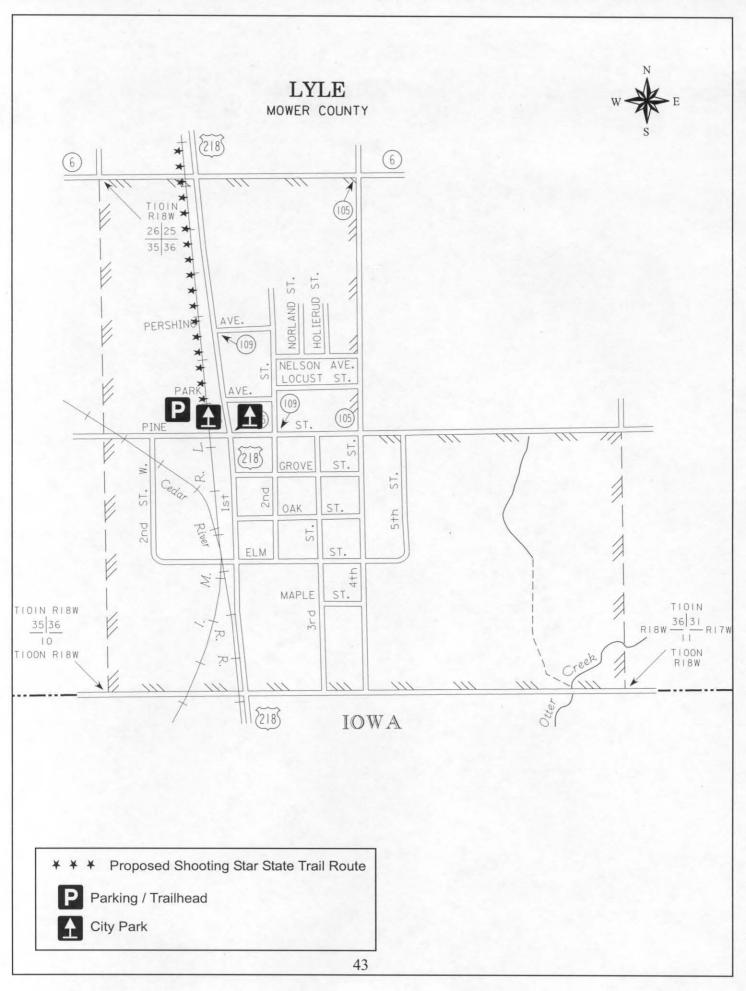
Lyle had the unique title of being the Croquet Capital of Minnesota. In the 1940's, a resident of Lyle built a croquet court in his backyard to serve as a substitute for golf. Practically every community member played the sport. Current residents of Lyle have contemplated the reestablishment of a city croquet court.

Trail Alignment

A specific trail alignment has not been determined but the city of Lyle would be in favor of using the abandoned railroad grade that runs north out of town. The abandoned railroad grade, from Austin to Lyle, is currently a Wildlife Management Area under the ownership of the Minnesota Department of Natural Resources, Division of Wildlife. A land exchange between the Division of Trails and Waterways and the Division of Wildlife would be necessary to obtain the grade for use as a state trail.

Trails and Waterways will coordinate additional vegetation inventories and management with the current inventory being done on the Austin to Lyle WMA and adjacent railroad right-of-way, funded by the Natural and Scenic Area Grant Program. Preliminary inventory information has documented over 30 new rare plant occurrences for 4 species including a new state record for sweet coneflower, *Rudbeckia subtomentosa*. The Austin to Lyle WMA will require careful management of the unique prairie community.

The city park could serve as the trailhead for Lyle. Amenities at the park include a playground, tennis courts, volleyball courts and a flower garden maintained by the local garden club. The addition of restrooms and an informational kiosk, including trail orientation and community services, would be a valuable addition for trail users.



Interrelationship of the State Trail and Nearby Facilities

Lake Louise State Park

Park Highlights

Lake Louise State Park is the site of Minnesota's oldest, continuous recreation area. Shortly after the area was surveyed in 1853, the town of LeRoy was platted, and the Upper Iowa River dam was constructed to provide power for a grist mill. Soon after, the railroad came through, but it passed south of the original townsite. Out of economic necessity, the town of LeRoy was moved south to its present location for access to the rails. When the grist mill was abandoned, the Hambrecht family who owned the land along the mill pond gave several acres to the village as a recreation area. At that time the site was known as Wildwood Park. The millpond was named after a member of the Hambrecht family and still bears her name, "Louise." In 1962, the city of LeRoy donated Wildwood Park -- about 70 acres -- to the state of Minnesota to form the nucleus of Lake Louise State Park. Today, the statutory boundary totals 1,168 acres. (*http://www.dnr.state.mn.us/state_parks/lake_louise/narrative.html*)

The natural resources of Lake Louise State Park are a highlight, most notably the woodlands, including old growth oak forest and prairie species in the old field areas that are coming back nicely over time.

Recreational opportunities include a swimming beach, campground, picnic area, hiking trails, horseback riding and now bicycling on the Shooting Star State Trail.

Role of the Park

Lake Louise State Park will serve as a trailhead for users of the Shooting Star StateTrail. The existing parking lot near the picnic area and beach will serve as the trailhead. It will also serve as a rest area. Bicycle racks would be a valuable addition to the site. A short access trail from the trailhead to the Shooting Star State Trail would also be a valuable addition.

Park visitors can bring their bicycles and take a trip on the trail or use the trail for transportation to LeRoy for amenities such as stores, restaurants and the swimming pool located at the school.

Trail Alignment

A specific alignment has been determined through the park. The map on page 47 illustrates the trail location. The alignment through Lake Louise provides a unique opportunity in terms of the overall trail experience as it departs from the road right-of-way and meanders through the park.

Future Considerations

The addition of the trail to the park will increase the number of park visitors. It is anticipated that the existing facilities will be able to accommodate the future use. The addition of a kiosk outside the contact station providing trail orientation information would be of benefit to trail and park users. The development of a kiosk is planned for this location and incorporation of a panel on the trail is recommended. Also, a few campsites for bicyclists could be developed in the location of the existing horse campground which is slated to be relocated. It is recommended that two connections to the main trail be made. The first connection is to the day use picnic area

along the shore of Lake Louise while the second connection is to the campground. These two links to the main trail would allow day use visitors and campers to access the trail directly and minimize their exposure to vehicular traffic.



Entrance to Wildwood Park, LeRoy - circa 1950, Minnesota Historical Society

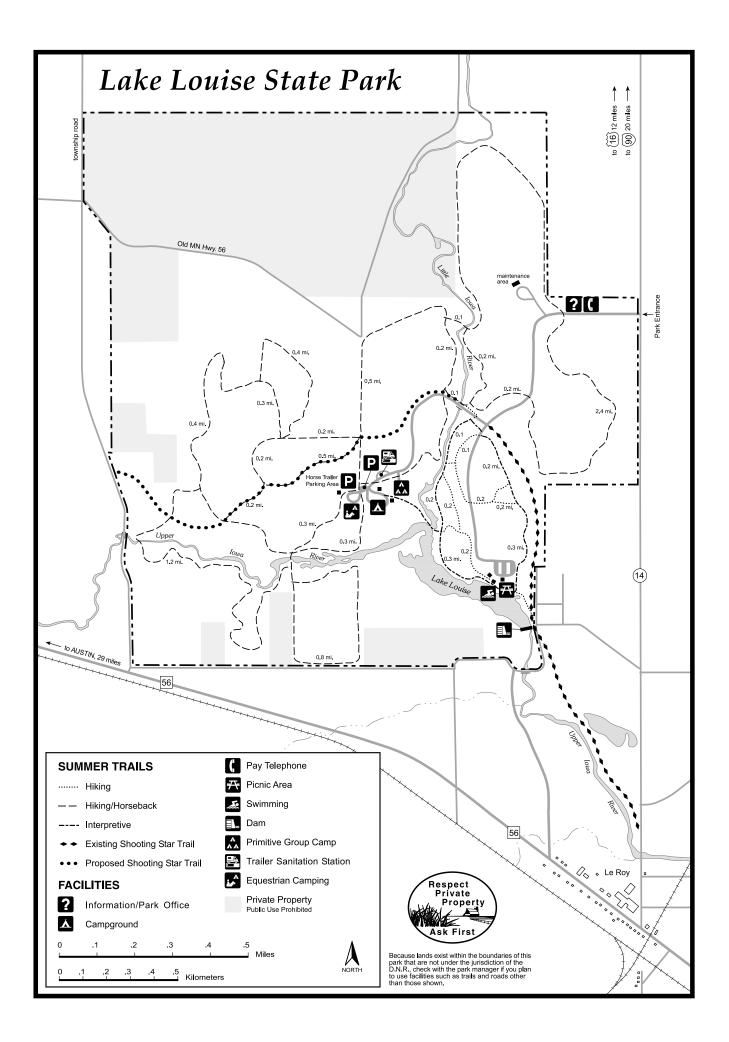


Remnant entrance to Wildwood Park (now Lake Louise State Park) - 2001

Shooting Star Prairie Scientific and Natural Area

Named in honor of the prairie wildflower that once grew here, Shooting Star Prairie Scientific and Natural Area's sandy soil will once again support shooting stars, which are being reintroduced. This small mesic tallgrass prairie remnant survives on an abandoned Milwaukee Railroad right-of-way. Most tallgrass prairie has been taken for agricultural use, enhancing the value of this remnant. Shooting stars bloom in the spring; rattlesnake master and wild indigo in midsummer; sunflowers, asters, goldenrods, and blazing stars in late summer. (*http://www.dnr.state.mn.us/snas/sna01004/index.html*)

Interpretive information about the Shooting Star Prairie Scientific and Natural Area, located on the south side of TH 56, should be provided at the intersection of the trail and 730th Ave. Trail users may want to detour to visit this significant prairie site. Trail users are welcome to explore the Scientific and Natural Area by foot, as bikes are not allowed. (See map on page 17.)



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Trail Management

The following section contains recommendations for maintenance, enforcement and interpretation of natural and cultural resources. The plan recommends that an adequate level of enforcement be provided via a multifaceted approach to help maintain a safe and secure trail environment and to encourage trail users to understand and obey trail rules and respect other trail users and adjoining properties. Interpreting the natural and cultural features along the trail is also recommended.

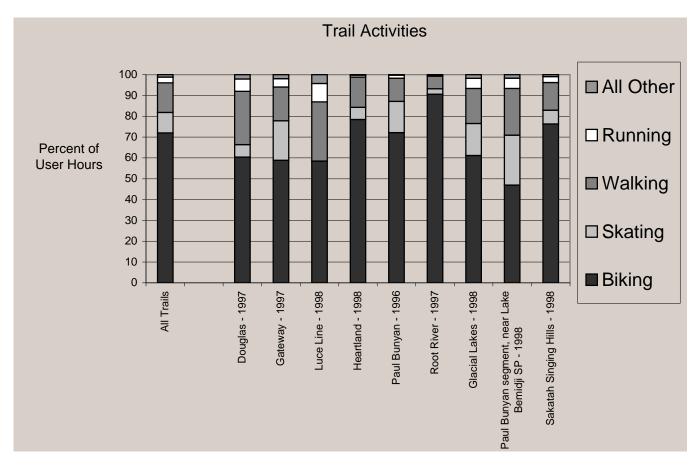
Projected Trail Use

State Trail Use as an Indicator of Future Use

It is anticipated that the number of trail users and pattern of use will be similar to what is occurring on other state trails. The following table summarizes the summer use (Memorial Day to Labor Day) for the other asphalt trails in the state system. Use is measured in user hours. (A trail user spending one hour on the trail is a user hour).

T	Trail User Hours		
	<u>Total Seasonal</u> <u>User Hours</u>	<u>Miles of Trail</u> <u>in Survey</u>	<u>User Hours per</u> <u>Trail Mile</u>
High Local Use			
Douglas – Summer 1997	42,910	12.5	3,433
Gateway – Summer 1997	181,952	18.5	9,835
Luce Line – Summer 1998	65,120	29.0	2,246
<u>High Tourist Use</u>			
Heartland – Summer 1998	125,381	27.0	4,644
Paul Bunyan – Summer 1996	155,268	46.4	3,346
Root River – Summer 1997	178,761	40.8	4,381
Mix Local/Tourist Use			
Glacial Lakes – Summer 1998	33,858	18.0	1,881
Paul Bunyan Segment, near Lake Bemidji State Park – Summer 1998	17,488	5.3	3,300
Sakatah Singing Hills – Summer 1998	95,634	38.0	2,517
All Trails	896,373	236	3,806

The use pattern observed on other state trails can also provide insight into the mix of trail activities that can be expected. As the next table and pie chart illustrates, bicycling will most likely be the predominant activity, followed by walking and then in-line skating.





It is likely that the use profile of the Shooting Star State Trail will most closely match that of the Sakatah Singing Hills State Trail, located between Mankato and Faribault. This trail receives a balance of local and tourist use. This means that approximately 50% of trail users come from the local area and 50% come from beyond the local area. Bicycling is the predominant trail use, by far, with walking the second most predominant activity. It is likely that this will hold true for the Shooting Star State Trail as well.

Trail Maintenance

Adequate maintenance of the Shooting Star State Trail is critical to provide and sustain the experience trail users appreciate. Maintenance activities are numerous and diverse, as the following list illustrates.

- Monitoring trail conditions, which includes scheduling and documentation of inspections; monitoring the condition of railings, bridges, trail surfaces, and signage; hazard tree inspection; and removal of debris such as downed trees
- Scheduling of maintenance tasks
- Mowing of vegetation: shoulders, rest areas, parking lots
- Winter grooming and plowing
- Tree and shrub pruning
- Trash removal
- Trail repair fixing washouts and controlling erosion are examples
- Maintaining bridge decking and railings
- Trail drainage control
- Trail surface maintenance
- Repair of animal damage to trail or facilities
- Checking and repairing fence lines, gates and cattle crossings
- Mowing and brushing farm crossings
- Cleaning out ditches and culverts, replacing failing culverts
- Vegetation management prairie restoration/enhancement
- Controlling noxious weeds
- Maintaining equipment
- Painting posts and picnic tables
- Maintaining boundary signs and working to resolve encroachment issues
- Coordination of volunteer efforts
- Training and supervision of employees, Minnesota Conservation Corps, or Sentence-to-Service crews doing maintenance work
- Any future sections of the trail developed with asphalt will require sweeping.

Recommendation 1: The Division of Trails and Waterways will require additional maintenance funds as the trail is developed.

Recommendation 2: The Division of Trails and Waterways is responsible for maintenance and management of designated State Trails. However, a portion of this trail is within Lake Louise State Park, which is managed by the Division of Parks and Recreation. To assure appropriate protection of State Park resources, view sheds and facilities immediately adjacent to the trail, trail managers will work with park staff to establish standards and parameters for maintenance activities on State Trails within or segments of State Trails passing through State Parks. Local trail managers will plan, schedule and coordinate maintenance activities following these guidelines with the appropriate Park Manager.

Information and Education

Identification of Services

Trail users benefit from knowing where they can obtain services (medical assistance, telephones, gasoline, food, lodging, rest rooms, campgrounds, repair facilities, or other retail) and local businesses benefit from an increase in customers. A listing of the services available in each community developed, maintained and updated by the community could be displayed on information boards at parking areas in each community.

Trail User Orientation

Trail users must have good information about the trail system so they can make choices about destinations appropriate for their time frame, skill level, need for services, such as food and lodging, and the type of scenery and other recreational opportunities available along the route. This type of information should be displayed on information boards at parking areas, in communities and at trail junctions. It should be available in maps and on the DNR Website (*http://www.dnr.state.mn.us*). It should include distances between communities, options for other trail connections and locations of services.

If any significant deviation from the typical trail design occurs, resulting in a change in user experience, it should be noted on the informational kiosks to assist trail users in understanding what the trail experience will be.

Trail Rules and Regulations and Trail Courtesies

Trail courtesy and safety display boards aimed at educating trail users about appropriate behavior, promoting safe trail use, and protecting the quality of the trail environment should be developed. These user-friendly versions of the rules applying to state trails should be posted at information kiosks along the trail and included in trail maps.

Volunteer patrols could be used to distribute information on appropriate trail behavior and etiquette relative to specific problems such as unleashed dogs, litter or trail users keeping to the right and warning others when passing.

Interpretation of Natural and Cultural Resources

There are many natural and cultural resources of significance and interest along the trail. These include creeks, rivers, vegetation and wildlife. In addition, there are several places that tell the history of this region. Providing information about these resources can add enjoyment to the trail experience.

An interpretive theme is identified for state trails during the planning process. The interpretive theme helps tie together spatially separated interpretive sites and provides continuity in the messages. In this trail's region, agriculture is a dominating force, influencing land, water, economics, social lives, etc. Agricultural scenes will dominate trail users' views. An agricultural context should be applied to the trail's educational themes. For example, preserving prairies and savannas in an agriculturally dominated landscape; agriculture's role in the local communities – historical and current; agriculture's impact on water resources; ways agriculture has changed to be more environmentally sound (what more can be done?); etc. The Land

Stewardship Project is active in the region and would likely be interested in partnering on such an educational theme.

The overarching theme of the trail will be the relationship of the agricultural landscape present today with the prairie/savanna landscape, present at the time of European settlement, through time. The significance of the remnant prairie/savanna to the past, present, and future will be emphasized.

Other recommended interpretive themes for the Shooting Star State Trail are:

- The significance of TH 56 (designated as the Shooting Star Scenic Byway)
- The importance of ecological greenway corridors to the rural landscape and how their significance can be enhanced
- The importance of protecting biological diversity.

Environmental Education

The trail has great potential to be used for environmental education. The schools located in the communities the trail passes through are located within close proximity and can used by teachers and students.

Recommendations

Recommendation 1: Adopt the kiosk design used at the Taopi Prairie site. (See photo-page 32.) Use of the same design helps build an identity for the trail and alert trail users to trail information. The weather vane and roof design reflect the rural landscape and history of the area.

Recommendation 2: Community services information, trail orientation, trail rules, and trail courtesy information should be developed and installed on recommended kiosk locations at the same time the trail is developed.

Recommendation 3: Develop prairie plantings at trailheads or within close proximity to trailheads that display the species trail users will most likely see as they travel along the trail. Provide interpretive information about these species.

Recommendation 4: Interpret the natural and cultural features along the trail. Interpretive signs will be developed in cooperation with other DNR divisions, the Minnesota Historical Society, and the Oak Savanna Landscape Team. Some initial ideas are listed in the development summary. Additional sites can be developed over time.

Recommendation 5: Use natural resource sites along the trail to highlight the oak savanna landscape and the efforts to promote a sustainable recovery of the plant and animal communities of this place. The recommendation for the interpretive sign near the Mower County Natural and Scenic Area in the trail segment between LeRoy and Taopi is an example. More opportunities should be identified and developed in cooperation with the Oak Savanna Landscape Team and the Division of Forestry. Another oak savanna planting/demonstration site along the western half of the trail is recommended. A location has not been determined.

Enforcement

Enforcement activities are a vital aspect of maintaining a safe and secure trail environment. Enforcement of state trail rules and regulations, information and education, trail design, trail maintenance, and the mix of trail uses are all factors that contribute to the maintenance of a safe, secure trail environment. DNR has the primary responsibility for law enforcement on DNR owned and operated recreation areas.

Participants in the planning process cited adequate enforcement as a way of resolving potential problems and addressing concerns. User conflicts, unauthorized uses of the trail, trail users leaving the treadway designated for their use, were among the concerns identified during the planning process as likely areas where enforcement attention would be needed.

Funding for law enforcement on state trails has not kept pace with the need created by new trail development. When miles are added to the system, funds for the additional law enforcement needed have not been appropriated. A negative impact on public safety and natural resources can result due to the lack of sufficient law enforcement. A solution promoting law enforcement coverage with trail development must be found.

Recommendation 1: Provide an adequate level of enforcement via a multifaceted approach to help maintain a safe and secure trail environment, to encourage trail users to understand and obey trail rules and respect other trail users and adjoining properties. To accomplish this, additional enforcement officers are required to address the enforcement needs of the expanding trail system in southeastern Minnesota.

Recommendation 2: Develop on-site information that targets important trail courtesies and rules necessary for a safe and enjoyable experience, specific to uses of a particular segment and problems and conflicts occurring there.

Recommendation 3: Use increased visibility of Trails and Waterways staff during peak use times for an enforcement effect.

Recommendation 4: Trails and Waterways will include the cost of enforcement when providing information about the cost of the trail when communicating with legislators, trail advocates and local government officials.

Natural and Cultural Resources Inventory

In most areas of the Midwest, railroad right-of-ways are one of the few places where native vegetation is found. It is important to keep these native remnant pieces intact. If the abandoned grade is not utilized it could be absorbed into agricultural or other use where the native vegetation could be threatened. Acquiring the grade for a trail allows for conservation and enhancement of these tracts of native vegetation.

The ecological value of the trail corridor will be enhanced through intensive resource management or by offering technical assistance to adjoining landowners who wish to restore or preserve native vegetation. The resources within the trail right-of-way will be managed to provide a healthy diversity of native woodland, wetland, and prairie communities for wildlife habitat and for the appreciation of trail users and adjoining landowners. Native grasses, wildflowers, trees, and shrubs will be planted and managed. Special attention will be paid to maintaining and restoring the native prairie wildflowers and grasses along the trail.

Ecological Classification System

The Shooting Star State Trail is located in the Oak Savannah subsection of Minnesota (see ECS map on page 59). Much of this subsection is a rolling plain of loess-mantled ridges over sandstone and carbonate bedrock and till. At the southwestern edge of the subsection are moraine ridges. They are a continuation of those found in the Big Woods, but smaller. As a result, fires from the surrounding prairies to the south, west, and east burnt frequently enough to maintain oak opening rather than forest (Albert 1993). Presently, most of the subsection is farmed. (*http://www.dnr.state.mn.us/ecological_services/ecs/broadleaf/ecs_v.html*)

Climate

Southeastern Minnesota is subject to the state's strong continental weather patterns, which are influenced by cold Arctic air masses in winter and hot Gulf of Mexico air masses in summer. Prevailing winds are from the north or northwest from November to April, and from the south or southwest May through October. Typically, January is the coldest month of the year and July is the warmest.

Average annual precipitation (1961-1990) ranges from 30-32 inches in the western part of Mower County to greater than 32 inches in the eastern part of Mower County. The average annual temperature (1961-1990) is 44 degrees Fahrenheit.

Geology

The first two of four ice ages, about 400,000 years ago, lightly glaciated this area. As a result, the limestone bedrock is close to the surface and only a thin layer of glacial soil covers the bedrock. In some places, the soft, porous limestone has dissolved, creating a depression in the landscape. (*http://www.dnr.state.mn.us/state_parks/lake_louise/narrative.html*)

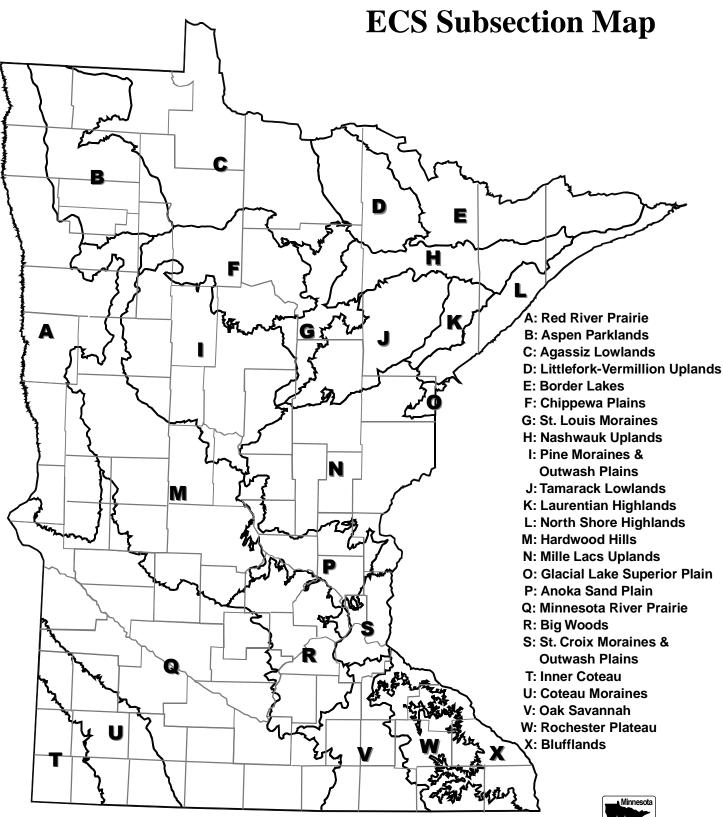
Most of Mower County is located on the Cedar Valley Formation, comprised of carbonate rocks. The Cedar Valley Formation resulted from sedimentation in warm shallow seas that covered southeast Minnesota in the Devonian period, 400 - 350 million years ago. Outcrops of the Cedar

Valley Formation can be seen in Austin and at the quarry north of LeRoy. There are fossils present in the formation.

Soils

This subsection is a mosaic of Mollisols and Alfisols. Alfisols correlate with savanna and forest vegetation, and Mollisols correlate with either upland prairie on relatively flat ridgetops or wetland prairies in broad depressions. Common soils include Aquolls (wet soils developed under prairie vegetation), Udolls (well drained soils developed under prairie vegetation), Udolls (well drained soils developed under prairie vegetation), Udolls (well drained soils developed under prairie vegetation), Udolls (met soils developed under prairie vegetation), Udolls (well drained soils developed under forest vegetation), and Aqualfs (wet soils developed under forest vegetation) (Cummins and Grigal 1981).

(http://www.dnr.state.mn.us/ecological_services/ecs/broadleaf/ecs_v.html)





Water Resources

Most of this subsection has a fairly well developed drainage network. This is due to the nature of landforms within the unit. There are few lakes in this subsection. (http://www.dnr.state.mn.us/ecological_services/ecs/broadleaf/ecs_v.html)

The Shooting Star State Trail lies within three major watersheds: Upper Iowa River, Cedar River, Wapsipinicon River.

Lake Louise - Lake Louise, the old millpond, is the main feature of Lake Louise State Park. It is approximately 26 acres with a maximum depth of 8 feet. As of the 1993 lake survey, it had a healthy population of black and white crappie. However, the trapnet catch rate of black crappie declined since the 1988 lake survey while the catch rate of white crappie increased. The occurrence of black bullhead also declined dramatically between the two surveys. Yellow bullhead declined as well but not as much as black bullhead. Other fish that are present in Lake Louise are common carp, common shiner, golden redhorse, green sunfish, largemouth bass, orangespotted sunfish, quillback and white sucker. The catch rate of these species also declined from the 1988 survey. According to the Lake Information Report from the Department of Natural Resources, Lake Louise is rapidly filling in, fish habitat is being lost and populations are projected to decline.

Little Iowa River - A tributary of the Upper Iowa River.

Upper Iowa River - A turbid river that starts in SE Mower County and flows southeasterly through the county, crosses back and forth across the Minnesota-Iowa border four times before leaving Minnesota through Fillmore County. It drains approximately 70 square miles in Minnesota. It was dammed in 1855, near the town of LeRoy, to provide power for a mill.

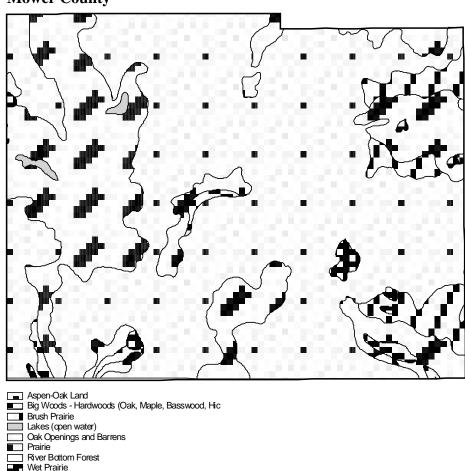
Little Cedar River - A tributary of the Cedar River, it flows south into Iowa where it empties into the Cedar River.

Rose Creek - A tributary of the Cedar River. Rose Creek supports a population of *Elliptio dilatata* (Spike), a mussel that is listed as Special Concern in Minnesota. The only other place in Minnesota that this species still exists in abundance is in the St. Croix River basin.

Recommendation 1: Minimize trail development and maintenance impacts to water resources through the use of mulching, geo-textiles, silt screens, and seeding to establish vegetation. Appropriate erosion control measures should be taken to minimize the potential impacts on adjacent water resources. The Upper Iowa Watershed Partnership and the Oak Savanna Landscape Team should be consulted.

Recommendation 2: Strive to limit water crossings.

Vegetation of Mower County at the Time of European Settlement



Mower County

Presettlement

Bur oak savanna was the primary vegetative community, but areas of tallgrass prairie and maplebasswood forest were common. Tallgrass prairie was concentrated on level to gently rolling portions of the landscape, in the center of the subsection. Bur oak savanna grew on rolling moraine ridges at the western edge of the subsection and in dissected ravines at the eastern edge. Maple-basswood was restricted to the portions of the landscape with the greatest fire protection, either in steep, dissected ravines or where stream orientation reduced fire frequency or severity (Albert 1993). (http://www.dnr.state.mn.us/ecological_services/ecs/broadleaf/ecs_v.html)

Present

Trail right-of-way

The trail right-of-way will be, on the average, 100 feet wide. There are native prairie species present in the right-of-way including big bluestem, little bluestem, goldenrods, blazing stars, and asters. In some locations, trees and shrubs including boxelder and willows will flank the trail. Patches of reed canary grass are located in some locations.

The use of the abandoned railroad corridor will aid in restoring and maintaining the native prairie vegetation that grows along the corridor. If the corridor is not utilized, it could be absorbed into agricultural and private land use which would endanger the plant communities that exist along the railroad corridor.

Lake Louise State Park (1,168 acres)

Lake Louise State Park has a variety of plant communities, including woodland that will provide trail users a change in environment from the trail right-of-way. Oak savanna (a mixture of grasslands bur oaks) and stands of hardwoods, wetlands and old fields are located in the park. Wildflower watching is rewarding from spring through fall. Spring flowers include smooth Solomon's seal, wild geranium, columbine and nodding wild onion, a Minnesota threatened species. Later, spotted touch-me-not, milkweed, yarrow, leadplant, and blazing stars bloom. The yellow and purples of late summer include the asters, goldenrods, gray-headed coneflower, and purple-fringed orchid.

Taopi Prairie

The Taopi Prairie Site is located on the north side of TH 56 on the west side of town and is owned by the city of Taopi. This small tract of land, owned by the city of Taopi, offers a 0.7-mile hiking trail along an abandoned railroad grade. The Shooting Star State Trail and small trail parking lot will be located on the south side of TH 56 directly across from this site. Trail users can walk through this prairie and observe prairie vegetation including Indian grass, big and little bluestem, asters, goldenrods, swamp saxifrage, prairie coneflower, prairie smoke and bergamot.

Shooting Star Prairie Scientific and Natural Area (8 acres)

The eight acre Shooting Star Prairie Scientific and Natural Area is located four miles northwest of LeRoy on the southern side of TH 56. The trail alignment is not in close proximity to this site as the trail will be on the north side of TH 56. The trails namesake, prairie shooting star, were transplanted to the site and can be observed here in the spring. Other prairie species that can be observed at this site include rattlesnake master, wild indigo, sunflowers, asters, goldenrods, and blazing stars.

J.C. Hormel Nature Center

This 278-acre nature center has significant natural communities including woodland, wetland and prairie.

Rare Plant Species

A search of the Minnesota Natural Heritage database indicated twelve plant species listed as endangered, threatened, or special concern documented within a mile corridor of the trail.

The prairie shooting star, *Dodecatheon meadia*, the trail's namesake, is on this list. The prairie shooting star is a characteristic and common plant in midwest prairie remnants, but it is an endangered species in Minnesota. In fact, the only documented occurrence of the prairie shooting star is in Mower County, adjacent to a railroad right-of-way.

Vegetation Management Recommendations

Recommendation 1: Identify the quality prairie remnants located in the trail right-of-way and adjacent TH 56 right-of-way in cooperation with MnDOT and Prairie Visions. Protecting and

managing these remnants is the number one priority of vegetation management. The Trails and Waterways Natural Communities Coordinator will be responsible for conducting an inventory of existing vegetation. A vegetation management plan, containing goals, objectives, and actions should be developed and implemented.

Recommendation 2: Trails and Waterways will coordinate additional vegetation inventories and management with the current inventory being done on the Austin to Lyle WMA and adjacent railroad right-of-way, funded by the Natural and Scenic Area Grant Program. Preliminary inventory information has documented over 30 new rare plant occurrences for 4 species including a new state record for sweet coneflower <u>Rudbeckia subtomentosa</u>. The Austin to Lyle WMA will require careful management of the unique prairie community.

Recommendation 3: Native plant species, from locally collected seed source, consistent with the native plant communities of the oak savanna subsection should be used to revegetate areas disturbed by erosion, overuse, construction and in windbreak plantings, and in the landscaping of parking areas and waysides. Give restoration ample time to respond.

Recommendation 4: Avoid planting and try to eradicate any of the plants listed below; all of these plants are aggressive introduced species which will crowd out native species.

Carduus nutans (Musk thistle)	Elaeagnus angustifolia (Russian olive)
Centaurea maculosa (Spotted knapweed)	Elaeagnus umbellata (Autumn olive)
Cirsium arvense (Canada thistle)	Glechoma hederacea (Creeping Charlie)
Cirsium vulgare (Bull thistle)	Hieracium aurantiacum (Orange hawkweed)
Euphorbia esula (Leafy spurge)	Lonicera tartarica (Tartarian honeysuckle)
Lythrum salicaria (Purple loosestrife)	Lotus corniculatus (Birsdsfoot trefoil)
Rhamnus cathartica (Common buckthorn)	Melilotus alba (White sweet clover)
Rhamnus frangula (Glossy or Alder buckthorn)	Melilotus officinalis (Yellow sweet clover)
Robinia pseudoacacia (Black locust)	Digitalis lanata (Grecian foxglove)
Sonchus arvensis (Sow thistle)	Morus alba (Mulberry)
Acer ginnala (Amur maple)	Phalaris arundinacea (Reed canary grass)
Acer platanoides (Norway maple)	Iris pseudacorus (Yellow iris)
Berberis thunbergii (Japanese barberry)	Linaria vulgaris (Common toadflax, Butter & eggs)
Bromus inermis (Smooth brome grass)	Pastinaca sativa (Wild parsnip)
Cannabis sativa (Hemp or Marijuana)	Polygonum cuspidatum (Japanese knotweed)
Chrysanthemum leucanthemum (Oxeye daisy)	Tanacetum vulgare (Common tansy)
Caragana arborescens (Siberian peashrub)	Taraxacum officinale (Dandelion)
Convolvulus arvensis (Field bindweed)	Ulmus pumila (Siberian elm)
Alliaria petiolata (Garlic mustard)	Vicia cracca & Vicia villosa (Cow & Hairy vetch)
Berteroa incana (Hoary alyssum)	Coronilla varia (Crown vetch)
Butomus umbellatus (Flowering rush)	Miscanthus sacchariflorus (Amur silver grass)
Centaurea maculosa (Spotted knapweed)	Daucus carota (Queen Ann's lace)

Recommendation 5: Plant native species to screen unsightly areas, deter encroachment by adjoining landowners, deter trespassing by trail users, and help retain snow cover along the trail treadway as well as improve the quality of the trail corridor.

Recommendation 6: Restore remnant prairie or if necessary establish native woodland or wetland plantings along the trail to minimize maintenance, minimize the use of pesticides, control noxious weeds, and enhance natural species abundance and biodiversity for enhanced user experience.

Recommendation 7: Efforts will be made to avoid impacting wetlands, however, a wetland mitigation plan will be prepared to address any identified impacted wetlands.

Recommendation 8: Develop a detailed resource management plan with mile-by-mile description of desired future conditions, outlines of vegetation management practices to attain these conditions and opportunities for cooperative projects. The plan should be done in cooperation with MnDOT to concentrate efforts and identify where there is overlap. A more detailed inventory of native plant communities and species found within the right-of-way will be needed.

Recommendation 9: Identify areas to plant prairie wildflower and grass species, particularly prairie shooting stars, the trail's namesake. This should be a component of Recommendation 8 above. Prairie shooting star recovery efforts (planning, construction, inventory, planting, and management activities) should be coordinated with the Natural Heritage Program.

Recommendation 10: Boxelder should be controlled along the trail, especially after new plantings of oak have become established.

Partnerships and Cooperative Projects on the Trail and Beyond DNR Boundaries

The DNR cannot hope to undertake these ambitious projects single-handed. DNR can work with interested groups and landowners to increase the ecological function of the corridor. In addition, the ecological benefits of the narrow strip of DNR ownership could be magnified by cooperative projects beyond DNR boundaries.

There is an opportunity to coordinate interpretive and management efforts with the Upper Iowa River Watershed Partnership. This citizens organization's goal is "to protect and improve the Upper Iowa Watershed's air, water and land, and to secure the quality of life of its citizens."

An Adopt-A-Trail program could be initiated that includes projects that can improve the trail corridor such as exotics control or native species restoration. Volunteer efforts such as this need to be encouraged, supported, recognized and rewarded.

Partnerships with MnDOT and local fire departments are important for vegetation management efforts, particularly prescribed prairie burns.

There is an opportunity for the DNR to work with nearby schools on enhancement projects. Prairie Visions donated 4 acres of pasture and woodland edge (see LeRoy city map on page 31) to the DNR with the intent of being re-established to native vegetation and managed accordingly. The DNR, together with the local schools, see this project as an excellent opportunity to enrich the school's science curriculum by creating an outdoor classroom. School classes would, with guidance, collect native seed from local sources and then grow grasses and wildflower plugs. Students would then plant the young plants to augment the native seeding implemented by DNR. Schools would stay engaged to manage the site on an ongoing basis with help from DNR.

Wildlife

The diversity of wetlands, rivers, lake, old fields, and wooded areas within Lake Louise State Park provide ideal habitat for many species of birds, mammals, reptiles, and amphibians, including the prairie skink. Look for fox squirrel, raccoon, beaver, red fox, and white-tailed deer, which are in abundance. This park is a great place to birdwatch, with over 141 species reported, including 19 species of warblers and 5 species of vireos.

(http://www.dnr.state.mn.us/state_parks/lake_louise/narrative.html)

The Shooting Star State Trail consists of habitat suitable for a variety of wildlife that ranges from the common to rare and endangered species. (See Appendix 2 for a listing of special concern, threatened and endangered species.)

Mammals

Some common mammals that may be seen by trail users include whitetail deer, eastern cottontail rabbits, badger, eastern chipmunks, gray and fox squirrels, thirteen-lined ground squirrels and red fox.

Birds

A breeding bird survey for Lake Louise State Park was completed in 1994. Due to a request to hold dog trials at Lake Louise State Park, the surveys were conducted in old field habitat areas of the park because that is most likely where the dog trials would take place. The surveys concluded that there were seventy-one species of birds that inhabit the old fields. Some of the species are primary users, which mean that the bird is completely dependent on the old field habitat for feeding, raising young and breeding. Some of the species identified in the survey are secondary users, which mean they prefer to utilize more than just the old field habitat. They are considered edge nesters, meaning they may use the old field for foraging but use the woodland edge for nesting. A majority of the birds identified in the survey were categorized as either opportunists or other. The birds that were categorized as opportunists live in various habitats and may occasionally utilize the old field habitat for foraging. The birds categorized as other were observed flying over survey transects and may never utilize the old field habitat but they are an indicator of what other species may be in the surrounding area. The primary and secondary users of the old field habitat are:

Primary

Ring-necked Pheasant Short-eared Owl Sedge Wren Grasshopper Sparrow Bobolink Common Yellowthroat Field Sparrow Savannah Sparrow Eastern Meadowlark Western Meadowlark

Secondary

Killdeer Red-tailed Hawk American Kestrel Eastern Kingbird Tree Swallow Eastern Bluebird Song Sparrow Red-winged Blackbird Yellow Warbler Indigo Bunting Clay-colored Sparrow American Goldfinch

Reptiles and Amphibians

According to a 1996 survey conducted in Lake Louise State Park, some common reptiles and amphibians that can be found in the area include the American toad, Spring peeper, Western chorus frog, Bullfrog, Green frog, Northern leopard frog, Painted turtle, Snapping turtle, Prairie skink, Blue-spotted salamander, Tiger salamander, Redbelly snake, Northern water snake, Grass snake, Plains garter snake and Common garter snake. This list is a compilation of species observed by Minnesota County Biological Survey, Lake Louise State Park Staff and visitors.

Recommendations

Recommendation 1: Work with citizens and sporting groups for habitat improvement within the trail right-of-way and encourage adjacent cooperative efforts that support a broader enhancement.

Recommendation 2: Implementing the recommendations for vegetation management will have a positive impact on wildlife, as habitat will be created.

Recommendation 3: Trail construction at water crossings should be timed so that it does not coincide with spawning or migration of fish species. Silt plumes that may result can negatively affect fish and habitat or native mussel species.

Historical Resources

Prehistory

Human habitation of southeastern Minnesota is thousands of years old. Many centuries before the arrival of the first Europeans, the Mississippi Valley served as a gateway to Minnesota for a variety of American Indian cultures. Beginning about 8000 B.C., these early people entered this area of the state in search of game. Very little is known about these first inhabitants other than they were nomadic hunters and lived in small groups. While later cultures (beginning about 5000 B.C.) continued to hunt for game, they also depended on the gathering of such food sources as acorns, wild plums and cherries. Fish was an additional important food source. Group populations remained small. However, they were semi-nomadic and shifted their camps seasonally to use available resources.

About 1000 B.C. the Woodland Culture appeared in southeastern Minnesota. This cultural tradition was marked by the use of pottery and the burial of the dead in earth mounds. People continued to live in small groups until the use of wild rice became common, thought to be around 800 A.D. This new food source caused a surge in population and the establishment of permanent villages.

The northward spread of the Mississippian Culture around 1000 A.D. brought a new way of life to southern Minnesota. Although still dependent on hunting and fishing, agriculture dominated this culture. A major center for this new culture was the lower Illinois Valley and to the east of present day St. Louis.

These early farmers worked the sandy soil of the river bottoms and terraces with bone hoes and other hand tools. Their settlements were typically large villages of 600 to 800 inhabitants surrounded by fields of corn, beans, squash, sunflowers and tobacco. Refined pottery and the continued use of burial mounds also characterized this culture.

Numerous prehistoric sites have been recorded. It is likely that these sites represent only a small percentage of the sites in this area. Since a portion of the trail system will be located in an area used by prehistoric people, an archaeological component of the interpretive program would be appropriate. Archaeological work has been completed for the segment between LeRoy and Taopi. Further survey work will be needed for future segments of the trail.

Archaeological Review

Field investigations of the segment between LeRoy and Lake Louise State Park identified four American Indian heritage sites, one Euroamerican archaeological site and two historic properties (Wildwood Park and Old Town LeRoy.) It was determined that three of the American Indian heritage sites and Old Town LeRoy appear to have retained sufficient integrity to satisfy the criteria for nomination to the National Register of Historic Places. Field investigations of the segment between Lake Louise State Park and Taopi identified two American Indian heritage sites that satisfied the criteria of eligibility for nomination to the National Register of Historic Places. Segments of the abandoned Chicago, Milwaukee, St. Paul and Pacific railroad grade are also eligible to be nominated.

Historic American Indian Culture

American Indian culture was continuously present in southeastern Minnesota from prehistoric times until well into the nineteenth century.

Tradition relates that a wandering band of Hurons and Ottawas stayed on Prairie Island for a short time. The Iroquois had driven them out of eastern Ontario in the 1640s. A quarrel with the Dakota, who were living around Lake Mille Lacs and along the Mississippi above St. Anthony Falls at that time, forced them to move eastward into Wisconsin.

Forced from their original northern homeland by the Ojibwe, the Dakota were well established in southeastern Minnesota by the 1770s. A large band made its headquarters near the present city of Winona. This band - together with other bands in the areas of St. Paul, Red Wing, and the lower Chippewa River in Wisconsin - comprised a major tribal division called the Mdewakanton. Bands of the small Wahpekute division occupied the upper reaches of the Cannon and Zumbro rivers and parts of the Root River Valley.

The Woodland Dakota had customs and habits common to both forest and prairie. They cultivated crops, but were also skilled hunters. While their arrows were similar to those used on the Plains, their bow were patterned after those used in the East.

While there were several outstanding leaders among the Dakota in Southeastern Minnesota, Wabasha was the most well known. Born around 1725, Wabasha was a strong supporter of British trading interest during the American Revolution. He used his influence to oppose American colonists, whom he perceived as being interested in only taking more land. His descendants adopted his name and maintained his tradition of strong leadership for three generations.

Other tribes such as the Fox, Sauk and Winnebago frequented some areas of southeastern Minnesota.

In 1837, the Dakota relinquished their claims to the lands east of the Mississippi. The 1851 Treaties of Mendota and Traverse de Sioux took all of southeastern Minnesota away from them. Two years later, the Dakota reluctantly left their homes along the Mississippi and other area rivers and moved to a narrow reservation of land along the Minnesota River Valley. Additional pressure and abuse by the government and some of its officials led to war with the white settlers in 1862, known as the Dakota War of 1862. At the end of the war, they were banished to the Dakota Plains.

During the Dakota War of 1862, Chief Taopi, the namesake of the town of Taopi, and other Dakotas made it known that they were opposed to the conflict. Taopi made statements about his opposition to the war and helped in the rescue of many white captives. General Sibley spared his life during the military trials that followed the war by writing a letter describing Taopi's heroics. Taopi died near Faribault in 1869.

European Settlement

The first permanent settlers came to Mower County in 1853 and made claims along the Cedar and Upper Iowa Rivers. In 1855 there was a swell in immigration and the population of the county rose dramatically.

Hunter Clark built the first house in 1853. It was a log cabin located near the bank of the Cedar River. Austin Nichols took a claim that same year and built a log cabin on the east bank of the Cedar River. School districts, churches, and businesses soon followed.

Railroad History

The railroads played an important role in the development of the towns along the Shooting Star State Trail. The railroads were used to ship agricultural products and building supplies as well as packinghouse products from the George A. Hormel Company in Austin. Several passenger trains also passed through the various towns. The Chicago, Milwaukee, St. Paul and Pacific ran through LeRoy, Taopi, Adams, Rose Creek, Austin and Lyle. The Chicago Great Western ran through LeRoy, Taopi, Austin and Lyle. Lyle also served the Illinois Central Railroad Company. (Appendices 3 and 4 contain the historic timeline, from inception to abandonment, of the two railroad corridors.)

Two portions of the Austin to LeRoy grade that remain intact, namely from Lake Louise State Park to Taopi and a portion west of Rose Creek, retain sufficient integrity and meet the criteria to be nominated to the National Register of Historic Places.

Austin to LeRoy

This section of railroad grade is a portion of the first all-rail route extending beyond Minnesota, built in 1867. It was originally a 215-mile route connecting Minneapolis with McGregor, Iowa. The Minneapolis end of the line served the Saint Anthony Falls milling district, powered by the greatest waterfalls west of Niagara Falls. An 1869 guide book described this site as being "rapidly improved" and "The buzz and roar of these numerous factories is almost deafening at times... Here are paper mills, foundries, saw mills, tub and pail factories, furniture factories, tool factories, etc... The greatest of these, however, is the lumbering trade."

The McGregor, Iowa end of the line, on the Mississippi River, was connected by a temporary pontoon rail bridge to the Chicago railhead across the river in Prairie du Chien, Wisconsin. This rail link connected the power of one of the finest American milling districts with the vast and growing Chicago and other large markets to the east. It also gave Minnesota products a preferred position for steamboat trade to the south, toward Saint Louis and beyond.

Most significantly, the development of the 1867 Minneapolis to McGregor, Iowa rail line illustrated the tremendous competition that existed between rail and water routes in the mid 19th century. In the Eastern states, various canal routes, most notably, the Erie Canal (constructed from 1817 to 1825), had revolutionized the way in which goods were marketed to the population centers of the Eastern seaboard. This was further strengthened with the linking of Lake Michigan with the Illinois River, by way of the Illinois-Michigan Canal, constructed between 1836 and 1848. The east-west canal and rail system proved effective in directing trade away from the Ohio-Mississippi River route via Saint Louis.

As railheads reached the Mississippi River, beginning with Rock Island, Illinois in 1854, the steamboat lines to Saint Louis were diminished by rail shipping and passenger lines. Thus the Chicago rail link crossing the Mississippi River at McGregor, Iowa was part of the general trend to replace the steamboat as the primary way to get to Minnesota. With every passing year, the Mississippi River railheads moved further north along the river. Most significantly, the Confederate blockade of the Mississippi River during the Civil War (1861-1865), in conjunction with increasing rail development, permanently re-oriented Minnesota trade from north-south river transport to east-west rail transport. Rail had the added advantage of avoiding the winter freeze up in water transport, and it also avoided the problems of shallow channels during summer droughts. For Minnesota, the opening of the Minneapolis to McGregor rail line in 1867 continued a long decline in the dominance of river transport.

Austin to Lyle

The rail line associated with the Lyle-Austin Wildlife Management Area is now a right-of-way containing many good examples of native prairie. Another name for the Lyle end of the line is Manley, which was the Chicago Great Western Railway station name at that location. The Austin to Lyle abandonment is immediately west of the active rail corridor. The existing line was built by the Milwaukee and Saint Paul Railroad in 1869 and extends to Mason City, Iowa, where there is a junction with east-west rail lines. Soo Line Railway currently operates the active Austin to Lyle line.

Recommendations:

Recommendation 1: DNR will consider methods to avoid or minimize the potential project effects on the intact grade.

Recommendation 2: Should the trail be located on the intact grade, development should be limited to surface scarification and bituminous surfacing without substantial modification to the extant grade profile.

Socioeconomic Resources

Population Growth

Data from the 2000 census indicates an overall increase in the population of Mower County. Individually, Rose Creek was the only city along the Shooting Star State Trail to see a minor decrease in population between 1990 and 2000. All other cities saw an increase in their population during that time frame.

			1990-2000 Percent
City	1990 Population	2000 Population	Change
Adams	756	800	5.8%
Austin	21,926	23,314	6.3%
LeRoy	904	925	2.3%
Lyle	504	566	12.3%
Rose Creek	363	354	-2.5%
Таорі	83	93	12.0%
Mower County	37,385	38,603	3.3%

Information from the State Demographic Center at Minnesota Planning

Economic Impact of Tourism

Development of the Shooting Star State Trail will enhance tourism in the area in three ways. First, it will augment the opportunities the Shooting Star Scenic Byway provides for scenic touring. Secondly, it will create an additional bicycling opportunity in the state, increasing the mileage of the state trail system and thirdly, it will create an additional opportunity for wildlife watching.

Shooting Star Scenic Byway

The Shooting Star Scenic Byway is an important tourist attraction. The twenty-six mile segment of TH 56 between Interstate 90 and the Iowa border is the state's first designated Wildflower and Historic Route. Connecting the communities of Rose Creek, Adams, Taopi, and LeRoy, the Shooting Star Scenic Byway is one of 2,000 miles of state designated scenic byways in the state. Scenic touring is a top-ranked activity for Minnesota travelers according to the Minnesota Office of Tourism. Development of the Shooting Star State Trail, which parallels the Byway, will enhance the Scenic Byway by providing an additional amenity attracting people to the area.

Additional Opportunity for Bicycling

Upon completion, the Shooting Star State Trail will add 42 miles of bicycle trail to the state system of trails. Bicycle trails are facilities that attract people to an area. According to the Rails-to-Trails Conservancy, biking is the third most popular outdoor vacation activity in America.

Additional Opportunity for Wildlife Watching

Birdwatching and wildlife watching are becoming popular recreational activities. According to a 1996 survey by the U.S. Fish and Wildlife Service, \$123 million dollars was spent on these activities. Wildlife watching will be one of the reasons people will use the trail or sightings of wildlife will be an unexpected pleasure of the trail experience.

Spending by tourists who come to the area for any of these reasons will have a positive economic impact on the area.

Latin Name	Common Name	MN Legal Status
Allium cernuum	Nodding Wild Onion	Threatened
Asclepias sullivantii	Sullivant's Milkweed	Threatened
Baptisia alba	White Wild Indigo	Special Concern
Baptisia bracteata var. leucophaea	Plains Wild Indigo	Special Concern
Carex annectens	Yellow-Fruited Sedge	Special Concern
Desmodium cuspidatum var. longifolium	Big Tick-Trefoil	Special Concern
Dodecatheon meadia	Prairie Shooting Star	Endangered
Eryngium yuccifolium	Rattlesnake-Master	Special Concern
Parthenium integrifolium	Wild Quinine	Endangered
Platanthera flava var. herbiola	Tubercled Rein-Orchid	Endangered
Platanthera praeclara	Western Prairie Fringed Orchid	Endangered
Valeriana edulis var. ciliata	Valerian	Threatened

Appendix 1: Special Concern, Threatened or Endangered Plant Species

Latin Name	Common Name	MN Legal Status
Clemmys insculpta	Wood Turtle	Threatened
Ichthyomyzon fossor	Northern Brook Lamprey	Special Concern
Notropis nubilus	Ozark Minnow	Special Concern
Elliptio dilatata*	Spike (mussel)	Special Concern

Appendix 2: Special Concern, Threatened or Endangered Animal Species

* This mussel is documented within the watershed but not within the one-mile survey of the trail.

Appendix 3: Railroad History Timeline – Austin to LeRoy

March 1, 1856: Minneapolis and Cedar Valley Railroad Company (MCV) was incorporated. The objective of the company was to build and operate a railroad from Minneapolis, via Mendota and Faribault to the state's southern boundary.

1858-59: The MCV graded 69.25 miles of right-of-way between Minneapolis and Owatonna. They used \$600,000 in state bonds.

1860: The MCV goes bankrupt.

March 10, 1862: The railroad charter goes to the Minneapolis, Faribault and Cedar Valley Railroad (MFC).

February 5, 1863 (Iowa): McGregor and Western Railway (MW) incorporated. Its object was to build and operate a railroad from McGregor, Iowa west and northwest.

February 1, 1864: The MFC changes its name to Minnesota Central Railway (MC).

1864-65: The MC lays track from Minneapolis to Saint Paul Junction (Mendota), Faribault, and obtains rights to West Saint Paul to Saint Paul Junction over the Minnesota Valley Railroad.

1866: The line from Faribault to Owatonna was operated under a lease by Milwaukee and Prairie du Chien Railroad from August 31, 1866 to June 22, 1867, when it was sold to MW.

1866: The Milwaukee and La Crosse Railroad and the Milwaukee and Prairie du Chien Railroad consolidated into the Chicago, Milwaukee and Saint Paul Railroad, with exclusive carrier rights up the Mississippi River with the Northwest Union Packet Company. This transportation arrangement controlled the fastest, best access to the developing Minnesota commerce market as of 1866.

1867: The MW built track from the state line near LeRoy to Owatonna.

August 5, 1867: Milwaukee and Saint Paul Railroad (MSP) purchased the MC from Saint Paul Junction (Mendota) to Saint Paul and West Saint Paul and from Minneapolis to Owatonna and LeRoy. This action put the entire 215-mile line into one ownership, and the newly completed McGregor to Saint Paul line was then in business with two passenger trains departing daily from Saint Paul.

December 29, 1870: The LaCrosse, Trempealeau and Prescott Railroad (LTP) completed a bridge at Winona, thus becoming the first permanent rail link into Minnesota. The pontoon bridge at McGregor was only temporary, as was the ice-bridge crossing built at LaCrosse about this time. The LTP was extended to Hastings by December 1871. This line was in direct competition with the MSP line through LeRoy.

February 11, 1874: The MSP became the Chicago, Milwaukee and Saint Paul Railway Company (CMSP).

November 22, 1926: The CMSP became the Chicago, Milwaukee, Saint Paul and Pacific Railroad (CMSPP). Also known as the Milwaukee Road.

November 7, 1983: CMSPP abandons the Austin to Calmar, Iowa line. This included the portion through LeRoy.

Appendix 4: Railroad History Timeline – Austin to Lyle

March 4, 1854: Incorporation of the Minnesota and North Western Railroad Company (M&NW). The object of this company was to build and operate a railroad from the northwest shore of Lake Superior through Saint Anthony and Saint Paul, with a crossing of the Mississippi River in Saint Paul, then to the Iowa line, in a position to be linked with river port and rail crossing of the Mississippi River in Dubuque, Iowa. Ultimately this line connected with other east-west Iowa railroads which connected with the emerging transcontinental rail system.

1886: The M&NW built a line from Saint Paul to Lyle

December 8, 1887: M&NW acquired by Chicago, Saint Paul and Kansas City Railway (C,STP&KC)

January 16, 1892: Chicago and Great Western Railway is incorporated. It was organized to effect final reorganization and consolidation of properties owned and leased by the C,STP&KC Railway.

September 7, 1893: C,STP&KC sold to Chicago Great Western Railway (CGW). This involved the purchase of the line from Hayfield to the state line at Lyle.

1902: The Hayfield to Lyle line was sold to Mason City and Fort Dodge Railroad (MC&FD).

September 1, 1909: The CGW acquired the MC&FD and reorganized as the Chicago and Great Western Railroad.

1930: By this date, the CGW line from Saint Paul to Lyle consisted of the following stops (in order): Saint Paul, South Saint Paul, Inver Grove, Madart, Rich Valley, Coates, Empire, Hampton, Randolph, Cascade, Stanton, Dennison, Nerstrand, Kenyon, Skyburg, West Concord, Eden, Dodge Center, Vlasaty, Hayfield, Waltham, Mayville, Austin, Varco, and Manley (the Milwaukee and Saint Paul Railroad stop was called Lyle). The next stop into Iowa was Meltonville.

February 28, 1935: The CGW goes bankrupt.

February 21, 1941: The CGW reorganizes as the Chicago Great Western Railway.

July 1, 1968: The CGW merged with the Chicago and North Western Railway (CNW).

May 22, 1981: The Austin to Lyle portion of the line is abandoned by CNW. Some time after this, the corridor was acquired as a DNR Wildlife Management Area.

Sources: *Rails to the North Star* (mid 1960s) by Richard S. Prosser; *Railroad Commissioner's Map of Minnesota*, 1930, and various rail abandonment records. A useful website is <u>www.geocities.com/Heartland/Acres/6306/.</u> This is dubbed the "Unofficial Site for the CGW". Reviewed by Paul Nordell, MNDNR.

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